Base Load Power Hub (BLPH)

UPS AND BATTERIES TECHNICAL DATA SHEET

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3W power | a company of AEG POWER SOLUTIONS

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Revision / Change Log

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00	Issue for Review (IFR)
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HOLDS LIST

No.	Description
1	
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Base Load Power Hub (BLPH)

AC UPS PAS - TAG: UP-200F3

UPS AND BATTERIES TECHNICAL DATA SHEET

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S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)

JIP33 JOINT INDUSTRY PROGRAMME

Row							Issue
2	Tag No. :	UP-200F3					
3	Service :	AC UPS PAS					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
5		**GENERAL**					
6	5.1.2	Vendor :	Input Data	AEG Power Solutions			
7	5.1.2	Order status :	for purchase	Noted			
8	5.1.2	Purchase order number, date :	1724000372 123A90A rev1 dated 22/4/2024	Noted			
9	5.1.2	Manufacturer :	Input Data	AEG Power Solutions			
10	5.1.2	Model number :	Input Data	2 x Protect 8.33 S10 40kVA			
11	5.1.2	Serial number :	Input Data	Released after production			
12	5.2.3	Application :	industrial	Noted			
13	5.3.3	Purchaser specified rated output power :	35	40kVA	kVA		
14	5.1.1	Quantity :	1	Confirmed. Redundant system			
15		Conformity assessment system (CAS) level :	D	Noted			
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	Confirmed			
18	5.1.1, B.1	UPS topology :	double conversion	Confirmed			
19	5.1.1	Static switch configuration :	in both inverter and bypass path	Confirmed			
20	5.4.2.3	Battery configuration :	2 x 50%	Confirmed. 15 min. autonomy each battery			
21	5.3.2, 5.3.4	Performance classification :	manufacturer to advise	-			
22	8.1.1.3	Bi-directional rectifier :	No	Not applicable			
23	8.4.2.11	Remote access required :	Yes (read only)	Confirmed. Modbus TCP			
24	8.4.2.11	Hardware (adapters, connectors, cables, etc.) required for remote access :	manufacturer to advise	Confirmed			
25	8.1.1.5, 8.1.1.6	On-line battery monitoring facility required :	string monitoring	Confirmed			
26	8.1.1.4	On-line battery testing feature required :	No	Noted			
27	8.1.1.4	Battery test load interface :	No	Noted			
28	5.4.2.3	DC earth leakage monitoring required :	No	Noted			
29	7.4.14	Single line diagram and status display :	on HMI	LCD display with synoptic			
30	8.1.2.11	Black start feature required :	Yes	Confirmed			
31	8.1.1.1	Earth screen required for isolation transformer :	manufacturer to advise	Confirmed on the by-pass isolation transformer			
32		**PHYSICAL ASPECTS**					
33	7.2.1	Mounting :	floor mounting	Confirmed			
34	7.2.1	Overall cabinet dimensions - length :	manufacturer to advise	900 + 600 + 900 mm	mm		
35	7.2.1	Overall cabinet dimensions - depth :	manufacturer to advise	860 mm	mm		
36	7.2.1	Overall cabinet dimensions - height :	manufacturer to advise	1915 mm	mm		
37	7.2.1	Reference outline drawing number :	Input Data	1724000372-EL-DA-00004			
38	7.2.1	Total UPS cabinet mass :	manufacturer to advise	2258 kg	kg		
39	7.2.1	Total UPS mass with batteries (if integrated) :	manufacturer to advise	Batteries not integrated	kg		
40	7.2.4, 7.2.5	Cable entry location :	top	Confirmed. Through by-pass cabinet by means of cable glands			
41	7.2.4, 7.2.5	Cable entry type :	removable - undrilled plate	Confirmed			
42	7.2.4, 7.2.5	Gland plate material :	manufacturer standard	Steel			
43	7.2.1	Paint colour :	supplier standard	RAL7035			
44	7.2.1	Canopy for cabinet required :	No	Noted			
45	7.3.9	Document holder :	Yes	Confirmed			
46		**INSTALLATION**					
47	4,1	Site :	offshore - fixed	Noted. Painting class C3-H			
48	4,1	Location of UPS cabinet installation :	indoor	Noted			
49	7.3.1, 7.3.2	Front access clearance dimensions for operation and maintenance :	800	Noted	mm		
50	7.3.2	Side clearance for ventilation (if required) :	manufacturer to advise	0	mm		
51	7.3.2	Rear clearance for ventilation (if required) :	manufacturer to advise	100 mm	mm		
52	7.2.3, 7.9.3	Installed location of battery :	inside UPS room	Battery housed on rack			
53	7.2.3	Maximum battery assembly dimensions (L x D x H):	manufacturer to advise	Battery rack 1050 x 725 x 1032	mm		
54		**SAFETY**					
55	5.1.1	Accessibility :	operator access area	Front access			
56	5.1.1	Key required for cabinet :	Yes	Confirmed			
57	7.2.2	Degree of protection (with closed doors) :	IP31	IP43			
58	7.2.2	Degree of protection (with open doors) :	IP2X	Confirmed			
59	7.7.5	Cooling fan replacement while UPS in service :	No	Noted			
60	5.1.2	Local language for caution/danger/warning labels :	English	Confirmed			
61		**ELECTROMAGNETIC COMPATIBLITY**					
62	5.1.4	Emission :	UPS Cat C3	Confirmed			
63	5.1.4	Immunity :	UPS Cat C3	Confirmed			
64		**ENVIRONMENTAL CONDITIONS**					
65	4.2.1.1	Minimum ambient temperature (operation) :	-8,4	Confirmed with heater option included	°C		
66	4.2.1.1	Maximum ambient temperature (operation) :	40	Confirmed	°C		
67	4.2.1.1	Maximum relative humidity (operation) :	95	Confirmed. Not condensing	%		
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	Noted	m		
70	4.2.2.1	Minimum ambient temperature (storage and transportation) :	-5	Noted	°C		
71	4.2.2.1	Maximum ambient temperature (storage and transportation) :	40	Noted	°C		
72	4.2.2.1	Maximum relative humidity (storage and transportation) :	95	Noted	%		
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	Noted			
75	4.2.2.1	Storage site of UPS :	indoor – natural ventilation	Noted			
76	4.3.2	Additional or unusual conditions (operation) :	Input Data	Not applicable			
77	4.3.3	Additional or unusual conditions (storage and transportation) :	Input Data	Not applicable			
78	5.1.5	Acoustic noise at 1 m - normal mode :	70	< 65 dB(A)	dBA		
79	5.1.5	Acoustic noise at 1 m - stored energy mode :	70	< 65 dB(A)	dBA		
80		**COMMUNICATION INTERFACE(S)**					
81	5,6	(1) Interface media for SCADA (ICSS / DCS) :	serial	Modbus TCP + relays			
82	5,6	(1) Maximum allowable length of communication cable (for copper) :	Input Data	25 m	m		

