Base Load Power Hub (BLPH)

Technical Data Sheet (TDS) for AC UPS System

Document Number: 123A90-DDL-EL-DS-20032

Document Class: 2

02	08/02/2024	Accepted for Construction (AFC)	L. Bosio	A. Madaschi	D. Lo Sterzo
01	18/12/2023	Accepted for Construction (AFC)	A. Madaschi	A. Madaschi	D. Lo Sterzo
00	23/10/2023	Issue for Review (IFR)	D. Vaccariello	C. Giunchi	D. Lo Sterzo
Rev.	Date	Description	Prepared	Reviewed	Approved

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Revision / Change Log

Rev.	Description
00	Issue for Review (IFR)
01	Accepted for Construction (AFC)
02	Accepted for Construction (AFC)

HOLDS LIST

No.	Description
1.	
2.	
3.	
4.	

Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)

JIP33
JOINT INDUSTRY PROGRAMME

Revision history

VERSION	DATE	PURPOSE
1,0	August 2020	Issued for Use

Acknowledgements

This IOGP Specification was prepared by a Joint Industry Programme 33 Standardization of Equipment Specifications for Procurement organized by IOGP with support by the World Economic Forum (WEF).

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Data Sheet for
AC Uninterruptible Power Systems (UPS) (IEC 62040-3)

Foreword

This specification was prepared under Joint Industry Programme 33 (JIP33) "Standardization of Equipment Specifications for Procurement" organized by the International Oil & Gas Producers Association (IOGP) with the support from the World Economic Forum (WEF). Companies from the IOGP membership participated in developing this specification to leverage and improve industry level standardization globally in the oil and gas sector. The work has developed a minimized set of supplementary requirements for procurement, with life cycle cost in mind, resulting in a common and jointly agreed specification, building on recognized industry and international standards.

Recent trends in oil and gas projects have demonstrated substantial budget and schedule overruns. The Oil and Gas Community within the World Economic Forum (WEF) has implemented a Capital Project Complexity (CPC) initiative which seeks to drive a structural reduction in upstream project costs with a focus on industry-wide, non-competitive collaboration and standardization. The CPC vision is to standardize specifications for global procurement for equipment and packages. JIP33 provides the oil and gas sector with the opportunity to move from internally to externally focused standardization initiatives and provide step change benefits in the sector's capital projects performance.

This specification has been developed in consultation with a broad user and supplier base to realize benefits from standardization and achieve significant project and schedule cost reductions.

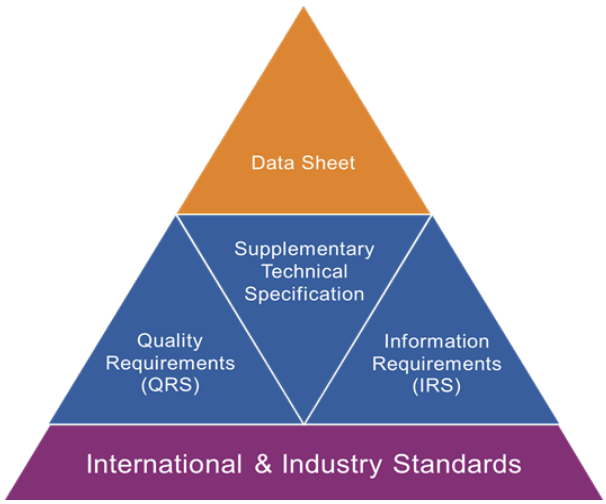
The JIP33 work groups performed their activities in accordance with IOGP's Competition Law Guidelines (November 2014).

Data Sheet for
AC Uninterruptible Power Systems (UPS) (IEC 62040-3)

Introduction

The purpose of this equipment data sheet is to define buyer specific requirements for the procurement of AC uninterruptible power systems (UPS) in accordance with IOGP S-701, for application in the petroleum and natural gas industries. The data sheet provides project specific requirements where the supplementary specification and its parent standard require the purchaser to define an application specific requirement. It also includes information required by the purchaser for technical evaluation purposes. Additional purchaser supplied documents are also listed in the data sheets, to define scope and technical requirements for enquiry and purchase of the equipment.

This data sheet shall be used in conjunction with the supplementary requirements specification IOGP S-701, information requirements specification IOGP S-701L and quality requirements specification IOGP S-701Q which together comprise the full set of specification documents. The Introduction section in the supplementary requirements specification provides further information on the purpose of each of these documents and the order of precedence for their use.



