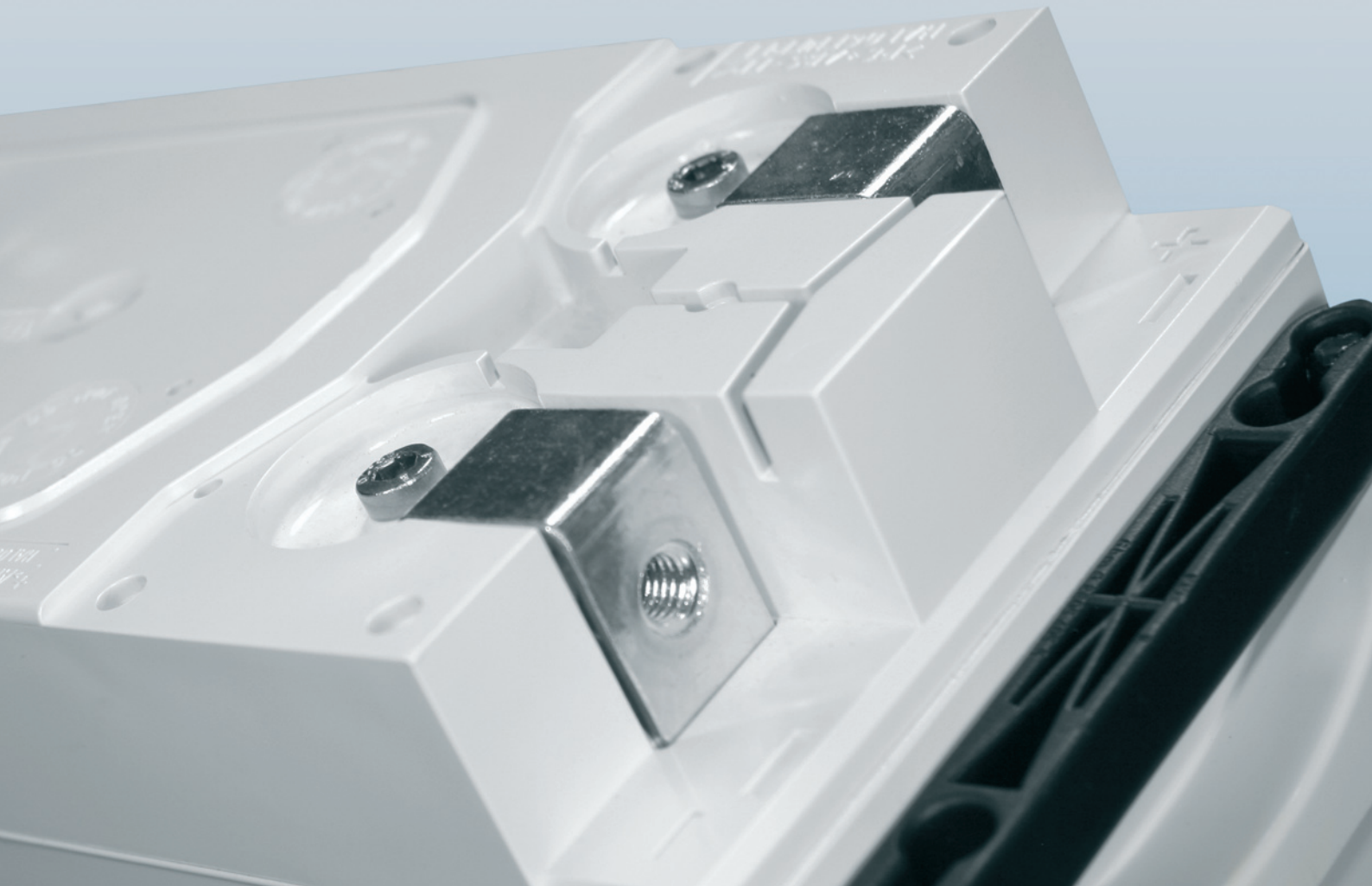




12CP100

Compact-Power Rackline™



Technical specifications

Type

12CP100

Part number

66300100

Electrical Data

Nominal voltage	12 V	
Number of cells	6	
Rated capacity C ₁₀ to 1.80 Vpc at 20 °C	92 Ah	
Rated capacity C ₈ to 1.75 Vpc at 25 °C	92 Ah	
Current/Power for 0.5 h back-up time 1.65 Vpc 20 °C	114 A	1248 W
Current/Power for 1.0 h back-up time 1.67 Vpc 20 °C	65.5 A	732 W
Current/Power for 2.0 h back-up time 1.80 Vpc 20 °C	35.7 A	410.4 W
Current/Power for 4.0 h back-up time 1.80 Vpc 20 °C	20.1 A	233.4 W
Current/Power for 8.0 h back-up time 1.80 Vpc 20 °C	11.1 A	129 W
Current/Power for 10.0 h back-up time 1.80 Vpc 20 °C	9.2 A	106.8 W
Current/Power for 20.0 h back-up time 1.80 Vpc 20 °C	5.1 A	57 W
Conversion to capacity at 25 °C (77 °F)	20 °C Ah x 1,03 (t > 1 h)	
Internal resistance (± 10%) to IEC/EN 60896-21	4.6 mΩ	
Short circuit current (± 10%) to IEC/EN 60896-21	2.6 kA	
Self discharge at 20 °C to IEC/EN 60896-21	max. 3%/month	
Heat loss during float service at 20 °C	≈ 0.55 W	

Mechanical Data

Weight ready for use	40.0 kg	
Height of monobloc	230 mm	
Height over gas collection system GCS™	287 mm	