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2	Tag No. :	UP-200F3					
3	Service :	AC UPS PAS					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
83	5,6	(1) Interface protocol for SCADA (ICSS / DCS) :	Modbus	Modbus TCP + relays			
84	5,6	(2) Interface media for electrical management / control system :	serial	Modbus TCP + relays			
85	5,6	(2) Maximum allowable length of communication cable (for copper) :	Input Data	25 m	m		
86	5,6	(2) Interface protocol for electrical management / control system :	Modbus	Modbus TCP + relays			
87	5,6	(3) Remote access / monitoring software required:	Yes	Noted			
88	5,6	(3) Interface media for remote access / monitoring:	ethernet (fiber)	Noted			
89	5,6	(3) Maximum allowable length of communication cable (for copper) :	Input Data	25 m	m		
90	5,6	(3) Interface protocol for remote access / monitoring :	Modbus	Modbus TCP + relays			
91		**AC INPUT SPECIFICATIONS**					
92	5.2.1	Voltage (steady state, R.M.S) - rated :	400	Confirmed	V		
93	5.2.1	Voltage (steady state, R.M.S) - tolerance :	+/- 10	Confirmed	%		
94	5.2.1	Frequency - rated :	50 Hz	Confirmed			
95	5.2.1	Frequency - tolerance :	+/- 2	Confirmed	%		
96	5.2.2	Phases required :	3	3			
97	5.2.2	Neutral required :	Yes	Confirmed. Neutral not required for the rectifier supply			
98	5.2.2	Current (R.M.S) - rated (with the energy storage device charged) :	manufacturer to advise	71,2A	A		
99	5.2.2	Power factor :	manufacturer to advise	Data not characterized by the factory. Measurable on request			
100	5.2.2	In-rush (% of rated current) :	manufacturer to advise	Typically 10 x In	%		
101	5.2.2	In-rush (time) :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
102	5.2.2	Maximum current (with low input volt and energy storage device charging) :	manufacturer to advise	92A at 400Vac	A		
103	5.2.2	Time for overload (125 % of rated current) :	10	Confirmed	min		
104	5.2.2	Time for overload (150 % of rated current) :	1	Confirmed	min		
105	5.2.2	Total harmonic distortion - current (THD p.u.) :	8	Confirmed. The AC UPS works with an input voltage harmonic distortion ≤ 8%	%		
106	5.2.3	Short circuit current of the input supply (Minimum and Maximum) :	50	Confirmed. The charger is equipped with an input MCCB (Q1) with Isc = 50kA	kA		
107	5.2.2	Minimum short circuit current :	Input Data	Data not characterized by the factory. Measurable on request	kA		
108	5.2.2	Earth leakage current :	Input Data	Data not characterized by the factory. Measurable on request	mA		
109	5.2.2	AC power distribution system - compatibility :	TN-S	Confirmed			
110	5.2.3	Additional or unusual conditions :	Input Data	Not applicable			
111	5.2.3, 7.5.4	Cable size (cross-section area) - input mains :	Input Data	min 50 sqmm - max 2x95 sqmm	sq.mm.		
112	5.2.3, 7.5.4	Cable size (cross-section area) - input bypass :	Input Data	min 16 sqmm - max 2x95 sqmm	sq.mm.		
113	5.2.3, 7.5.4	Cable size (cross-section area) - input maintenance bypass :	Input Data	min 16 sqmm - max 2x95 sqmm	sq.mm.		
114	7.4.8, 8.1.1.1	Input isolation transformer required :	Yes	Confirmed			
115	7.4.10	Input isolation transformer winding :	supplier standard	Aluminium			
116		**DC AND BATTERY SPECIFICATIONS**					
117	5.4.2.2	DC voltage level :	220	Confirmed	V d.c.		
118	5.4.2.2	Design life :	5	> 12 years	years		
119	5.4.2.2	Float service life :	manufacturer to advise	Dependent from temperature	years		
120	5.4.2.2	Shelf life of battery :	manufacturer to advise	3 months	months		
121	5.4.2.2	Quantity of cells and strings :	manufacturer to advise	18 blocks - 1 string	nos.		
122	5.4.2.2	Nominal voltage (total) :	manufacturer to advise	216V	V d.c.		
123	5.4.2.2	Battery technology :	sealed nickel cadmium	Lead-Acid VRLA GEL			
124	5.4.2.2	Nominal AH capacity :	manufacturer to advise	150Ah	AH		
125	5.4.2.2	Discharge rate (C-rate) :	Select	C20			
126	5.4.2.2	Electrolyte fill status :	manufacturer standard	Not applicable			
127	8.1.2.3	Purchaser's requirement (% of battery recharge level - 1) :	80	Confirmed with charging current limited to 0,1C	%		
128	8.1.2.3	Purchaser's requirement (time for battery recharge level - 1) :	10	Confirmed	Hours		
129	8.1.2.3	Purchaser's requirement (% of battery recharge level - 2) :	100	Data not characterized by the factory. Measurable on request	%		
130	8.1.2.3	Purchaser's requirement (time for battery recharge level - 2) :	24	Data not characterized by the factory. Measurable on request	Hours		
131	5.4.2.2	Stored energy time (Autonomy time at 100% rated load) :	30	Confirmed with both batteries	min		
132	5.4.2.2	Restored energy time (recharge time to 80% capacity):	manufacturer to advise	10h	hours		
133	5.4.2.2	Ambient reference temperature :	40	Confirmed	°C		
134	5.4.2.2	Earth condition/isolation :	manufacturer to advise	floating			
135	5.4.2.2	Ripple current (R.M.S) :	manufacturer to advise	< 2% RMS	%		
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	Data not characterized by the factory. Measurable on request	A d.c.		
138	5.4.2.2	Cable volt drop recommendation (≤ % at nominal discharge current) :	manufacturer to advise	2%	%		
139	5.4.2.2	Charging regime :	manufacturer to advise	Constant voltage, current limited			
140	5.4.2.2	Charge voltage (float) and tolerance band :	manufacturer to advise	2,28Vcell - 13,5 / 13,8 Vblock	V d.c.		
141	5.4.2.2	Charge voltage (boost) and tolerance band :	manufacturer to advise	2,28Vcell - 13,5 / 13,8 Vblock	V d.c.		
142	5.4.2.2	Charge voltage (equalising) and tolerance band :	manufacturer to advise	Not applicable to VRLA batteries	V d.c.		
143	5.4.2.2	Minimum end of discharge voltage :	manufacturer to advise	178,2V	V d.c.		
144	5.4.2.2	Charge current limit (or range) :	limitation of batteries charging to 30% of the UPS sizing	15A (0,1C)	A d.c.		
145	5.4.2.2	Temperature compensated charging required:	Yes	Confirmed			
146	5.4.2.3	Battery isolation box required :	Yes	Confirmed			
147	5.4.2.3	Additional or unusual conditions :	Input Data	Not applicable			
148	5.4.2.3	Load profile for battery design, attached :	No	Noted			
150		**BATTERY ROOM**					
151	4.2.1.1	Minimum ambient reference temperature :	-8,4	-8,4°C (used for battery sizing)	°C		