JIP33 Specification for Procurement Documents
Data Sheet

Row		S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)					Issue
2	Tag No. :	*Insert Tag Number*					
3	Service :	*Insert Service Description*					
4	Ref. Clause	Description	**UP-200E3 AC UPS - PAS (PCS, SIS, EMCS, Marshalling cabinets and Field instrument or UCP's package (no CPI))**	Manufacturer Declared Values		Additional notes	01
5		**GENERAL**					
6	5.1.2	Vendor :	Input Data				
7	5.1.2	Order status :	for enquiry				
8	5.1.2	Purchase order number, date :	Input Data				
9	5.1.2	Manufacturer :	Input Data				
10	5.1.2	Model number :	Input Data				
11	5.1.2	Serial number :	Input Data				
12	5.2.3	Application :	industrial			Offshore	
13	5.3.3	Purchaser specified rated output power :	35		kVA		
14	5.1.1	Quantity :	1				
15		Conformity assessment system (CAS) level :	D				
16		**CONFIGURATION**					
17	5.1.1, A.1, Figure A.2, Figure A.3A, Figure A.3B, Figure A.6	UPS configuration :	simplified parallel UPS with common bypass & common output-Figure A.3A				
18	5.1.1, B.1	UPS topology :	double conversion				
19	5.1.1	Static switch configuration :	in both inverter and bypass path			change configuration respect rev.00	01
20	5.4.2.3	Battery configuration :	2 x 50%			Each unit's battery shall be rated for the full rated load and half the autonomy time.	
21	5.3.2, 5.3.4	Performance classification :	manufacturer to advise	Select			
22	8.1.1.3	Bi-directional rectifier :	No				
23	8.4.2.11	Remote access required :	Yes (read only)				
24	8.4.2.11	Hardware (adapters, connectors, cables, etc.) required for remote access :	manufacturer to advise				
25	8.1.1.5, 8.1.1.6	On-line battery monitoring facility required :	string monitoring				
26	8.1.1.4	On-line battery testing feature required :	No				
27	8.1.1.4	Battery test load interface :	No				
28	5.4.2.3	DC earth leakage monitoring required :	No				
29	7.4.14	Single line diagram and status display :	on HMI				
30	8.1.2.11	Black start feature required :	Yes				
31	8.1.1.1	Earth screen required for isolation transformer :	manufacturer to advise				
32		**PHYSICAL ASPECTS**					
33	7.2.1	Mounting :	floor mounting				
34	7.2.1	Overall cabinet dimensions - length :	manufacturer to advise	Input Data	mm		
35	7.2.1	Overall cabinet dimensions - depth :	manufacturer to advise	Input Data	mm		
36	7.2.1	Overall cabinet dimensions - height :	manufacturer to advise	Input Data	mm		
37	7.2.1	Reference outline drawing number :	Input Data				
38	7.2.1	Total UPS cabinet mass :	manufacturer to advise	Input Data	kg		
39	7.2.1	Total UPS mass with batteries (if integrated) :	manufacturer to advise	Input Data	kg		
40	7.2.4, 7.2.5	Cable entry location :	top				
41	7.2.4, 7.2.5	Cable entry type :	removable - undrilled plate				
42	7.2.4, 7.2.5	Gland plate material :	manufacturer standard				
43	7.2.1	Paint colour :	supplier standard				
44	7.2.1	Canopy for cabinet required :	No				
45	7.3.9	Document holder :	Yes				
46		**INSTALLATION**					
47	4,1	Site :	offshore - fixed				
48	4,1	Location of UPS cabinet installation :	indoor				
49	7.3.1, 7.3.2	Front access clearance dimensions for operation and maintenance :	800		mm		
50	7.3.2	Side clearance for ventilation (if required) :	manufacturer to advise		mm		
51	7.3.2	Rear clearance for ventilation (if required) :	manufacturer to advise		mm		
52	7.2.3, 7.9.3	Installed location of battery :	inside UPS room			Batteries shall be installed inside cabinets	
53	7.2.3	Maximum battery assembly dimensions (L x D x H):	manufacturer to advise		mm		
54		**SAFETY**					
55	5.1.1	Accessibility :	operator access area				
56	5.1.1	Key required for cabinet :	Yes				
57	7.2.2	Degree of protection (with closed doors) :	IP31	Select			
58	7.2.2	Degree of protection (with open doors) :	IP2X	Select			
59	7.7.5	Cooling fan replacement while UPS in service :	No				
60	5.1.2	Local language for caution/danger/warning labels:	English				
61		**ELECTROMAGNETIC COMPATIBLITY**					
62	5.1.4	Emission :	UPS Cat C3				
63	5.1.4	Immunity :	UPS Cat C3				
64		**ENVIRONMENTAL CONDITIONS**					
65	4.2.1.1	Minimum ambient temperature (operation) :	-8,4		°C		
66	4.2.1.1	Maximum ambient temperature (operation) :	40		°C		
67	4.2.1.1	Maximum relative humidity (operation) :	95		%		
68	4.2.1.1	Temperature at which relative humidity is specified (operation) :	Input Data		°C		
69	4.2.1.2	Maximum altitude (operation) :	Sea level		m		
70	4.2.2.1	Minimum ambient temperature (storage and transportation) :	-5		°C		
71	4.2.2.1	Maximum ambient temperature (storage and transportation) :	40		°C		
72	4.2.2.1	Maximum relative humidity (storage and transportation) :	95		%		
73	4.2.2.1	Temperature at which relative humidity is specified (storage and transportation) :	Input Data		°C		
74	4.3.2	Seismic requirement data :	Zone 2				
75	4.2.2.1	Storage site of UPS :	indoor – natural ventilation				
76	4.3.2	Additional or unusual conditions (operation):	Input Data				
77	4.3.3	Additional or unusual conditions (storage and transportation) :	Input Data				
78	5.1.5	Acoustic noise at 1 m - normal mode :	70		dBA		
79	5.1.5	Acoustic noise at 1 m - stored energy mode :	70		dBA		
80		**COMMUNICATION INTERFACE(S)**					
81	5,6	(1) Interface media for SCADA (ICSS / DCS) :	serial				

