Base Load Power Hub (BLPH)

EMCS IO List (HW and SW)

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Revision / Change Log

Rev.	Description
00	ISSUE FOR REVIEW (IFR)
01	ISSUE FOR REVIEW (IFR)

HOLDS LIST

No.	Description
1.	
2.	
3.	
4.	

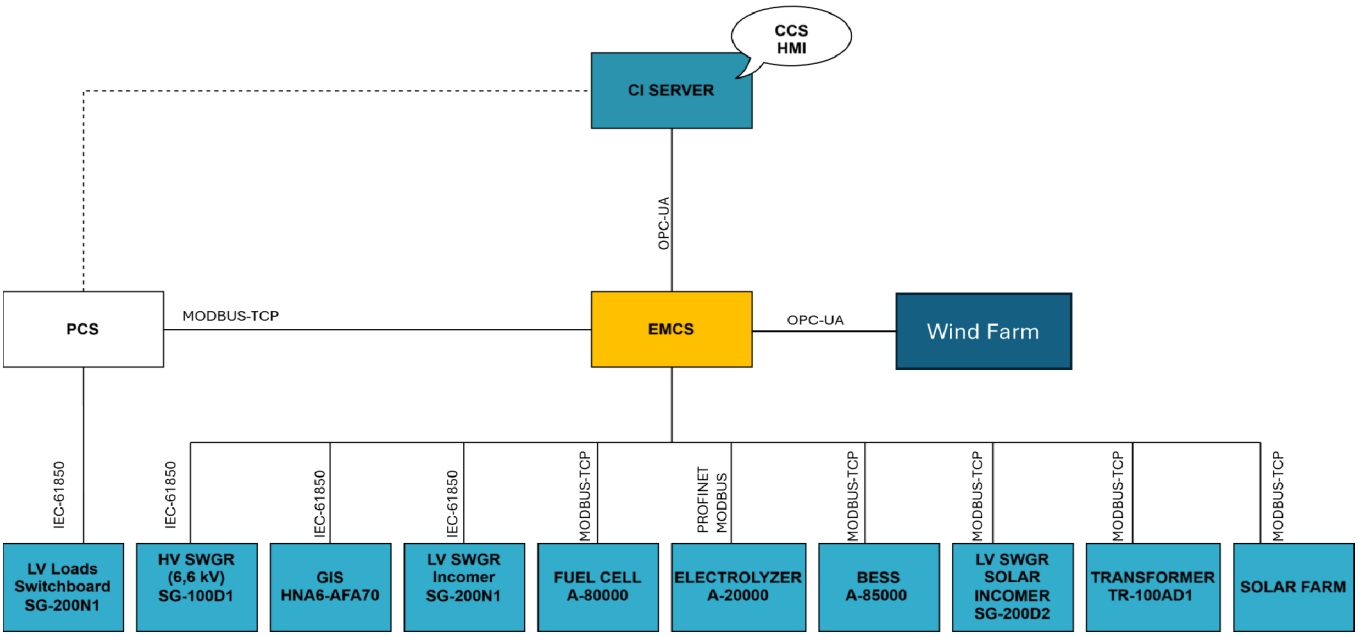
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Notes

This document describes the list of signals exposed by the EMCS.
The EMCS, beside the role of central controller, acts as a communication gateway toward the devices relevant to the energy management of the BLPH: BESS, SolarFarm, FuelCell, Electrolizer, WindFarm and electrical equipment like GIS, SG-100D1, SG-200D2, SG-200N1, TransformerAVR.

The EMCS provides two communication interfaces as Server:
- OPC-UA: to provide real-time data to the CSS SCADA related to both field devices and internal measures/statuses. Moreover, it provides an interface to set parameters of the EMCS itself.
- MODBUS-TCP: to exchange measures, statuses and commands with the PCS.

The picture below shows all the connections and the used protocols.



Reference Documents:

SG-100D1	1723002197-EL-LIS-00041.pdf
SG-200D2	1723002197-EL-LIS-00043.pdf
SG-200N1	1723002197-EL-LIS-00042.pdf
Transformer TR-100D1	BAL_8249889_001_00_1_EN.pdf
GIS	1723001595-EL-LIS-00011.pdf
BESS	23A2007_240628_PROFINET_Register BESS_V1_0_0_3.xlsx
SolarFarm	HKN1-02-REG-341 Manual for controlling the solar farm via the client connector REV A.pdf
FuelCell	Crosswind Modbus Table - Main PLC - External Cut v3_comTest_Denmark.xlsx
Electrolizer	C63-AUT-002_03_Communication table

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS.Status1_Statusword	UINT16		1	Bitmask 0:Warning 1:Error 2:Preheat State 3:Standby State 4:Precharge State 5:Ready State 6:Active State "In Operation" 7:Safety relais triggered 8:Smoke detector triggered 9:main switch on		R	MODBUS			
Logic.Application.BESS_GVL.Status1_StatusWord_Warning	BOOL		1	Status1_StatusWord_Warning			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_Error	BOOL		1	Status1_StatusWord_Error			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_PhreHeat	BOOL		1	Status1_StatusWord_PhreHeat			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_StandBy	BOOL		1	Status1_StatusWord_StandBy			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_PreCharge	BOOL		1	Status1_StatusWord_PreCharge			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_Ready	BOOL		1	Status1_StatusWord_Ready			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_ActiveInOperation	BOOL		1	Status1_StatusWord_ActiveInOperation			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_SafetyRelaisTriggered	BOOL		1	Status1_StatusWord_SafetyRelaisTriggered			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_SmokeDetectorTriggered	BOOL		1	Status1_StatusWord_SmokeDetectorTriggered			IEC-61850			
Logic.Application.BESS_GVL.Status1_StatusWord_MainSwitchOn	BOOL		1	Status1_StatusWord_MainSwitchOn			IEC-61850			
Logic.Application.BESS_GVL.Status1_HeartBeat	INT16		1	Status1_HeartBeat		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Control_Cab_Temp	INT16		1	Status1_Control_Cab_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Power_Cab_Temp	INT16		1	Status1_Power_Cab_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Cab_Temp	INT16		1	Status1_Cab_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Cooling_Water_Temp	INT16		1	Status1_Cooling_Water_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Outside_Temp	INT16		1	Status1_Outside_Temp			IEC-61850			
Logic.Application.BESS_GVL.Status1_Room_Temp	INT16		1	Status1_Room_Temp			IEC-61850			
Logic.Application.BESS_GVL.Status1_Actual_Records	INT16		1	Status1_Actual_Records		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record	INT16		1	Status1_Record		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record_Error_Number	UINT32		1	Status1_Record_Error_Number		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record_Error_Level	INT16		1	Status1_Record_Error_Level		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record_TimeStamp_Date	DATE		1	Status1_Record_TimeStamp_Date		R	MODBUS			
Logic.Application.BESS_GVL.Status1_Record_TimeStamp_Time	TIME		1	Status1_Record_TimeStamp_Time		R	MODBUS			
Logic.Application.BESS_GVL.Status2_StatusWord	UINT16		1	Status2_StatusWord		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_1_Temp	INT16		1	Status2_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_1_Temp	INT16		1	Status2_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_2_Temp	INT16		1	Status2_IGBT_2_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_2_Temp	INT16		1	Status2_Inductor_2_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_3_Temp	INT16		1	Status2_IGBT_3_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_3_Temp	INT16		1	Status2_Inductor_3_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_4_Temp	INT16		1	Status2_IGBT_4_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_4_Temp	INT16		1	Status2_Inductor_4_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT_5_Temp	INT16		1	Status2_IGBT_5_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Inductor_5_Temp	INT16		1	Status2_Inductor_5_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Status2_Grid_Frequency	FLOAT		1	Status2_Grid_Frequency		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT1_RMS_Voltage	FLOAT		1	Status2_IGBT1_RMS_Voltage		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT2_RMS_Voltage	FLOAT		1	Status2_IGBT2_RMS_Voltage		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT3_RMS_Voltage	FLOAT		1	Status2_IGBT3_RMS_Voltage		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT1_RMS_Current	FLOAT		1	Status2_IGBT1_RMS_Current		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT2_RMS_Current	FLOAT		1	Status2_IGBT2_RMS_Current		R	MODBUS			
Logic.Application.BESS_GVL.Status2_IGBT3_RMS_Current	FLOAT		1	Status2_IGBT3_RMS_Current		R	MODBUS			
Logic.Application.BESS_GVL.Statusword	UINT16		1	Statusword		R	MODBUS			
Logic.Application.BESS_GVL.Status3_StatusWord_Available	BOOL		1	Status3_StatusWord_Available		R	IEC-61850			
Logic.Application.BESS_GVL.Status3_StatusWord_PRL_Active	BOOL		1	Status3_StatusWord_PRL_Active		R	IEC-61850			
Logic.Application.BESS_GVL.Status3_ActivePower	FLOAT	kW	1	Status3_ActivePower		R	MODBUS			
Logic.Application.BESS_GVL.Status3_ReactivePower	FLOAT	KVAr	1	Status3_ReactivePower		R	MODBUS			
Logic.Application.BESS_GVL.Status3_SOC	FLOAT	%	1	Status3_SOC		R	MODBUS			
Logic.Application.BESS_GVL.Status3_SOH	FLOAT	%	1	Status3_SOH		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Charge_Power_Max	FLOAT	kW	1	Status3_Charge_Power_Max		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Discharge_Power_Max	FLOAT	kW	1	Status3_Discharge_Power_Max		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Charge_Energy	FLOAT	kWh	1	Status3_Charge_Energy		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Discharge_Energy	FLOAT	kWh	1	Status3_Discharge_Energy		R	MODBUS			
Logic.Application.BESS_GVL.Status3_Convert_Operating_Mode	INT16		1	Status3_Convert_Operating_Mode		R	MODBUS			
Logic.Application.BESS_GVL.StringStatus_Statusword	UINT16		1	Statusword		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Battery_Rack2_Error			IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2	BOOL		1	Battery cabinet 1 and 2 on DCDC 1 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2	FLOAT		1	Battery cabinet 1 and 2 on DCDC 1 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp	INT16		1	Battery cabinet 1 and 2 on DCDC 1 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp	INT16		1	Battery cabinet 1 and 2 on DCDC 1 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC1_BK3	BOOL		1	Battery cabinet 3 on DCDC 1 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC1_BK3	FLOAT		1	Battery cabinet 3 on DCDC 1 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC1_BK3	INT16		1	Battery cabinet 3 on DCDC 1 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC1_BK3	INT16		1	Battery cabinet 3 on DCDC 1 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC2_BK4_5	BOOL		1	Battery cabinet 4 and 5 on DCDC 2 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC2_BK4_5	FLOAT		1	Battery cabinet 4 and 5 on DCDC 2 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC2_BK4_5	INT16		1	Battery cabinet 4 and 5 on DCDC 2 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC2_BK4_5	INT16		1	Battery cabinet 4 and 5 on DCDC 2 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC3_BK6_7	BOOL		1	Battery cabinet 6 and 7 on DCDC 3 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC3_BK6_7	FLOAT		1	Battery cabinet 6 and 7 on DCDC 3 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC3_BK6_7	INT16		1	Battery cabinet 6 and 7 on DCDC 3 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC3_BK6_7	INT16		1	Battery cabinet 6 and 7 on DCDC 3 - String_Inductor_1_Temp		R	MODBUS			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC3_BK8	BOOL		1	Battery cabinet 8 on DCDC 3 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC3_BK8	FLOAT		1	Battery cabinet 8 on DCDC 3 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC3_BK8	INT16		1	Battery cabinet 8 on DCDC 3 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC3_BK8	INT16		1	Battery cabinet 8 on DCDC 3 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC4_BK9_10	BOOL		1	Battery cabinet 9 and 10 on DCDC 4 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Voltage_Max_2		R	MODBUS			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC4_BK9_10	FLOAT		1	Battery cabinet 9 and 10 on DCDC 4 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC4_BK9_10	INT16		1	Battery cabinet 9 and 10 on DCDC 4 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC4_BK9_10	INT16		1	Battery cabinet 9 and 10 on DCDC 4 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC4_BK11	BOOL		1	Battery cabinet 11 on DCDC 4 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC4_BK11	FLOAT		1	Battery cabinet 11 on DCDC 4 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC4_BK11	INT16		1	Battery cabinet 11 on DCDC 4 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC4_BK11	INT16		1	Battery cabinet 11 on DCDC 4 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC6_BK12_13	BOOL		1	Battery cabinet 12 and 13 on DCDC 6 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Cell_Temp_Min_1		R	MODBUS			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC6_BK12_13	FLOAT		1	Battery cabinet 12 and 13 on DCDC 6 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC6_BK12_13	INT16		1	Battery cabinet 12 and 13 on DCDC 6 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC6_BK12_13	INT16		1	Battery cabinet 12 and 13 on DCDC 6 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC6_BK14	BOOL		1	Battery cabinet 14 on DCDC 6 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC6_BK14	FLOAT		1	Battery cabinet 14 on DCDC 6 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC6_BK14	INT16		1	Battery cabinet 14 on DCDC 6 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC6_BK14	INT16		1	Battery cabinet 14 on DCDC 6 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC7_BK15_16	BOOL		1	Battery cabinet 15 and 16 on DCDC 7 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_Current_1_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC7_BK15_16	FLOAT		1	Battery cabinet 15 and 16 on DCDC 7 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC7_BK15_16	INT16		1	Battery cabinet 15 and 16 on DCDC 7 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC7_BK15_16	INT16		1	Battery cabinet 15 and 16 on DCDC 7 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC7_BK17	BOOL		1	Battery cabinet 17 on DCDC 7 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC7_BK17	FLOAT		1	Battery cabinet 17 on DCDC 7 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC7_BK17	INT16		1	Battery cabinet 17 on DCDC 7 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC7_BK17	INT16		1	Battery cabinet 17 on DCDC 7 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Battery_Rack2_Error			IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC8_BK18_19	BOOL		1	Battery cabinet 18 and 19 on DCDC 8 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC8_BK18_19	FLOAT		1	Battery cabinet 18 and 19 on DCDC 8 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC8_BK18_19	INT16		1	Battery cabinet 18 and 19 on DCDC 8 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC8_BK18_19	INT16		1	Battery cabinet 18 and 19 on DCDC 8 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC9_BK20_21	BOOL		1	Battery cabinet 20 and 21 on DCDC 9 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Temp_Min_2		R	MODBUS			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC9_BK20_21	FLOAT		1	Battery cabinet 20 and 21 on DCDC 9 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC9_BK20_21	INT16		1	Battery cabinet 20 and 21 on DCDC 9 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC9_BK20_21	INT16		1	Battery cabinet 20 and 21 on DCDC 9 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Demand_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Balancing_Demand			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Balancing_Active_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Balancing_Active			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Connected_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Battery_Rack1_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Connected_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Battery_Rack2_Connected			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack1_Error_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Battery_Rack1_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Battery_Rack2_Error_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Battery_Rack2_Error			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Smoke_Detector_Triggered_Battery_Rack2			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_1_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Gas_Alarm_Battery_Rack_1			IEC-61850			
Logic.Application.BESS_GVL.String_StatusWord_Gas_Alarm_Battery_Rack_2_DCDC9_BK22	BOOL		1	Battery cabinet 22 on DCDC 9 - String_StatusWord_Gas_Alarm_Battery_Rack_2			IEC-61850			
Logic.Application.BESS_GVL.String_Current_1_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Current_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_1_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Voltage_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_1_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Cell_Voltage_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_1_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Cell_Voltage_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_1_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Cell_Temp_Min_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_1_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Cell_Temp_Max_1		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_1_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_SOC_1		R	MODBUS			
Logic.Application.BESS_GVL.String_Current_2_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Current_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Voltage_2_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Voltage_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Min_2_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Cell_Voltage_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Voltage_Max_2_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Cell_Voltage_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Min_2_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Cell_Temp_Min_2		R	MODBUS			
Logic.Application.BESS_GVL.String_Cell_Temp_Max_2_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_Cell_Temp_Max_2		R	MODBUS			
Logic.Application.BESS_GVL.String_SOC_2_DCDC9_BK22	FLOAT		1	Battery cabinet 22 on DCDC 9 - String_SOC_2		R	MODBUS			
Logic.Application.BESS_GVL.String_IGBT_1_Temp_DCDC9_BK22	INT16		1	Battery cabinet 22 on DCDC 9 - String_IGBT_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.String_Inductor_1_Temp_DCDC9_BK22	INT16		1	Battery cabinet 22 on DCDC 9 - String_Inductor_1_Temp		R	MODBUS			
Logic.Application.BESS_GVL.Control_Controlword	INT16		1	Controlword	Bit:13 = 1 -> Start Bit:13 = 0 -> Stop	W	MODBUS			
Logic.Application.BESS_GVL.Control_Reset_cmd	BOOL		1	Control_Reset_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Preheating_System_cmd	BOOL		1	Control_Enable_Preheating_System_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Precharging_DC_Link_cmd	BOOL		1	Control_Enable_Precharging_DC_Link_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Primary_Control_Mode_cmd	BOOL		1	Control_Enable_Primary_Control_Mode_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_1_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_1_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_2_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_2_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_3_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_3_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_4_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_4_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_5_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_5_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_6_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_6_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_7_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_7_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_8_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_8_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Enable_Balancing_DC_DC_9_cmd	BOOL		1	Control_Enable_Balancing_DC_DC_9_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Start_Signal_From_EMCS_cmd	BOOL		1	Control_Start_Signal_From_EMCS_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_HeartBeat_cmd	INT16		1	Control_HeartBeat_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_HeartBeat_TimeOut_cmd	INT16		1	Control_HeartBeat_TimeOut_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_Request_Alarm_Record_cmd	INT16		1	Control_Request_Alarm_Record_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_ActivePower_cmd	INT16	kW	1	Control_ActivePower_cmd		W	MODBUS			
Logic.Application.BESS_GVL.Control_ReactivePower_cmd	INT16		1	Control_ReactivePower_cmd		W	MODBUS			
Logic.Application.ELECTROLYZER.MAIN_PowerSetpoint	FLOAT	Kw	1	250-2500		W	PROFINET			
Logic.Application.ELECTROLYZER.MAIN_FLOW_SETPONIT	FLOAT	NM3/H	1	50-500 NM3/H		W	PROFINET			
Logic.Application.ELECTROLYZER.MAIN_Command	UINT16	-	1	1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STANDBY (STANDY BY) 4 : MODE PRODUCTION			PROFINET			
Logic.Application.ELECTROLYZER.MAIN_WATCHDOG	INT16	-	1			W	PROFINET			
Logic.Application.ELECTROLYZER.MAIN_Setpoint_Choise	BOOL	-	1	Bit = 0 : Power Setpoint Bit = 1 : Flow H2 Setpoint		W	PROFINET			
Logic.Application.ELECTROLYZER.STATUS_MINOR_FAULT	BOOL	-	1	AT LEAST ONE "MINOR_FAULT" PRESENT (Warning) ; 1= Fault exist		R	PROFINET			
Logic.Application.ELECTROLYZER.STATUS_MAJOR_FAULT	BOOL	-	1	AT LEAST ONE "DEFAUT MAJEUR" PRESENT ; 1= Fault exist		R	PROFINET			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER.STATUS_SAFETY_FAULT	BOOL	-	1	AT LEAST ONE "DEFAUT DE SECURITE" PRESENT ; 1= Fault exist		R	PROFINET			
Logic.Application.ELECTROLYZER.STATUS_SSI	BOOL	-	1	FIRE CENTRAL alarm ; 1= Aalrm exist		R	PROFINET			
Logic.Application.ELECTROLYZER.STATUS_STATUS_ELECTROLYZER	INT16	-	1	LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7. MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10. Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress 18. MODE IDLE in progress 19. STAND BY in progress		R	PROFINET			
Logic.Application.ELECTROLYZER.STATUS_WATCHDOG	INT16	-	1	COMMUNICATION CONTROL		R	PROFINET			
Logic.Application.ELECTROLYZER.STATUS_Selector_Swtch_mode	INT16	-	1	0: Maintenance 1 : Remote 2 : Maintenance		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Process_CODE_01	INT16	-	1	Each Bit of INT Code represent one process signal		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Process_CODE_02	INT16	-	1	Each Bit of INT Code represent one process signal		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_RETURN_FLOW_SETPOINT	FLOAT	NM3/H	1	VALUE FLOW SETPOINT CLIENT (FLOW SETPOINT)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_FT630_Ratio	FLOAT	%	1	ELECTROLYSE OUTLET HYDROGENE FLOW		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT630	FLOAT	BARG	1	PRESSURE IN THE ELECTROLYZER (H2)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT610	FLOAT	BARG	1	PRESSURE IN THE ELECTROLYZER (O2)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_CT/P-620	FLOAT	µS/cm	1	CONDUCTIVITIMER		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-001	FLOAT	A	1	CURRENT output of Rectifer 1		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-100	FLOAT	V	1	VOLTAGE OUTPUT of Rectifier 1		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-002	FLOAT	A	1	CURRENT output of Rectifer 2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-102	FLOAT	V	1	VOLTAGE OUTPUT of Rectifier 2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT200	FLOAT	°C	1	TEMPERATURE TRANSMITTER THERMAL SKID		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT201	FLOAT	°C	1	TEMPERATURE TRANSMITTER THERMAL SKID		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT400	FLOAT	°C	1	TEMPERATURE TRANSMITTER WATER CHILLER		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT401	FLOAT	°C	1	TEMPERATURE TRANSMITTER WATER CHILLER		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT1000	FLOAT	°C	1	TEMPERATURE TRANSMITTER -20/80 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT1001	FLOAT	°C	1	TEMPERATURE TRANSMITTER -20/80 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_LT600	FLOAT	%	1	SEPARATOR TANK WATER LEVEL O2 SIDE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_LT620	FLOAT	%	1	SEPARATOR TANK WATER LEVEL SIDE H2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT900	FLOAT	BARG	1	NITROGEN NETWORK PRESSURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_AHD1000	FLOAT	%	1	QUANTITY OF HYDROGEN IN THE AMBIENT		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_AHD1001	FLOAT	%	1	QUANTITY OF HYDROGEN IN THE AMBIENT		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_HIOD610	FLOAT	%	1	HYDROGEN MEASUREMENT IN OXYGEN		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_DPT800	FLOAT	ppmV	1	DEW POINT MEASUREMENT H2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_OIHA800	FLOAT	ppmV	1	OXYGEN MEASUREMENT IN HYDROGEN		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Stack_operating_hours_(h)	FLOAT	h	1	Stack operating hours (h)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Full_load_hours_stack_(h)	FLOAT	h	1	Full load hours stack (h)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Total_power_consumption	FLOAT	W	1	Total power consumption (W)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Total_system_energy_consumption_(Wh)	FLOAT	Wh	1	Total system energy consumption (Wh)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_Energy_consumption_stack_(Wh)	FLOAT	Wh	1	Energy consumption stack (Wh)		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT601	FLOAT	°C	1	O2 SIDE STACK 1 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT602	FLOAT	°C	1	O2 SIDE STACK 2 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT603	FLOAT	°C	1	O2 SIDE STACK 3 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT604	FLOAT	°C	1	O2 SIDE STACK 4 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT605	FLOAT	°C	1	O2 SIDE STACK 5 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT606	FLOAT	°C	1	O2 SIDE STACK 6 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT607	FLOAT	°C	1	O2 SIDE STACK 7 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT608	FLOAT	°C	1	O2 SIDE STACK 8 OUTLET TEMPERATURE		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_FT-600	FLOAT	NM3/H	1	FLOW TRANSMITTER 200 M3/H H2O+O2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_FT-620	FLOAT	NM3/H	1	FLOW TRANSMITTER 80 M3/H H2O+H2 ATEX DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-611	FLOAT	BARG	1	PRESSURE TRANSMITTER 16 BARG O2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-612	FLOAT	BARG	1	PRESSURE TRANSMITTER 16 BARG O2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-631	FLOAT	BARG	1	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-632	FLOAT	BARG	1	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-633	FLOAT	BARG	1	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.ELECTROLYZER.PROCESS_PT-910	FLOAT	BARG	1	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-920	FLOAT	BARG	1	PRESSURE TRANSMITTER 40 BARG H2/N2 ATEX SIL DEGREASED		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_LT-300	FLOAT	%	1	Level Transmitter	Package PWT-300	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-1002	FLOAT	°C	1	TEMPERATURE TRANSMITTER -20/80 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_AHD-1002	FLOAT	% LIE	1	AMBIENT HYDROGEN DETECTOR 0.01KG/S 28M H2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_AHD-1003	FLOAT	% LIE	1	AMBIENT HYDROGEN DETECTOR		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_DPRT-1000	FLOAT	BARG	1	DIFFERENTIAL PRESSURE TRANSMITTER		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-001	FLOAT	A	1	Output current of Rectifier 1		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-002	FLOAT	A	1	Output current of Rectifier 2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-003	FLOAT	A	1	Output current of Rectifier 3		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_IM-004	FLOAT	A	1	Output current of Rectifier 4		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_PT-64_1	FLOAT	BARG	1	HPU AQUAGAS Pressure transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-60_1	FLOAT	°C	1	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-60_2	FLOAT	°C	1	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-60_3	FLOAT	°C	1	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-61_1	FLOAT	°C	1	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-64_5	FLOAT	°C	1	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-64_6	FLOAT	°C	1	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-64_7	FLOAT	°C	1	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-64_8	FLOAT	°C	1	HPU AQUAGAS Temperature transmitter	Package HPP-700	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-202A	FLOAT	°C	1	TEMPERATURE TRANSMITTER -20/80 DEG	ATEX DEGREASED	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-202B	FLOAT	°C	1	TEMPERATURE TRANSMITTER -20/80 DEG	ATEX DEGREASED	R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-621	FLOAT	°C	1	TEMPERATURE TRANSMITTER 0/120 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-1002	FLOAT	°C	1	TEMPERATURE TRANSMITTER -20/80 DEG		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_TT-1003	FLOAT	°C	1	TEMPERATURE TRANSMITTER -20/80 DEG ATEX		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-001	FLOAT	V	1	Voltage sensor of stack 1		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-002	FLOAT	V	1	Voltage sensor of stack 2		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-003	FLOAT	V	1	Voltage sensor of stack 3		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-004	FLOAT	V	1	Voltage sensor of stack 4		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-005	FLOAT	V	1	Voltage sensor of stack 5		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-006	FLOAT	V	1	Voltage sensor of stack 6		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-007	FLOAT	V	1	Voltage sensor of stack 7		R	PROFINET			
Logic.Application.ELECTROLYZER.PROCESS_VM-008	FLOAT	V	1	Voltage sensor of stack 8		R	PROFINET			
Logic.Application.ELECTROLYZER.IntellockSafetyFaults_SAFETY_FAULT_ALARM_CODE_1	INT16		1	Each Bit of INT Code represent an alarm		R	PROFINET			
Logic.Application.ELECTROLYZER.IntellockSafetyFaults_SAFETY_FAULT_ALARM_CODE_2	INT16		1	Each Bit of INT Code represent an alarm		R	PROFINET			
Logic.Application.ELECTROLYZER.IntellockSafetyFaults_SAFETY_FAULT_ALARM_CODE_3	INT16		1	Each Bit of INT Code represent an alarm		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_Interlock_process_ALARM_(IP1)_CODE_01	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_02	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_03	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_04	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_05	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_06	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_07	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_08	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_09	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_10	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_11	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessFaults_MAJOR_FAULT_ALARM_CODE_12	INT16		1	Each Bit of INT Code represent a fault		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessWarning_Warning_CODE_13	INT16		1	Each Bit of INT Code represent a warning		R	PROFINET			
Logic.Application.ELECTROLYZER.IntelockProcessWarning_Warning_CODE_14	INT16		1	Each Bit of INT Code represent a warning		R	PROFINET			
Logic.Application.EMCS_Connections.BESS_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.Electrolyzer_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.FuelCell_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.GIS_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.SG_100D1_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.SG_200D2_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.SG_200N1_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.SolarFarm_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.TransformerAVR_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Connections.WindFarm_Connected	Boolean	-	1	Device communication status			IEC-61850			
Logic.Application.EMCS_Internal.ProcessAlarm	UINT16	-	1	Enumeration to be defined		R	IEC-61850			
Logic.Application.EMCS_Internal.ElectricalAlarm	UNIT16	-	1	Enumeration to be defined		R	IEC-61850			
Logic.Application.EMCS_Internal.AutoManualMode	UInt16		1	Enumeration: 0: Automatic 1: Manual Maintenance 2: Manual Research		W	IEC-61850			
Logic.Application.EMCS_Internal.AuxLoad	Float	kW	1	Measure of the auxiliaries consumption		R	IEC-61850			
Logic.Application.EMCS_Internal.AVR_AutoManual	Boolean	-	1	0: manual, 1: automatic		W	IEC-61850			
Logic.Application.EMCS_Internal.AVR_OutputVoltage	Float	kW	1	Measured at A6_TR_100AD1		R	IEC-61850			
Logic.Application.EMCS_Internal.AVR_Status	UInt16		1	TBD, not used at the moment		R	IEC-61850			
Logic.Application.EMCS_Internal.AVR_TapLower	Boolean		1	Command to lower the TAP		W	IEC-61850			
Logic.Application.EMCS_Internal.AVR_TapPosition	Int16		1	Current tap position		R	IEC-61850			
Logic.Application.EMCS_Internal.AVR_TapRaise	Boolean		1	Command to rise the TAP		R	IEC-61850			
Logic.Application.EMCS_Internal.AVR_VoltageDeviationPerc	Float		1	Deviation from the set point		W	IEC-61850			
Logic.Application.EMCS_Internal.AVR_VoltageSetPoint	Float		1	Set point		W	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.EMCS_Internal.BESS_ActivePower	Float	kW	1	BESS measured active power. If positive the battery is discharged If negative the battery is charged		R	IEC-61850			
Logic.Application.EMCS_Internal.BESS_ActivePowerSetPoint	Float	kW	1	BESS set point feedback		R	IEC-61850			
Logic.Application.EMCS_Internal.BESS_ActivePowerSetPointCmd	Float	kW	1	BESS set point command		W	IEC-61850			
Logic.Application.EMCS_Internal.BESS_FullyCharged	Boolean	-	1	Flag indicating that the BESS SOC reached the maximum allowed	See the parameter BESS_MAXIMUM_OPERATING_RESERVE	R	IEC-61850			
Logic.Application.EMCS_Internal.BESS_GridFormingPermissive	Boolean	-	1	Permissive given to the BESS to operate in grid forming		R	Hardwired			
Logic.Application.EMCS_Internal.BESS_HasVoltage	Boolean	-	1	Flag indicating that the BESS is energyzed (mesured at SG_100D1.A3_BESS)		R	IEC-61850			
Logic.Application.EMCS_Internal.BESS_Healthy	Boolean		1	Flag indicating that the BESS is healty and can operate		R	IEC-61850			
Logic.Application.EMCS_Internal.BESS_OperatingStatus	Int16		1	Current operating status	1:"Warning", 2:"Error", 4:"Preheat State", 8:"Standby State", 16:"Precharge State", 32:"Ready State", 64:"Active State", 128:"Safety relais", 256:"Smoke detector", 512:"main switch on",	R	IEC-61850			
Logic.Application.EMCS_Internal.BESS_OperatingStatusCmd	Int16		1	BitMask Dec 0: Stop; 0 13: Start 8192	Command to set the operating status	W	IEC-61850			
Logic.Application.EMCS_Internal.BESS_ResidualEnergy	Float	kWh	1	Calculated energy that can be provided by the BESS given its SOC		R	IEC-61850			
Logic.Application.EMCS_Internal.BESS_SOC	Float	%	1	Status of Charge of the Battery		R	IEC-61850			
Logic.Application.EMCS_Internal.BUS_6_6kV_HasVoltage	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.Electrolyzer_ActivationThreshold	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.Electrolyzer_ActivePowerConsumption	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.Electrolyzer_ActivePowerSetPointCmd	Float		1			W	IEC-61850			
Logic.Application.EMCS_Internal.Electrolyzer_OperatingStatus	Int16	-	1	Enumeration LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7. MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10. Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress 18. MODE IDLE in progress 19. STAND BY in progress		R	IEC-61850			
Logic.Application.EMCS_Internal.Electrolyzer_OperatingStatusCmd	Int16	-	1	Enum 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STANDBY (STANDY BY) 4 : MODE PRODUCTION		W	IEC-61850			
Logic.Application.EMCS_Internal.Electrolyzer_SetPointChoiseCmd	Int16		1			W	IEC-61850			
Logic.Application.EMCS_Internal.FuelCell_ActivePower	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.FuelCell_ActivePowerSetPointCmd	Float		1			W	IEC-61850			
Logic.Application.EMCS_Internal.FuelCell_ConversionEfficiency	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.FuelCell_Efficiency	Float		1			R	IEC-61850			