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2	Tag No. :	UP-200F3					
3	Service :	AC UPS PAS					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
152	4.2.1.1	Maximum ambient reference temperature :	40	+40°C (used for battery sizing)	°C		
153	5.4.2.1	Area classification :	safe	Noted			
154	5.4.2.1	Hazardous area classification :	Zone 2	Noted			
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	Confirmed. Standard sensor			
157		**BATTERY ISOLATOR BOX SPECIFICATIONS**					
158	7.9.1	Enclosure material :	manufacturer standard	Aluminium alloy			
159	7.9.1	Mounting :	Select	Wall mounting			
160	7.9.1	Breathing valve required :	manufacturer to advise	No			
161	7.9.1	Internal earth bar :	tinned copper	-			
162	7.9.3	Minimum design temperature :	-8,4	Noted	°C		
163	7.9.3	Maximum design temperature :	40	Noted	°C		
164	7.9.3	Maximum relative humidity :	95	Noted	%		
165	7.9.3	Temperature at which relative humidity is specified:	Input Data	-	°C		
166	7.9.4	Degree of protection :	IP 31	IP65			
167	7.9.5	Area classification :	safe	Noted			
168	7.9.5	Hazardous area certification required :	none	-			
169	7.9.5	Hazardous area classification :	N/A	Not applicable			
170	7.9.5	Hazardous area level of protection :	N/A	Not applicable			
171	7.9.6	Cable entry :	top	Bottom with cable glands			
172	7.9.6	Cable indirect entry via 'ex e' enclosure :	No	Not applicable			
173	7.9.6	Battery cable size (cross-section area) :	Input Data	70 sqmm armored cable class-2	sq.mm.		
174	7.9.6	Cable entry diameter in battery box (ISO metric) :	Input Data	22,6 mm			
175	7.9.7	Battery isolator type :	MCCB	Confirmed			
176	7.9.8	Rated current of breaker / switch fuse unit :	manufacturer to advise	200A	A		
177	7.9.8	Rated breaking current (Icu) - (if breaker used) :	manufacturer to advise	36kA	kA		
178	7.9.10	Breaker status potential free contact (NO) :	two	Confirmed			
179	7.9.9	Under voltage trip feature required :	Yes	Confirmed			
180	7.9.9	Under voltage trip coil for :	black start reserve	Confirmed			
181	8.1.2.12	ESD trip required :	Yes - via shunt trip	Yes - through SIL relay			
182	8.1.2.12	ESD override key switch :	key captive in overridden position and with status contact	Confirmed			
183	7.9.9	Over voltage trip required :	Yes	Not applicable			
184		**AC OUTPUT SPECIFICATIONS**					
185	5.3.2	Rated output power (apparent) :	35	40kVA	kVA		
186	5.3.2	Rated output power (active) :	28	32kW	kW		
187	5.3.2	AC power distribution system - compatibility :	TN-S	Noted			
188	5.3.2	Phases available :	3	Confirmed			
189	5.3.2	Neutral available :	Yes	Confirmed			
190	5.3.2	Voltage (steady state, R.M.S) - rated :	400	Confirmed	V		
191	5.3.2	Voltage - normal mode variation :	manufacturer to advise	+/- 1%	%		
192	5.3.2	Voltage - storage energy mode variation :	manufacturer to advise	+/- 1%	%		
193	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - normal mode - linear :	5	< 3%	%		
194	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - normal mode - non linear :	5	Confirmed	%		
195	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - storage energy mode - linear :	5	< 3%	%		
196	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - storage energy mode - non linear :	5	Confirmed	%		
197	5.3.2	% Voltage unbalance, 100% load unbalance :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
198	5.3.2	Phase angle displacement, 100% load unbalance:	manufacturer to advise	Data not characterized by the factory. Measurable on request	°		
199	5.3.2	% Voltage transient, 100% step load - linear :	manufacturer to advise	+/- 2%	%		
200	5.3.2	Voltage transient recovery time, 100% step load - linear :	manufacturer to advise	2 ms	s		
201	5.3.2	% Voltage transient, 100% step load - non linear :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
202	5.3.2	Voltage transient recovery time, 100% step load - non linear :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
203	5.3.2	% Voltage transient, 100% step load - transfer normal mode to storage energy mode :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
204	5.3.2	Voltage transient recovery time, 100% step load - transfer normal mode to storage energy mode :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
205	5.3.2	% Voltage transient, 100% step load -transfer storage energy mode to normal mode :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
206	5.3.2	Voltage transient recovery time, 100% step load -transfer storage energy mode to normal mode :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
207	5.3.2	Frequency (steady state) - rated :	50	Confirmed	Hz		
208	5.3.2	Frequency (steady state) - normal mode variation:	2	+/- 0,1%	%		
209	5.3.2	Frequency (steady state) - storage energy mode variation :	2	+/- 0,1%	%		
210	5.3.2	Frequency (steady state) - free running variation:	2	+/- 0,1%	%		
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	-	Hz/s		
214	5.3.2	Current (R.M.S) - rated :	manufacturer to advise	58A	A		
215	5.1.8.1, 5.3.2	Current (R.M.S) - overload capability (% of rated current for ten minutes) :	manufacturer to advise	125%	%		
216	5.1.8.2, 5.3.2	Current (R.M.S) - overload capability (% of rated current for one minute) :	manufacturer to advise	150%	%		
217	5.1.8.3, 5.1.8.4	Current (R.M.S) - short circuit capability (% of rated current) :	manufacturer to advise	3,68 x In (1ph) - 2,02 x In (3ph)	%		
218	5.1.8.3, 5.1.8.4	Current (R.M.S) - short circuit capability (time duration) :	manufacturer to advise	500 ms	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		

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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	0,8			
224	5.3.2	Load power factor - displacement (permissible limit lead) :	manufacturer to advise	Cap - 1 - Ind			
225	5.3.2	Load power factor - displacement (permissible limit lag) :	manufacturer to advise	Cap - 1 - Ind			
226	5.3.2	Efficiency in normal mode - 100% load :	manufacturer to advise	86,4%	%		
227	5.3.2	Efficiency in normal mode - 75% load :	manufacturer to advise	87,3%	%		
228	5.3.2	Efficiency in normal mode - 50% load :	manufacturer to advise	87,2%	%		
229	5.3.2	Efficiency in normal mode - 25% load :	manufacturer to advise	83,8%	%		
230	7.4.8	Output isolation transformer required :	No	Yes. Output transformer is included in AEG standard design			
231	7.4.10	Output isolation transformer winding :	Select	Aluminium			
232	7.6.5	AC output neutral earth link :	earthed	Noted. Externally			
233	7.1.6	Reference document to AC output distribution board :	To see Electrical Load List	Noted			
234	5.3.3	Integrated AC output distribution board with MCBs:	Yes	Confirmed			
235	5.3.3	Cable size (cross-section area) - output:	manufacturer to advise	min 16 sqmm - max 2x95 sqmm	sq.mm.		
236		**BYPASS SPECIFICATIONS**					
237	C.3	Bypass transfer time :	manufacturer to advise	0	msec		
238	C.3	Bypass static switch rated current :	manufacturer to advise	40kVA - 58A	A		
239	C.3	Bypass protection fuse or circuit breaker rating :	manufacturer to advise	MCCB 65A	A		
240	7.4.8	Bypass transformer required :	Yes	Confirmed			
241	7.4.10	Bypass transformer winding :	copper or aluminum	Aluminium			
242	7.3.5	Maintenance bypass and bypass transformer location:	integrated	Manual by-pass integrated			
243	8.3.6, C.5	Overall maintenance bypass :	internal	Q29 manual by-pass integrated			

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AC UPS F&G - TAG: UP-200F4

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JIP33 JOINT INDUSTRY PROGRAMME