Row		S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)					Issue
2	Tag No. :	*Insert Tag Number*					
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4	Ref. Clause	Description	**UP-200E3 AC UPS - PAS (PCS, SIS, EMCS, Marshalling cabinets and Field instrument or UCP's package (no CPI))**	Manufacturer Declared Values		Additional notes	01
82	5,6	(1) Maximum allowable length of communication cable (for copper) :	Input Data		m		
83	5,6	(1) Interface protocol for SCADA (ICSS / DCS) :	Modbus				
84	5,6	(2) Interface media for electrical management / control system :	serial			Both, serial and hardwired discrete	
85	5,6	(2) Maximum allowable length of communication cable (for copper) :	Input Data		m		
86	5,6	(2) Interface protocol for electrical management / control system :	Modbus				
87	5,6	(3) Remote access / monitoring software required:	Yes				
88	5,6	(3) Interface media for remote access / monitoring:	ethernet (fiber)				
89	5,6	(3) Maximum allowable length of communication cable (for copper) :	Input Data		m		
90	5,6	(3) Interface protocol for remote access / monitoring :	Modbus				
91		**AC INPUT SPECIFICATIONS**					
92	5.2.1	Voltage (steady state, R.M.S) - rated :	400		V		
93	5.2.1	Voltage (steady state, R.M.S) - tolerance :	+/- 10		%		
94	5.2.1	Frequency - rated :	50 Hz				
95	5.2.1	Frequency - tolerance :	+/- 2		%		
96	5.2.2	Phases required :	3	Select			
97	5.2.2	Neutral required :	Yes	Select			
98	5.2.2	Current (R.M.S) - rated (with the energy storage device charged) :	manufacturer to advise		A		
99	5.2.2	Power factor :	manufacturer to advise	Input Data			
100	5.2.2	In-rush (% of rated current) :	manufacturer to advise	Input Data	%		
101	5.2.2	In-rush (time) :	manufacturer to advise	Input Data	s		
102	5.2.2	Maximum current (with low input volt and energy storage device charging) :	manufacturer to advise		A	based on the limitation of batteries charging to 30% of the UPS sizing	01
103	5.2.2	Time for overload (125 % of rated current) :	10	Input Data	min		
104	5.2.2	Time for overload (150 % of rated current) :	1	Input Data	min		
105	5.2.2	Total harmonic distortion - current (THD p.u.) :	8		%		
106	5.2.3	Short circuit current of the input supply (Minimum and Maximum) :	50		kA		
107	5.2.2	Minimum short circuit current :	Input Data		kA		
108	5.2.2	Earth leakage current :	Input Data		mA		
109	5.2.2	AC power distribution system - compatibility :	TN-S				
110	5.2.3	Additional or unusual conditions :	Input Data				
111	5.2.3, 7.5.4	Cable size (cross-section area) - input mains:	Input Data		sq.mm.		
112	5.2.3, 7.5.4	Cable size (cross-section area) - input bypass:	Input Data		sq.mm.		
113	5.2.3, 7.5.4	Cable size (cross-section area) - input maintenance bypass :	Input Data		sq.mm.		
114	7.4.8, 8.1.1.1	Input isolation transformer required :	Yes				
115	7.4.10	Input isolation transformer winding :	supplier standard				
116		**DC AND BATTERY SPECIFICATIONS**					
117	5.4.2.2	DC voltage level :	Select		V d.c.		
118	5.4.2.2	Design life :	5		years		
119	5.4.2.2	Float service life :	manufacturer to advise		years		
120	5.4.2.2	Shelf life of battery :	manufacturer to advise		months		
121	5.4.2.2	Quantity of cells and strings :	manufacturer to advise		nos.		
122	5.4.2.2	Nominal voltage (total) :	manufacturer to advise		V d.c.		
123	5.4.2.2	Battery technology :	sealed nickel cadmium			To offer as option "Sealed Gell Filled VRLA"	
124	5.4.2.2	Nominal AH capacity :	manufacturer to advise		AH		
125	5.4.2.2	Discharge rate (C-rate) :	Select				
126	5.4.2.2	Electrolyte fill status :	manufacturer standard	Select			
127	8.1.2.3	Purchaser's requirement (% of battery recharge level - 1) :	80		%		
128	8.1.2.3	Purchaser's requirement (time for battery recharge level - 1) :	10		Hours	based on the limitation of batteries charging to 30% of the UPS sizing	01
129	8.1.2.3	Purchaser's requirement (% of battery recharge level - 2) :	100		%		
130	8.1.2.3	Purchaser's requirement (time for battery recharge level - 2) :	24		Hours	based on the limitation of batteries charging to 30% of the UPS sizing	01
131	5.4.2.2	Stored energy time (Autonomy time at 100% rated load) :	30		min		
132	5.4.2.2	Restored energy time (recharge time to 80% capacity):	manufacturer to advise		hours	based on the limitation of batteries charging to 30% of the UPS sizing	01
133	5.4.2.2	Ambient reference temperature :	40		°C		
134	5.4.2.2	Earth condition/isolation :	manufacturer to advise	Select			
135	5.4.2.2	Ripple current (R.M.S) :	manufacturer to advise		%		
136	5.4.2.2	Nominal discharge current (stored energy mode):	manufacturer to advise		A		
137	5.4.2.2	DC Fault current rating :	manufacturer to advise		A d.c.		
138	5.4.2.2	Cable volt drop recommendation (≤ % at nominal discharge current) :	manufacturer to advise		%		
139	5.4.2.2	Charging regime :	manufacturer to advise				
140	5.4.2.2	Charge voltage (float) and tolerance band :	manufacturer to advise		V d.c.		
141	5.4.2.2	Charge voltage (boost) and tolerance band :	manufacturer to advise		V d.c.		
142	5.4.2.2	Charge voltage (equalising) and tolerance band :	manufacturer to advise		V d.c.		
143	5.4.2.2	Minimum end of discharge voltage :	manufacturer to advise		V d.c.		
144	5.4.2.2	Charge current limit (or range) :	limitation of batteries charging to 30% of the UPS sizing		A d.c.		01
145	5.4.2.2	Temperature compensated charging required:	Yes			For option of VRLA	
146	5.4.2.3	Battery isolation box required :	Yes				
147	5.4.2.3	Additional or unusual conditions :	Input Data				
148	5.4.2.3	Load profile for battery design, attached :	No				
149	5.4.2.3	~~Battery rack design :~~					
150		**BATTERY ROOM**					
151	4.2.1.1	Minimum ambient reference temperature :	-8,4		°C		
152	4.2.1.1	Maximum ambient reference temperature :	40		°C		