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OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.EMCS_Internal.FuelCell_OperatingStatus	Int16		1	Main FC Package Statemachine Index (enumeration) 6: Initialization (Initialize) 10: Sleep (Sleep) 14: Wakeup (StartupContainerVentilation) 17: Wakeup (FCwaveWakeup) 19: Wakeup (HydrogenHeaterStartup) 20: Standby (Standby) 30: Startup (BatteryStartup) 40: Startup (NanogridStartup) 50: Startup (LTCoolantStartup) 60: Startup (MicrogridStartup) 100:Running (Running) 105:Rampdown (RampDownPower) 110:Rampdown (MicrogridShutdown) 120:Rampdown (ChargeBattery) 130:Rampdown (ShutdownFCwaves) 140:Aftercool (Aftercool) 160:Shutdown (ShutdownNanogrid) 172:Shutdown (ShutdownHydorgenHeater) 180:Shutdown (PutFCwavesToSleep) 190:Shutdown (ShutdownVentilation) 200:Error (Error)		R	IEC-61850			
Logic.Application.EMCS_Internal.FuelCell_OperatingStatusCmd	Int16		1	BitMask Dec 0:Wakeup 1 1:Sleep 2 2:Start 4 3:Stop 8 4:<Spare> 16 5:Reset 32		W	IEC-61850			
Logic.Application.EMCS_Internal.FuelCell_ResidualEnergy	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.GridTied	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_ActivePower	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_Fault	Boolean		1	HOLD 34 FDS		R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_SupplyGuarantee	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_GT_GUAR_ActivationTime	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_GT_GUAR_IsActive	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_GT_GUAR_Inertia	Int16		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_GT_SURP_ActivationTime	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_GT_SURP_IsActive	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_GT_SURP_Inertia	Int16		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_LT_GUAR_ActivationTime	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_LT_GUAR_IsActive	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA5_P_LT_GUAR_Inertia	Int16		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA6_QA1CB_CloseCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.HNA6_QA1CB_OpenCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.HNA6_QA1CB_Status	SByte		1			R	IEC-61850			
Logic.Application.EMCS_Internal.HNA6_QA1CB_StatusInt	SByte		1	Used internally only for simulation/test purpose		R	IEC-61850			
Logic.Application.EMCS_Internal.PlatformSupplyGuarantee	Boolean		1	Overall status of the supply guarantee (Operator and WindFarm)		R	IEC-61850			
Logic.Application.EMCS_Internal.ResidualOperationTime	Float	hours	1	In emergency mode tells how many seconds the BLPH can operate before going to POWER OUT MODE		R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_CloseCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_Closed	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_Open	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A1_ELECTROLYZER_OpenCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_CloseCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_Closed	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_Open	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A2_TR_200ED1_OpenCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_CloseCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_Closed	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_Open	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A3_BESS_OpenCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200DE1_CloseCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200DE1_Closed	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200DE1_Open	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A4_TR_200DE1_OpenCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_CloseCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_Closed	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_Open	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_OpenCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A6_TR_100AD1_VoltsMainBusL1_L2	Float		1	Voltage used as feedback for the AVR Transformer		R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL_CELL_CloseCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL_CELL_Closed	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL_CELL_Open	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG100D1_A7_FUELL_CELL_OpenCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SG200D2_CloseCmd	Boolean		1			W	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.EMCS_Internal.SG200D2_Closed	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG200D2_Open	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SG200D2_OpenCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_ActivePower	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_ActivePowerSetPoint	Float		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_ActivePowerSetPointCmd	Float		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_CB_CloseRequest	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_CB_OpenRequest	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_Fault	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_Healthy	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_Maintenance	Boolean		1			R	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_OperatingStatus	Int16		1	0: Shutdown, 1: Operating,		R	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_ShutdownCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.SolarFarm_StartupCmd	Boolean		1			W	IEC-61850			
Logic.Application.EMCS_Internal.OperatorSupplyGuarantee	Boolean	-	1	Enumeration: 0: Automatic 1: Manual Active 2: Manual Inactive	Automatic: the HNA5 Supply Guaranty is applied Manual Active: operator override Manual Inactive: operator override	W	IEC-61850			
Logic.Application.EMCS_Internal.TotalActivePower	Float		1			R	IEC-61850			
Logic.Application.EMCS_Parameters.BESS_ENERGY_CAPACITY	Float	kWh	1	Total energy that the BESS can store			IEC-61850			
Logic.Application.EMCS_Parameters.BESS_LIMIT_FOR_ADV_LOAD_SHEDDING	Float	%	1	Level at which the request to load shedding the second group of auxiliaries is sent to the PCS			IEC-61850			
Logic.Application.EMCS_Parameters.BESS_MAXIMUM_CHARGE_SETPOINT	Float	kW	1	Max set point that can be applied			IEC-61850			
Logic.Application.EMCS_Parameters.BESS_MAXIMUM_DISCHARGE_START_RESERVE	Float	%	1	Request to start BESS discharge only if the BESS charge level is above this threshold			IEC-61850			
Logic.Application.EMCS_Parameters.BESS_MAXIMUM_OPERATING_RESERVE	Float	%	1	Maximum charge level			IEC-61850			
Logic.Application.EMCS_Parameters.BESS_MINIMUM_CHARGE_START_RESERVE	Float	%	1	Request to start BESS charge only if the BESS charge level is below this threshold			IEC-61850			
Logic.Application.EMCS_Parameters.BESS_MINIMUM_OPERATING_RESERVE	Float	%	1	Minimum charge level			IEC-61850			
Logic.Application.EMCS_Parameters.ColdStandBy_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.ELECTROLYZER_MAX_SET_POINT	Float	kW	1	Max set point that can be applied			IEC-61850			
Logic.Application.EMCS_Parameters.ELECTROLYZER_STOP_TIMEOUT	Int64	s	1	Max time to wait the electrolyzer after sending the stop command			IEC-61850			
Logic.Application.EMCS_Parameters.Emergency_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.Export_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.FUEL_CELL_MAXIMUM_SETPOINT	Float	kW	1	Max set point that can be applied			IEC-61850			
Logic.Application.EMCS_Parameters.HotStandBy_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.Idle_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.Import_Able_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.Import_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.Import_Not_Able_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.Maintenance_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.None_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.Powerout_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.Research_Mode_Delay	Int16	s	1	Inertia to enter the mode			IEC-61850			
Logic.Application.EMCS_Parameters.SOLAR_FARM_MAXIMUM_SETPOINT	Float	kW	1	Max set point that can be applied			IEC-61850			
Logic.Application.EMCS_Parameters.WINDFARM_POWER_COMPARE_HOLD_TIME	UInt16	s	1	Default = 60 seconds. Hysteresis on wind power comparison			IEC-61850			
Logic.Application.EMCS_Parameters.WINDFARM_SUPPLY_GUARANTEE_MIN_POWER	Float	kW	1	Default = 1000			IEC-61850			
Logic.Application.EMCS_Parameters.WINDFARM_SURPLUS_MIN_POWER	Float	kW	1	Default = 2000			IEC-61850			
Logic.Application.EMCS_StatusMachine.Current_Mode	Int16		1	Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH			IEC-61850			
Logic.Application.EMCS_StatusMachine.Current_SubMode	Int16		1	Enumeration 0:Idle 1:Init 2:Running 3:Stopping			IEC-61850			