Row							Issue
2	Tag No. :	UP-200F4					
3	Service :	AC UPS F&G					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
5		**GENERAL**					
6	5.1.2	Vendor :	Input Data	AEG Power Solutions			
7	5.1.2	Order status :	for enquiry	Noted			
8	5.1.2	Purchase order number, date :	Input Data	Noted			
9	5.1.2	Manufacturer :	Input Data	AEG Power Solutions			
10	5.1.2	Model number :	Input Data	2 x Protect 8.33 S10 20kVA			
11	5.1.2	Serial number :	Input Data	Released after production			
12	5.2.3	Application :	industrial	Noted			
13	5.3.3	Purchaser specified rated output power :	15	20kVA	kVA		
14	5.1.1	Quantity :	1	Confirmed. Redundant system			
15		Conformity assessment system (CAS) level :	D	Noted			
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	Confirmed			
18	5.1.1, B.1	UPS topology :	double conversion	Confirmed			
19	5.1.1	Static switch configuration :	in both inverter and bypass path	Confirmed			
20	5.4.2.3	Battery configuration :	2 x 50%	Confirmed. 240 min. autonomy each battery			
21	5.3.2, 5.3.4	Performance classification :	manufacturer to advise	-			
22	8.1.1.3	Bi-directional rectifier :	No	Not applicable			
23	8.4.2.11	Remote access required :	Yes (read only)	Confirmed. Modbus TCP			
24	8.4.2.11	Hardware (adapters, connectors, cables, etc.) required for remote access :	manufacturer to advise	Confirmed			
25	8.1.1.5, 8.1.1.6	On-line battery monitoring facility required :	string monitoring	Confirmed			
26	8.1.1.4	On-line battery testing feature required :	No	Noted			
27	8.1.1.4	Battery test load interface :	No	Noted			
28	5.4.2.3	DC earth leakage monitoring required :	No	Noted			
29	7.4.14	Single line diagram and status display :	on HMI	LCD display with synoptic			
30	8.1.2.11	Black start feature required :	Yes	Confirmed			
31	8.1.1.1	Earth screen required for isolation transformer :	manufacturer to advise	Confirmed on the by-pass isolation transformer			
32		**PHYSICAL ASPECTS**					
33	7.2.1	Mounting :	floor mounting	Confirmed			
34	7.2.1	Overall cabinet dimensions - length :	manufacturer to advise	900 + 600 + 900 mm	mm		
35	7.2.1	Overall cabinet dimensions - depth :	manufacturer to advise	860 mm	mm		
36	7.2.1	Overall cabinet dimensions - height :	manufacturer to advise	1915 mm	mm		
37	7.2.1	Reference outline drawing number :	Input Data	1724000372-EL-DA-00004			
38	7.2.1	Total UPS cabinet mass :	manufacturer to advise	1530 kg	kg		
39	7.2.1	Total UPS mass with batteries (if integrated) :	manufacturer to advise	Batteries not integrated	kg		
40	7.2.4, 7.2.5	Cable entry location :	top	Confirmed. Through by-pass cabinet by means of cable glands			
41	7.2.4, 7.2.5	Cable entry type :	removable - undrilled plate	Confirmed			
42	7.2.4, 7.2.5	Gland plate material :	manufacturer standard	Steel			
43	7.2.1	Paint colour :	supplier standard	RAL7035			
44	7.2.1	Canopy for cabinet required :	No	Noted			
45	7.3.9	Document holder :	Yes	Confirmed			
46		**INSTALLATION**					
47	4,1	Site :	offshore - fixed	Noted. Painting class C3-H			
48	4,1	Location of UPS cabinet installation :	indoor	Noted			
49	7.3.1, 7.3.2	Front access clearance dimensions for operation and maintenance :	800	Noted	mm		
50	7.3.2	Side clearance for ventilation (if required) :	manufacturer to advise	0	mm		
51	7.3.2	Rear clearance for ventilation (if required) :	manufacturer to advise	100 mm	mm		
52	7.2.3, 7.9.3	Installed location of battery :	inside UPS room	Battery housed on rack			
53	7.2.3	Maximum battery assembly dimensions (L x D x H) :	manufacturer to advise	Battery rack 1800 x 725 x 1474	mm		
54		**SAFETY**					
55	5.1.1	Accessibility :	operator access area	Front access			
56	5.1.1	Key required for cabinet :	Yes	Confirmed			
57	7.2.2	Degree of protection (with closed doors) :	IP31	IP43			
58	7.2.2	Degree of protection (with open doors) :	IP2X	Confirmed			
59	7.7.5	Cooling fan replacement while UPS in service :	No	Noted			
60	5.1.2	Local language for caution/danger/warning labels:	English	Confirmed			
61		**ELECTROMAGNETIC COMPATIBLITY**					
62	5.1.4	Emission :	UPS Cat C3	Confirmed			
63	5.1.4	Immunity :	UPS Cat C3	Confirmed			
64		**ENVIRONMENTAL CONDITIONS**					
65	4.2.1.1	Minimum ambient temperature (operation) :	-8,4	Confirmed with heater option included	°C		
66	4.2.1.1	Maximum ambient temperature (operation) :	40	Confirmed	°C		
67	4.2.1.1	Maximum relative humidity (operation) :	95	Confirmed. Not condensing	%		
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	Noted	m		
70	4.2.2.1	Minimum ambient temperature (storage and transportation) :	-5	Noted	°C		
71	4.2.2.1	Maximum ambient temperature (storage and transportation) :	40	Noted	°C		
72	4.2.2.1	Maximum relative humidity (storage and transportation) :	95	Noted	%		
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	Noted			
75	4.2.2.1	Storage site of UPS :	indoor – natural ventilation	Noted			
76	4.3.2	Additional or unusual conditions (operation) :	Input Data	Not applicable			
77	4.3.3	Additional or unusual conditions (storage and transportation) :	Input Data	Not applicable			
78	5.1.5	Acoustic noise at 1 m - normal mode :	70	< 65 dB(A)	dBA		
79	5.1.5	Acoustic noise at 1 m - stored energy mode :	70	< 65 dB(A)	dBA		
80		**COMMUNICATION INTERFACE(S)**					
81	5,6	(1) Interface media for SCADA (ICSS / DCS) :	serial	Modbus TCP + relays			

S-701D Data Sheet for
AC Uninterruptible Power Systems (UPS) (IEC 62040-3)

JIP33 JOINT INDUSTRY PROGRAMME

Row							Issue
2	Tag No. :	UP-200F4					
3	Service :	AC UPS F&G					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
82	5,6	(1) Maximum allowable length of communication cable (for copper) :	Input Data	25 m	m		
83	5,6	(1) Interface protocol for SCADA (ICSS / DCS) :	Modbus	Modbus TCP + relays			
84	5,6	(2) Interface media for electrical management / control system :	serial	Modbus TCP + relays			
85	5,6	(2) Maximum allowable length of communication cable (for copper) :	Input Data	25 m	m		
86	5,6	(2) Interface protocol for electrical management / control system :	Modbus	Modbus TCP + relays			
87	5,6	(3) Remote access / monitoring software required :	Yes	Noted			
88	5,6	(3) Interface media for remote access / monitoring :	ethernet (fiber)	Noted			
89	5,6	(3) Maximum allowable length of communication cable (for copper) :	Input Data	25 m	m		
90	5,6	(3) Interface protocol for remote access / monitoring :	Modbus	Modbus TCP + relays			
91		**AC INPUT SPECIFICATIONS**					
92	5.2.1	Voltage (steady state, R.M.S) - rated :	400	Confirmed	V		
93	5.2.1	Voltage (steady state, R.M.S) - tolerance :	+/- 10	Confirmed	%		
94	5.2.1	Frequency - rated :	50 Hz	Confirmed			
95	5.2.1	Frequency - tolerance :	+/- 2	Confirmed	%		
96	5.2.2	Phases required :	3	3			
97	5.2.2	Neutral required :	Yes	Confirmed. Neutral not required for the rectifier supply			
98	5.2.2	Current (R.M.S) - rated (with the energy storage device charged) :	manufacturer to advise	35A	A		
99	5.2.2	Power factor :	manufacturer to advise	Data not characterized by the factory. Measurable on request			
100	5.2.2	In-rush (% of rated current) :	manufacturer to advise	Typically 10 x In	%		
101	5.2.2	In-rush (time) :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
102	5.2.2	Maximum current (with low input volt and energy storage device charging) :	manufacturer to advise	43A at 400Vac	A		
103	5.2.2	Time for overload (125 % of rated current) :	10	Confirmed	min		
104	5.2.2	Time for overload (150 % of rated current) :	1	Confirmed	min		
105	5.2.2	Total harmonic distortion - current (THD p.u.) :	8	Confirmed. The AC UPS works with an input voltage harmonic distortion ≤ 8%	%		
106	5.2.3	Short circuit current of the input supply (Minimum and Maximum) :	50	Confirmed. The charger is equipped with an input MCCB (Q1) with Isc = 50kA	kA		
107	5.2.2	Minimum short circuit current :	Input Data	Data not characterized by the factory. Measurable on request	kA		
108	5.2.2	Earth leakage current :	Input Data	Data not characterized by the factory. Measurable on request	mA		
109	5.2.2	AC power distribution system - compatibility :	TN-S	Confirmed			
110	5.2.3	Additional or unusual conditions :	Input Data	Not applicable			
111	5.2.3, 7.5.4	Cable size (cross-section area) - input mains :	Input Data	min 25 sqmm - max 2x95 sqmm	sq.mm.		
112	5.2.3, 7.5.4	Cable size (cross-section area) - input bypass:	Input Data	min 10 sqmm - max 2x95 sqmm	sq.mm.		
113	5.2.3, 7.5.4	Cable size (cross-section area) - input maintenance bypass :	Input Data	min 10 sqmm - max 2x95 sqmm	sq.mm.		
114	7.4.8, 8.1.1.1	Input isolation transformer required :	Yes	Confirmed			
115	7.4.10	Input isolation transformer winding :	supplier standard	Aluminium			
116		**DC AND BATTERY SPECIFICATIONS**					
117	5.4.2.2	DC voltage level :	Select	Confirmed	V d.c.		
118	5.4.2.2	Design life :	5	10 years	years		
119	5.4.2.2	Float service life :	manufacturer to advise	Dependent from temperature	years		
120	5.4.2.2	Shelf life of battery :	manufacturer to advise	3 months	months		
121	5.4.2.2	Quantity of cells and strings :	manufacturer to advise	18 blocks - 3 strings	nos.		
122	5.4.2.2	Nominal voltage (total) :	manufacturer to advise	216V	V d.c.		
123	5.4.2.2	Battery technology :	sealed nickel cadmium	Lead-Acid VRLA GEL			
124	5.4.2.2	Nominal AH capacity :	manufacturer to advise	360Ah	AH		
125	5.4.2.2	Discharge rate (C-rate) :	Select	C10			
126	5.4.2.2	Electrolyte fill status :	manufacturer standard	Not applicable			
127	8.1.2.3	Purchaser's requirement (% of battery recharge level - 1) :	80	Confirmed with charging current limited to 0,1C	%		
128	8.1.2.3	Purchaser's requirement (time for battery recharge level - 1) :	10	Confirmed	Hours		
129	8.1.2.3	Purchaser's requirement (% of battery recharge level - 2) :	100	Data not characterized by the factory. Measurable on request	%		
130	8.1.2.3	Purchaser's requirement (time for battery recharge level - 2) :	24	Data not characterized by the factory. Measurable on request	Hours		
131	5.4.2.2	Stored energy time (Autonomy time at 100% rated load) :	8	Confirmed with both batteries	hours		
132	5.4.2.2	Restored energy time (recharge time to 80% capacity) :	manufacturer to advise	10h	hours		
133	5.4.2.2	Ambient reference temperature :	40	Confirmed	°C		
134	5.4.2.2	Earth condition/isolation :	manufacturer to advise	floating			
135	5.4.2.2	Ripple current (R.M.S) :	manufacturer to advise	< 2% RMS	%		
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	Data not characterized by the factory. Measurable on request	A d.c.		
138	5.4.2.2	Cable volt drop recommendation (≤ % at nominal discharge current) :	manufacturer to advise	2%	%		
139	5.4.2.2	Charging regime :	manufacturer to advise	Constant voltage, current limited			
140	5.4.2.2	Charge voltage (float) and tolerance band :	manufacturer to advise	2,28Vcell - 13,5 / 13,8 Vblock	V d.c.		
141	5.4.2.2	Charge voltage (boost) and tolerance band :	manufacturer to advise	2,28Vcell - 13,5 / 13,8 Vblock	V d.c.		
142	5.4.2.2	Charge voltage (equalising) and tolerance band :	manufacturer to advise	Not applicable to VRLA batteries	V d.c.		
143	5.4.2.2	Minimum end of discharge voltage :	manufacturer to advise	178,2V	V d.c.		
144	5.4.2.2	Charge current limit (or range) :	limitation of batteries charging to 30% of the UPS sizing	36A (0,1C)	A d.c.		
145	5.4.2.2	Temperature compensated chargingrequired:	Yes	Confirmed			
146	5.4.2.3	Battery isolation box required :	Yes	Confirmed			
147	5.4.2.3	Additional or unusual conditions :	Input Data	Not applicable			
148	5.4.2.3	Load profile for battery design, attached :	No	Noted			