Row		S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)					Issue
2	Tag No. :	*Insert Tag Number*					
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4	Ref. Clause	Description	**UP-200E3 AC UPS - PAS (PCS, SIS, EMCS, Marshalling cabinets and Field instrument or UCP's package (no CPI))**	Manufacturer Declared Values		Additional notes	01
153	5.4.2.1	Area classification :	safe				
154	5.4.2.1	Hazardous area classification :	Zone 2				
155	5.4.2.1	Minimum gas subdivision and temperature class (for equipment in battery room) :	Select				
156	8.1.2.10	Temperature sensor (for VRLA / partial gas recombination batteries) :	Yes			For option of VRLA batteries	
157		**BATTERY ISOLATOR BOX SPECIFICATIONS**					
158	7.9.1	Enclosure material :	manufacturer standard	Select			
159	7.9.1	Mounting :	Select			housed within cabinet inside UPS Room	
160	7.9.1	Breathing valve required :	manufacturer to advise	Select			
161	7.9.1	Internal earth bar :	tinned copper				
162	7.9.3	Minimum design temperature :	-8,4		°C		
163	7.9.3	Maximum design temperature :	40		°C		
164	7.9.3	Maximum relative humidity :	95		%		
165	7.9.3	Temperature at which relative humidity is specified:	Input Data		°C		
166	7.9.4	Degree of protection :	IP 31				
167	7.9.5	Area classification :	safe				
168	7.9.5	Hazardous area certification required :	none				
169	7.9.5	Hazardous area classification :	N/A				
170	7.9.5	Hazardous area level of protection :	N/A				
171	7.9.6	Cable entry :	top				
172	7.9.6	Cable indirect entry via 'ex e' enclosure :	No				
173	7.9.6	Battery cable size (cross-section area) :	Input Data		sq.mm.		
174	7.9.6	Cable entry diameter in battery isolator box (ISO metric) :	Input Data				
175	7.9.7	Battery isolator type :	MCCB				
176	7.9.8	Rated current of breaker / switch fuse unit :	manufacturer to advise		A		
177	7.9.8	Rated breaking current (Icu) - (if breaker used) :	manufacturer to advise		kA		
178	7.9.10	Breaker status potential free contact (NO) :	two				
179	7.9.9	Under voltage trip feature required :	Yes				
180	7.9.9	Under voltage trip coil for :	black start reserve				
181	8.1.2.12	ESD trip required :	Yes - via shunt trip				
182	8.1.2.12	ESD override key switch :	key captive in overridden position and with status contact				
183	7.9.9	Over voltage trip required :	Yes				
184		**AC OUTPUT SPECIFICATIONS**					
185	5.3.2	Rated output power (apparent) :	35		kVA		
186	5.3.2	Rated output power (active) :	28		kW		
187	5.3.2	AC power distribution system - compatibility :	TN-S	Select			
188	5.3.2	Phases available :	3	Select			
189	5.3.2	Neutral available :	Yes	Select			
190	5.3.2	Voltage (steady state, R.M.S) - rated :	400	Input Data	V		
191	5.3.2	Voltage - normal mode variation :	manufacturer to advise	Input Data	%		
192	5.3.2	Voltage - storage energy mode variation :	manufacturer to advise	Input Data	%		
193	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - normal mode - linear :	5	Select	%		
194	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - normal mode - non linear :	5	Select	%		
195	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - storage energy mode - linear :	5	Select	%		
196	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - storage energy mode - non linear :	5	Select	%		
197	5.3.2	% Voltage unbalance, 100% load unbalance :	manufacturer to advise		%		
198	5.3.2	Phase angle displacement, 100% load unbalance:	manufacturer to advise		°		
199	5.3.2	% Voltage transient, 100% step load - linear :	manufacturer to advise		%		
200	5.3.2	Voltage transient recovery time, 100% step load - linear :	manufacturer to advise		s		
201	5.3.2	% Voltage transient, 100% step load - non linear :	manufacturer to advise		%		
202	5.3.2	Voltage transient recovery time, 100% step load - non linear :	manufacturer to advise		s		
203	5.3.2	% Voltage transient, 100% step load - transfer normal mode to storage energy mode :	manufacturer to advise		%		
204	5.3.2	Voltage transient recovery time, 100% step load - transfer normal mode to storage energy mode :	manufacturer to advise		s		
205	5.3.2	% Voltage transient, 100% step load -transfer storage energy mode to normal mode :	manufacturer to advise		%		
206	5.3.2	Voltage transient recovery time, 100% step load - transfer storage energy mode to normal mode :	manufacturer to advise		s		
207	5.3.2	Frequency (steady state) - rated :	50	Input Data	Hz		
208	5.3.2	Frequency (steady state) - normal mode variation:	2	Input Data	%		
209	5.3.2	Frequency (steady state) - storage energy mode variation :	2	Input Data	%		
210	5.3.2	Frequency (steady state) - free running variation:	2	Input Data	%		
211	5.3.2	Synchronization (maximum ± % range of rated frequency) :	manufacturer to advise		%		
212	5.3.2	Maximum synchronism phase error (referred to 360° cycle) :	manufacturer to advise		%		
213	5.3.2	Maximum slew rate :	manufacturer to advise	Input Data	Hz/s		
214	5.3.2	Current (R.M.S) - rated :	manufacturer to advise		A		
215	5.1.8.1, 5.3.2	Current (R.M.S) - overload capability (% of rated current for ten minutes) :	manufacturer to advise		%		
216	5.1.8.2, 5.3.2	Current (R.M.S) - overload capability (% of rated current for one minute) :	manufacturer to advise		%		
217	5.1.8.3, 5.1.8.4	Current (R.M.S) - short circuit capability (% of rated current) :	manufacturer to advise	Input Data	%		
218	5.1.8.3, 5.1.8.4	Current (R.M.S) - short circuit capability (time duration) :	manufacturer to advise	Input Data	s		
219	5.3.2	Current (R.M.S) - limitation (% of rated current) :	manufacturer to advise		%		
220	5.3.2	Current (R.M.S) - limitation (time duration) :	manufacturer to advise		s		
221	5.3.2	Current (R.M.S) - fault clearing capability (normal mode) :	manufacturer to advise		A		