Height over terminal connector	258 mm	
Width	125 mm	
Depth	558 mm	
Number of terminals	1⊕/1⊖	
Dimension of connector screw hole	M8	
Suggested/maximum cable cross-section	50 mm ² /70 mm ² *)	
Connection torque	8 Nm	
Terminal insulation class according to IEC/EN 60529	IP20	
Diameter of diagnostic hole for voltage probe	2.5/5 mm Ø	
Connector (copper, tin-coated) rigid and insulated	40 mm ²	
Complete connector and terminal connection accessoires	available (as 48 V/60 V-Set)	

Environmental Data

Shelves, cabinets and racks	available upon request	
Installation	vertically/horizontally	
Distance for cooling and ventilation (preset with the rigid connectors)	10 mm	
Flame retardancy rating case/cover according to Underwriters Laboratories (UL) USA	UL 94 V-0 with LOI > 32%, halogen-free	
Flame barriers at vents	installed	
Gas collection system GCS™ UL V-0 quality	available upon request	
UL file number 	MH 26065	
Service life expected at 20 °C	15 years	

*) for UPS duties the connecting cables must be dimensioned specially

Operating specifications

Figure 1



Figure 2

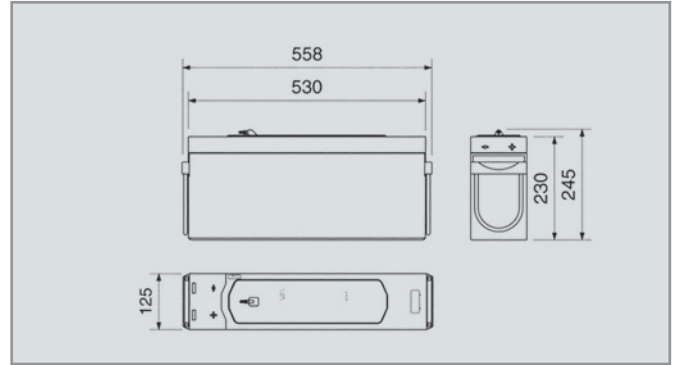
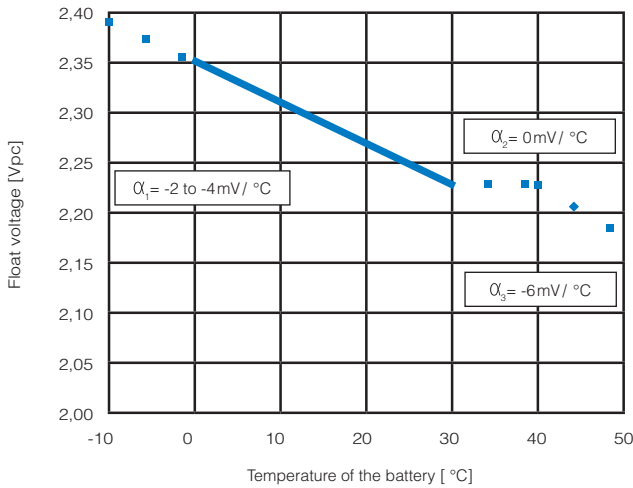