Row		S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)					Issue
2	Tag No. :	UP-200F4					
3	Service :	AC UPS F&G					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
150		**BATTERY ROOM**					
151	4.2.1.1	Minimum ambient reference temperature :	-8,4	-8,4°C (used for battery sizing)	°C		
152	4.2.1.1	Maximum ambient reference temperature :	40	+40°C (used for battery sizing)	°C		
153	5.4.2.1	Area classification :	safe	Noted			
154	5.4.2.1	Hazardous area classification :	Zone 2	Noted			
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	Confirmed. Standard sensor			
157		**BATTERY ISOLATOR BOX SPECIFICATIONS**					
158	7.9.1	Enclosure material :	manufacturer standard	Aluminium alloy			
159	7.9.1	Mounting :	Select	Wall mounting			
160	7.9.1	Breathing valve required :	manufacturer to advise	No			
161	7.9.1	Internal earth bar :	tinned copper	-			
162	7.9.3	Minimum design temperature :	-8,4	Noted	°C		
163	7.9.3	Maximum design temperature :	40	Noted	°C		
164	7.9.3	Maximum relative humidity :	95	Noted	%		
165	7.9.3	Temperature at which relative humidity is specified:	Input Data	-	°C		
166	7.9.4	Degree of protection :	IP 31	IP65			
167	7.9.5	Area classification :	safe	Noted			
168	7.9.5	Hazardous area certification required :	none	-			
169	7.9.5	Hazardous area classification :	N/A	Not applicable			
170	7.9.5	Hazardous area level of protection :	N/A	Not applicable			
171	7.9.6	Cable entry :	top	Bottom with cable glands			
172	7.9.6	Cable indirect entry via 'ex e' enclosure :	No	Not applicable			
173	7.9.6	Battery cable size (cross-section area):	Input Data	70 sqmm armored cable class-2	sq.mm.		
174	7.9.6	Cable entry diameter in isolator box (ISO metric) :	Input Data	22,6 mm			
175	7.9.7	Battery isolator type :	MCCB	Confirmed			
176	7.9.8	Rated current of breaker / switch fuse unit :	manufacturer to advise	200A	A		
177	7.9.8	Rated breaking current (Icu) - (if breaker used) :	manufacturer to advise	36kA	kA		
178	7.9.10	Breaker status potential free contact (NO) :	two	Confirmed			
179	7.9.9	Under voltage trip feature required :	Yes	Confirmed			
180	7.9.9	Under voltage trip coil for :	black start reserve	Confirmed			
181	8.1.2.12	ESD trip required :	Yes - via shunt trip	Yes - through SIL relay			
182	8.1.2.12	ESD override key switch :	key captive in overridden position and with status contact	Confirmed			
183	7.9.9	Over voltage trip required :	Yes	Not applicable			
184		**AC OUTPUT SPECIFICATIONS**					
185	5.3.2	Rated output power (apparent) :	20	20kVA	kVA		
186	5.3.2	Rated output power (active) :	16	16kW	kW		
187	5.3.2	AC power distribution system - compatibility :	TN-S	Noted			
188	5.3.2	Phases available :	3	Confirmed			
189	5.3.2	Neutral available :	Yes	Confirmed			
190	5.3.2	Voltage (steady state, R.M.S) - rated :	400	Confirmed	V		
191	5.3.2	Voltage - normal mode variation :	manufacturer to advise	+/- 1%	%		
192	5.3.2	Voltage - storage energy mode variation :	manufacturer to advise	+/- 1%	%		
193	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - normal mode - linear :	5	< 3%	%		
194	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - normal mode - non linear :	5	Confirmed	%		
195	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - storage energy mode - linear :	5	< 3%	%		
196	5.3.2, 8.2.3	Total harmonic distortion (V), 100% load - storage energy mode - non linear :	5	Confirmed	%		
197	5.3.2	% Voltage unbalance, 100% load unbalance :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
198	5.3.2	Phase angle displacement, 100% load unbalance :	manufacturer to advise	Data not characterized by the factory. Measurable on request	°		
199	5.3.2	% Voltage transient, 100% step load - linear :	manufacturer to advise	+/- 2%	%		
200	5.3.2	Voltage transient recovery time, 100% step load - linear :	manufacturer to advise	2 ms	s		
201	5.3.2	% Voltage transient, 100% step load - non linear :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
202	5.3.2	Voltage transient recovery time, 100% step load - non linear :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
203	5.3.2	% Voltage transient, 100% step load - transfer normal mode to storage energy mode :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
204	5.3.2	Voltage transient recovery time, 100% step load - transfer normal mode to storage energy mode :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
205	5.3.2	% Voltage transient, 100% step load -transfer storage energy mode to normal mode :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
206	5.3.2	Voltage transient recovery time, 100% step load -transfer storage energy mode to normal mode :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
207	5.3.2	Frequency (steady state) - rated :	50	Confirmed	Hz		
208	5.3.2	Frequency (steady state) - normal mode variation :	2	+/- 0,1%	%		
209	5.3.2	Frequency (steady state) - storage energy mode variation :	2	+/- 0,1%	%		
210	5.3.2	Frequency (steady state) - free running variation :	2	+/- 0,1%	%		
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	-	Hz/s		
214	5.3.2	Current (R.M.S) - rated :	manufacturer to advise	29A	A		
215	5.1.8.1, 5.3.2	Current (R.M.S) - overload capability (% of rated current for ten minutes) :	manufacturer to advise	125%	%		
216	5.1.8.2, 5.3.2	Current (R.M.S) - overload capability (% of rated current for one minute) :	manufacturer to advise	150%	%		
217	5.1.8.3, 5.1.8.4	Current (R.M.S) - short circuit capability (% of rated current) :	manufacturer to advise	3,75 x In (1ph) - 2,15 x In (3ph)	%		
218	5.1.8.3, 5.1.8.4	Current (R.M.S) - short circuit capability (time duration) :	manufacturer to advise	500 ms	s		
219	5.3.2	Current (R.M.S) - limitation (% of rated current) :	manufacturer to advise	-	%		