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2	Tag No. :	*Insert Tag Number*					
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4	Ref. Clause	Description	**UP-200E3 AC UPS - PAS (PCS, SIS, EMCS, Marshalling cabinets and Field instrument or UCP's package (no CPI))**	Manufacturer Declared Values		Additional notes	01
222	5.3.2	Current (R.M.S) - fault clearing capability (stored energy mode) :	manufacturer to advise		A		
223	5.3.2	Load power factor - rated :	manufacturer to advise				
224	5.3.2	Load power factor - displacement (permissible limit lead) :	manufacturer to advise				
225	5.3.2	Load power factor - displacement (permissible limit lag) :	manufacturer to advise				
226	5.3.2	Efficiency in normal mode - 100% load :	manufacturer to advise		%		
227	5.3.2	Efficiency in normal mode - 75% load :	manufacturer to advise		%		
228	5.3.2	Efficiency in normal mode - 50% load :	manufacturer to advise		%		
229	5.3.2	Efficiency in normal mode - 25% load :	manufacturer to advise		%		
230	7.4.8	Output isolation transformer required :	No				
231	7.4.10	Output isolation transformer winding :	Select				
232	7.6.5	AC output neutral earth link :	earthed				
233	7.1.6	Reference document to AC output distribution board :	To see Electrical Load List			To include 20% spare MCCB	
234	5.3.3	Integrated AC output distribution board with MCBs:	Yes			Quantity & rating of MCBs as per Load List	
235	5.3.3	Cable size (cross-section area) - output:	manufacturer to advise		sq.mm.		
236		**BYPASS SPECIFICATIONS**					
237	C.3	Bypass transfer time :	manufacturer to advise		msec		
238	C.3	Bypass static switch rated current :	manufacturer to advise		A		
239	C.3	Bypass protection fuse or circuit breaker rating :	manufacturer to advise		A		
240	7.4.8	Bypass transformer required :	Yes				
241	7.4.10	Bypass transformer winding :	copper or aluminum				
242	7.3.5	Maintenance bypass and bypass transformer location:	integrated				
243	8.3.6, C.5	Overall maintenance bypass :	internal				

Row	S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)						Issue
2	Tag No. :	*Insert Tag Number*					
3	Service :	*Insert Service Description*					
4	Ref. Clause	Description	**UP-200E4 AC UPS - FIRE & GAS and Network Cabine**	Manufacturer Declared Values		Additional notes	01
5		**GENERAL**					
6	5.1.2	Vendor :	Input Data				
7	5.1.2	Order status :	for enquiry				
8	5.1.2	Purchase order number, date :	Input Data				
9	5.1.2	Manufacturer :	Input Data				
10	5.1.2	Model number :	Input Data				
11	5.1.2	Serial number :	Input Data				
12	5.2.3	Application :	industrial			Offshore	
13	5.3.3	Purchaser specified rated output power :	15		kVA	change value respect rev.00	01
14	5.1.1	Quantity :	1				
15		Conformity assessment system (CAS) level :	D				
16		**CONFIGURATION**					
17	5.1.1, A.1, Figure A.2, Figure A.3A, Figure A.3B, Figure A.6	UPS configuration :	simplified parallel UPS with common bypass & common output-Figure A.3A				
18	5.1.1, B.1	UPS topology :	double conversion				
19	5.1.1	Static switch configuration :	in both inverter and bypass path			change configuration respect rev.00	01
20	5.4.2.3	Battery configuration :	2 x 50%			Each unit's battery shall be rated for the full rated load and half the autonomy time.	
21	5.3.2, 5.3.4	Performance classification :	manufacturer to advise	Select			
22	8.1.1.3	Bi-directional rectifier :	No				
23	8.4.2.11	Remote access required :	Yes (read only)				
24	8.4.2.11	Hardware (adapters, connectors, cables, etc.) required for remote access :	manufacturer to advise				
25	8.1.1.5, 8.1.1.6	On-line battery monitoring facility required :	string monitoring				
26	8.1.1.4	On-line battery testing feature required :	No				
27	8.1.1.4	Battery test load interface :	No				
28	5.4.2.3	DC earth leakage monitoring required :	No				
29	7.4.14	Single line diagram and status display :	on HMI				
30	8.1.2.11	Black start feature required :	Yes				
31	8.1.1.1	Earth screen required for isolation transformer :	manufacturer to advise				
32		**PHYSICAL ASPECTS**					
33	7.2.1	Mounting :	floor mounting				
34	7.2.1	Overall cabinet dimensions - length :	manufacturer to advise	Input Data	mm		
35	7.2.1	Overall cabinet dimensions - depth :	manufacturer to advise	Input Data	mm		
36	7.2.1	Overall cabinet dimensions - height :	manufacturer to advise	Input Data	mm		
37	7.2.1	Reference outline drawing number :	Input Data				
38	7.2.1	Total UPS cabinet mass :	manufacturer to advise	Input Data	kg		
39	7.2.1	Total UPS mass with batteries (if integrated) :	manufacturer to advise	Input Data	kg		
40	7.2.4, 7.2.5	Cable entry location :	top				
41	7.2.4, 7.2.5	Cable entry type :	removable - undrilled plate				
42	7.2.4, 7.2.5	Gland plate material :	manufacturer standard				
43	7.2.1	Paint colour :	supplier standard				
44	7.2.1	Canopy for cabinet required :	No				
45	7.3.9	Document holder :	Yes				
46		**INSTALLATION**					
47	4,1	Site :	offshore - fixed				
48	4,1	Location of UPS cabinet installation :	indoor				
49	7.3.1, 7.3.2	Front access clearance dimensions for operation and maintenance :	800		mm		
50	7.3.2	Side clearance for ventilation (if required) :	manufacturer to advise		mm		
51	7.3.2	Rear clearance for ventilation (if required) :	manufacturer to advise		mm		
52	7.2.3, 7.9.3	Installed location of battery :	inside UPS room			Batteries shall be installed inside cabinets	
53	7.2.3	Maximum battery assembly dimensions (L x D x H):	manufacturer to advise		mm		
54		**SAFETY**					
55	5.1.1	Accessibility :	operator access area				
56	5.1.1	Key required for cabinet :	Yes				
57	7.2.2	Degree of protection (with closed doors) :	IP31	Select			
58	7.2.2	Degree of protection (with open doors) :	IP2X	Select			
59	7.7.5	Cooling fan replacement while UPS in service :	No				
60	5.1.2	Local language for caution/danger/warning labels:	English				
61		**ELECTROMAGNETIC COMPATIBLITY**					
62	5.1.4	Emission :	UPS Cat C3				
63	5.1.4	Immunity :	UPS Cat C3				
64		**ENVIRONMENTAL CONDITIONS**					
65	4.2.1.1	Minimum ambient temperature (operation) :	-8,4		°C		
66	4.2.1.1	Maximum ambient temperature (operation) :	40		°C		
67	4.2.1.1	Maximum relative humidity (operation) :	95		%		
68	4.2.1.1	Temperature at which relative humidity is specified (operation) :	Input Data		°C		
69	4.2.1.2	Maximum altitude (operation) :	Sea level		m		
70	4.2.2.1	Minimum ambient temperature (storage and transportation) :	-5		°C		
71	4.2.2.1	Maximum ambient temperature (storage and transportation) :	40		°C		
72	4.2.2.1	Maximum relative humidity (storage and transportation) :	95		%		
73	4.2.2.1	Temperature at which relative humidity is specified (storage and transportation) :	Input Data		°C		
74	4.3.2	Seismic requirement data :	Zone 2				
75	4.2.2.1	Storage site of UPS :	indoor – natural ventilation				
76	4.3.2	Additional or unusual conditions (operation) :	Input Data				
77	4.3.3	Additional or unusual conditions (storage and transportation) :	Input Data				
78	5.1.5	Acoustic noise at 1 m - normal mode :	70		dBA		
79	5.1.5	Acoustic noise at 1 m - stored energy mode :	70		dBA		
80		**COMMUNICATION INTERFACE(S)**					
81	5,6	(1) Interface media for SCADA (ICSS / DCS) :	serial				
82	5,6	(1) Maximum allowable length of communication cable (for copper) :	Input Data		m		
83	5,6	(1) Interface protocol for SCADA (ICSS / DCS) :	Modbus				