Figure 3



Temperature in °C	Temperature in °F	Percent of the rated capacity
40	104	104.8
35	95	104.2
30	86	103.6
25	77	103.0
20	68	100.0
15	59	97.0
10	50	94.0
5	41	90.0
0	32	84.7
-5	23	77.7
-10	14	69.4
-15	5	60.0
-20	-4	49.6
-25	-13	38.4
-30	-22	25.6
-35	-31	14.1
-40	-40	2.1

Battery installation and operation

Float voltage setting according to DIN 41773

Float voltage with daily discharge cycles

CC-CV charge current according to DIN 41773

Float voltage compensation in function of temperature

Boost charge

Stand-by mode with constant voltage float operation according to EN 50272-2:2001

2.25 Vpc at 20 to 25 °C (68 to 77 °F)

2.29 Vpc - 2.30 Vpc (no correction factor needed)

unlimited, otherwise $3 \cdot I_{10}$ max. if $T > 25$ °C

-2 to -4 mV/°C or with profile as displayed figure 3

Not needed, if desirable then 2.35 Vpc and I_{10} max. for 24 h max. at $t < 30$ °C

Air exchange

As a VRLA battery according to EN 50272-2:2001

$Q = 0.05 \cdot N_{\text{cells}} \cdot I_{\text{gas}} \cdot C_{\text{Ah } C_{10}} \cdot 10^{-3}$ [m³/h]

$I_{\text{gas}} = 1$ (at 2.25 Vpc) $I_{\text{gas}} = 8$ (at 2.40 Vpc)

e.g. 48 V: $0.1104 \text{ m}^3/\text{h} = 3.90 \text{ cu.ft/h}$ (at 2.25 Vpc)

Preferred operating temperature range

Between 15 °C (68 °F) and 25 °C (77 °F)

Maximum long term operating temperature

+40 °C (104 °F) with ventilation assured (reduced service life)

Maximum short term operating temperature (for hours)

+50 °C (122 °F) with ventilation assured (reduced service life)

Minimum fully charged operating temperature

-40 °C (-40 °F)