Row		S-701D Data Sheet for AC Uninterruptible Power Systems (UPS) (IEC 62040-3)					Issue
2	Tag No. :	UP-200F4					
3	Service :	AC UPS F&G					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
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	0,8			
224	5.3.2	Load power factor - displacement (permissible limit lead) :	manufacturer to advise	Cap - 1 - Ind			
225	5.3.2	Load power factor - displacement (permissible limit lag) :	manufacturer to advise	Cap - 1 - Ind			
226	5.3.2	Efficiency in normal mode - 100% load :	manufacturer to advise	85,6%	%		
227	5.3.2	Efficiency in normal mode - 75% load :	manufacturer to advise	85,8%	%		
228	5.3.2	Efficiency in normal mode - 50% load :	manufacturer to advise	85%	%		
229	5.3.2	Efficiency in normal mode - 25% load :	manufacturer to advise	79,3%	%		
230	7.4.8	Output isolation transformer required :	No	Yes. Output transformer is included in AEG standard design			
231	7.4.10	Output isolation transformer winding :	Select	Aluminium			
232	7.6.5	AC output neutral earth link :	earthed	Noted. Externally			
233	7.1.6	Reference document to AC output distribution board:	To see Electrical Load List	Noted			
234	5.3.3	Integrated AC output distribution board with MCBs :	Yes	Confirmed			
235	5.3.3	Cable size (cross-section area) - output :	manufacturer to advise	min 10 sqmm - max 2x95 sqmm	sq.mm.		
236		**BYPASS SPECIFICATIONS**					
237	C.3	Bypass transfer time :	manufacturer to advise	0	msec		
238	C.3	Bypass static switch rated current :	manufacturer to advise	20kVA - 29A	A		
239	C.3	Bypass protection fuse or circuit breaker rating :	manufacturer to advise	MCCB 35A	A		
240	7.4.8	Bypass transformer required :	Yes	Confirmed			
241	7.4.10	Bypass transformer winding :	copper or aluminum	Aluminium			
242	7.3.5	Maintenance bypass and bypass transformer location :	integrated	Manual by-pass integrated			
243	8.3.6, C.5	Overall maintenance bypass :	internal	Q29 manual by-pass integrated			

Base Load Power Hub (BLPH)

DC UPS - TAG: UP-200F1

UPS AND BATTERIES TECHNICAL DATA SHEET

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S-702D Data Sheet for DC Uninterruptible Power Systems (UPS) (IEC 62040-5-3)

JIP33 JOINT INDUSTRY PROGRAMME

Row							Issue
2	Tag No. :	UP-200F1					
3	Service :	DC UPS					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
5		**GENERAL**					
6	5.1.2	Vendor :	Input Data	AEG Power Solutions			
7	5.1.2	Order status :	for purchase	Noted			
8	5.1.2	Purchase order number, date :	1724000372 123A90A rev1 dated 22/4/2024	Noted			
9	5.1.2	Manufacturer :	Input Data	AEG Power Solutions			
10	5.1.2	Model number :	Input Data	2 x Protect RCS 110Vdc 100A			
11	5.1.2	Serial number :	Input Data	Released after production			
12	5.2.3	Application :	Industrial - Offshore	Noted			
13	5.3.2	Purchaser specified rated output power :	10	Confirmed	kVA		
14	5.1.1	Quantity :	1	Confirmed. Redundant system			
15		Conformity assessment system (CAS) level :	D	Noted			
16		**CONFIGURATION**					
17	5.1.1, A.1, Figure A.1, Figure A.3, Figure A.5	DC UPS configuration :	Two (2) 100% rated rectifiers connected to a common (shared) battery rated for the full rated load for the autonomy time	Confirmed			
18	A.2.2	Blocking diode required at output of single DC UPS :	Yes	Confirmed. Diode V21			
19	A.2.3	Scalability :	manufacturer standard	-			
20	5.1.1	DC UPS topology :	direct energy storage connect	Noted			
21	B.2.3	Series converter connect option :	manufacturer standard	Not applicable			
22	5.4.2.3	Battery configuration :	1 x 100%	Confirmed. 30 min autonomy			
23	5.3.2, 5.3.4	Performance classification :	manufacturer standard	-			
24	8.1.1.3	Bi-directional rectifier :	No	Not applicable			
25	8.2.2.11	Remote access required :	Yes (read only)	Confirmed. Modbus TCP			
26	8.2.2.11	Hardware (adapters, connectors, cables, etc.) required for remote monitor :	Yes	Confirmed			
27	8.1.1.5, 8.1.1.6	On-line battery monitoring facility required :	string monitoring	Confirmed			
28	8.1.1.4	On-line battery testing feature required :	No	Noted			
29	8.1.1.4	Battery test load interface :	No	Noted			
30	5.4.2.3	DC earth leakage monitoring required :	Yes	Confirmed			
31	7.4.14	Single line diagram and status display :	on HMI	LCD display without synoptic			
32	8.1.2.11	Black Start feature required :	Yes	Confirmed			
33	8.1.1.1	Earth screen required for isolation transformer :	manufacturer to advise	Confirmed			
34		**PHYSICAL ASPECTS**					
35	7.2.1	Mounting :	floor mounting	Confirmed			
36	7.2.1	Overall cabinet dimensions - length :	Input Data	600 (each charger)	mm		
37	7.2.1	Overall cabinet dimensions - depth :	Input Data	840	mm		
38	7.2.1	Overall cabinet dimensions - height :	Input Data	2105	mm		
39	7.2.1	Reference Outline Drawing number :	Input Data	1724000372-EL-DA-00003			
40	7.2.1	Total DC UPS cabinet mass :	Input Data	250 (each charger)	kg		
41	7.2.1	Total DC UPS mass with batteries (if integrated) :	Input Data	Batteries not integrated	kg		
42	7.2.4, 7.2.5	Cable entry location :	top	Confirmed. By means of cable glands			
43	7.2.4, 7.2.5	Cable entry type :	removable - undrilled plate	Confirmed			
44	7.2.4, 7.2.5	Gland plate material :	manufacturer standard	Steel			
45	7.2.1	Paint colour :	supplier standard	RAL7035			
46	7.2.1	Canopy for cabinet required :	No	Noted			
47	7.3.5	Document holder :	Yes	Confirmed			
48		**INSTALLATION**					
49	4,1	Site :	offshore - fixed	Noted. Painting class C3-H			
50	4,1	Location of DC UPS cabinet installation :	indoor	Noted			
51	7.3.1, 7.3.2	Front access clearance dimensions for operation and maintenance :	800	Noted	mm		
52	7.3.2	Side clearance for ventilation (if required) :	manufacturer to advise	0	mm		
53	7.3.2	Rear clearance for ventilation (if required) :	manufacturer to advise	100 mm	mm		
54	7.2.3, 7.9.3	Installed location of battery :	inside DC UPS enclosure	Battery housed on rack			
55	7.2.3	Maximum battery assembly dimensions (L x D x H) :	Input Data	Battery rack 1050 x 510 x 1032	mm		
56		**SAFETY**					
57	5.1.1	Accessibility :	operator access area	Front access			
58	5.1.1	Key required for cabinet :	Yes	Confirmed			
59	7.2.2	Degree of protection (with closed doors) :	IP31	IP43			
60	7.2.2	Degree of protection (with open doors) :	IP2X	IP20			
61	4.3.2	Area classification :	safe	Noted			
62	4.3.2	Hazardous area certification required :	none	Noted			
63	4.3.2	Level of protection :	N/A	Not applicable			
64	4.3.2	Gas group :	manufacturer to advise	Not applicable			
65	4.3.2	Temperature class :	manufacturer to advise	Not applicable			
66	4.3.2	Equipment protection level :	manufacturer to advise	Not applicable			
67	7.7.5	Cooling fan replacement while DC UPS in service :	No	Noted			
68	5.1.2	Local language for caution/danger/warning labels :	English	Confirmed			
69		**ELECTROMAGNETIC COMPATIBLITY**					
70	5.1.4	Emission :	UPS Cat C3	Confirmed			
71	5.1.4	Immunity :	UPS Cat C3	Confirmed			
72		**ENVIRONMENTAL CONDITIONS**					
73	4.2.1.1	Minimum ambient temperature (operation) :	-8,4	Confirmed with heater option included	°C		
74	4.2.1.1	Maximum ambient temperature (operation) :	40	Confirmed	°C		
75	4.2.1.1	Maximum relative humidity (operation) :	95	Confirmed. Not condensing	%		
76	4.2.1.1	Temperature at which relative humidity is specified (operation) :	Input Data	-	°C		
77	4.2.1.2	Maximum altitude (operation) :	Sea Level	Noted	m		
78	4.2.2	Minimum ambient temperature (storage and transportation) :	-5	Noted	°C		
79	4.2.2	Maximum ambient temperature (storage and transportation) :	40	Noted	°C		
80	4.2.2	Maximum relative humidity (storage and transportation) :	85	Noted	%		