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OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.EMCS_StatusMachine.Next_Mode	Int16		1	Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH			IEC-61850			
Logic.Application.EMCS_StatusMachine.Next_SubMode	Int16		1	Enumeration 0:Idle 1:Init 2:Running 3:Stopping			IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_COLD_STANDBY_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EMERGENCY_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_EXPORT_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_HOT_STANDBY_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IDLE_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_ABLE_TO_CHARGE_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_NOT_ABLE_TO_CHARGE_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_IMPORT_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_MAINTENANCE_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_NONE_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_ExecutorStatus	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_POWER_OUT_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_PreconditionsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_IsActive	Boolean	-	1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_ActivationTime	Float		1				IEC-61850			
Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_ExecutorStatus	Int16		1				IEC-61850			

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Logic.Application.EMCS_StatusMachine.MODE_RESEARCH_STATUS_Inertia	Int16		1				IEC-61850			
Logic.Application.FUEL_CELL.AnalogCommands_ControlWord	INT16		1	BitMask Dec 0:Wakeup 1 1:Sleep 2 2:Start 4 3:Stop 8 4:<Spare> 16 5:Reset 32		R/W	MODBUS	1001	HOLDING REGISTER	BOOL
Logic.Application.FUEL_CELL.AnalogCommands_POWER_SP	FLOAT		1	Export Power Setpoint kW. Range 0 to 1200 kW		R/W	MODBUS	1000	HOLDING REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_10ft-Container_Temperature	INT16		1		Not implemented yet by package	R	MODBUS	1117	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_10ft-Ventilation_Fan_Speed	INT16		1		Not implemented yet by package	R	MODBUS	1118	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Container_Temperature_2	INT16		1		Not implemented yet by package	R	MODBUS	1113	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Container_Temperature_3	INT16		1		Not implemented yet by package	R	MODBUS	1114	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Ventilation_Fan_1_Speed	INT16		1		Not implemented yet by package	R	MODBUS	1115	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Ventilation_Fan_2_Speed	INT16		1		Not implemented yet by package	R	MODBUS	1116	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_40ft-Ventilation_Intake_Temperature	INT16		1		Not implemented yet by package	R	MODBUS	1112	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Ambient_Temperature	FLOAT		1		Not implemented yet by package	R	MODBUS	1230	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Aux_AC_power	INT16		1			R	MODBUS	1041	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Apparent_Power	FLOAT		1			R	MODBUS	1341	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Current_L1	FLOAT		1			R	MODBUS	1336	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Current_L2	FLOAT		1			R	MODBUS	1337	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Current_L3	FLOAT		1			R	MODBUS	1338	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Frequency	FLOAT		1			R	MODBUS	1343	INPUT REGISTER	UINT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Power	FLOAT		1			R	MODBUS	1339	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Power_Factor	FLOAT		1			R	MODBUS	1342	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Reactive_Power	FLOAT		1			R	MODBUS	1340	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L1L2	FLOAT		1			R	MODBUS	1330	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L1N	FLOAT		1			R	MODBUS	1333	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L2L3	FLOAT		1			R	MODBUS	1331	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L2N	FLOAT		1			R	MODBUS	1334	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L3L1	FLOAT		1			R	MODBUS	1332	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_AUX_Voltage_L3N	FLOAT		1			R	MODBUS	1335	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Available_Unused_Power_(AUP)	INT16		1		Not implemented yet by package	R	MODBUS	1119	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Calculated_Maximum_Power_(CMP)	INT16		1		Not implemented yet by package	R	MODBUS	1120	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Container_intake_air_Temperature	FLOAT		1			R	MODBUS	1231	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_1	INT16		1		Not implemented yet by package	R	MODBUS	1050	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_10	INT16		1		Not implemented yet by package	R	MODBUS	1059	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_11	INT16		1		Not implemented yet by package	R	MODBUS	1060	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_12	INT16		1		Not implemented yet by package	R	MODBUS	1061	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_13	INT16		1		Not implemented yet by package	R	MODBUS	1062	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_14	INT16		1		Not implemented yet by package	R	MODBUS	1063	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_15	INT16		1		Not implemented yet by package	R	MODBUS	1064	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_16	INT16		1		Not implemented yet by package	R	MODBUS	1065	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_17	INT16		1		Not implemented yet by package	R	MODBUS	1066	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_18	INT16		1		Not implemented yet by package	R	MODBUS	1067	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_19	INT16		1		Not implemented yet by package	R	MODBUS	1068	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_2	INT16		1		Not implemented yet by package	R	MODBUS	1051	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_20	INT16		1		Not implemented yet by package	R	MODBUS	1069	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_3	INT16		1		Not implemented yet by package	R	MODBUS	1052	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_4	INT16		1		Not implemented yet by package	R	MODBUS	1053	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_5	INT16		1		Not implemented yet by package	R	MODBUS	1054	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_6	INT16		1		Not implemented yet by package	R	MODBUS	1055	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_7	INT16		1		Not implemented yet by package	R	MODBUS	1056	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_8	INT16		1		Not implemented yet by package	R	MODBUS	1057	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Error_Code_9	INT16		1		Not implemented yet by package	R	MODBUS	1058	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Export_AC_Power	INT16		1			R	MODBUS	1039	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_+_DC/DC_efficiency	FLOAT		1		Not implemented yet by package	R	MODBUS	1203	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_DCDC_A_Power	FLOAT		1			R	MODBUS	1239	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_DCDC_B_Power	FLOAT		1			R	MODBUS	1240	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_H2_flow_rate	FLOAT		1		Not implemented yet by package	R	MODBUS	1223	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Hour_Meter	FLOAT		1		Not implemented yet by package	R	MODBUS	1280	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC1_shutdown_counter	INT16		1	ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1303	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Current_String_A	FLOAT		1			R	MODBUS	1256	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Current_String_B	FLOAT		1			R	MODBUS	1257	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_stack_lifetime_produced_energy	FLOAT		1		Not implemented yet by package	R	MODBUS	1209	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Power	FLOAT		1			R	MODBUS	1238	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Voltage_String_A	FLOAT		1			R	MODBUS	1258	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_Stack_Voltage_String_B	FLOAT		1			R	MODBUS	1259	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_start_counter	INT16		1		Not implemented yet by package	R	MODBUS	1296	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC1_State	INT16		1	Fuel Cell Module #1 Statemachine Index (enumeration)		R	MODBUS	1001	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_+_DC/DC_efficiency	FLOAT		1		Not implemented yet by package	R	MODBUS	1204	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_DCDC_A_Power	FLOAT		1			R	MODBUS	1242	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_DCDC_B_Power	FLOAT		1			R	MODBUS	1243	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_H2_flow_rate	FLOAT		1		Not implemented yet by package	R	MODBUS	1224	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Hour_Meter	FLOAT		1		Not implemented yet by package	R	MODBUS	1282	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC2_shutdown_counter	INT16		1	ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1304	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Current_String_A	FLOAT		1			R	MODBUS	1260	INPUT REGISTER	INT16

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Current_String_B	FLOAT		1			R	MODBUS	1261	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_stack_lifetime_produced_energy	FLOAT		1		Not implemented yet by package	R	MODBUS	1211	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Power	FLOAT		1			R	MODBUS	1241	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Voltage_String_A	FLOAT		1			R	MODBUS	1262	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_Stack_Voltage_String_B	FLOAT		1			R	MODBUS	1263	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_start_counter	INT16		1		Not implemented yet by package	R	MODBUS	1297	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC2_State	INT16		1	Fuel Cell Module #2 Statemachine Index		R	MODBUS	1002	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_+_DC/DC_efficiency	FLOAT		1		Not implemented yet by package	R	MODBUS	1205	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_DCDC_A_Power	FLOAT		1			R	MODBUS	1245	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_DCDC_B_Power	FLOAT		1			R	MODBUS	1246	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_H2_flow_rate	FLOAT		1		Not implemented yet by package	R	MODBUS	1225	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Hour_Meter	FLOAT		1		Not implemented yet by package	R	MODBUS	1284	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC3_shutdown_counter	INT16		1	ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1305	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Current_String_A	FLOAT		1			R	MODBUS	1264	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Current_String_B	FLOAT		1			R	MODBUS	1265	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_stack_lifetime_produced_energy	FLOAT		1		Not implemented yet by package	R	MODBUS	1213	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Power	FLOAT		1			R	MODBUS	1244	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Voltage_String_A	FLOAT		1			R	MODBUS	1266	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_Stack_Voltage_String_B	FLOAT		1			R	MODBUS	1267	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_start_counter	INT16		1		Not implemented yet by package	R	MODBUS	1298	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC3_State	INT16		1	Fuel Cell Module #3 Statemachine Index		R	MODBUS	1003	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_+_DC/DC_efficiency	FLOAT		1		Not implemented yet by package	R	MODBUS	1206	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_DCDC_A_Power	FLOAT		1			R	MODBUS	1248	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_DCDC_B_Power	FLOAT		1			R	MODBUS	1249	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_H2_flow_rate	FLOAT		1		Not implemented yet by package	R	MODBUS	1226	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Hour_Meter	FLOAT		1		Not implemented yet by package	R	MODBUS	1286	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC4_shutdown_counter	INT16		1	ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1306	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Current_String_A	FLOAT		1			R	MODBUS	1268	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Current_String_B	FLOAT		1			R	MODBUS	1269	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_stack_lifetime_produced_energy	FLOAT		1		Not implemented yet by package	R	MODBUS	1215	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Power	FLOAT		1			R	MODBUS	1247	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Voltage_String_A	FLOAT		1			R	MODBUS	1270	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_Stack_Voltage_String_B	FLOAT		1			R	MODBUS	1271	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_start_counter	INT16		1		Not implemented yet by package	R	MODBUS	1299	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC4_State	INT16		1	Fuel Cell Module #4 Statemachine Index		R	MODBUS	1004	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_+_DC/DC_efficiency	FLOAT		1		Not implemented yet by package	R	MODBUS	1207	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_DCDC_A_Power	FLOAT		1			R	MODBUS	1251	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_DCDC_B_Power	FLOAT		1			R	MODBUS	1252	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_H2_flow_rate	FLOAT		1		Not implemented yet by package	R	MODBUS	1227	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Hour_Meter	FLOAT		1		Not implemented yet by package	R	MODBUS	1288	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC5_shutdown_counter	INT16		1	ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1307	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Current_String_A	FLOAT		1			R	MODBUS	1272	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Current_String_B	FLOAT		1			R	MODBUS	1273	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_stack_lifetime_produced_energy	FLOAT		1		Not implemented yet by package	R	MODBUS	1217	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Power	FLOAT		1			R	MODBUS	1250	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Voltage_String_A	FLOAT		1			R	MODBUS	1274	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_Stack_Voltage_String_B	FLOAT		1			R	MODBUS	1275	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_start_counter	INT16		1		Not implemented yet by package	R	MODBUS	1300	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC5_State	INT16		1	Fuel Cell Module #5 Statemachine Index		R	MODBUS	1005	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_+_DC/DC_efficiency	FLOAT		1		Not implemented yet by package	R	MODBUS	1208	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_DCDC_A_Power	FLOAT		1			R	MODBUS	1254	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_DCDC_B_Power	FLOAT		1			R	MODBUS	1255	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_H2_flow_rate	FLOAT		1		Not implemented yet by package	R	MODBUS	1228	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Hour_Meter	FLOAT		1		Not implemented yet by package	R	MODBUS	1290	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC6_shutdown_counter	INT16		1	ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1308	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Current_String_A	FLOAT		1		Not implemented yet by package	R	MODBUS	1276	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Current_String_B	FLOAT		1		Not implemented yet by package	R	MODBUS	1277	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_stack_lifetime_produced_energy	FLOAT		1		Not implemented yet by package	R	MODBUS	1219	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Power	FLOAT		1			R	MODBUS	1253	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Voltage_String_A	FLOAT		1		Not implemented yet by package	R	MODBUS	1278	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_Stack_Voltage_String_B	FLOAT		1		Not implemented yet by package	R	MODBUS	1279	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_start_counter	INT16		1		Not implemented yet by package	R	MODBUS	1301	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FC6_State	INT16		1	Fuel Cell Module #6 Statemachine Index		R	MODBUS	1006	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCM_RUNNING	INT16		1	Number of Fuel Cell Modules Producing Power		R	MODBUS	1016	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_1_DCDC_A_Power	FLOAT		1			R	MODBUS	1021	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_1_DCDC_B_Power	FLOAT		1			R	MODBUS	1022	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_1_Power_Internal	FLOAT		1		Not implemented yet by package	R	MODBUS	1020	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_2_DCDC_A_Power	FLOAT		1			R	MODBUS	1024	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_2_DCDC_B_Power	FLOAT		1			R	MODBUS	1025	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_2_Power_Internal	FLOAT		1		Not implemented yet by package	R	MODBUS	1023	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_3_DCDC_A_Power	FLOAT		1			R	MODBUS	1027	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_3_DCDC_B_Power	FLOAT		1			R	MODBUS	1028	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_3_Power_Internal	FLOAT		1		Not implemented yet by package	R	MODBUS	1026	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_4_DCDC_A_Power	FLOAT		1			R	MODBUS	1030	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_4_DCDC_B_Power	FLOAT		1			R	MODBUS	1031	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_4_Power_Internal	FLOAT		1		Not implemented yet by package	R	MODBUS	1029	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_5_DCDC_A_Power	FLOAT		1			R	MODBUS	1033	INPUT REGISTER	INT16

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_5_DCDC_B_Power	FLOAT		1			R	MODBUS	1034	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_5_Power_Internal	FLOAT		1		Not implemented yet by package	R	MODBUS	1032	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_6_DCDC_A_Power	FLOAT		1			R	MODBUS	1036	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_6_DCDC_B_Power	FLOAT		1			R	MODBUS	1037	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_FCWave_6_Power_Internal	FLOAT		1		Not implemented yet by package	R	MODBUS	1035	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_H2_Consumtion_Status_Word	UINT		1	Bitmask. Each bit (n) indicates that the FCn is consuming	Not implemented yet by package	R	MODBUS	1229	INPUT REGISTER	WORD
Logic.Application.FUEL_CELL.AnalogStatus_HT1_Coolant_Forward_Temperature	FLOAT		1			R	MODBUS	1235	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT1_Coolant_Return_Temperature	FLOAT		1			R	MODBUS	1234	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT1-Coolant_Return_Temperature	FLOAT		1			R	MODBUS	1100	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT1-Flowrate	FLOAT		1			R	MODBUS	1102	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT1-Pump_Inlet_Temperature	FLOAT		1			R	MODBUS	1101	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT1-Pump_RPM	INT16		1		Not implemented yet by package	R	MODBUS	1103	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2_Coolant_Forward_Temperature	FLOAT		1			R	MODBUS	1237	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2_Coolant_Return_Temperature	FLOAT		1			R	MODBUS	1236	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2-Coolant_Return_Temperature	INT16		1		Not implemented yet by package	R	MODBUS	1104	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2-Flowrate	INT16		1		Not implemented yet by package	R	MODBUS	1106	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2-Pump_Inlet_Temperature	INT16		1		Not implemented yet by package	R	MODBUS	1105	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_HT2-Pump_RPM	INT16		1		Not implemented yet by package	R	MODBUS	1107	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Inhibits_Status_Word	INT16		1	Informing that the FC cannot start	To be developed by package	R	MODBUS	1017	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT_Coolant_Return_Temperature	FLOAT		1			R	MODBUS	1232	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT_Cooling_Forward_Temperature	FLOAT		1			R	MODBUS	1233	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT-Coolant_Forward_Temperature	INT16		1		Not implemented yet by package	R	MODBUS	1109	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT-Coolant_Return_Temperature	INT16		1		Not implemented yet by package	R	MODBUS	1108	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT-Flowrate	INT16		1		Not implemented yet by package	R	MODBUS	1110	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_LT-Pump_RPM	INT16		1		Not implemented yet by package	R	MODBUS	1111	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L1L2	FLOAT		1			R	MODBUS	1324	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L1N	FLOAT		1			R	MODBUS	1327	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L2L3	FLOAT		1			R	MODBUS	1325	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L2N	FLOAT		1			R	MODBUS	1328	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L3L1	FLOAT		1			R	MODBUS	1326	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Busbar_Voltage_L3N	FLOAT		1			R	MODBUS	1329	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Apparent_Power	FLOAT		1			R	MODBUS	1321	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Current_L1	INT16		1			R	MODBUS	1316	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Current_L2	INT16		1			R	MODBUS	1317	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Current_L3	INT16		1			R	MODBUS	1318	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Frequency	FLOAT		1			R	MODBUS	1323	INPUT REGISTER	UINT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Power	FLOAT		1			R	MODBUS	1319	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Power_Factor	FLOAT		1			R	MODBUS	1322	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Reactive_Power	FLOAT		1			R	MODBUS	1320	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L1L2	FLOAT		1			R	MODBUS	1310	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L1N	FLOAT		1			R	MODBUS	1313	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L2L3	FLOAT		1			R	MODBUS	1311	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L2N	FLOAT		1			R	MODBUS	1314	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L3L1	FLOAT		1			R	MODBUS	1312	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Main_Output_Voltage_L3N	FLOAT		1			R	MODBUS	1315	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Nanogrid_AC_Power	INT16		1		Not implemented yet by package	R	MODBUS	1040	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Nanogrid_Power	FLOAT		1		Not implemented yet by package	R	MODBUS	1344	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_Operating_state	INT16		1		Not implemented yet by package	R	MODBUS	1121	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_P_MAX	INT16		1	Total Capacity of FC Package		R	MODBUS	1013	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_P_OPTIMIZED	INT16		1	Fuel Efficient Power Point	Not implemented yet by package	R	MODBUS	1014	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_PLC_ON_Hour_Meter	FLOAT		1		Not implemented yet by package	R	MODBUS	1294	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_StateMain	INT16		1	Main FC Package Statemachine Index (enumeration) 6: Initialization (Initialize) 10: Sleep (Sleep) 14: Wakeup (StartupContainerVentilation) 17: Wakeup (FCwaveWakeup) 19: Wakeup (HydrogenHeaterStartup) 20: Standby (Standby) 30: Startup (BatteryStartup) 40: Startup (NanogridStartup) 50: Startup (LTCoolantStartup) 60: Startup (MicrogridStartup) 100:Running (Running) 105:Rampdown (RampDownPower) 110:Rampdown (MicrogridShutdown) 120:Rampdown (ChargeBattery) 130:Rampdown (ShutdownFCwaves) 140:Aftercool (Aftercool) 160:Shutdown (ShutdownNanogrid) 172:Shutdown (ShutdownHydorgenHeater) 180:Shutdown (PutFCwavesToSleep) 190:Shutdown (ShutdownVentilation) 200:Error (Error)		R	MODBUS	1000	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_System_efficiency	FLOAT		1	+/- 5% ACCURACY	Not implemented yet by package	R	MODBUS	1202	INPUT REGISTER	INT16
Logic.Application.FUEL_CELL.AnalogStatus_System_lifetime_produced_energy	UINT32		1		Not implemented yet by package	R	MODBUS	1221	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_System_ON_Hour_Meter	FLOAT		1		Not implemented yet by package	R	MODBUS	1292	INPUT REGISTER	UINT32
Logic.Application.FUEL_CELL.AnalogStatus_System_shutdown_counter	INT16		1	ONLY FAULTY SHUTDOWNS ARE COUNTED	Not implemented yet by package	R	MODBUS	1309	INPUT REGISTER	INT16