Discharge data

Constant current performance (in amps) to the defined end-of-discharge voltage																								
Voltage [Vpc]	Temp	Discharge time [Minutes]																						
		1 - 2	3	5	7	10	15	20	25	30	40	50	60	90	120	180	240	300	360	480	600	720	1200	1440
1.90	20 °C	192	183	168	155	139	119	104	93.0	84.2	71.1	61.8	54.7	41.2	33.2	24.3	19.3	16.1	13.8	10.9	9.0	7.7	5.0	4.3
	25 °C	198	189	173	160	143	122	107	95.8	86.7	73.2	63.6	56.4	42.4	34.2	25.0	19.8	16.5	14.2	11.2	9.3	8.0	5.2	4.4
1.87	20 °C	231	218	197	179	158	132	115	101	90.9	75.8	65.3	57.5	42.7	34.2	24.8	19.6	16.3	14.0	11.0	9.1	7.8	5.1	4.3
	25 °C	238	225	203	185	163	136	118	104	93.6	78.1	67.2	59.2	44.0	35.2	25.5	20.2	16.8	14.4	11.3	9.4	8.0	5.2	4.5
1.85	20 °C	258	242	216	195	170	141	121	106	94.7	78.4	67.2	59.0	43.5	34.8	25.1	19.8	16.4	14.1	11.0	9.1	7.8	5.1	4.3
	25 °C	265	249	223	201	175	145	124	109	97.5	80.8	69.2	60.8	44.8	35.8	25.8	20.4	16.9	14.5	11.4	9.4	8.0	5.2	4.5
1.84	20 °C	271	254	225	202	176	144	123	109	96.6	79.7	68.1	59.6	43.9	35.0	25.2	19.9	16.5	14.1	11.0	9.1	7.8	5.1	4.3
	25 °C	280	262	232	208	181	149	127	112	99.5	82.1	70.1	61.4	45.2	36.0	26.0	20.5	17.0	14.5	11.4	9.4	8.1	5.2	4.5
1.83	20 °C	284	265	235	210	181	148	126	110	98.4	80.8	68.9	60.3	44.3	35.2	25.3	19.9	16.5	14.2	11.0	9.2	7.8	5.1	4.3
	25 °C	293	273	242	216	187	153	130	114	101	83.2	71.0	62.1	45.6	36.3	26.1	20.5	17.0	14.6	11.4	9.5	8.1	5.2	4.5
1.82	20 °C	297	276	244	217	186	152	129	112	100	81.8	69.7	60.8	44.5	35.4	25.4	20.0	16.5	14.2	11.1	9.2	7.8	5.1	4.3
	25 °C	306	285	251	223	192	156	133	115	103	84.2	71.7	62.7	45.9	36.4	26.1	20.6	17.0	14.6	11.4	9.4	8.1	5.2	4.5
1.80	20 °C	323	298	260	230	196	158	133	116	102	83.6	71.0	61.8	45.1	35.7	25.6	20.1	16.6	14.2	11.1	9.2	7.9	5.1	4.4
	25 °C	332	307	268	237	202	163	137	119	105	86.1	73.1	63.7	46.4	36.8	26.3	20.7	17.1	14.7	11.5	9.5	8.1	5.2	4.5
1.77	20 °C	358	329	283	248	209	166	139	120	106	85.8	72.6	63.0	45.7	36.1	25.8	20.2	16.7	14.3	11.2	9.2	7.9	5.1	4.4
	25 °C	369	339	292	255	215	171	143	123	109	88.4	74.7	64.9	47.1	37.2	26.5	20.8	17.2	14.7	11.5	9.5	8.1	5.2	4.5
1.75	20 °C	381	347	297	258	216	171	142	122	107	87.0	73.4	63.7	46.0	36.3	25.9	20.3	16.7	14.3	11.2	9.2	7.9	5.1	4.4
	25 °C	392	358	306	266	223	176	146	126	111	89.6	75.6	65.6	47.4	37.4	26.6	20.9	17.2	14.8	11.5	9.5	8.1	5.2	4.5
1.72	20 °C	411	373	315	272	226	177	146	125	110	88.5	74.5	64.5	46.5	36.6	26.0	20.3	16.8	14.4	11.2	9.2	7.9	5.1	4.4
	25 °C	424	384	325	280	232	182	151	129	113	91.2	76.7	66.4	47.8	37.7	26.8	21.0	17.3	14.8	11.5	9.5	8.1	5.3	4.5
1.70	20 °C	430	388	326	280	231	180	149	127	111	89.4	75.1	65.0	46.7	36.7	26.1	20.4	16.8	14.4	11.2	9.3	7.9	5.1	4.4
	25 °C	443	400	336	288	238	186	153	131	114	92.0	77.3	66.9	48.1	37.8	26.9	21.0	17.3	14.8	11.6	9.5	8.1	5.3	4.5
1.67	20 °C	456	409	341	291	238	185	152	129	113	90.4	75.8	65.5	47.0	36.9	26.2	20.4	16.9	14.4	11.2	9.3	7.9	5.1	4.4
	25 °C	470	421	351	299	246	190	156	133	116	93.1	78.1	67.5	48.4	38.0	26.9	21.1	17.4	14.8	11.6	9.5	8.2	5.3	4.5
1.65	20 °C	471	421	349	297	242	187	153	130	114	91.0	76.2	65.8	47.1	37.0	26.2	20.5	16.9	14.4	11.2	9.3	7.9	5.1	4.4
	25 °C	485	434	360	306	250	193	158	134	117	93.7	78.5	67.8	48.5	38.1	27.0	21.1	17.4	14.9	11.6	9.6	8.2	5.3	4.5
1.63	20 °C	485	432	357	302	246	189	155	131	114	91.5	76.6	66.1	47.3	37.1	26.3	20.5	16.9	14.4	11.3	9.3	7.9	5.1	4.4
	25 °C	500	445	368	311	254	195	159	135	118	94.3	78.9	68.1	48.7	38.2	27.0	21.1	17.4	14.9	11.6	9.6	8.2	5.3	4.5
1.60	20 °C	504	447	367	310	251	192	157	133	115	92.2	77.1	66.4	47.4	37.2	26.3	20.5	16.9	14.5	11.3	9.3	7.9	5.1	4.4
	25 °C	519	461	378	319	258	198	161	137	119	94.9	79.4	68.4	48.9	38.3	27.1	21.1	17.4	14.9	11.6	9.6	8.2	5.3	4.5