Row		S-702D Data Sheet for DC Uninterruptible Power Systems (UPS) (IEC 62040-5-3)					Issue
2	Tag No. :	UP-200F1					
3	Service :	DC UPS					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
81	4.2.2	Temperature at which relative humidity is specified (storage and transportation) :	Input Data	-	°C		
82	4.3.2	Seismic requirement data :	Zone 2	Noted			
83	4.2.2	Storage site of DC UPS :	indoor – natural ventilation	Noted			
84	4.3.2	Additional or unusual conditions (operation) :	Input Data	Not applicable			
85	4.3.3	Additional or unusual conditions (storage and transportation) :	Input Data	Not applicable			
86	5.1.5	Acoustic noise at 1 m - normal mode :	70	66 dB(A)	dBA		
87	5.1.5	Acoustic noise at 1 m - stored energy mode :	70	66 dB(A)	dBA		
88		**COMMUNICATION INTERFACE(S)**					
89	5,6	(1) Interface media for SCADA (ICSS / DCS) :	serial	Modbus TCP + relays			
90	5,6	(1) Maximum allowable length of communication cable (for copper) :	25	Noted	m		
91	5,6	(1) Interface protocol for SCADA (ICSS / DCS) :	Modbus	Modbus TCP + relays			
92	5,6	(2) Interface media for Electrical Management / Control System :	serial	Modbus TCP + relays			
93	5,6	(2) Maximum allowable length of communication cable (for copper) :	25	Noted	m		
94	5,6	(2) Interface protocol for Electrical Management / Control System :	Modbus	Modbus TCP + relays			
95	5,6	(3) Remote access / monitoring software required :	Yes	Noted			
96	5,6	(3) Interface media for Remote access / monitoring :	ethernet (fiber)	Noted			
97	5,6	(3) Maximum allowable length of communication cable (for copper) :	25	Noted	m		
98	5,6	(3) Interface protocol for Remote access / monitoring :	Modbus	Modbus TCP + relays			
99		**AC INPUT SPECIFICATIONS**					
100	5.2.1	Voltage (steady state, R.M.S) - rated :	400	Confirmed	V		
101	5.2.1	Voltage (steady state, R.M.S - tolerance :	+/- 10	Confirmed	%		
102	5.2.1	Frequency - rated :	50 Hz	Confirmed			
103	5.2.1	Frequency - tolerance :	+/- 2	Confirmed	%		
104	5.2.2	Phases required :	3	3			
105	5.2.2	Neutral required :	Yes	No			
106	5.2.2	Current (R.M.S) - rated (with the energy storage device charged) :	manufacturer to advise	28A max	A		
107	5.2.2	Power factor :	manufacturer to advise	0,81			
108	5.2.2	In-rush (% of rated current) :	manufacturer to advise	Slow-start function included	%		
109	5.2.2	In-rush (time) :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
110	5.2.2	Maximum current (with low input volt and energy storage device charging) :	manufacturer to advise	28A max	A		
111	5.2.2	Time for overload (125 % of rated current) :	manufacturer to advise	Not applicable	s		
112	5.2.2	Time for overload (150 % of rated current) :	manufacturer to advise	Not applicable	s		
113	5.2.2	Total harmonic distortion (THD p.u.) :	8	Confirmed. The DC UPS works with an input voltage harmonic distortion ≤ 8%	%		
114	5.2.3	Short circuit current of the input supply :	50	Confirmed. The charger is equipped with an input MCCB (Q1) with Isc = 50kA	kA		
115	5.2.2	Minimum prospective short circuit current :	Input Data	Data not characterized by the factory. Measurable on request	kA		
116	5.2.2	Earth leakage current :	Input Data	Data not characterized by the factory. Measurable on request	mA		
117	5.2.2	AC power distribution system - compatibility :	TN-S	Confirmed			
118	5.2.3	Additional or unusual conditions :	Input Data	Not applicable			
119	5.2.3, 7.5.4	Cable Size (cross-section area) - input mains (Float) :	Input Data	70 sqmm	sq.mm.		
120	7.5.4	Cable Size (cross-section area) - input mains (Boost) :	Input Data	70 sqmm	sq.mm.		
121	7.4.8, 8.1.1.1	Input isolation transformer required :	Select	Confirmed			
122	7.4.10	Input isolation transformer winding :	copper or aluminum	Aluminium			
123		**DC AND BATTERY SPECIFICATIONS**					
124	5.4.2.2	DC voltage level :	110	Confirmed	V d.c.		
125	5.4.2.2	Design life :	5	>12 years	years		
126	5.4.2.2	Float service life :	manufacturer to advise	Dependent from temperature	years		
127	5.4.2.2	Shelf life of battery :	manufacturer to advise	3	months		
128	5.4.2.2	Quantity of cells and strings :	manufacturer to advise	10 blocks - 1 string	nos.		
129	5.4.2.2	Nominal voltage (total) :	manufacturer to advise	120	V d.c.		
130	5.4.2.2	Battery technology :	sealed nickel cadmium	VRLA GEL technology			
131	5.4.2.2	Nominal AH capacity :	manufacturer to advise	150	AH		
132	5.4.2.2	Discharge rate (C-rate) :	manufacturer to advise	C20			
133	5.4.2.2	Electrolyte fill status :	manufacturer standard	Not applicable to VRLA battery			
134	8.1.2.3	Purchaser's requirement (% of battery recharge level - 1) :	80	Confirmed with charging current limited to 0,1C	%		
135	8.1.2.3	Purchaser's requirement (time for battery recharge level - 1) :	10	Confirmed	Hours		
136	8.1.2.3	Purchaser's requirement (% of battery recharge level - 2) :	100	Data not characterized by the factory. Measurable on request	%		
137	8.1.2.3	Purchaser's requirement (time for battery recharge level - 2) :	24	Data not characterized by the factory. Measurable on request	Hours		
138	5.4.2.2	Stored energy time (back-up time at 100% rated load) :	60	30 min @ 10kW load	min		
139	5.4.2.2	Restored energy time (recharge time to 80% capacity) :	manufacturer to advise	10h	hours		
140	5.4.2.2	Ambient reference temperature :	40	Confirmed	°C		
141	5.4.2.2	Earth condition/isolation :	manufacturer to advise	floating			
142	5.4.2.2	Ripple current (R.M.S) :	manufacturer to advise	1% ripple voltage RMS	%		
143	5.4.2.2	Maximum discharge current :	manufacturer to advise	Data not characterized by the factory. Measurable on request	A		
144	5.4.2.2	DC Fault current rating :	manufacturer to advise	Data not characterized by the factory. Measurable on request	A d.c.		
145	5.4.2.2	Cable volt drop recommendation (≤ % at nominal discharge current) :	manufacturer to advise	1	%		
146	5.4.2.2	Charging regime :	manufacturer to advise	Constant voltage, current limited			
147	5.4.2.2	Charge voltage (float) and tolerance band :	manufacturer to advise	2,28Vcell - 13,5 / 13,8 Vblock	V d.c.		
148	5.4.2.2	Charge voltage (boost) and tolerance band :	manufacturer to advise	2,28Vcell - 13,5 / 13,8 Vblock	V d.c.		