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.FUEL_CELL.AnalogStatus_System_start_counter	INT16		1		Not implemented yet by package	R	MODBUS	1302	INPUT REGISTER	INT16
Logic.Application.GIS.7UT85_Physical_channel_status_(_Station_bus_)	LCCH		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Physical_channel_status_of_redundant_channel_(_Station_bus_)	LCCH		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Physical_channel_status_(_Process_bus_)	LCCH		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Physical_channel_status_of_redundant_channel_(_Process_bus_)	LCCH		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_IED_physical_device_health	LPHD		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Time_synchronized	LTMS		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_GOOSE_Sub__fail_alarm	LPHD		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Memory_fail_alarm	LPHD		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Process_bus_processor_fail_alarm	LLN0		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Sampled_value_publish_fail_alarm	LLN0		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_IED_Locla/Remote_Status	LLN0		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Process_bus_processor_fail_alarm	LLN0		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Sampled_value_subscription_fail_alarm	LSVS		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_7SJ85_Relay_Failure	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Level_1_87T_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Level_1_87T_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Level_1_87N_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_Level_1_87N_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_side_A_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_side_A_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_side_B_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_side_B_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_side_C_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_side_C_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_side_N_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_side_N_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_side_A_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_side_A_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_side_B_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_side_B_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_side_C_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_side_C_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_side_N_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_side_N_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_current_Total_Demand_Distortion_phsA	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_current_Total_Demand_Distortion_phsB	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_current_Total_Demand_Distortion_phsC	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_current_Total_Harmonic_Distortion_phsA	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_current_Total_Harmonic_Distortion_phsB	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_1st_current_Total_Harmonic_Distortion_phsC	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Demand_Distortion_phsA	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Demand_Distortion_phsB	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Demand_Distortion_phsC	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Harmonic_Distortion_phsA	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Harmonic_Distortion_phsB	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_TR_2nd_current_Total_Harmonic_Distortion_phsC	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_LSVS1_Smapled_Value_CT1	IO1ATCTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_LSVS1_Smapled_Value_CT2	IO1ATCTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_LSVS1_Smapled_Value_CT3	IO1ATCTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7UT85_LSVS1_Smapled_Value_CT4	IO1ATCTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Physical_channel_status_(_Station_bus_)	LCCH		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Physical_channel_status_of_redundant_channel_(_Station_bus_)	LCCH		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Physical_channel_status_(_Process_bus_)	LCCH		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Physical_channel_status_of_redundant_channel_(_Process_bus_)	LCCH		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IED_physical_device_health	LPHD		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Time_synchronized	LTMS		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_GOOSE_Sub__fail_alarm	LPHD		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Memory_fail_alarm	LPHD		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Process_bus_processor_fail_alarm	LLN0		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Sampled_value_sub__fail_alarm	LLN0		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IED_Local/Remote_Status	LLN0		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_CB_QA1_status(Q0)	CSWI		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_CB_QA1_control(Q0)	XCBR		1	Control		W	IEC-61850			
Logic.Application.GIS.7SJ85_CB_QA1_open_command(Q0)	XCBR		1	Control		W	IEC-61850			
Logic.Application.GIS.7SJ85_DS_QZ91_status	CSWI		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS_QZ91_control	XSWI		1	Control		W	IEC-61850			
Logic.Application.GIS.7SJ85_DS_QZ92_status	CSWI		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS_QZ92_control	XSWI		1	Control		W	IEC-61850			
Logic.Application.GIS.7SJ85_ES_QZ91_status	CSWI		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_ES_QZ91_control	XSWI		1	Control		W	IEC-61850			
Logic.Application.GIS.7SJ85_ES_QZ92_status	CSWI		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_ES_QZ92_control	XSWI		1	Control		W	IEC-61850			
Logic.Application.GIS.7SJ85_DC_Control_Voltage_Failure	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_AC_Control_Voltage_Failure	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_6_6kV_SWGR_CB_Open_Status	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_6_6kV_SWGR_ES_Open_Status	GGIO		1	Status		R	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.GIS.7SJ85_VD1_NO_VOLTAGE	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_VD2_NO_VOLTAGE	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_CB_Warning_Gas_Low_Stage-1	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_CB_Warning_Gas_Low_Stage-2	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_CB_Spring_Motor_Overload	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_CB_Spring_Motor_Excessive_Run_Time	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_CB_Motor_Exceeded_&_Spring_Uncharged	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS/ES_MOTOR_MCB_TRIP	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS_OR_ES_MANUAL_OPER_MODE	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_HAND_CRANK_INSERTED	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_7UT85_Relay_Failure	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_LCC_LOCAL_Status	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_LCC_REMOTE_Status	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_TCS1_FAIL	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_TCS2_FAIL	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_MCB_Alarm-Q0	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS/ES_QZ92_GAS_Pressure_Low_Stage-1	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS/ES_QZ92_GAS_Pressure_Low_Stage-2	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS/ES_QZ91_GAS_Pressure_Low_Stage-1	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS/ES_QZ91_GAS_Pressure_Low_Stage-2	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_LOR_RESET_COMMAND	GGIO		1	Control		W	IEC-61850			
Logic.Application.GIS.7SJ85_CB_QA1_open_command_by_HV_SCADA	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS_QZ92_open_command_by_HV_SCADA	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_DS_QZ92_close_command_by_HV_SCADA	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_ES_QZ92_open_command_by_HV_SCADA	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_ES_QZ92_close_command_by_HV_SCADA	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_Physical_channel_status_(_Process_bus_)	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_Physical_channel_status_of_redundant_channel_(_Process_bus_)	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_IED_physical_device_health	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_Current_time_source	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_Time_synchronized	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_Location_daylight_saving_time	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_SC_fail_alarm	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_Internal_power_fail_alarm	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_Process_bus_processor_fail_alarm	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_IMU_Sampled_value_publish_fail_alarm	GGIO		1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_50_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_50_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_50N_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_50N_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_51_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_51_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_51G_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_51G_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_67_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_67_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_67N_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_67N_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_27_pick-up_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Level_1_27_operation_General			1	Status		R	IEC-61850			
Logic.Application.GIS.7SJ85_Total_active_power	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Total_reactive_power	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Total_apparent_power	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Average_power_factor	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Frequency	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_AB_Phase_to_phase_voltages_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_AB_Phase_to_phase_voltages_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_BC_Phase_to_phase_voltages_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_BC_Phase_to_phase_voltages_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_CA_Phase_to_phase_voltages_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_CA_Phase_to_phase_voltages_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_A_Phase_voltages_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_A_Phase_voltages_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_B_Phase_voltages_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_B_Phase_voltages_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_C_Phase_voltages_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_C_Phase_voltages_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_N_Phase_voltages_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_N_Phase_voltages_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_A_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_A_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_B_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_B_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_C_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_C_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_N_Phase_currents_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_N_Phase_currents_angle	MMXU		1	Measure		R	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.GIS.7SJ85_A_Phase_active_power_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_B_Phase_active_power_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_C_Phase_active_power_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_A_Phase_reactive_power_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_B_Phase_reactive_power_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_C_Phase_reactive_power_magnitude	MMXU		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Import_active_energy	MMTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Export_active_energy	MMTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Import_reactive_energy	MMTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Export_reactive_energy	MMTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Current_Total_Demand_Distortion_phsA	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Current_Total_Demand_Distortion_phsB	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Current_Total_Demand_Distortion_phsC	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Current_Total_Harmonic_Distortion_phsA	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Current_Total_Harmonic_Distortion_phsB	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Current_Total_Harmonic_Distortion_phsC	MHAI		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Voltage_unbalance_max_overall	QVUV		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Voltage_dip_Dur_	QVVR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Voltage_dip_Vres_	QVVR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Voltage_swell_Dur_	QVVR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Voltage_swell_Vsw_	QVVR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Voltage_interrup__Dur_	QVVR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_Voltage_interrup__Vres_	QVVR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS1_Smapled_Value_CT1	I01ATCTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS1_Smapled_Value_CT2	I01ATCTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS1_Smapled_Value_CT3	I01ATCTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS1_Smapled_Value_CT4	I01ATCTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS1_Smapled_Value_VT1	U01BCVTVTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS1_Smapled_Value_VT2	U01BCVTVTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS1_Smapled_Value_VT3	U01BCVTVTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS1_Smapled_Value_VT4	U01BCVTVTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS2_Smapled_Value_VT1	U02BCVTVTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS2_Smapled_Value_VT2	U02BCVTVTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS2_Smapled_Value_VT3	U02BCVTVTR		1	Measure		R	IEC-61850			
Logic.Application.GIS.7SJ85_LSVS2_Smapled_Value_VT4	U02BCVTVTR		1	Measure		R	IEC-61850			
Logic.Application.IO_CARD_GVL.OUTPUT_001_State	BOOL	-	1	BESS GRID FORMING MODE STATUS	Hardwired signal	R	IEC-61850			
Logic.Application.PCS_Internal.BESSFault	Boolean	-	1	Sent by PCS. 1: fault; 0: OK. When 1 the BESS must be immediately stopped		R	IEC-61850			
Logic.Application.PCS_Internal.CmdToLoadShedStage1	Boolean	-	1	Request sent from EMCS to PCS to activate the Load Shedding of EMERGENCY MODE		R	IEC-61850			
Logic.Application.PCS_Internal.CmdToLoadShedStage2	Boolean		1	Request sent from EMCS to PCS to activate the Load Shedding of LOW BESS LEVEL		R	IEC-61850			
Logic.Application.PCS_Internal.CurrentMode	Int16		1	EMCS Mode Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH		R	IEC-61850			
Logic.Application.PCS_Internal.EnterMode	Int16		1	EMCS Mode Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH		R	IEC-61850			
Logic.Application.PCS_Internal.HydrogenLevel	Float	kg	1	Level of hydrogen in the vessels		R	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.PCS_Internal.PermToEnterMode	Int16		1	EMCS Mode Enumeration 0:NONE 1:IDLE 2:IMPORT 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH		R	IEC-61850			
Logic.Application.PCS_Internal.PermToStartEL	Boolean	-	1	Permissive to start Electrolyzer sent by PCS		R	IEC-61850			
Logic.Application.PCS_Internal.PermToStartFC	Boolean	-	1	Permissive to start Fuel Cell sent by PCS		R	IEC-61850			
Logic.Application.PCS_Internal.ProcessEmpty	Boolean	-	1	The hydrogen vessels are empty		R	IEC-61850			
Logic.Application.PCS_Internal.ProcessFullyCharged	Boolean	-	1	The hydrogen vessels are full		R	IEC-61850			
Logic.Application.SG_100D1.A2_TR_200ED1_TRANSFORMER_PROTECTION_ALARM_"OIL_PRESSURE"	BOOL		1			R	IEC-61850			
Logic.Application.SG_100D1.TR-100AD1_GENERAL_ALAM	BOOL		1			R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_PHIPTOC1_Op	BOOL		1	PROTECTION TRIPPED "50-1"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_PHLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51-1"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_EFLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51N"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_ROVPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59N"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_PHPTUV1_Op	BOOL		1	PROTECTION TRIPPED "27-1"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_PHPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59-1"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_MVGAPC1_SPCSO6	BOOL		1	SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_MVGAPC1_SPCSO7	BOOL		1	SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_CMMXU1_A_phsA	FLOAT		1	Line Current (L1)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_CMMXU1_A_phsB	FLOAT		1	Line Current (L2)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_CMMXU1_A_phsC	FLOAT		1	Line Current (L3)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_VMMXU1_PPV_phsAB	FLOAT		1	Line Volts (L1-L2)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_VMMXU1_PPV_phsBC	FLOAT		1	Line Volts (L2-L3)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_VMMXU1_PPV_phsCA	FLOAT		1	Line Volts (L3-L1)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_FMMXU1_Hz	FLOAT		1	Frequency	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_PEMMXU1_TotVA	FLOAT		1	APPARENT POWER (kVA)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_PEMMXU1_TotW	FLOAT		1	REAL POWER (kW)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_PEMMXU1_TotVAr	FLOAT		1	REACTIVE POWER (kVAR)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_PEMMXU1_TotPF	FLOAT		1	POWER FACTOR	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SCBIGGIO1_Ind9	BOOL		1	TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SCBIGGIO1_Ind8	BOOL		1	TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SCBIGGIO1_Ind12	BOOL		1	TRANSFORMER PROTECTION TRIPPED "OIL PRESSURE"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SCBIGGIO1_Ind11	BOOL		1	TRANSFORMER PROTECTION ALARM "OIL PRESSURE"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SCBIGGIO1_Ind14	BOOL		1	TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SCBIGGIO1_Ind13	BOOL		1	TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_LPHD1_PhyHealth	BOOL		1	WATCHDOG PROTECTION RELAY	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SCBIGGIO1_Ind2	BOOL		1	V.T. HEALTHY CIRCUIT	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_MVGAPC1_SPCSO4	BOOL		1	INTERTRIP SEND TO L.V. SWITCHBOARD	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SBBIGGIO1_Ind7	BOOL		1	K86 TRIPPED	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_MVGAPC1_SPCSO8	BOOL		1	C.B. CLOSED AND INSERTED	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_MVGAPC2_SPCSO2	BOOL		1	C.B. OPENED OR ISOLATED	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_MVGAPC2_SPCSO3	BOOL		1	MCB'S CLOSED	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_TCSSCBR1_CircAlm	BOOL		1	C.B. READY (TCS)	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_MVGAPC2_SPCSO1	BOOL		1	C.B. READY TO CLOSE	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SPCGAPC2_SPCSO002_On	BOOL		1	OPENING COMMAND - On Command	SG100D1_A1_ELECTROLYZER	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SPCGAPC2_SPCSO002_Off	BOOL		1	OPENING COMMAND - Off Command	SG100D1_A1_ELECTROLYZER	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SPCGAPC1_SPCSO001_On	BOOL		1	CLOSING COMMAND - On Command	SG100D1_A1_ELECTROLYZER	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SPCGAPC1_SPCSO001_Off	BOOL		1	CLOSING COMMAND - Off Command	SG100D1_A1_ELECTROLYZER	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SPCGAPC1_SPCSO003_On	BOOL		1	K86 RESET COMMAND - On Command	SG100D1_A1_ELECTROLYZER	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SPCGAPC1_SPCSO003_Off	BOOL		1	K86 RESET COMMAND - Off Command	SG100D1_A1_ELECTROLYZER	W	IEC-61850			
Logic.Application.SG_100D1_A1_GVL.SG_100D1_A1_SDBIGGIO1_Ind8	BOOL		1	PROTECTION RELAY UNIT 7 HEALTHY	SG100D1_A1_ELECTROLYZER	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PHIPTOC1_Op	BOOL		1	PROTECTION TRIPPED "50-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PHLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_EFLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51N"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_LEDGGIO1_Ind3	BOOL		1	SYNCHRO "OK"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_ROVPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59N-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_ROVPTOV2_Op	BOOL		1	PROTECTION TRIPPED "59N-2"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PHPTUV1_Op	BOOL		1	PROTECTION TRIPPED "27-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PHPTUV2_Op	BOOL		1	PROTECTION TRIPPED "27-2"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PHPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PHPTOV2_Op	BOOL		1	PROTECTION TRIPPED "59-2"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_DPHLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "67-1"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_DPHLPTOC2_Op	BOOL		1	PROTECTION TRIPPED "67-2"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_MVGAPC1_SPCSO6	BOOL		1	SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_MVGAPC1_SPCSO7	BOOL		1	SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_CMMXU1_A_phsA	FLOAT		1	Line Current (L1)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_CMMXU1_A_phsB	FLOAT		1	Line Current (L2)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_CMMXU1_A_phsC	FLOAT		1	Line Current (L3)	SG100D1_A2_TR_200ED1	R	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_VMMXU1_PPV_phsAB	FLOAT		1	Line Volts (L1-L2)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_VMMXU1_PPV_phsBC	FLOAT		1	Line Volts (L2-L3)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_VMMXU1_PPV_phsCA	FLOAT		1	Line Volts (L3-L1)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_FMMXU1_Hz	FLOAT		1	Frequency	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PEMMXU1_TotVA	FLOAT		1	APPARENT POWER (kVA)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PEMMXU1_TotW	FLOAT		1	REAL POWER (kW)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PEMMXU1_TotVAr	FLOAT		1	REACTIVE POWER (kVAR)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_PEMMXU1_TotPF	FLOAT		1	POWER FACTOR	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind7	BOOL		1	TRANSFORMER PROTECTION TRIPPED "BUCHHOLZ"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind6	BOOL		1	TRANSFORMER PROTECTION ALARM "BUCHHOLZ"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind9	BOOL		1	TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind8	BOOL		1	TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind12	BOOL		1	TRANSFORMER PROTECTION TRIP "OIL PRESSURE"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind11	BOOL		1	TRANSF. OIL LEVEL VERY LOW ALARM	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind14	BOOL		1	TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind13	BOOL		1	TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SDBIGGIO1_Ind7	BOOL		1	TRANSF. GENERAL ALARM	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_LPHD1_PhyHealth	BOOL		1	WATCHDOG PROTECTION RELAY	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SCBIGGIO1_Ind2	BOOL		1	V.T. HEALTHY CIRCUIT	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_MVGAPC1_SPCSO4	BOOL		1	INTERTRIP SEND TO L.V. SWITCHBOARD	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SBBIGGIO1_Ind7	BOOL		1	K86 TRIPPED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_MVGAPC1_SPCSO8	BOOL		1	Contactor CLOSED AND INSERTED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_MVGAPC2_SPCSO2	BOOL		1	Contactor OPENED OR ISOLATED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_MVGAPC2_SPCSO3	BOOL		1	MCB'S CLOSED	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_TCSSCBR1_CircAlm	BOOL		1	Contactor READY (TCS)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_MVGAPC2_SPCSO1	BOOL		1	Contactor READY TO CLOSE	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SPCGAPC2_SPCSO002_On	BOOL		1	OPENING COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SPCGAPC2_SPCSO002_Off	BOOL		1	OPENING COMMAND - Off Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SPCGAPC1_SPCSO001_On	BOOL		1	CLOSING COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SPCGAPC1_SPCSO001_Off	BOOL		1	CLOSING COMMAND - Off Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SPCGAPC1_SPCSO003_On	BOOL		1	K86 RESET COMMAND - On Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SPCGAPC1_SPCSO003_Off	BOOL		1	K86 RESET COMMAND - Off Command	SG100D1_A2_TR_200ED1	W	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SDBIGGIO1_Ind8	BOOL		1	PROTECTION RELAY UNIT 1 HEALTHY	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A2_GVL.SG_100D1_A2_SDBIGGIO1_Ind9	BOOL		1	SELECTOR SWITCH OF OVERRIDE IN OFF (SIL ENABLED)	SG100D1_A2_TR_200ED1	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PHIPTOC1_Op	BOOL	-	1	PROTECTION TRIPPED "50-1"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PHLPTOC1_Op	BOOL	-	1	PROTECTION TRIPPED "51-1"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_EFLPTOC1_Op	BOOL	-	1	PROTECTION TRIPPED "51N"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_LEDGGIO1_Ind3	BOOL	-	1	SYNCHRO "OK"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_ROVPTOV1_Op	BOOL	-	1	PROTECTION TRIPPED "59N-1"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_ROVPTOV2_Op	BOOL	-	1	PROTECTION TRIPPED "59N-2"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PHPTUV1_Op	BOOL	-	1	PROTECTION TRIPPED "27-1"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PHPTUV2_Op	BOOL	-	1	PROTECTION TRIPPED "27-2"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PHPTOV1_Op	BOOL	-	1	PROTECTION TRIPPED "59-1"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PHPTOV2_Op	BOOL	-	1	PROTECTION TRIPPED "59-2"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_DPHLPTOC1_Op	BOOL	-	1	PROTECTION TRIPPED "67-1"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_DPHLPTOC2_Op	BOOL	-	1	PROTECTION TRIPPED "67-2"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC1_SPCSO6	BOOL	-	1	SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC1_SPCSO7	BOOL	-	1	SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_CMMXU1_A_phsA	FLOAT	A	1	Line Current (L1)	SG100D1_A3_BESS	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_CMMXU1_A_phsB	FLOAT	A	1	Line Current (L2)	SG100D1_A3_BESS	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_CMMXU1_A_phsC	FLOAT	A	1	Line Current (L3)	SG100D1_A3_BESS	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_VMMXU1_PPV_phsAB	FLOAT	V	1	Line Volts (L1-L2)	SG100D1_A3_BESS	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_VMMXU1_PPV_phsBC	FLOAT	V	1	Line Volts (L2-L3)	SG100D1_A3_BESS	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_VMMXU1_PPV_phsCA	FLOAT	V	1	Line Volts (L3-L1)	SG100D1_A3_BESS	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_FMMXU1_Hz	FLOAT	Hz	1	Frequency	SG100D1_A3_BESS	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PEMMXU1_TotVA	FLOAT	kVA	1	APPARENT POWER (kVA)	SG100D1_A3_BESS	R	MODBUS			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PEMMXU1_TotW	FLOAT	kW	1	REAL POWER (kW)	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PEMMXU1_TotVAr	FLOAT	kVAR	1	REACTIVE POWER (kVAR)	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_PEMMXU1_TotPF	FLOAT	COSfi	1	POWER FACTOR	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SCBIGGIO1_Ind14	BOOL	-	1	TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SCBIGGIO1_Ind13	BOOL	-	1	TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_LPHD1_PhyHealth	BOOL	-	1	WATCHDOG PROTECTION RELAY	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SCBIGGIO1_Ind2	BOOL	-	1	V.T. HEALTHY CIRCUIT	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC1_SPCSO4	BOOL	-	1	INTERTRIP SEND TO L.V. SWITCHBOARD	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SBBIGGIO1_Ind7	BOOL	-	1	K86 TRIPPED	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC1_SPCSO8	BOOL	-	1	Contactor CLOSED AND INSERTED	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC2_SPCSO2	BOOL	-	1	Contactor OPENED OR ISOLATED	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC2_SPCSO3	BOOL	-	1	MCB'S CLOSED	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_TCSSCBR1_CircAlm	BOOL	-	1	Contactor READY (TCS)	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_MVGAPC2_SPCSO1	BOOL	-	1	Contactor READY TO CLOSE	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC2_SPCSO002_On	BOOL	-	1	OPENING COMMAND - On Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC2_SPCSO002_Off	BOOL		1	OPENING COMMAND - Off Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC1_SPCSO001_On	BOOL	-	1	CLOSING COMMAND - On Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC1_SPCSO001_Off	BOOL		1	CLOSING COMMAND - Off Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC1_SPCSO003_On	BOOL		1	K86 RESET COMMAND - On Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SPCGAPC1_SPCSO003_Off	BOOL		1	K86 RESET COMMAND - Off Command	SG100D1_A3_BESS	W	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SDBIGGIO1_Ind8	BOOL	-	1	PROTECTION RELAY UNIT 2 HEALTHY	SG100D1_A3_BESS	R	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SCBIGGIO1_Ind6	BOOL	-	1	PROTECTION RELAY UNIT 4 HEALTHY	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A3_GVL.SG_100D1_A3_SDBIGGIO1_Ind9	BOOL	-	1	SELECTOR SWITCH OF OVERRIDE (SIL ENABLED)	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PHHPTOC2_Op	BOOL		1	PROTECTION TRIPPED "50"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PHHPTOC1_Op	BOOL		1	PROTECTION TRIPPED "50-1"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PHIPTOC1_Op	BOOL		1	PROTECTION TRIPPED "50-2"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PHLPTOC2_Op	BOOL		1	PROTECTION TRIPPED "51"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PHLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51-1"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_EFLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51N"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_EFHPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51G"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_ROVPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59N-1"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_ROVPTOV2_Op	BOOL		1	PROTECTION TRIPPED "59N-2"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PHPTUV1_Op	BOOL		1	PROTECTION TRIPPED "27-1"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PHPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59-1"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_MVGAPC1_SPCSO6	BOOL		1	SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_MVGAPC1_SPCSO7	BOOL		1	SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_CMMXU1_A_phsA	FLOAT		1	Line Current (L1)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_CMMXU1_A_phsB	FLOAT		1	Line Current (L2)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_CMMXU1_A_phsC	FLOAT		1	Line Current (L3)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_VMMXU1_PPV_phsAB	FLOAT		1	VOLTAGE MAIN BUS BAR (L1-I2)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_VMMXU1_PPV_phsBC	FLOAT		1	VOLTAGE MAIN BUS BAR (L2-L3)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_VMMXU1_PPV_phsCA	FLOAT		1	VOLTAGE MAIN BUS BAR (L3-L1)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_FMMXU1_Hz	FLOAT		1	Frequency	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PEMMXU1_TotVA	FLOAT		1	APPARENT POWER (kVA)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PEMMXU1_TotW	FLOAT		1	REAL POWER (kW)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PEMMXU1_TotVAr	FLOAT		1	REACTIVE POWER (kVAR)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_PEMMXU1_TotPF	FLOAT		1	POWER FACTOR	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind7	BOOL		1	TRANSFORMER PROTECTION TRIPPED "BUCHHOLZ"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind6	BOOL		1	TRANSFORMER PROTECTION ALARM "BUCHHOLZ"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind9	BOOL		1	TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind8	BOOL		1	TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind10	BOOL		1	PROTECTION TRIPPED ALARM "OIL LEVEL"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind12	BOOL		1	TRANSFORMER PROTECTION TRIPPED "OIL PRESSURE"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind14	BOOL		1	TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind13	BOOL		1	TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SCBIGGIO1_Ind11	BOOL		1	TRANSF. OIL LEVEL VERY LOW ALARM	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SDBIGGIO1_Ind7	BOOL		1	TRANSFORMER GENERAL ALARM	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_LPHD1_PhyHealth	BOOL		1	WATCHDOG PROTECTION RELAY	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_MVGAPC1_SPCSO4	BOOL		1	INTERTRIP SEND TO L.V. SWITCHBOARD	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SBBIGGIO1_Ind7	BOOL		1	K86 TRIPPED	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_MVGAPC1_SPCSO8	BOOL		1	Contactor CLOSED AND INSERTED	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_MVGAPC2_SPCSO2	BOOL		1	Contactor OPENED OR ISOLATED	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_MVGAPC2_SPCSO3	BOOL		1	MCB'S CLOSED	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_TCSSCBR1_CircAlm	BOOL		1	Contactor READY (TCS)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_MVGAPC2_SPCSO1	BOOL		1	Contactor READY TO CLOSE	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SPCGAPC2_SPCSO002_On	BOOL		1	OPENING COMMAND - On Command	SG100D1_A4_TR_200DE1	W	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SPCGAPC2_SPCSO002_Off	BOOL		1	OPENING COMMAND - Off Command	SG100D1_A4_TR_200DE1	W	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SPCGAPC1_SPCSO001_On	BOOL		1	CLOSING COMMAND - On Command	SG100D1_A4_TR_200DE1	W	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SPCGAPC1_SPCSO001_Off	BOOL		1	CLOSING COMMAND - Off Command	SG100D1_A4_TR_200DE1	W	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SPCGAPC1_SPCSO003_On	BOOL		1	K86 RESET COMMAND - On Command	SG100D1_A4_TR_200DE1	W	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SPCGAPC1_SPCSO003_Off	BOOL		1	K86 RESET COMMAND - Off Command	SG100D1_A4_TR_200DE1	W	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SDBIGGIO1_Ind8	BOOL		1	PROTECTION RELAY UNIT 3 HEALTHY	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A4_GVL.SG_100D1_A4_SDBIGGIO1_Ind9	BOOL		1	SELECTOR SWITCH OF OVERRIDE (SIL ENABLED)	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHIPTOC1_Op	BOOL		1	PROTECTION TRIPPED "50-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_EFLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51N"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_LEDGGIO1_Ind3	BOOL		1	SYNCHRO "OK"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_ROVPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59N-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_ROVPTOV2_Op	BOOL		1	PROTECTION TRIPPED "59N-2"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTUV1_Op	BOOL		1	PROTECTION TRIPPED "27-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTUV2_Op	BOOL		1	PROTECTION TRIPPED "27-2"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59-1"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PHPTOV2_Op	BOOL		1	PROTECTION TRIPPED "59-2"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC1_SPCSO6	BOOL		1	SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC1_SPCSO7	BOOL		1	SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_CMMXU1_A_phsA	FLOAT		1	Line Current (L1)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_CMMXU1_A_phsB	FLOAT		1	Line Current (L2)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_CMMXU1_A_phsC	FLOAT		1	Line Current (L3)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_VMMXU1_PPV_phsAB	FLOAT		1	Line Volts (L1-I2)	Feedback Voltage for the AVR	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_VMMXU1_PPV_phsBC	FLOAT		1	Line Volts (L2-L3)	Feedback Voltage for the AVR	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_VMMXU1_PPV_phsCA	FLOAT		1	Line Volts (L3-L1)	Feedback Voltage for the AVR	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_FMMXU1_Hz	FLOAT		1	Frequency	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PEMMXU1_TotVA	FLOAT		1	APPARENT POWER (kVA)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PEMMXU1_TotW	FLOAT		1	REAL POWER (kW)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PEMMXU1_TotVAr	FLOAT		1	REACTIVE POWER (kVAR)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_PEMMXU1_TotPF	FLOAT		1	POWER FACTOR	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind9	BOOL		1	TRANSFORMER PROTECTION TRIPPED "OIL TEMPERATURE"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind8	BOOL		1	TRANSFORMER PROTECTION ALARM "OIL TEMPERATURE"	SG100D1_A6_TR_100AD1	R	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind12	BOOL		1	TRANSFORMER PROTECTION TRIPPED "OIL PRESSURE"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind11	BOOL		1	TRANSF. PROT. SELF DEHYDRATING BREATHER ALARM	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind14	BOOL		1	TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind13	BOOL		1	TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind7	BOOL		1	TRANSFORMER PROTECTION ALARM BUCHHOLZ	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind9	BOOL		1	TRANSFORMER PROTECTION TRIPPED BUCHHOLZ	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SBBIGGIO1_Ind9	BOOL		1	TRANSFORMER OLTC PROTECTION RELAY	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind10	BOOL		1	TRANSFORMER PROTECTION ALARM LEVEL OIL	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind7	BOOL		1	TRANSFORMER PROTECTION TRIPPED LEVEL OIL	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind3	BOOL		1	TRANSFORMER PROTECTION ALARM OIL LEVEL INDICATOR	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind1	BOOL		1	TRANSF. OLTC PROTECTION TRIPPED OIL LEVEL INDICATOR	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind6	BOOL		1	TRANSFORMER PROTECTION ALARM MEMBRANE CONTROL	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_LPHD1_PhyHealth	BOOL		1	WATCHDOG PROTECTION RELAY	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBIGGIO1_Ind2	BOOL		1	V.T. HEALTHY CIRCUIT	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC1_SPCSO4	BOOL		1	INTERTRIP SEND TO 66kV SWITCHB.	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SBBIGGIO1_Ind7	BOOL		1	K86 TRIPPED	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC1_SPCSO8	BOOL		1	C.B. CLOSED AND INSERTED	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC2_SPCSO2	BOOL		1	C.B. OPENED OR ISOLATED	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC2_SPCSO5	BOOL		1	MCB'S CLOSED	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_TCSSCBR1_CircAlm	BOOL		1	C.B. READY (TCS)	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_MVGAPC2_SPCSO1	BOOL		1	C.B. READY TO CLOSE	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC2_SPCSO002_On	BOOL		1	OPENING COMMAND - On Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC2_SPCSO002_Off	BOOL		1	OPENING COMMAND - Off Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC1_SPCSO001_On	BOOL		1	CLOSING COMMAND - On Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC1_SPCSO001_Off	BOOL		1	CLOSING COMMAND - Off Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC1_SPCSO003_On	BOOL		1	K86 RESET COMMAND - On Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SPCGAPC1_SPCSO003_Off	BOOL		1	K86 RESET COMMAND - Off Command	SG100D1_A6_TR_100AD1	W	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_VMMXU2_HiWrn	BOOL		1	LIVE VOLTAGE 6.6kV ON THE MAIN BUS-BARS	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SCBOGGIO1_SPCSO2	BOOL		1	TRIPPED ARC CABLE COMPARTEMENT	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind4	BOOL		1	TR-100AD1 GENERAL ALAM	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A6_GVL.SG_100D1_A6_SDBIGGIO1_Ind8	BOOL		1	RR-100D1 NER GENERAL ALARM	SG100D1_A6_TR_100AD1	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PHIPTOC1_Op	BOOL		1	PROTECTION TRIPPED "50-1"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PHLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51-1"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_EFLPTOC1_Op	BOOL		1	PROTECTION TRIPPED "51N"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_LEDGGIO1_Ind3	BOOL		1	SYNCHRO "OK"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_ROVPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59N-1"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_ROVPTOV2_Op	BOOL		1	PROTECTION TRIPPED "59N-2"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PHPTUV1_Op	BOOL		1	PROTECTION TRIPPED "27-1"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PHPTUV2_Op	BOOL		1	PROTECTION TRIPPED "27-2"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PHPTOV1_Op	BOOL		1	PROTECTION TRIPPED "59-1"	SG100D1_A7_FUELL_CELL		IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PHPTOV2_Op	BOOL		1	PROTECTION TRIPPED "59-2"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_DPHLPDOC1_Op	BOOL		1	PROTECTION TRIPPED "67-1"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_DPHLPDOC2_Op	BOOL		1	PROTECTION TRIPPED "67-2"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_MVGAPC1_SPCSO6	BOOL		1	SELECTOR SWITCH IN LOCAL POSITION	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_MVGAPC1_SPCSO7	BOOL		1	SELECTOR SWITCH IN REMOTE POSITION	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_CMMXU1_A_phsA	FLOAT		1	Line Current (L1)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_CMMXU1_A_phsB	FLOAT		1	Line Current (L2)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_CMMXU1_A_phsC	FLOAT		1	Line Current (L3)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_VMMXU1_PPV_phsAB	FLOAT		1	Line Volts (L1-l2)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_VMMXU1_PPV_phsBC	FLOAT		1	Line Volts (L2-L3)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_VMMXU1_PPV_phsCA	FLOAT		1	Line Volts (L3-L1)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_FMMXU1_Hz	FLOAT		1	Frequency	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PEMMXU1_TotVA	FLOAT		1	APPARENT POWER (kVA)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PEMMXU1_TotW	FLOAT		1	REAL POWER (kW)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PEMMXU1_TotVAr	FLOAT		1	REACTIVE POWER (kVAR)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_PEMMXU1_TotPF	FLOAT		1	POWER FACTOR	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind14	BOOL		1	TRANSF. PROTECTION TRIPPED "WINDING TEMPERATURE"	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind13	BOOL		1	TRANSF. PROTECTION ALARM "WINDING TEMPERATURE	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_LPHD1_PhyHealth	BOOL		1	WATCHDOG PROTECTION RELAY	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind2	BOOL		1	V.T. HEALTHY CIRCUIT	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_MVGAPC1_SPCSO4	BOOL		1	INTERTRIP SEND TO L.V. SWITCHBOARD	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SBBIGGIO1_Ind7	BOOL		1	K86 TRIPPED	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_MVGAPC1_SPCSO8	BOOL		1	Contactor CLOSED AND INSERTED	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_MVGAPC2_SPCSO2	BOOL		1	Contactor OPENED OR ISOLATED	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_MVGAPC2_SPCSO3	BOOL		1	MCB'S CLOSED	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_TCSSCBR1_CircAlm	BOOL		1	Contactor READY (TCS)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_MVGAPC2_SPCSO1	BOOL		1	Contactor READY TO CLOSE	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SPCGAPC1_SPCSO002_On	BOOL		1	OPENING COMMAND - On Command	SG100D1_A7_FUELL_CELL	W	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SPCGAPC1_SPCSO002_Off	BOOL		1	OPENING COMMAND - Off Command	SG100D1_A7_FUELL_CELL	W	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SPCGAPC1_SPCSO001_On	BOOL		1	CLOSING COMMAND - On Command	SG100D1_A7_FUELL_CELL	W	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SPCGAPC1_SPCSO001_Off	BOOL		1	CLOSING COMMAND - Off Command	SG100D1_A7_FUELL_CELL	W	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SPCGAPC1_SPCSO003_On	BOOL		1	K86 RESET COMMAND - On Command	SG100D1_A7_FUELL_CELL	W	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SPCGAPC1_SPCSO003_Off	BOOL		1	K86 RESET COMMAND - Off Command	SG100D1_A7_FUELL_CELL	W	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SDBIGGIO1_Ind8	BOOL		1	PROTECTION RELAY UNIT 6 HEALTHY	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SDBIGGIO1_Ind7	BOOL		1	AUXILIARY 230VAC HEALTHY (ALL SWITCHBOARD)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind6	BOOL		1	MCB'S CLOSED (FROM MEASURE UNIT A5)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind7	BOOL		1	V.T. HEALTHY CIRCUIT (FROM MEASURE UNIT A5)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind8	BOOL		1	UPS 110VDC A SUPPLY "ON" (FROM MEASURE UNIT A5)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind9	BOOL		1	UPS 110VDC B SUPPLY "ON" (FROM MEASURE UNIT A5)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind10	BOOL		1	230VAC SUPPLY "ON" (FROM MEASURE UNIT A5)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind11	BOOL		1	24VDC SUPPLY "ON" (FROM MEASURE UNIT A5)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_A7_GVL.SG_100D1_A7_SCBIGGIO1_Ind3	BOOL		1	EARTHING SWITCH OPENED (FROM MEASURE UNIT A5)	SG100D1_A7_FUELL_CELL	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A1_CC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Cabel Compart.		R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A1_CC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - Cabel Compart.		R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A1_CC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Cabel Compart.		R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A1_CBC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - C.B. Compart.		R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A1_CBC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - C.B. Compart.		R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A1_CBC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - C.B. Compart.		R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A1_MBB_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Main Bus Bar		R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A1_MBB_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Main Bus Bar		R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A2_CC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A2_CC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A2_CC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A2_CBC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A2_CBC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A2_CBC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A2_MBB_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A2_MBB_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A2_TR_200ED1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CC_PHL1_TEMP_DETECT	INT	.	1	Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CC_PHL2_TEMP_DETECT	INT	.	1	Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CC_PHL3_TEMP_DETECT	INT	.	1	Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CBC_PHL1_TEMP_DETECT	INT	.	1	Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CBC_PHL2_TEMP_DETECT	INT	.	1	Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_CBC_PHL3_TEMP_DETECT	INT	.	1	Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_MBB_PHL1_TEMP_DETECT	INT	.	1	Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A3_MBB_PHL3_TEMP_DETECT	INT	.	1	Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A3_BESS	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A4_CC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A4_CC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A4_CC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A4_CBC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A4_CBC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A4_CBC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A4_MBB_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A4_MBB_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A4_TR_200DE1	R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_TVC_PHL1_TEMP_DETECT	INT		1	Phase L1 -Temperature Detection - T.V. Compartment		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_TVC_PHL2_TEMP_DETECT	INT		1	Phase L2 -Temperature Detection - T.V. Compartment		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_TVC_PHL3_TEMP_DETECT	INT		1	Phase L3 -Temperature Detection - T.V. Compartment		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_MBB_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Main Bus Bar		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A5_MBB_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Main Bus Bar		R	IEC-61850			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_CC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_CC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_CC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_CBC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_CBC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_CBC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_MBB_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A6_MBB_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A6_TR_100AD1	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A7_CC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Cabel Compart.	SG100D1_A7_FUELL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A7_CC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - Cabel Compart.	SG100D1_A7_FUELL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A7_CC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Cabel Compart.	SG100D1_A7_FUELL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A7_CBC_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - C.B. Compart.	SG100D1_A7_FUELL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A7_CBC_PHL2_TEMP_DETECT	INT		1	Phase L2 - Temperature Detection - C.B. Compart.	SG100D1_A7_FUELL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A7_CBC_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - C.B. Compart.	SG100D1_A7_FUELL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A7_MBB_PHL1_TEMP_DETECT	INT		1	Phase L1 - Temperature Detection - Main Bus Bar	SG100D1_A7_FUELL_CELL	R	MODBUS			
Logic.Application.SG_100D1_MDB_GVL.SG_100D1_A7_MBB_PHL3_TEMP_DETECT	INT		1	Phase L3 - Temperature Detection - Main Bus Bar	SG100D1_A7_FUELL_CELL	R	MODBUS			
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_PROTECTION_TRIPPED_L	BOOL		1	CIRCUIT_BRAKER_PROTECTION_TRIPPED_L	DI	R	MODBUS	50.0	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_PROTECTION_TRIPPED_S	BOOL		1	CIRCUIT_BRAKER_PROTECTION_TRIPPED_S	DI	R	MODBUS	50.1	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_PROTECTION_TRIPPED_I	BOOL		1	CIRCUIT_BRAKER_PROTECTION_TRIPPED_I	DI	R	MODBUS	50.2	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_PROTECTION_TRIPPED_G_	BOOL		1	CIRCUIT_BRAKER_PROTECTION_TRIPPED_G	DI	R	MODBUS	50.3	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_TRIPPED_COMMON	BOOL		1	CIRCUIT_BRAKER_TRIPPED_COMMON	DI	R	MODBUS	40.3	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_OPEN	BOOL		1	CIRCUIT_BRAKER_OPEN	DI	R	MODBUS	40.6	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_CLOSED	BOOL		1	CIRCUIT_BRAKER_CLOSED	DI	R	MODBUS	40.0	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_CONNECTED	BOOL		1	CIRCUIT_BRAKER_CONNECTED	DI	R	MODBUS	40.1	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_ISOLATED	BOOL		1	CIRCUIT_BRAKER_ISOLATED	DI	R	MODBUS	40.1	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_TEST	BOOL		1	CIRCUIT_BRAKER_TEST	DI	R	MODBUS	40.2	INPUT REGISTER	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_200D2_GVL.CIRCUIT_BRAKER_TRIP_UNIT_DISCONNECTED	BOOL		1	CIRCUIT_BRAKER_TRIP_UNIT_DISCONNECTED	DI	R	MODBUS	40.15	INPUT REGISTER	BOOL
Logic.Application.SG_200D2_GVL.INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_OPEN	BOOL		1	INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_OPEN	DO	W	MODBUS	0.8	HOLDING REGISTER	E32
Logic.Application.SG_200D2_GVL.INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_CLOSE	BOOL		1	INCOMING_QB1_CIRCUIT_BRAKER_COMMAND_CLOSE	DO	W	MODBUS	0.7	HOLDING REGISTER	E32