Constant power performance (in watt per cell) to the defined end-of-discharge voltage																								
Voltage [Vpc]	Temp	Discharge time [Minutes]																						
		1 - 2	3	5	7	10	15	20	25	30	40	50	60	90	120	180	240	300	360	480	600	720	1200	1440
1.90	20 °C	371	353	324	297	266	226	198	177	160	135	117	104	78.8	64.1	46.9	37.4	31.3	27.0	21.2	17.5	14.7	9.5	8.0
	25 °C	382	364	333	306	274	233	204	182	165	139	121	107	81.2	66.0	48.3	38.5	32.2	27.8	21.8	18.0	15.2	9.8	8.2
1.87	20 °C	440	415	375	340	299	250	216	191	171	143	124	109	81.6	65.9	47.8	38.0	31.6	27.3	21.2	17.5	15.0	9.5	8.0
	25 °C	453	427	386	350	308	257	222	196	177	148	127	112	84.0	67.9	49.3	39.2	32.5	28.1	21.8	18.0	15.5	9.8	8.2
1.85	20 °C	485	455	407	367	319	264	226	199	178	148	127	112	83.1	66.9	48.5	38.3	31.9	27.3	21.5	17.5	15.0	9.5	8.0
	25 °C	500	468	419	378	329	272	233	205	183	152	131	115	85.6	68.9	49.9	39.5	32.9	28.1	22.1	18.0	15.5	9.8	8.2
1.84	20 °C	508	474	423	379	329	270	231	203	181	150	129	113	83.8	67.2	48.7	38.5	32.0	27.4	21.4	17.6	15.0	9.5	8.0
	25 °C	523	489	435	391	339	279	238	209	186	154	132	116	86.3	69.2	50.2	39.6	32.9	28.2	22.0	18.1	15.4	9.8	8.2
1.83	20 °C	529	493	438	391	338	277	235	206	183	152	130	114	84.3	67.5	48.9	38.6	32.0	27.5	21.4	17.6	15.0	9.5	8.0
	25 °C	545	508	451	403	348	285	243	212	189	156	134	117	86.9	69.6	50.4	39.8	33.0	28.3	22.1	18.2	15.5	9.8	8.3
1.82	20 °C	550	512	452	403	346	282	240	209	186	153	131	115	84.9	67.8	49.1	38.6	32.2	27.6	21.5	17.8	15.0	9.5	8.0
	25 °C	567	527	466	415	357	291	247	215	191	158	135	118	87.5	69.8	50.5	39.8	33.2	28.4	22.1	18.3	15.5	9.8	8.2
1.80	20 °C	591	546	479	424	362	293	247	215	190	156	133	117	85.9	68.4	49.4	38.9	32.2	27.6	21.5	17.8	15.0	9.5	8.0
	25 °C	608	563	493	437	373	301	254	221	196	161	137	120	88.4	70.4	50.9	40.1	33.2	28.4	22.1	18.3	15.5	9.8	8.2
1.77	20 °C	645	592	514	451	381	305	256	221	196	160	136	119	86.8	69.0	49.7	39.3	32.5	27.6	21.5	17.8	15.0	9.5	8.0
	25 °C	664	610	529	465	393	314	264	228	202	165	140	122	89.4	71.1	51.2	40.4	33.5	28.4	22.1	18.3	15.5	9.8	8.2
1.75	20 °C	677	619	534	467	393	312	261	225	198	162	137	120	87.4	69.6	50.0	39.3	32.5	27.9	21.8	17.8	15.0	9.5	8.0
	25 °C	697	638	550	481	405	321	269	232	204	167	141	124	90.0	71.7	51.5	40.4	33.5	28.7	22.5	18.3	15.5	9.8	8.2
1.72	20 °C	720	655	561	487	407	321	267	230	202	164	139	121	88.0	69.9	50.0	39.3	32.5	27.9	21.8	17.8	15.0	9.5	8.0
	25 °C	742	675	577	501	419	331	275	237	208	169	143	124	90.7	72.0	51.5	40.4	33.5	28.7	22.4	18.3	15.5	9.8	8.2
1.70	20 °C	745	675	576	498	414	326	270	232	204	165	140	121	88.3	70.2	50.3	39.6	32.5	27.9	21.8	17.8	15.0	9.5	8.0
	25 °C	767	696	593	513	427	335	278	239	210	170	144	125	91.0	72.3	51.8	40.7	33.5	28.7	22.4	18.3	15.5	9.8	8.2
1.67	20 °C	777	702	594	512	424	332	274	235	206	167	141	122	88.9	70.5	50.3	39.6	32.8	27.9	21.8	17.8	15.0	9.5	8.0
	25 °C	800	723	612	527	437	342	283	242	213	172	145	126	91.6	72.7	51.8	40.7	33.8	28.7	22.4	18.3	15.5	9.8	8.2
1.65	20 °C	795	716																					