Row		S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)					Issue
2	Tag No. :	*Insert Tag Number*					
3	Service :	*Insert Service Description*					
4	Ref. Clause	Description	**UP-200E4 AC UPS - FIRE & GAS and Network Cabine**	Manufacturer Declared Values		Additional notes	01
84	5,6	(2) Interface media for electrical management / control system :	serial			Both, serial and hardwired discrete	
85	5,6	(2) Maximum allowable length of communication cable (for copper) :	Input Data		m		
86	5,6	(2) Interface protocol for electrical management / control system :	Modbus				
87	5,6	(3) Remote access / monitoring software required :	Yes				
88	5,6	(3) Interface media for remote access / monitoring :	ethernet (fiber)				
89	5,6	(3) Maximum allowable length of communication cable (for copper) :	Input Data		m		
90	5,6	(3) Interface protocol for remote access / monitoring :	Modbus				
91		**AC INPUT SPECIFICATIONS**					
92	5.2.1	Voltage (steady state, R.M.S) - rated :	400		V		
93	5.2.1	Voltage (steady state, R.M.S) - tolerance :	+/- 10		%		
94	5.2.1	Frequency - rated :	50 Hz				
95	5.2.1	Frequency - tolerance :	+/- 2		%		
96	5.2.2	Phases required :	3	Select			
97	5.2.2	Neutral required :	Yes	Select			
98	5.2.2	Current (R.M.S) - rated (with the energy storage device charged) :	manufacturer to advise		A		
99	5.2.2	Power factor :	manufacturer to advise	Input Data			
100	5.2.2	In-rush (% of rated current) :	manufacturer to advise	Input Data	%		
101	5.2.2	In-rush (time) :	manufacturer to advise	Input Data	s		
102	5.2.2	Maximum current (with low input volt and energy storage device charging) :	manufacturer to advise		A	based on the limitation of batteries charging to 30% of the UPS sizing	01
103	5.2.2	Time for overload (125 % of rated current) :	10	Input Data	min		
104	5.2.2	Time for overload (150 % of rated current) :	1	Input Data	min		
105	5.2.2	Total harmonic distortion - current (THD p.u.) :	8		%		
106	5.2.3	Short circuit current of the input supply (Minimum and Maximum) :	50		kA		
107	5.2.2	Minimum short circuit current :	Input Data		kA		
108	5.2.2	Earth leakage current :	Input Data		mA		
109	5.2.2	AC power distribution system - compatibility :	TN-S				
110	5.2.3	Additional or unusual conditions :	Input Data				
111	5.2.3, 7.5.4	Cable size (cross-section area) - input mains :	Input Data		sq.mm.		
112	5.2.3, 7.5.4	Cable size (cross-section area) - input bypass:	Input Data		sq.mm.		
113	5.2.3, 7.5.4	Cable size (cross-section area) - input maintenance bypass :	Input Data		sq.mm.		
114	7.4.8, 8.1.1.1	Input isolation transformer required :	Yes				
115	7.4.10	Input isolation transformer winding :	supplier standard				
116		**DC AND BATTERY SPECIFICATIONS**					
117	5.4.2.2	DC voltage level :	Select		V d.c.		
118	5.4.2.2	Design life :	5		years		
119	5.4.2.2	Float service life :	manufacturer to advise		years		
120	5.4.2.2	Shelf life of battery :	manufacturer to advise		months		
121	5.4.2.2	Quantity of cells and strings :	manufacturer to advise		nos.		
122	5.4.2.2	Nominal voltage (total) :	manufacturer to advise		V d.c.		
123	5.4.2.2	Battery technology :	sealed nickel cadmium			To offer as option "Sealed Gell Filled VRLA"	
124	5.4.2.2	Nominal AH capacity :	manufacturer to advise		AH		
125	5.4.2.2	Discharge rate (C-rate) :	Select				
126	5.4.2.2	Electrolyte fill status :	manufacturer standard	Select			
127	8.1.2.3	Purchaser's requirement (% of battery recharge level - 1) :	80		%		
128	8.1.2.3	Purchaser's requirement (time for battery recharge level - 1) :	10		Hours	based on the limitation of batteries charging to 30% of the UPS sizing	01
129	8.1.2.3	Purchaser's requirement (% of battery recharge level - 2) :	100		%		
130	8.1.2.3	Purchaser's requirement (time for battery recharge level - 2) :	24		Hours	based on the limitation of batteries charging to 30% of the UPS sizing	01
131	5.4.2.2	Stored energy time (Autonomy time at 100% rated load) :	8		hours		
132	5.4.2.2	Restored energy time (recharge time to 80% capacity) :	manufacturer to advise		hours	based on the limitation of batteries charging to 30% of the UPS sizing	01
133	5.4.2.2	Ambient reference temperature :	40		°C		
134	5.4.2.2	Earth condition/isolation :	manufacturer to advise	Select			
135	5.4.2.2	Ripple current (R.M.S) :	manufacturer to advise		%		
136	5.4.2.2	Nominal discharge current (stored energy mode):	manufacturer to advise		A		
137	5.4.2.2	DC Fault current rating :	manufacturer to advise		A d.c.		
138	5.4.2.2	Cable volt drop recommendation (≤ % at nominal discharge current) :	manufacturer to advise		%		
139	5.4.2.2	Charging regime :	manufacturer to advise				
140	5.4.2.2	Charge voltage (float) and tolerance band :	manufacturer to advise		V d.c.		
141	5.4.2.2	Charge voltage (boost) and tolerance band :	manufacturer to advise		V d.c.		
142	5.4.2.2	Charge voltage (equalising) and tolerance band :	manufacturer to advise		V d.c.		
143	5.4.2.2	Minimum end of discharge voltage :	manufacturer to advise		V d.c.		
144	5.4.2.2	Charge current limit (or range) :	limitation of batteries charging to 30% of the UPS sizing		A d.c.		01
145	5.4.2.2	Temperature compensated chargingrequired:	Yes			For option of VRLA batteries	
146	5.4.2.3	Battery isolation box required :	Yes				
147	5.4.2.3	Additional or unusual conditions :	Input Data				
148	5.4.2.3	Load profile for battery design, attached :	No				
149	5.4.2.3	~~Battery rack design :~~					
150		**BATTERY ROOM**					
151	4.2.1.1	Minimum ambient reference temperature :	-8,4		°C		
152	4.2.1.1	Maximum ambient reference temperature :	40		°C		
153	5.4.2.1	Area classification :	safe				