S-702D Data Sheet for DC Uninterruptible Power Systems (UPS) (IEC 62040-5-3)

JIP33 JOINT INDUSTRY PROGRAMME

Row							Issue
2	Tag No. :	UP-200F1					
3	Service :	DC UPS					
4	Ref. Clause	Description	Project Requirement	Manufacturer Declared Values	Unit	Additional notes	
149	5.4.2.2	Charge voltage (equalising) and tolerance band :	manufacturer to advise	Not applicable to VRLA battery	V d.c.		
150	5.4.2.2	Minimum end of discharge voltage :	manufacturer to advise	99	V d.c.		
151	5.4.2.2	Charge current limit (or range) :	manufacturer to advise	15A (0,1C)	A d.c.		
152	5.4.2.2	Temperature compensated charging required :	Yes	Confirmed			
153	5.4.2.3	Battery isolation box required :	manufacturer standard	Noted			
154	5.4.2.3	Additional or unusual conditions :	Input Data	Not applicable			
155	5.4.2.3	Load profile for battery design, attached :	Yes	Noted			
156	5.4.2.3	Battery rack design :	Batteries integrated inside UPS Cabinet	Battery housed on rack			
157		**BATTERY ROOM**					
158	4.2.1.1	Minimum ambient reference temperature :	Input Data	-8,4°C (used for battery sizing)	°C		
159	4.2.1.1	Maximum ambient reference temperature :	40	+40°C (used for battery sizing)	°C		
160	5.4.2.1	Area classification :	safe	Noted			
161	5.4.2.1	Hazardous area classification :	N/A	Not applicable			
162	5.4.2.1	Minimum Gas Subdivision and Temperature Class (for equipment in Battery room) :	N/A	Not applicable			
163	8.1.2.10	Temperature sensor (for VRLA / partial gas recombination batteries) :	Yes	Confirmed. Standard sensor			
164		**BATTERY ISOLATOR BOX SPECIFICATIONS**					
165	7.9.1	Enclosure material :	manufacturer standard	Aluminium alloy			
166	7.9.1	Mounting :	manufacturer standard	Wall mounting			
167	7.9.1	Breathing valve required :	manufacturer to advise	No			
168	7.9.1	Internal earth bar :	tinned copper	-			
169	7.9.3	Minimum design temperature :	-8,4	Noted	°C		
170	7.9.3	Maximum design temperature :	40	Noted	°C		
171	7.9.3	Maximum relative humidity :	95	Noted	%		
172	7.9.3	Temperature at which relative humidity is specified :	Input Data	-	°C		
173	7.9.4	Degree of protection :	IP 31	IP65			
174	7.9.5	Area classification :	safe	Noted			
175	7.9.5	Hazardous Area Certification required :	none	-			
176	7.9.5	Hazardous area classification :	N/A	Not applicable			
177	7.9.5	Hazardous area level of protection :	N/A	Not applicable			
178	7.9.6	Cable entry :	top	Bottom with cable glands			
179	7.9.6	Cable indirect entry via 'ex e' enclosure :	Select	Not applicable			
180	7.9.6	Battery cable size (cross-section area) :	No	25 sqmm armored cable class-2	sq.mm.		
181	7.9.6	Cable entry diameter in battery box (ISO metric) :	Input Data	17 mm			
182	7.9.7	Battery isolator type :	MCCB	Confirmed			
183	7.9.8	Rated current of breaker / switch fuse unit :	manufacturer to advise	125A	A		
184	7.9.8	Rated breaking current (Icu) - (if breaker used) :	manufacturer to advise	18kA	kA		
185	7.9.10	Breaker status potential free contact (NO) :	two	Confirmed			
186	7.9.9	Under Voltage trip feature required :	Yes	Confirmed			
187	7.9.9	Under Voltage trip coil for :	black start reserve	Confirmed			
188	8.1.2.12	ESD trip required :	Yes - via shunt trip	Yes - through SIL relay			
189	8.1.2.12	ESD override key switch :	key captive in overridden position and with status contact	Confirmed			
190	7.9.9	Over voltage trip required :	Yes	Not applicable			
191		**DC OUTPUT SPECIFICATIONS**					
192	5.3.2	DC power distribution system - compatibility :	IT	TN-S			
193	5.3.2	Voltage (steady state) - rated :	110	Confirmed	V d.c.		
194	5.3.2	Voltage - normal mode variation at no load :	manufacturer to advise	+/- 1% static stability	%		
195	5.3.2	Voltage - normal mode variation at full load :	manufacturer to advise	+/- 1% static stability	%		
196	5.3.2	Voltage - storage energy mode variation at no load :	manufacturer to advise	Min. voltage 1,65 Vcell = 99Vdc	%		
197	5.3.2	Voltage - storage energy mode variation at full load :	manufacturer to advise	Min. voltage 1,65 Vcell = 99Vdc	%		
198	5.3.2	% Voltage transient - transfer normal mode to storage energy mode :	manufacturer to advise	-	%		
199	5.3.2	Voltage transient time - transfer normal mode to storage energy mode :	manufacturer to advise	0	s		
200	5.3.2	% Voltage transient - transfer storage energy mode to normal mode :	manufacturer to advise	-	%		
201	5.3.2	Voltage transient time - transfer storage energy mode to normal mode :	manufacturer to advise	0	s		
202	5.3.2	% Voltage variation - normal mode at step load :	manufacturer to advise	-5% (10% to 90%) +8% (back)	%		
203	5.3.2	Duration of voltage variation - normal mode at step load :	manufacturer to advise	Data not characterized by the factory. Measurable on request	s		
204	5.3.2	% Voltage variation - storage energy mode at step load :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
205	5.3.2	Duration of voltage variation - storage energy mode at step load :	manufacturer to advise	-	s		
206	5.3.2	Current - rated :	manufacturer to advise	100A	A d.c.		
207	5.3.2	Current - overload capability (% of rated current for ten minutes) :	manufacturer to advise	100% - Limited at 100A	%		
208	5.3.2	Current - overload capability (% of rated current for one minute) :	manufacturer to advise	100% - Limited at 100A	%		
209	5.3.2	Current - short circuit capability (% of rated current) :	manufacturer to advise	100A	%		
210	5.3.2	Current - short circuit capability (time duration):	manufacturer to advise	-	s		
211	5.3.2	Current - limitation (% of rated current) :	manufacturer to advise	100%	%		
212	5.3.2	Current - limitation (time duration) :	manufacturer to advise	-	s		
213	5.3.2	Current - fault clearing capability (normal mode) :	manufacturer to advise	100A	A		
214	5.3.2	Current - fault clearing capability (stored energy mode) :	manufacturer to advise	3250A +/- 10%	A		
215	5.3.2	AC / DC efficiency in normal mode - 100% load :	manufacturer to advise	88%	%		
216	5.3.2	AC / DC efficiency in normal mode - 75% load :	manufacturer to advise	86%	%		
217	5.3.2	AC / DC efficiency in normal mode - 50% load :	manufacturer to advise	87%	%		
218	5.3.2	AC / DC efficiency in normal mode - 25% load :	manufacturer to advise	Data not characterized by the factory. Measurable on request	%		
219	5.3.2	No load losses :	manufacturer to advise	Data not characterized by the factory. Measurable on request	W		
220	7.1.6	Reference document to DC output distribution board :	To see Electical Load List	Noted			
221	5.3.3	Additional or unusual conditions :	Input Data	Not applicable			
222	5.3.3	Cable size (cross-section area) - output :	manufacturer to advise	-	sq.mm.		