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OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_200D2_GVL.MEASURE_CURRENT_L1	FLOAT		1	MEASURE_CURRENT_L1	AI	R	MODBUS	100-101	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL.MEASURE_CURRENT_L2	FLOAT		1	MEASURE_CURRENT_L2	AI	R	MODBUS	102-103	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL.MEASURE_CURRENT_L3	FLOAT		1	MEASURE_CURRENT_L3	AI	R	MODBUS	104-105	INPUT REGISTER	U32
Logic.Application.SG_200D2_GVL.MEASURE_VOLTAGE_L1_L2	FLOAT		1	MEASURE_VOLTAGE_L1_L2	AI	R	MODBUS	154	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL.MEASURE_VOLTAGE_L2_L3	FLOAT		1	MEASURE_VOLTAGE_L2_L3	AI	R	MODBUS	155	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL.MEASURE_VOLTAGE_L3_L1	FLOAT		1	MEASURE_VOLTAGE_L3_L1	AI	R	MODBUS	156	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL.MEASURE_FREQUENCY	FLOAT		1	MEASURE_FREQUENCY	AI	R	MODBUS	254	INPUT REGISTER	U16
Logic.Application.SG_200D2_GVL.MEASURE_APPARENT_POWER	FLOAT		1	MEASURE_APPARENT_POWER	AI	R	MODBUS	222-223	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL.MEASURE_REAL_POWER	FLOAT		1	MEASURE_REAL_POWER	AI	R	MODBUS	206-207	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL.MEASURE_REACTIVE_POWER	FLOAT		1	MEASURE_REACTIVE_POWER	AI	R	MODBUS	214-215	INPUT REGISTER	S32
Logic.Application.SG_200D2_GVL.MEASURE_POWER_FACTOR	FLOAT		1	MEASURE_POWER_FACTOR	AI	R	MODBUS	253	INPUT REGISTER	S16
Logic.Application.SG_200D2_GVL.QB1_DISCONNECTED_OR_OPEN	BOOL		1	QB1_DISCONNECTED_OR_OPEN	DI	R	MODBUS	1	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.QB1_CONNECTED_AND_CLOSED	BOOL		1	QB1_CONNECTED_AND_CLOSED	DI	R	MODBUS	2	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.QB2_DISCONNECTED_OR_OPEN	BOOL		1	QB2_DISCONNECTED_OR_OPEN	DI	R	MODBUS	3	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.QB2_CONNECTED_AND_CLOSED	BOOL		1	QB2_CONNECTED_AND_CLOSED	DI	R	MODBUS	4	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.SA1_ON_LOCAL_POSITION	BOOL		1	SA1_ON_LOCAL_POSITION	DI	R	MODBUS	5	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.SA1_ON_REMOTE_POSITION	BOOL		1	SA1_ON_REMOTE_POSITION	DI	R	MODBUS	6	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.MCBs_ALARM	BOOL		1	MCBs_ALARM	DI	R	MODBUS	7	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.COMMON_FAILURE	BOOL		1	COMMON_FAILURE	DI	R	MODBUS	8	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.SURGE_ARRESTER_FAULT	BOOL		1	SURGE_ARRESTER_FAULT	DI	R	MODBUS	9	DISCRETE INPUTS	BOOL
Logic.Application.SG_200D2_GVL.SG_200N1_MCBs_FAILURE	BOOL		1		DI	R	MODBUS	10	DISCRETE INPUTS	BOOL
Logic.Application.SG_200N1_GVL.SG_200N1_DPHLPTOC2_Op	BOOL		1	CIRCUIT-BRAKER - PROTECTION TRIPPED "50"	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_DPHLPTOC1_Op	BOOL		1	CIRCUIT-BRAKER - PROTECTION TRIPPED "51"	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_XAGGIO130_Ind004	BOOL		1	CIRCUIT-BRAKER - FUNCTION TRIPPED "74TCS"	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_XGGIO120_Ind001	BOOL		1	CIRCUIT-BRAKER - FUNCTION TRIPPED "86"	DI	R	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC2_SPCSO001	BOOL		1	CIRCUIT-BRAKER - READY TO CLOSE	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC2_SPCSO002	BOOL		1	CIRCUIT-BRAKER - OPEN OR TEST POSITION	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC1_SPCSO008	BOOL		1	CIRCUIT-BRAKER - CLOSED AND INSERTED	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_LPHD1_PhyHealth	BOOL		1	CIRCUIT-BRAKER - WATCHDOG	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_XAGGIO130_Ind001	BOOL		1	MCBs ALARM	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC1_SPCSO006	BOOL		1	SA1 ON "LOCAL" POSITION	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC1_SPCSO007	BOOL		1	SA1 ON "REMOTE" POSITION	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_XAGGIO130_Ind002	BOOL		1	SA2 ON "MAINTENANCE" POSITION	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_MVGAPC1_SPCSO004	BOOL		1	INTERTRIP TO MV SWBD	DI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC2_SPCSO001_On	BOOL		1	CIRCUIT-BRAKER - CLOSE COMMAND - On Command	DO	W	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC2_SPCSO001_Off	BOOL		1	CIRCUIT-BRAKER - CLOSE COMMAND - Off Command	DO	W	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC1_SPCSO002_On	BOOL		1	CIRCUIT-BRAKER - OPEN COMMAND - On Command	DO	W	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC1_SPCSO002_Off	BOOL		1	CIRCUIT-BRAKER - OPEN COMMAND - Off Command	DO	W	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC1_SPCSO003_On	BOOL		1	K86 RESET COMMAND - On Command	DO	W	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_SPCGAPC1_SPCSO003_Off	BOOL		1	K86 RESET COMMAND - Off Command	DO	W	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_CMMXU1_A_phsA	FLOAT	A	1	MEASURE - CURRENT "L1"	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_CMMXU1_A_phsB	FLOAT	A	1	MEASURE - CURRENT "L2"	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_CMMXU1_A_phsC	FLOAT	A	1	MEASURE - CURRENT "L3"	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_VMMXU1_PPV_phsAB	FLOAT	V	1	MEASURE - VOLTAGE "L1-L2"	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_VMMXU1_PPV_phsBC	FLOAT	V	1	MEASURE - VOLTAGE "L2-L3"	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_VMMXU1_PPV_phsCA	FLOAT	V	1	MEASURE - VOLTAGE "L3-L1"	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_FMMXU1_Hz	FLOAT	Hz	1	MEASURE - FREQUENCY	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_PEMMXU1_TotVA	FLOAT	kVA	1	MEASURE - APPARENT POWER	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_PEMMXU1_TotW	FLOAT	kW	1	MEASURE - REAL POWER	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_PEMMXU1_TotVAr	FLOAT	kVAR	1	MEASURE - REACTIVE POWER	AI	R	IEC-61850			
Logic.Application.SG_200N1_GVL.SG_200N1_PEMMXU1_TotPF	FLOAT	COSfi	1	MEASURE - POWER FACTOR	AI	R	IEC-61850			
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Available_capacity	UINT16	kW	1	InverterSystem_Available_capacity		w	MODBUS	30001	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Current_curtailment_setpoint	UINT16	kW	1	InverterSystem_Current_curtailment_setpoint		w	MODBUS	30003	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Current_total_power	UINT16	kW	1	InverterSystem_Current_total_power		w	MODBUS	30005	INPUT REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Status	BOOL		1	InverterSystem_Status		R	MODBUS	30007	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Fault	BOOL		1	InverterSystem_Fault		R	MODBUS	30008	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Maintenance	BOOL		1	InverterSystem_Maintenance		R	MODBUS	30009	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Curtailment_setpoint_CMD	UINT16	kW	1	InverterSystem_Curtailment_setpoint_CMD		W	MODBUS	40001	HOLDING REGISTER	UINT16
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Startup_CMD	BOOL		1	InverterSystem_Startup_CMD		W	MODBUS	40003	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.InverterSystem_Shutdown_CMD	BOOL		1	InverterSystem_Shutdown_CMD		W	MODBUS	40004	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_OpenStatus	BOOL		1	Main_CB_OpenStatus		R	MODBUS	30101	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_ClosedStatus	BOOL		1	Main_CB_ClosedStatus		R	MODBUS	30102	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_RemoteControlAvailable	BOOL		1	Main_CB_RemoteControlAvailable		R	MODBUS	30103	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_OpenRequest_CMD	BOOL		1	Main_CB_OpenRequest_CMD		R	MODBUS	40101	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.Main_CB_ClosedRequest_CMD	BOOL		1	Main_CB_ClosedRequest_CMD		R	MODBUS	40102	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.EQMeter_A_B_line_voltage	FLOAT	V	1	EQMeter_A_B_line_voltage		R	MODBUS	30201	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_B_C_line_voltage	FLOAT	V	1	EQMeter_B_C_line_voltage		W	MODBUS	30203	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_C_A_line_voltage	FLOAT	V	1	EQMeter_C_A_line_voltage		W	MODBUS	30205	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_A_current	FLOAT	A	1	EQMeter_Phase_A_current		R	MODBUS	30207	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_B_current	FLOAT	A	1	EQMeter_Phase_B_current		R	MODBUS	30209	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Phase_C_current	FLOAT	A	1	EQMeter_Phase_C_current		R	MODBUS	30211	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.EQMeter_Total_active_power	FLOAT	kW	1	EQMeter_Total_active_power		R	MODBUS	30213	INPUT REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_A_B_line_voltage_CMD	FLOAT	V	1	External_EQMeter_A_B_line_voltage_CMD		W	MODBUS	40301	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_B_C_line_voltage_CMD	FLOAT	V	1	External_EQMeter_B_C_line_voltage_CMD		W	MODBUS	40303	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_C_A_line_voltage_CMD	FLOAT	V	1	External_EQMeter_C_A_line_voltage_CMD		W	MODBUS	40305	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_A_current_CMD	FLOAT	A	1	External_EQMeter_Phase_A_current_CMD		W	MODBUS	40307	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_B_current_CMD	FLOAT	A	1	External_EQMeter_Phase_B_current_CMD		W	MODBUS	40309	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Phase_C_current_CMD	FLOAT	A	1	External_EQMeter_Phase_C_current_CMD		W	MODBUS	40311	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_EQMeter_Total_active_power_CMD	FLOAT	kW	1	External_EQMeter_Total_active_power_CMD		W	MODBUS	40313	HOLDING REGISTER	FLOAT
Logic.Application.SOLAR_FARM_GVL.External_CB_OpenStatus_CMD	BOOL		1	External_CB_OpenStatus_CMD		W	MODBUS	30401	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_ClosedStatus_CMD	BOOL		1	External_CB_ClosedStatus_CMD		W	MODBUS	30402	INPUT REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_OpenRequest	BOOL		1	External_CB_OpenRequest		R	MODBUS	40401	HOLDING REGISTER	BIT
Logic.Application.SOLAR_FARM_GVL.External_CB_ClosedRequest	BOOL		1	External_CB_ClosedRequest		R	MODBUS	40402	HOLDING REGISTER	BIT
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Raise_On_CMD	BOOL		1	Change_Tap_Position_Raise_On_CMD		W	MODBUS	0	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Raise_Off_CMD			1	Change_Tap_Position_Raise_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Lower_On_CMD	BOOL		1	Change_Tap_Position_Lower_On_CMD		W	MODBUS	1	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Tap_Position_Lower_Off_CMD			1	Change_Tap_Position_Lower_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Change_Voltage_Raise_On_CMD	BOOL		1	Change_Voltage_Raise_On_CMD		W	MODBUS	2	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Voltage_Raise_Off_CMD			1	Change_Voltage_Raise_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Change_Voltage_Lower_On_CMD	BOOL		1	Change_Voltage_Lower_On_CMD		W	MODBUS	3	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Change_Voltage_Lower_Off_CMD			1	Change_Voltage_Lower_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Automatic_Manual_operation_On_CMD	BOOL		1	Automatic_Manual_operation_On_CMD		W	MODBUS	4	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Automatic_Manual_operation_Off_CMD			1	Automatic_Manual_operation_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_active_On_CMD	BOOL		1	Band_center_voltage_1_active_On_CMD		W	MODBUS	5	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_active_Off_CMD			1	Band_center_voltage_1_active_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_active_On_CMD	BOOL		1	Band_center_voltage_2_active_On_CMD		W	MODBUS	6	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_active_Off_CMD			1	Band_center_voltage_2_active_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_active_On_CMD	BOOL		1	Band_center_voltage_3_active_On_CMD		W	MODBUS	7	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_active_Off_CMD			1	Band_center_voltage_3_active_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Parallel_Independent_On_CMD	BOOL		1	Parallel_Independent_On_CMD		W	MODBUS	10	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Parallel_Independent_Off_CMD			1	Parallel_Independent_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Master_mode_selection_activationparallel_control_On_CMD	BOOL		1	Master_mode_selection_activationparallel_control_On_CMD		W	MODBUS	11	COILS	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Master_mode_selection_activationparallel_control_Off_CMD			1	Master_mode_selection_activationparallel_control_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Follower_mode_selection_activationparallel_control_On_CMD	BOOL		1	Follower_mode_selection_activationparallel_control_On_CMD		W	MODBUS	12	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Follower_mode_selection_activationparallel_control_Off_CMD			1	Follower_mode_selection_activationparallel_control_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Circulating_current_selection_activation_parallel_control_On_CMD	BOOL		1	Circulating_current_selection_activation_parallel_control_On_CMD		W	MODBUS	13	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Circulating_current_selection_activation_parallel_control_Off_CMD			1	Circulating_current_selection_activation_parallel_control_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Line_Drop_Compensation_On_CMD	BOOL		1	Line_Drop_Compensation_On_CMD		W	MODBUS	14	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Line_Drop_Compensation_Off_CMD			1	Line_Drop_Compensation_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_On_CMD	BOOL		1	Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_On_CMD		W	MODBUS	15	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_Off_CMD			1	Time_delay_linear_or_integral_characteristic_for_regulation_of_voltage_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control_On_CMD	BOOL		1	TAPCON_dynamic_set_point_control_On_CMD		W	MODBUS	16	COILS	BOOL
Logic.Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control_Off_CMD			1	TAPCON_dynamic_set_point_control_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_1_On_CMD	BOOL		1	General_Purpose_Command_1_On_CMD		W	MODBUS	113	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_1_Off_CMD			1	General_Purpose_Command_1_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_2_On_CMD	BOOL		1	General_Purpose_Command_2_On_CMD		W	MODBUS	114	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_2_Off_CMD			1	General_Purpose_Command_2_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_3_On_CMD	BOOL		1	General_Purpose_Command_3_On_CMD		W	MODBUS	115	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_3_Off_CMD			1	General_Purpose_Command_3_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_4_On_CMD	BOOL		1	General_Purpose_Command_4_On_CMD		W	MODBUS	116	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_4_Off_CMD			1	General_Purpose_Command_4_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_5_On_CMD	BOOL		1	General_Purpose_Command_5_On_CMD		W	MODBUS	117	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_5_Off_CMD			1	General_Purpose_Command_5_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_6_On_CMD	BOOL		1	General_Purpose_Command_6_On_CMD		W	MODBUS	118	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_6_Off_CMD			1	General_Purpose_Command_6_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_7_On_CMD	BOOL		1	General_Purpose_Command_7_On_CMD		W	MODBUS	119	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_7_Off_CMD			1	General_Purpose_Command_7_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_8_On_CMD	BOOL		1	General_Purpose_Command_8_On_CMD		W	MODBUS	120	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_8_Off_CMD			1	General_Purpose_Command_8_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_9_On_CMD	BOOL		1	General_Purpose_Command_9_On_CMD		W	MODBUS	121	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_9_Off_CMD			1	General_Purpose_Command_9_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_10_On_CMD	BOOL		1	General_Purpose_Command_10_On_CMD		W	MODBUS	122	COILS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_10_Off_CMD			1	General_Purpose_Command_10_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Desired_power_factor_selection_activation_parallel_control_On_CMD	BOOL		1	Desired_power_factor_selection_activation_parallel_control_On_CMD		W	MODBUS	363	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_power_factor_selection_activation_parallel_control_Off_CMD			1	Desired_power_factor_selection_activation_parallel_control_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Desired_load_type_selection_On_CMD	BOOL		1	Desired_load_type_selection_On_CMD		W	MODBUS	364	COILS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_load_type_selection_Off_CMD			1	Desired_load_type_selection_Off_CMD			IEC-61850			
Logic.Application.TransformerAVR_GVL.Automatic_Manual_operation	BOOL		1	Automatic_Manual_operation		R	MODBUS	4	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_desired_value_1_active	BOOL		1	Band_center_voltage_desired_value_1_active		R	MODBUS	5	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_desired_value_2_active	BOOL		1	Band_center_voltage_desired_value_2_active		R	MODBUS	6	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Band_center_voltage_desired_value_3_active	BOOL		1	Band_center_voltage_desired_value_3_active		R	MODBUS	7	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Parallel_Independent	BOOL		1	Parallel_Independent		R	MODBUS	10	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Master_mode_selection_activationparallel_control	BOOL		1	Master_mode_selection_activationparallel_control		R	MODBUS	11	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Follower_mode_selection_activationparallel_control	BOOL		1	Follower_mode_selection_activationparallel_control		R	MODBUS	12	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Circulating_current_selection_activation_parallel_control	BOOL		1	Circulating_current_selection_activation_parallel_control		R	MODBUS	13	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Line_Drop_Compensation	BOOL		1	Line_Drop_Compensation		R	MODBUS	14	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Time_delay_linear_or_integral_characteristic	BOOL		1	Time_delay_linear_or_integral_characteristic		R	MODBUS	15	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control	BOOL		1	TAPCON_dynamic_set_point_control		R	MODBUS	16	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Error_of_parallel_operation	BOOL		1	Error_of_parallel_operation		R	MODBUS	25	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Tap_indication_error_eg_wrong_BCD_code	BOOL		1	Tap_indication_error_eg_wrong_BCD_code		R	MODBUS	26	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Local_operation	BOOL		1	Local_operation		R	MODBUS	27	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Health_AVR	BOOL		1	Health_AVR		R	MODBUS	28	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Function_monitoring	BOOL		1	Function_monitoring		R	MODBUS	29	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Motor_drive_running	BOOL		1	Motor_drive_running		R	MODBUS	30	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.LTC_inhibit_due_to_under_voltage	BOOL		1	LTC_inhibit_due_to_under_voltage		R	MODBUS	31	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.LTC_inhibit_due_to_over_voltage	BOOL		1	LTC_inhibit_due_to_over_voltage		R	MODBUS	32	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.LTC_inhibit_due_to_over_current	BOOL		1	LTC_inhibit_due_to_over_current		R	MODBUS	33	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.End_position_raise_or_highest_allowed_tap_position_reached	BOOL		1	End_position_raise_or_highest_allowed_tap_position_reached		R	MODBUS	34	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.End_position_lower_or_lowest_allowed_tap_position_reached	BOOL		1	End_position_lower_or_lowest_allowed_tap_position_reached		R	MODBUS	35	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Block_Automatic_Control	BOOL		1	Block_Automatic_Control		R	MODBUS	36	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_high_limit_exceeded	BOOL		1	Voltage_high_limit_exceeded		R	MODBUS	37	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_high_limit_2_exceeded	BOOL		1	Voltage_high_limit_2_exceeded		R	MODBUS	38	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_low_limit_exceeded	BOOL		1	Voltage_low_limit_exceeded		R	MODBUS	39	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_low_limit_2_exceeded	BOOL		1	Voltage_low_limit_2_exceeded		R	MODBUS	40	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Current_overload	BOOL		1	Current_overload		R	MODBUS	41	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Current_overload_2	BOOL		1	Current_overload_2		R	MODBUS	42	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Current_underload	BOOL		1	Current_underload		R	MODBUS	43	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Current_underload_2	BOOL		1	Current_underload_2		R	MODBUS	44	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Apparent_power_high_limit_exceeded	BOOL		1	Apparent_power_high_limit_exceeded		R	MODBUS	45	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Apparent_power_high_limit_2_exceeded	BOOL		1	Apparent_power_high_limit_2_exceeded		R	MODBUS	46	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Apparent_power_low_limit_exceeded	BOOL		1	Apparent_power_low_limit_exceeded		R	MODBUS	47	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Apparent_power_low_limit_2_exceeded	BOOL		1	Apparent_power_low_limit_2_exceeded		R	MODBUS	48	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Active_power_high_limit_exceeded	BOOL		1	Active_power_high_limit_exceeded		R	MODBUS	49	DISCRETE INPUTS	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Active_power_high_limit_2_exceeded	BOOL		1	Active_power_high_limit_2_exceeded		R	MODBUS	50	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Active_power_low_limit_exceeded	BOOL		1	Active_power_low_limit_exceeded		R	MODBUS	51	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Active_power_low_limit_2_exceeded	BOOL		1	Active_power_low_limit_2_exceeded		R	MODBUS	52	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Reactive_power_high_limit_exceeded	BOOL		1	Reactive_power_high_limit_exceeded		R	MODBUS	53	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Reactive_power_high_limit_2_exceeded	BOOL		1	Reactive_power_high_limit_2_exceeded		R	MODBUS	54	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Reactive_power_low_limit_exceeded	BOOL		1	Reactive_power_low_limit_exceeded		R	MODBUS	55	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Reactive_power_low_limit_2_exceeded	BOOL		1	Reactive_power_low_limit_2_exceeded		R	MODBUS	56	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Power_Factor_Cosinus_phi_low_limit_exceeded	BOOL		1	Power_Factor_Cosinus_phi_low_limit_exceeded		R	MODBUS	57	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Power_Factor_Cosinus_phi_low_limit_2_exceeded	BOOL		1	Power_Factor_Cosinus_phi_low_limit_2_exceeded		R	MODBUS	58	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Voltage_input_failure_eg_missing_connection	BOOL		1	Voltage_input_failure_eg_missing_connection		R	MODBUS	59	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.TAPCON_dynamic_set_point_control_failure_TDSC	BOOL		1	TAPCON_dynamic_set_point_control_failure_TDSC		R	MODBUS	112	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_1_GPC1	BOOL		1	General_Purpose_Command_1_GPC1		R	MODBUS	113	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_2_GPC2	BOOL		1	General_Purpose_Command_2_GPC2		R	MODBUS	114	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_3_GPC3	BOOL		1	General_Purpose_Command_3_GPC3		R	MODBUS	115	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_4_GPC4	BOOL		1	General_Purpose_Command_4_GPC4		R	MODBUS	116	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_5_GPC5	BOOL		1	General_Purpose_Command_5_GPC5		R	MODBUS	117	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_6_GPC6	BOOL		1	General_Purpose_Command_6_GPC6		R	MODBUS	118	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_7_GPC7	BOOL		1	General_Purpose_Command_7_GPC7		R	MODBUS	119	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_8_GPC8	BOOL		1	General_Purpose_Command_8_GPC8		R	MODBUS	120	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_9_GPC9	BOOL		1	General_Purpose_Command_9_GPC9		R	MODBUS	121	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Command_10_GPC10	BOOL		1	General_Purpose_Command_10_GPC10		R	MODBUS	122	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_1_GPM1	BOOL		1	General_Purpose_Message_1_GPM1		R	MODBUS	123	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_2_GPM2	BOOL		1	General_Purpose_Message_2_GPM2		R	MODBUS	124	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_3_GPM3	BOOL		1	General_Purpose_Message_3_GPM3		R	MODBUS	125	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_4_GPM4	BOOL		1	General_Purpose_Message_4_GPM4		R	MODBUS	126	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_5_GPM5	BOOL		1	General_Purpose_Message_5_GPM5		R	MODBUS	127	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_6_GPM6	BOOL		1	General_Purpose_Message_6_GPM6		R	MODBUS	128	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_7_GPM7	BOOL		1	General_Purpose_Message_7_GPM7		R	MODBUS	129	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_8_GPM8	BOOL		1	General_Purpose_Message_8_GPM8		R	MODBUS	130	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_9_GPM9	BOOL		1	General_Purpose_Message_9_GPM9		R	MODBUS	131	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_Purpose_Message_10_GPM10	BOOL		1	General_Purpose_Message_10_GPM10		R	MODBUS	132	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_power_factor_selection_activation_parallel_control	BOOL		1	Desired_power_factor_selection_activation_parallel_control		R	MODBUS	363	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Desired_load_type_selection	BOOL		1	Desired_load_type_selection		R	MODBUS	364	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Motor_protective_switch_triggered	BOOL		1	Motor_protective_switch_triggered		R	MODBUS	570	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Information_active	BOOL		1	Event_category_Information_active		R	MODBUS	572	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Warning_active	BOOL		1	Event_category_Warning_active		R	MODBUS	573	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Event_category_Error_active	BOOL		1	Event_category_Error_active		R	MODBUS	574	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_1_low_limit_2_exceeded		R	MODBUS	695	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_low_limit_exceeded	BOOL		1	General_purpose_analog_input_1_low_limit_exceeded		R	MODBUS	696	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_high_limit_exceeded	BOOL		1	General_purpose_analog_input_1_high_limit_exceeded		R	MODBUS	697	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_1_high_limit_2_exceeded		R	MODBUS	698	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_2_low_limit_2_exceeded		R	MODBUS	699	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_low_limit_exceeded	BOOL		1	General_purpose_analog_input_2_low_limit_exceeded		R	MODBUS	700	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_high_limit_exceeded	BOOL		1	General_purpose_analog_input_2_high_limit_exceeded		R	MODBUS	701	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_2_high_limit_2_exceeded		R	MODBUS	702	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_3_low_limit_2_exceeded		R	MODBUS	703	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_low_limit_exceeded	BOOL		1	General_purpose_analog_input_3_low_limit_exceeded		R	MODBUS	704	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_high_limit_exceeded	BOOL		1	General_purpose_analog_input_3_high_limit_exceeded		R	MODBUS	705	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_3_high_limit_2_exceeded		R	MODBUS	706	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_4_low_limit_2_exceeded		R	MODBUS	707	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_low_limit_exceeded	BOOL		1	General_purpose_analog_input_4_low_limit_exceeded		R	MODBUS	708	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_high_limit_exceeded	BOOL		1	General_purpose_analog_input_4_high_limit_exceeded		R	MODBUS	709	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_4_high_limit_2_exceeded		R	MODBUS	710	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_5_low_limit_2_exceeded		R	MODBUS	711	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_low_limit_exceeded	BOOL		1	General_purpose_analog_input_5_low_limit_exceeded		R	MODBUS	712	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_high_limit_exceeded	BOOL		1	General_purpose_analog_input_5_high_limit_exceeded		R	MODBUS	713	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_5_high_limit_2_exceeded		R	MODBUS	714	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_6_low_limit_2_exceeded		R	MODBUS	715	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_low_limit_exceeded	BOOL		1	General_purpose_analog_input_6_low_limit_exceeded		R	MODBUS	716	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_high_limit_exceeded	BOOL		1	General_purpose_analog_input_6_high_limit_exceeded		R	MODBUS	717	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_6_high_limit_2_exceeded		R	MODBUS	718	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_7_low_limit_2_exceeded		R	MODBUS	719	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_low_limit_exceeded	BOOL		1	General_purpose_analog_input_7_low_limit_exceeded		R	MODBUS	720	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_high_limit_exceeded	BOOL		1	General_purpose_analog_input_7_high_limit_exceeded		R	MODBUS	721	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_7_high_limit_2_exceeded		R	MODBUS	722	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_8_low_limit_2_exceeded		R	MODBUS	723	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_low_limit_exceeded	BOOL		1	General_purpose_analog_input_8_low_limit_exceeded		R	MODBUS	724	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_high_limit_exceeded	BOOL		1	General_purpose_analog_input_8_high_limit_exceeded		R	MODBUS	725	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_8_high_limit_2_exceeded		R	MODBUS	726	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_9_low_limit_2_exceeded		R	MODBUS	727	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_low_limit_exceeded	BOOL		1	General_purpose_analog_input_9_low_limit_exceeded		R	MODBUS	728	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_high_limit_exceeded	BOOL		1	General_purpose_analog_input_9_high_limit_exceeded		R	MODBUS	729	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_9_high_limit_2_exceeded		R	MODBUS	730	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_10_low_limit_2_exceeded		R	MODBUS	731	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_low_limit_exceeded	BOOL		1	General_purpose_analog_input_10_low_limit_exceeded		R	MODBUS	732	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_high_limit_exceeded	BOOL		1	General_purpose_analog_input_10_high_limit_exceeded		R	MODBUS	733	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_10_high_limit_2_exceeded		R	MODBUS	734	DISCRETE INPUTS	BOOL