Row		S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)					Issue
2	Tag No. :	*Insert Tag Number*					
3	Service :	*Insert Service Description*					
4	Ref. Clause	Description	**UP-200E4 AC UPS - FIRE & GAS and Network Cabine**	Manufacturer Declared Values		Additional notes	01
154	5.4.2.1	Hazardous area classification :	Zone 2				
155	5.4.2.1	Minimum gas subdivision and temperature class (for equipment in battery room) :	Select				
156	8.1.2.10	Temperature sensor (for VRLA / partial gas recombination batteries) :	Yes			For option of VRLA batteries	
157		**BATTERY ISOLATOR BOX SPECIFICATIONS**					
158	7.9.1	Enclosure material :	manufacturer standard	Select			
159	7.9.1	Mounting :	Select			housed within cabinet inside UPS Room	
160	7.9.1	Breathing valve required :	manufacturer to advise	Select			
161	7.9.1	Internal earth bar :	tinned copper				
162	7.9.3	Minimum design temperature :	-8,4		°C		
163	7.9.3	Maximum design temperature :	40		°C		
164	7.9.3	Maximum relative humidity :	95		%		
165	7.9.3	Temperature at which relative humidity is specified:	Input Data		°C		
166	7.9.4	Degree of protection :	IP 31				
167	7.9.5	Area classification :	safe				
168	7.9.5	Hazardous area certification required :	none				
169	7.9.5	Hazardous area classification :	N/A				
170	7.9.5	Hazardous area level of protection :	N/A				
171	7.9.6	Cable entry :	top				
172	7.9.6	Cable indirect entry via 'ex e' enclosure :	No				
173	7.9.6	Battery cable size (cross-section area):	Input Data		sq.mm.		
174	7.9.6	Cable entry diameter in battery isolator box (ISO metric) :	Input Data				
175	7.9.7	Battery isolator type :	MCCB				
176	7.9.8	Rated current of breaker / switch fuse unit :	manufacturer to advise		A		
177	7.9.8	Rated breaking current (Icu) - (if breaker used) :	manufacturer to advise		kA		
178	7.9.10	Breaker status potential free contact (NO) :	two				
179	7.9.9	Under voltage trip feature required :	Yes				
180	7.9.9	Under voltage trip coil for :	black start reserve				
181	8.1.2.12	ESD trip required :	Yes - via shunt trip				
182	8.1.2.12	ESD override key switch :	key captive in overridden position and with status contact				
183	7.9.9	Over voltage trip required :	Yes				
184		**AC OUTPUT SPECIFICATIONS**					
185	5.3.2	Rated output power (apparent) :	20		kVA		
186	5.3.2	Rated output power (active) :	16		kW		
187	5.3.2	AC power distribution system - compatibility :	TN-S	Select			
188	5.3.2	Phases available :	3	Select			
189	5.3.2	Neutral available :	Yes	Select			
190	5.3.2	Voltage (steady state, R.M.S) - rated :	400	Input Data	V		
191	5.3.2	Voltage - normal mode variation :	manufacturer to advise	Input Data	%		
192	5.3.2	Voltage - storage energy mode variation :	manufacturer to advise	Input Data	%		
193	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - normal mode - linear :	5	Select	%		
194	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - normal mode - non linear :	5	Select	%		
195	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - storage energy mode - linear :	5	Select	%		
196	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - storage energy mode - non linear :	5	Select	%		
197	5.3.2	% Voltage unbalance, 100% load unbalance :	manufacturer to advise		%		
198	5.3.2	Phase angle displacement, 100% load unbalance :	manufacturer to advise		°		
199	5.3.2	% Voltage transient, 100% step load - linear :	manufacturer to advise		%		
200	5.3.2	Voltage transient recovery time, 100% step load - linear :	manufacturer to advise		s		
201	5.3.2	% Voltage transient, 100% step load - non linear :	manufacturer to advise		%		
202	5.3.2	Voltage transient recovery time, 100% step load - non linear :	manufacturer to advise		s		
203	5.3.2	% Voltage transient, 100% step load - transfer normal mode to storage energy mode :	manufacturer to advise		%		
204	5.3.2	Voltage transient recovery time, 100% step load - transfer normal mode to storage energy mode :	manufacturer to advise		s		
205	5.3.2	% Voltage transient, 100% step load -transfer storage energy mode to normal mode :	manufacturer to advise		%		
206	5.3.2	Voltage transient recovery time, 100% step load - transfer storage energy mode to normal mode :	manufacturer to advise		s		
207	5.3.2	Frequency (steady state) - rated :	50	Input Data	Hz		
208	5.3.2	Frequency (steady state) - normal mode variation :	2	Input Data	%		
209	5.3.2	Frequency (steady state) - storage energy mode variation :	2	Input Data	%		
210	5.3.2	Frequency (steady state) - free running variation :	2	Input Data	%		
211	5.3.2	Synchronization (maximum ± % range of rated frequency) :	manufacturer to advise		%		
212	5.3.2	Maximum synchronism phase error (referred to 360° cycle) :	manufacturer to advise		%		
213	5.3.2	Maximum slew rate :	manufacturer to advise	Input Data	Hz/s		
214	5.3.2	Current (R.M.S) - rated :	manufacturer to advise		A		
215	5.1.8.1, 5.3.2	Current (R.M.S) - overload capability (% of rated current for ten minutes) :	manufacturer to advise		%		
216	5.1.8.2, 5.3.2	Current (R.M.S) - overload capability (% of rated current for one minute) :	manufacturer to advise		%		
217	5.1.8.3, 5.1.8.4	Current (R.M.S) - short circuit capability (% of rated current) :	manufacturer to advise	Input Data	%		
218	5.1.8.3, 5.1.8.4	Current (R.M.S) - short circuit capability (time duration) :	manufacturer to advise	Input Data	s		
219	5.3.2	Current (R.M.S) - limitation (% of rated current) :	manufacturer to advise		%		
220	5.3.2	Current (R.M.S) - limitation (time duration) :	manufacturer to advise		s		
221	5.3.2	Current (R.M.S) - fault clearing capability (normal mode) :	manufacturer to advise		A		
222	5.3.2	Current (R.M.S) - fault clearing capability (stored energy mode) :	manufacturer to advise		A		
223	5.3.2	Load power factor - rated :	manufacturer to advise				