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_11_low_limit_2_exceeded		R	MODBUS	735	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_low_limit_exceeded	BOOL		1	General_purpose_analog_input_11_low_limit_exceeded		R	MODBUS	736	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_high_limit_exceeded	BOOL		1	General_purpose_analog_input_11_high_limit_exceeded		R	MODBUS	737	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_11_high_limit_2_exceeded		R	MODBUS	738	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_low_limit_2_exceeded	BOOL		1	General_purpose_analog_input_12_low_limit_2_exceeded		R	MODBUS	739	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_low_limit_exceeded	BOOL		1	General_purpose_analog_input_12_low_limit_exceeded		R	MODBUS	740	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_high_limit_exceeded	BOOL		1	General_purpose_analog_input_12_high_limit_exceeded		R	MODBUS	741	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12_high_limit_2_exceeded	BOOL		1	General_purpose_analog_input_12_high_limit_2_exceeded		R	MODBUS	742	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.OLTC_position_even	BOOL		1	OLTC_position_even		R	MODBUS	834	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.OLTC_position_odd	BOOL		1	OLTC_position_odd		R	MODBUS	835	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Tap_change_operation_incomplete	BOOL		1	Tap_change_operation_incomplete		R	MODBUS	836	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Switching_delay_only_TC230_AVT	BOOL		1	Switching_delay_only_TC230_AVT		R	MODBUS	854	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_1_DI_16_110V_1	BOOL		1	DIO_Input_X1_1_DI_16_110V_1		R	MODBUS	2002	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_2_DI_16_110V_1	BOOL		1	DIO_Input_X1_2_DI_16_110V_1		R	MODBUS	2003	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_3_DI_16_110V_1	BOOL		1	DIO_Input_X1_3_DI_16_110V_1		R	MODBUS	2004	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_4_DI_16_110V_1	BOOL		1	DIO_Input_X1_4_DI_16_110V_1		R	MODBUS	2005	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_5_DI_16_110V_1	BOOL		1	DIO_Input_X1_5_DI_16_110V_1		R	MODBUS	2006	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_6_DI_16_110V_1	BOOL		1	DIO_Input_X1_6_DI_16_110V_1		R	MODBUS	2007	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_7_DI_16_110V_1	BOOL		1	DIO_Input_X1_7_DI_16_110V_1		R	MODBUS	2008	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X1_8_DI_16_110V_1	BOOL		1	DIO_Input_X1_8_DI_16_110V_1		R	MODBUS	2009	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_1_DI_16_110V_1	BOOL		1	DIO_Input_X2_1_DI_16_110V_1		R	MODBUS	2010	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_2_DI_16_110V_1	BOOL		1	DIO_Input_X2_2_DI_16_110V_1		R	MODBUS	2011	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_3_DI_16_110V_1	BOOL		1	DIO_Input_X2_3_DI_16_110V_1		R	MODBUS	2012	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_4_DI_16_110V_1	BOOL		1	DIO_Input_X2_4_DI_16_110V_1		R	MODBUS	2013	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_5_DI_16_110V_1	BOOL		1	DIO_Input_X2_5_DI_16_110V_1		R	MODBUS	2014	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_6_DI_16_110V_1	BOOL		1	DIO_Input_X2_6_DI_16_110V_1		R	MODBUS	2015	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_7_DI_16_110V_1	BOOL		1	DIO_Input_X2_7_DI_16_110V_1		R	MODBUS	2016	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.DIO_Input_X2_8_DI_16_110V_1	BOOL		1	DIO_Input_X2_8_DI_16_110V_1		R	MODBUS	2017	DISCRETE INPUTS	BOOL
Logic.Application.TransformerAVR_GVL.Band_width_voltage	FLOAT		1	Band_width_voltage		R	MODBUS	0	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_intentional_time_delay_for_regulation_of_voltage	FLOAT		1	Control_intentional_time_delay_for_regulation_of_voltage		R	MODBUS	1	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_resistance_component	FLOAT		1	Line_drop_voltage_due_to_line_resistance_component		R	MODBUS	2	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_reactance_component	FLOAT		1	Line_drop_voltage_due_to_line_reactance_component		R	MODBUS	3	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_voltage_below_which_auto_Lower_commands_blocked	FLOAT		1	Control_voltage_below_which_auto_Lower_commands_blocked		R	MODBUS	4	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Limit_Load_Current	FLOAT		1	Limit_Load_Current		R	MODBUS	5	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_total_impedance	FLOAT		1	Line_drop_voltage_due_to_line_total_impedance		R	MODBUS	6	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked	FLOAT		1	Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked		R	MODBUS	7	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked	FLOAT		1	Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked		R	MODBUS	8	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_1	FLOAT		1	Band_center_voltage_1_1		R	MODBUS	9	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_1	FLOAT		1	Band_center_voltage_2_1		R	MODBUS	10	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_1	FLOAT		1	Band_center_voltage_3_1		R	MODBUS	11	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control_1	FLOAT		1	Minumum_voltage_value_for_dynamic_setpoint_control_1		R	MODBUS	14	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control_1	FLOAT		1	Maximum_voltage_value_for_dynamic_setpoint_control_1		R	MODBUS	15	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1	FLOAT		1	Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1		R	MODBUS	16	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_active_power_value_for_dynamic_setpoint_control_1	FLOAT		1	Minumum_active_power_value_for_dynamic_setpoint_control_1		R	MODBUS	17	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control_1	FLOAT		1	Maximum_active_power_value_for_dynamic_setpoint_control_1		R	MODBUS	18	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_4	FLOAT		1	Band_center_voltage_4		R	MODBUS	25	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_Voltage_1	FLOAT		1	Control_Voltage_1		R	MODBUS	26	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_Voltage_Deviation	FLOAT		1	Control_Voltage_Deviation		R	MODBUS	27	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Load_Current	FLOAT		1	Load_Current		R	MODBUS	28	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_of_LodA_relative_to_CtlV	FLOAT		1	Phase_Angle_of_LodA_relative_to_CtlV		R	MODBUS	29	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Circulating_Current_reactive	FLOAT		1	Circulating_Current_reactive		R	MODBUS	30	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_active_power_total_P_1	FLOAT		1	Total_active_power_total_P_1		R	MODBUS	31	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_reactive_power_total_Q_1	FLOAT		1	Total_reactive_power_total_Q_1		R	MODBUS	32	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_apparent_power_total_S_1	FLOAT		1	Total_apparent_power_total_S_1		R	MODBUS	33	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Average_power_factor_total_PF	FLOAT		1	Average_power_factor_total_PF		R	MODBUS	34	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Frequency	FLOAT		1	Frequency		R	MODBUS	35	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L1L2_1	FLOAT		1	Phase_to_phase_voltage_L1L2_1		R	MODBUS	36	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L2L3_1	FLOAT		1	Phase_to_phase_voltage_L2L3_1		R	MODBUS	37	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L3L1_1	FLOAT		1	Phase_to_phase_voltage_L3L1_1		R	MODBUS	38	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L1_1	FLOAT		1	Phase_to_neutral_voltage_L1_1		R	MODBUS	39	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L2_1	FLOAT		1	Phase_to_neutral_voltage_L2_1		R	MODBUS	40	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L3_1	FLOAT		1	Phase_to_neutral_voltage_L3_1		R	MODBUS	41	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L1	FLOAT		1	Phase_current_L1		R	MODBUS	42	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L2	FLOAT		1	Phase_current_L2		R	MODBUS	43	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_L3	FLOAT		1	Phase_current_L3		R	MODBUS	44	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_current_N	FLOAT		1	Phase_current_N		R	MODBUS	45	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L1_1	FLOAT		1	Phase_active_power_P_L1_1		R	MODBUS	46	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L2_1	FLOAT		1	Phase_active_power_P_L2_1		R	MODBUS	47	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L3_1	FLOAT		1	Phase_active_power_P_L3_1		R	MODBUS	48	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L1_1	FLOAT		1	Phase_reactive_power_Q_L1_1		R	MODBUS	49	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L2_1	FLOAT		1	Phase_reactive_power_Q_L2_1		R	MODBUS	50	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L3_1	FLOAT		1	Phase_reactive_power_Q_L3_1		R	MODBUS	51	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L1_1	FLOAT		1	Phase_apparent_power_S_L1_1		R	MODBUS	52	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L2_1	FLOAT		1	Phase_apparent_power_S_L2_1		R	MODBUS	53	INPUT REGISTER	FLOAT