Row	S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)						Issue
2	Tag No. :	*Insert Tag Number*					
3	Service :	*Insert Service Description*					
4	Ref. Clause	Description	**UP-200E4 AC UPS - FIRE & GAS and Network Cabine**	Manufacturer Declared Values		Additional notes	01
224	5.3.2	Load power factor - displacement (permissible limit lead) :	manufacturer to advise				
225	5.3.2	Load power factor - displacement (permissible limit lag) :	manufacturer to advise				
226	5.3.2	Efficiency in normal mode - 100% load :	manufacturer to advise		%		
227	5.3.2	Efficiency in normal mode - 75% load :	manufacturer to advise		%		
228	5.3.2	Efficiency in normal mode - 50% load :	manufacturer to advise		%		
229	5.3.2	Efficiency in normal mode - 25% load :	manufacturer to advise		%		
230	7.4.8	Output isolation transformer required :	No				
231	7.4.10	Output isolation transformer winding :	Select				
232	7.6.5	AC output neutral earth link :	earthed				
233	7.1.6	Reference document to AC output distribution board:	To see Electrical Load List			To include 20% spare MCCB	
234	5.3.3	Integrated AC output distribution board with MCBs:	Yes			Quantity & rating of MCBs as per Load List	
235	5.3.3	Cable size (cross-section area) - output :	manufacturer to advise		sq.mm.		
236		**BYPASS SPECIFICATIONS**					
237	C.3	Bypass transfer time :	manufacturer to advise		msec		
238	C.3	Bypass static switch rated current :	manufacturer to advise		A		
239	C.3	Bypass protection fuse or circuit breaker rating :	manufacturer to advise		A		
240	7.4.8	Bypass transformer required :	Yes				
241	7.4.10	Bypass transformer winding :	copper or aluminum				
242	7.3.5	Maintenance bypass and bypass transformer location :	integrated				
243	8.3.6, C.5	Overall maintenance bypass :	internal				

Row	S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)	Issue
2	Tag No. : *Insert Tag Number*	
3	Service : *Insert Service Description*	
4	**PURCHASE ORDER SPECIFIC REQUIREMENTS**	
5	Delete this sheet if not required	
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Data Sheet for
AC Uninterruptible Power Systems (UPS) (IEC 62040-3)

Guidance on the use of this data sheet

To be used in conjunction with :
IOGP S-701 Supplementary Specification to IEC 62040-3 AC Uninterruptible Power Systems (UPS).

This data sheet is set-up to be used in electronic format by both the purchaser/user and the supplier/manufacturer.

This data sheet provides reference back to the parent standard or the supplementary specification where relevant.

Default values (if applicable) have been set according to essential minimum requirements as an integral part of this specification and should only be changed where specific justification can be provided.

The Supplement sheet is provided in an open format sheet for application of specific items not covered in the main part of the data sheet. This sheet is not intended to modify requirements defined in the supplementary requirements specification.

The data sheet includes a revision (issue) column on the right hand side for use by the purchaser/user. After the first issue, for each subsequent revision of the data sheet that is issued to suppliers for enquiry or purchase, the purchaser/user should use the issue column to denote that the data on a specific row has been updated since the previous revision. This will enable the supplier to easily identify where changes have been made.

Legend		
	Select	Supplier/manufacturer completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input data	Supplier/manufacturer completed data entry.
	Select	Purchaser/user completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input data	Purchaser/user completed data entry.
	Select	Either supplier/manufacturer or purchaser/user completed, pick list of pre-defined values (may be pre-populated with a default value).
	Input Data	Either supplier/manufacturer or purchaser/user completed data entry.
	Select	Selection of units from a pre-defined pick list.

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