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L3_1	FLOAT		1	Phase_apparent_power_S_L3_1		R	MODBUS	54	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L1	FLOAT		1	Phase_power_factor_L1		R	MODBUS	55	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L2	FLOAT		1	Phase_power_factor_L2		R	MODBUS	56	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_power_factor_L3	FLOAT		1	Phase_power_factor_L3		R	MODBUS	57	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U1I1	FLOAT		1	Phase_Angle_U1I1		R	MODBUS	58	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U2I2	FLOAT		1	Phase_Angle_U2I2		R	MODBUS	59	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_Angle_U3I3	FLOAT		1	Phase_Angle_U3I3		R	MODBUS	60	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_Position	FLOAT		1	Tap_Position		R	MODBUS	61	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Operation_counter_LSB_MSB	FLOAT		1	Operation_counter_LSB_MSB		R	MODBUS	174	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Operation_counter_MSB	FLOAT		1	Operation_counter_MSB		R	MODBUS	175	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Desired_power_factor	FLOAT		1	Desired_power_factor		R	MODBUS	184	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_1	FLOAT		1	General_purpose_analog_input_1		R	MODBUS	480	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_2	FLOAT		1	General_purpose_analog_input_2		R	MODBUS	481	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_3	FLOAT		1	General_purpose_analog_input_3		R	MODBUS	482	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_4	FLOAT		1	General_purpose_analog_input_4		R	MODBUS	483	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_5	FLOAT		1	General_purpose_analog_input_5		R	MODBUS	484	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_6	FLOAT		1	General_purpose_analog_input_6		R	MODBUS	485	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_7	FLOAT		1	General_purpose_analog_input_7		R	MODBUS	486	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_8	FLOAT		1	General_purpose_analog_input_8		R	MODBUS	487	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_9	FLOAT		1	General_purpose_analog_input_9		R	MODBUS	488	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_10	FLOAT		1	General_purpose_analog_input_10		R	MODBUS	489	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_11	FLOAT		1	General_purpose_analog_input_11		R	MODBUS	490	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.General_purpose_analog_input_12	FLOAT		1	General_purpose_analog_input_12		R	MODBUS	491	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1	FLOAT		1	Band_center_voltage_1		R	MODBUS	516	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2	FLOAT		1	Band_center_voltage_2		R	MODBUS	517	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3	FLOAT		1	Band_center_voltage_3		R	MODBUS	518	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage	FLOAT		1	Band_center_voltage		R	MODBUS	521	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_Voltage	FLOAT		1	Control_Voltage		R	MODBUS	522	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_active_power_total_P	FLOAT		1	Total_active_power_total_P		R	MODBUS	523	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_reactive_power_total_Q	FLOAT		1	Total_reactive_power_total_Q		R	MODBUS	524	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Total_apparent_power_total_S	FLOAT		1	Total_apparent_power_total_S		R	MODBUS	525	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L1L2	FLOAT		1	Phase_to_phase_voltage_L1L2		R	MODBUS	526	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L2L3	FLOAT		1	Phase_to_phase_voltage_L2L3		R	MODBUS	527	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_phase_voltage_L3L1	FLOAT		1	Phase_to_phase_voltage_L3L1		R	MODBUS	528	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L1	FLOAT		1	Phase_to_neutral_voltage_L1		R	MODBUS	529	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L2	FLOAT		1	Phase_to_neutral_voltage_L2		R	MODBUS	530	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_to_neutral_voltage_L3	FLOAT		1	Phase_to_neutral_voltage_L3		R	MODBUS	531	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L1	FLOAT		1	Phase_active_power_P_L1		R	MODBUS	532	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L2	FLOAT		1	Phase_active_power_P_L2		R	MODBUS	533	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_active_power_P_L3	FLOAT		1	Phase_active_power_P_L3		R	MODBUS	534	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L1	FLOAT		1	Phase_reactive_power_Q_L1		R	MODBUS	535	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L2	FLOAT		1	Phase_reactive_power_Q_L2		R	MODBUS	536	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_reactive_power_Q_L3	FLOAT		1	Phase_reactive_power_Q_L3		R	MODBUS	537	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L1	FLOAT		1	Phase_apparent_power_S_L1		R	MODBUS	538	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L2	FLOAT		1	Phase_apparent_power_S_L2		R	MODBUS	539	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Phase_apparent_power_S_L3	FLOAT		1	Phase_apparent_power_S_L3		R	MODBUS	540	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control	FLOAT		1	Minumum_voltage_value_for_dynamic_setpoint_control		R	MODBUS	541	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control	FLOAT		1	Maximum_voltage_value_for_dynamic_setpoint_control		R	MODBUS	542	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W	FLOAT		1	Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W		R	MODBUS	543	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_active_power_value_for_dynamic_setpoint_control	FLOAT		1	Minumum_active_power_value_for_dynamic_setpoint_control		R	MODBUS	544	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control	FLOAT		1	Maximum_active_power_value_for_dynamic_setpoint_control		R	MODBUS	545	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Target_tap_position	FLOAT		1	Target_tap_position		R	MODBUS	551	INPUT REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_width_voltage_CMD	FLOAT		1	Band_width_voltage_CMD		W	MODBUS	0	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_intentional_time_delay_for_regulation_of_voltage_CMD	FLOAT		1	Control_intentional_time_delay_for_regulation_of_voltage_CMD		W	MODBUS	1	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_resistance_component_CMD	FLOAT		1	Line_drop_voltage_due_to_line_resistance_component_CMD		W	MODBUS	2	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_reactance_component_CMD	FLOAT		1	Line_drop_voltage_due_to_line_reactance_component_CMD		W	MODBUS	3	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Control_voltage_below_which_auto_Lower_commands_blocked_CMD	FLOAT		1	Control_voltage_below_which_auto_Lower_commands_blocked_CMD		W	MODBUS	4	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Limit_Load_Current_CMD	FLOAT		1	Limit_Load_Current_CMD		W	MODBUS	5	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Line_drop_voltage_due_to_line_total_impedance_CMD	FLOAT		1	Line_drop_voltage_due_to_line_total_impedance_CMD		W	MODBUS	6	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked_CMD	FLOAT		1	Tap_position_of_Load_Tap_Changer_where_automatic_Raise_commands_are_blocked_CMD		W	MODBUS	7	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked_CMD	FLOAT		1	Tap_position_of_Load_Tap_Changer_where_automatic_Lower_commands_are_blocked_CMD		W	MODBUS	8	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_1_CMD	FLOAT		1	Band_center_voltage_1_1_CMD		W	MODBUS	9	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_1_CMD	FLOAT		1	Band_center_voltage_2_1_CMD		W	MODBUS	10	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_1_CMD	FLOAT		1	Band_center_voltage_3_1_CMD		W	MODBUS	11	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control_1_CMD	FLOAT		1	Minumum_voltage_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	14	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control_1_CMD	FLOAT		1	Maximum_voltage_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	15	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1_CMD	FLOAT		1	Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_1_CMD		W	MODBUS	16	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minimum_active_power_value_for_dynamic_setpoint_control_1_CMD	FLOAT		1	Minimum_active_power_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	17	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control_1_CMD	FLOAT		1	Maximum_active_power_value_for_dynamic_setpoint_control_1_CMD		W	MODBUS	18	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Desired_power_factor_CMD	FLOAT		1	Desired_power_factor_CMD		W	MODBUS	184	HOLDING REGISTER	FLOAT

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.TransformerAVR_GVL.Band_center_voltage_1_CMD	FLOAT		1	Band_center_voltage_1_CMD		W	MODBUS	516	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_2_CMD	FLOAT		1	Band_center_voltage_2_CMD		W	MODBUS	517	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Band_center_voltage_3_CMD	FLOAT		1	Band_center_voltage_3_CMD		W	MODBUS	518	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minumum_voltage_value_for_dynamic_setpoint_control_CMD	FLOAT		1	Minumum_voltage_value_for_dynamic_setpoint_control_CMD		W	MODBUS	541	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_voltage_value_for_dynamic_setpoint_control_CMD	FLOAT		1	Maximum_voltage_value_for_dynamic_setpoint_control_CMD		W	MODBUS	542	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_CMD	FLOAT		1	Voltage_value_for_dynamic_setpoint_control_at_active_power_of_0_W_CMD		W	MODBUS	543	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Minimum_active_power_value_for_dynamic_setpoint_control_CMD	FLOAT		1	Minimum_active_power_value_for_dynamic_setpoint_control_CMD		W	MODBUS	544	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Maximum_active_power_value_for_dynamic_setpoint_control_CMD	FLOAT		1	Maximum_active_power_value_for_dynamic_setpoint_control_CMD		W	MODBUS	545	HOLDING REGISTER	FLOAT
Logic.Application.TransformerAVR_GVL.Target_tap_position_CMD	FLOAT		1	Target_tap_position_CMD		W	MODBUS	551	HOLDING REGISTER	FLOAT
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_ActiveEnergyExport	INT32	GWh	1	Active Energy Export total			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_ActiveEnergyImport	INT32	MWh	1	Active Energy Import total			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_ActivePower	DOUBLE	MW	1	Active Power Production		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_ActLimit_PowerBy	STRING		1				IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_BirdCurtailFB	INT32		1				IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Current_L1	DOUBLE	A	1	Current Phase U		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Current_L2	DOUBLE	A	1	Current Phase V		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Current_L3	DOUBLE	A	1	Current Phase W		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Frequency	DOUBLE	Hz	1	Frequency			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_LocRemSt	INT32		1	"Reflects turbine state 0= Operating on Grid 1= Operating- waiting for converter cut-in 2= Operating- waiting for release 3= Operating- waiting for wind/ acceleration 4= Stopped - pitch exercising/lubrication 5= Stopped - untwisting cables 6= Stopped - Wind Speed too high 7= Stopped - Grid Error 8= Stopped - Error with auto reset (only applicable for WTC3) 9= Stopped - manual alarm reset required 10 = Safety Stop (only applicable for WTC3) 11= Remote Stop"			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_OrienStp	INT32		1	Command to activate/deactivate orientation stop Value = 1 - Deactivate orientation stop Value = 2 - Activate orientation stop. Azimuth and yaw defined by parameters. Value = 101 - (HeliHoist 101) Prepare 90° azimuth and 90° yaw. Must be enabled by sending Pin with ('HHOSeAct.Value') Value = 102 - (HeliHoist 102) Prepare 30° azimuth and -90° yaw. Must be enabled by sending Pin with ('HHOSeAct.Value') Value = 110 - (HeliHoist 110) Prepare 0° azimuth and 0° yaw. Must be enabled by sending Pin with ('HHOSeAct.Value') Value = 111 - (HeliHoist 111) Prepare 0° azimuth and 90° yaw. Must be enabled by sending Pin with ('HHOSeAct.Value') Value = 112 - (HeliHoist 112) Prepare 0° azimuth and -90° yaw. Must be enabled by sending Pin with ('HHOSeAct.Value') Value = 201 - (SOV 201) Prepare Position currently in ('OrYawCfg.cmd201') if ('OrYawCfg.cmd201') ≠ -1. Must be enabled by sending Pin with ('HHOSeAct.Value'). Targets 60° azimuth. Value = 202 - (SOV 202) Prepare Position currently in ('OrYawCfg.cmd202') if ('OrYawCfg.cmd202') ≠ -1. Must be enabled by sending Pin with ('HHOSeAct.Value'). Targets 60° azimuth. Value = 203 - (SOV 203) Prepare Position currently in ('OrYawCfg.cmd203') if ('OrYawCfg.cmd203') ≠ -1. Must be enabled by sending Pin with ('HHOSeAct.Value'). Targets 60° azimuth. Value = 204 - (SOV 204) Targets 60° azimuth.			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_PowerRef	Double		1	Turbine power reference (setpoint)			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_PwrAvail	Double		1	Estimated Available Power from turbine			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_ReactiveEnergyExport	Int32		1	Reactive Energy Export total			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_ReactiveEnergyImport	Int32		1	Reactive Energy Import total			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_ReactivePower	DOUBLE		1	Reactive Power Production		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Voltage_L1	DOUBLE		1	Voltage Phase U		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Voltage_L2	DOUBLE		1	Voltage Phase V		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_Voltage_L3	DOUBLE		1	Voltage Phase W		R	IEC-61850			

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EMCS Address Space (OPC-UA)

OPC-UA Path	Type	Unit	Scale Factor	Comment	Note	Access R/W	Original Protocol	Original Address Part 1	Original Address Part 2	Original Data Type
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_StatusCode	INT32		1	Reflects turbine state 0= Operating on Grid 1= Operating- waiting for converter cut-in 2= Operating- waiting for release 3= Operating- waiting for wind/ acceleration 4= Stopped - pitch exercising/lubrication 5= Stopped - untwisting cables 6= Stopped - Wind Speed too high *7= Stopped - Grid Error *8= Stopped - Error with auto reset (only applicable for WTC3) *9= Stopped - manual alarm reset required *10 = Safety Stop (only applicable for WTC3) *11= Remote Stop	The * prefix indicates that the status lead to a Wind Tuerbine fault	R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_WindDirection	Int32		1	Geographic wind direction in degrees(0-360). -1 No source			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_WindSpeed	Double		1	Turbine wind speed from active wind sensor			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_WpsStatus	Int32		1	State indication from SCADA. Coding: 0=Faultless 1=Service mode 2=Fault condition 3=No communication to WTC3/STC1 8=No LAN communication			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_AFA70_TurbinePowerRef	Double		1	Turbine power reference (setpoint)			IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_QA1_Status	UDINT		1	0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_QZ91_Status	UDINT		1	0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_QZ92_Status	UDINT		1	0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_QZ93_Status	UDINT		1	0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_EQZ91_Status	UDINT		1	0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_EQZ92_Status	UDINT		1	0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_EQZ93_Status	UDINT		1	0: Opened 1: Closed 2: Intermediate 3: Disturbed		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_Signals_Auto_reclose_disabled	BOOL		1	0: Enabled, 1: Disabled		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_Signals_SWG_Tripped_Lockout	BOOL		1	0:Healthy, 1:Tripped and Lockout		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_Signals_NoGridVoltage	BOOL		1	0:Grid Voltage, 1:No Grid Voltage		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_Signals_Switchgear_Remote_Mode	BOOL		1	0:Local, 1:Remote		R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_VI3p1_Current_phase_A	REAL	A	1			R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_VI3p1_Current_phase_B	REAL	A	1			R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_VI3p1_Current_phase_C	REAL	A	1			R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA5_VI3p1_Current_Neutral_point_measured	REAL	A	1			R	IEC-61850			
Logic.Application.Wind_Farm_GVL.HNA6_QA1_ReadyToClose			1		Still missing in the source I/O list	R	IEC-61850			
Logic.Application.Wind_Farm_GVL.SupplyGuarantee			1		Still missing in the source I/O list Indicates the electrical status of the Circuit Breakers between BLPH and offshore substation		IEC-61850			

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EMCS Address Space (MODBUS)

Tag	Function Type	Register Address	Data Type	Unit	Description	Notes
PCS.EMCS.PermToStartFC	Coil	1	BOOL	-	Permissive to start Fuel Cell sent by PCS	Permissive to start the Fuel Cell
PCS.EMCS.PermToStartEL	Coil	2	BOOL	-	Permissive to start Electrolyzer sent by PCS	Permissive to start the Electrolyzer
PCS.EMCS.ProcessFullyCharged	Coil	3	BOOL	-	PCS indicates if the Fuel Tanks are full	Flag indicating when the Hydrogen Storage is full
PCS.EMCS.BESSFault	Coil	4	BOOL	-	Sent by PCS. 1: fault; 0: OK. When 1 the BESS must be immediately stopped	
PCS.CmdToLoadShedStage1	DiscreteInput	1	BOOL	-	Request sent from EMCS to PCS to activate the Load Shedding of EMERGENCY MODE	The load shedding of the devices belonging to the first list is performed
PCS.CmdToLoadShedStage2	DiscreteInput	2	BOOL	-	Request sent from EMCS to PCS to activate the Load Shedding of LOW BESS LEVEL	The load shedding of the devices belonging to the second list is performed
PCS.EntertMode	InputRegister	1	UINT16	-	EMCS Mode Enumeration 0:NONE 1:IDLE ~~2:IMPORT~~ 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	Request sent by the EMCS to the PCS to enter in a specific mode. The PCS monitor the value change to capture the mode request. POWER OUT mode is a special condition. The EMCS move to the POWER OUT mode without waiting the PCS permission.
PCS.CurrentMode	InputRegister	2	UINT16	-	EMCS Mode Enumeration 0:NONE 1:IDLE ~~2:IMPORT~~ 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	EMCS communicate through this register which is its current MODE. The PCS listen for the mode change. If the POWER OUT MODE is reached, the PCS takes the predefined actions (trip everything)

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EMCS Address Space (MODBUS)

Tag	Function Type	Register Address	Data Type	Unit	Description	Notes
FuelCellOperatingStatus	InputRegister	3	UINT16		6: Initialization (Initialize) 10: Sleep (Sleep) 14: Wakeup (StartupContainerVentilation) 17: Wakeup (FCwaveWakeup) 19: Wakeup (HydrogenHeaterStartup) 20: Standby (Standby) 30: Startup (BatteryStartup) 40: Startup (NanogridStartup) 50: Startup (LTCoolantStartup) 60: Startup (MicrogridStartup) 100:Running (Running) 105:Rampdown (RampDownPower) 110:Rampdown (MicrogridShutdown) 120:Rampdown (ChargeBattery) 130:Rampdown (ShutdownFCwaves) 140:Aftercool (Aftercool) 160:Shutdown (ShutdownNanogrid) 172:Shutdown (ShutdownHydorgenHeater) 180:Shutdown (PutFCwavesToSleep) 190:Shutdown (ShutdownVentilation) 200:Error (Error)	
ElectrolyzerOperatingStatus	InputRegister	4	UINT16		LOCAL MODE 0 : MISE POWER ON (POWER ON) 1 : MODE STOP (STOP) 2 : MODE IDLE (IDLE) 3 : MODE STAND BY 4 : MODE PRODUCTION 5 : MODE MANUEL 6 : MODE Stop in progress 7. MODE Start in progress 8. MODE IDLE in progress 9. STAND BY in progress 10. Standby DISTANT MODE 11 : MISE POWER ON (POWER ON) 12 : MODE STOP (STOP) 13 : MODE IDLE (IDLE) 14 : MODE STANDY BY (STANDY BY) 15 : MODE PRODUCTION 16 : MODE Stop in progress 17. MODE Start in progress 18. MODE IDLE in progress 19. STAND BY in progress	

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EMCS Address Space (MODBUS)

Tag	Function Type	Register Address	Data Type	Unit	Description	Notes
PCS.EMCS.PermToEnterMode	HoldingRegister	1	UINT16	-	EMCS Mode Enmeration 0:NONE 1:IDLE ~~2:IMPORT~~ 3:IMPORT_ABLE_TO_CHARGE 4:IMPORT_ NOT_ABLE_ TO CHARGE 5:HOT_STANDBY 6:EXPORT 7:COLD_STANDBY 8:EMERGENCY 9:POWER_OUT 10:MAINTENANCE 11:RESEARCH	Permissive to enter in the mode indicated by the register value.
PCS.EMCS.HydrogenLevel	HoldingRegister	2	UINT16	Kg	Hydrogen level in Kg. PCS communicates the level periodically to the EMCS.	
PCS.EMCS.ESD-1D	HoldingRegister	3	BOOL	-	PCS inform the EMCS to go in Power Out mode	
PCS.PermissiveModeTimeout	HoldingRegister	3	UINT16	-	Default 3 sec	

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CROSSWIND	HOLLANDSE KUST NOORD WIND PARK Project Contract No. CW-I-WP4-2023-05	ROSETTI MARINO
Document Title:	EMCS IO List (HW and SW)	Date: 03/02/2025 Rev. 01

EMCS HW I/O

Signal_Description	From_ Equipment	From_ Device	To_ Equipment	To_ Device	COMM INTERF.	SIGNAL TYPE	Remark
incomer CB 6.6kV							
6.6kV TRF-Incomer Breaker Closed	SG-100D1	REX640-A1		PM - EMCS	HW I/O	DI	disponibile non cablato
6.6kV TRF-Incomer Breaker Open	SG-100D1	REX640-A1		PM - EMCS	HW I/O	DI	disponibile non cablato
6.6kV Incomer CB Close Enabled (Available)	SG-100D1	REX640-A1		PM - EMCS	HW I/O	DI	disponibile non cablato
6.6kV Incomer ES Closed	SG-100D1	ES		PM - EMCS	HW I/O	DI	disponibile non cablato
~~Close command~~	~~syceronizer~~	~~EMCS panel~~	~~SG-100D1~~	~~REX640-A1~~	~~HW I/O~~	~~DO~~	segnale eliminato perchè ora di competenza BESS
BESS Package							
sincronizzazione con BESS ~~MODBUS TCP-IP~~ via HW signals							
Tx(TR-100AD1)							
AVR Volatage set point	EMCS		TR-100AD1	AVR	HW I/O	AO	disponibile non cablato
AVR in AUTO	EMCS		TR-100AD1	AVR	HW I/O	DO	disponibile non cablato
AVR in Manaual	EMCS		TR-100AD1	AVR	HW I/O	DO	disponibile non cablato
RAISE command	EMCS		TR-100AD1	AVR	HW I/O	DO	disponibile non cablato
LOWER command	EMCS		TR-100AD1	AVR	HW I/O	DO	disponibile non cablato
Buchholz 97T - Alarm	TR-100AD1	CP		~~EMCS~~ SG-100D1	HW I/O	DI	portato a quadro MV
Oil Temp. 26OT - Alarm	TR-100AD1	CP		~~EMCS~~ SG-100D1	HW I/O	DI	portato a quadro MV
Oil Lever Indicator 71T - Alarm	TR-100AD1	CP		~~EMCS~~ SG-100D1	HW I/O	DI	portato a quadro MV
Pressur Relay 63T - Alarm	TR-100AD1	CP		~~EMCS~~ SG-100D1	HW I/O	DI	portato a quadro MV
Winding Temp. 49T - Alarm	TR-100AD1	CP		~~EMCS~~ SG-100D1	HW I/O	DI	portato a quadro MV
Membrane 99T - Alarm	TR-100AD1	CP		~~EMCS~~ SG-100D1	HW I/O	DI	portato a quadro MV
OLTC Oil Lever Indicator 71OLTC - Alarm	TR-100AD1	CP		~~EMCS~~ SG-100D1	HW I/O	DI	portato a quadro MV
OLTC Pressur Relay 63OLTC - Alarm	TR-100AD1	CP		~~EMCS~~ SG-100D1	HW I/O	DI	portato a quadro MV
BESS CPI							
GRID FORMING MODE		EMCS		BESS	HW I/O	DO	cavo 7C X 1.5sqmm ext Ø= 13,5mm (85002-CEC)