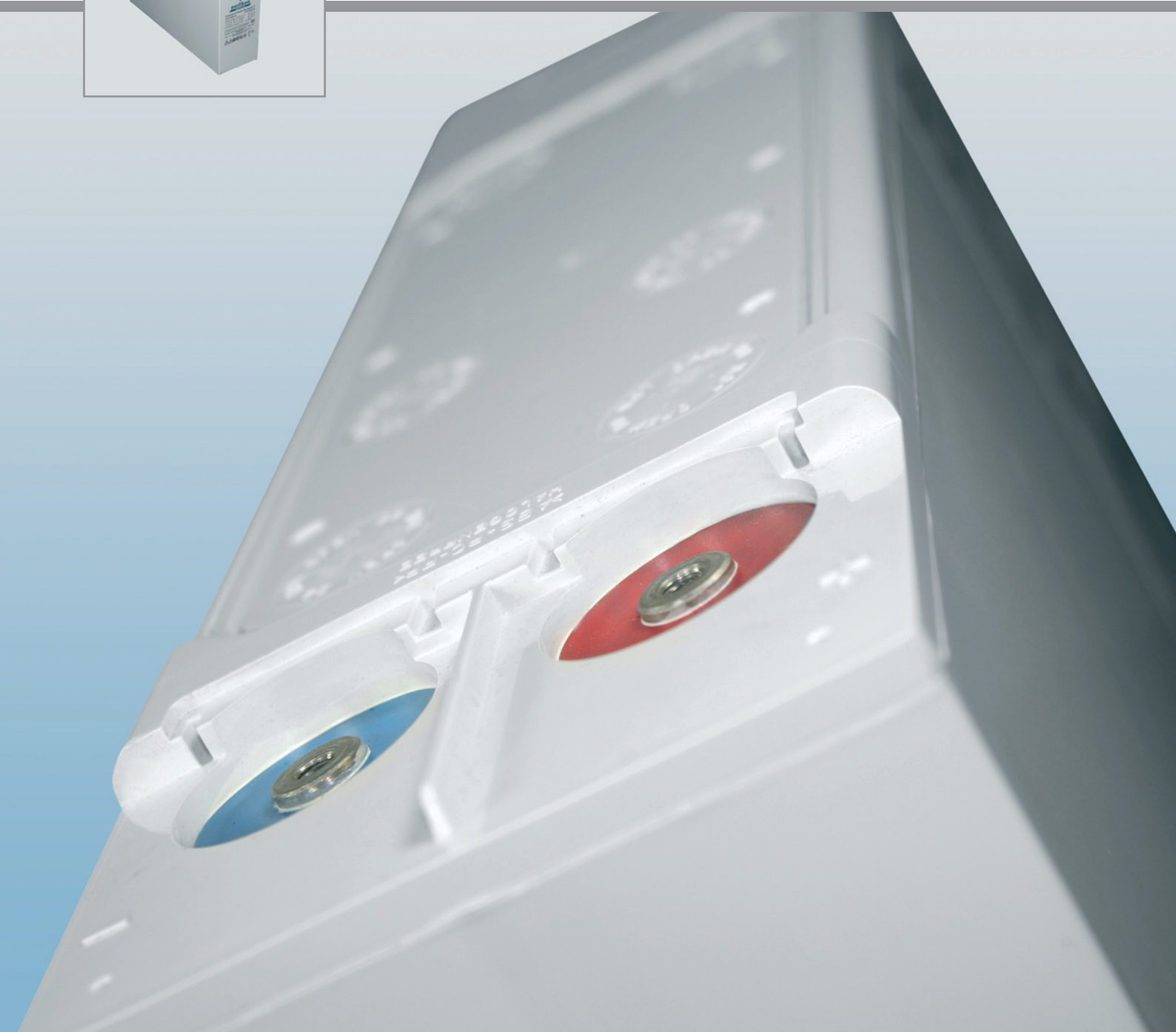


Datasheet



12CP100/19

Compact-Power Rackline™



Technical specifications

Type

12CP100/19

Part number

66319100


Electrical Data

Nominal voltage	12 V	
Number of cells	6	
Rated capacity C ₁₀ to 1.80 Vpc at 20 °C	100 Ah	
Rated capacity C ₈ to 1.75 Vpc at 25 °C	100 Ah	
Current/Power for 0.5 h back-up time 1.65 Vpc 20 °C	124 A	1356 W
Current/Power for 1.0 h back-up time 1.67 Vpc 20 °C	71.2 A	789 W
Current/Power for 2.0 h back-up time 1.80 Vpc 20 °C	38.8 A	445.8 W
Current/Power for 4.0 h back-up time 1.80 Vpc 20 °C	21.8 A	253.8 W
Current/Power for 8.0 h back-up time 1.80 Vpc 20 °C	12.1 A	139.8 W
Current/Power for 10.0 h back-up time 1.80 Vpc 20 °C	10.0 A	115.8 W
Current/Power for 20.0 h back-up time 1.80 Vpc 20 °C	5.5 A	61.8 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	4.3 mΩ	
Short circuit current (± 10%) to IEC/EN 60896-21	2.7 kA	
Self discharge at 20 °C to IEC/EN 60896-21	max. 3%/month	
Heat loss during float service at 20 °C	≈ 0.60 W	

Mechanical Data

Weight ready for use	43.0 kg
Height of monobloc	320 mm
Height over gas collection system GCS™	329 mm
Height over terminal connector	355 mm
Width	105 mm
Depth	392 mm
Number of terminals	1⊕/1⊖
Dimension of connector screw hole	pol: M6 termin. conn.: M6 & M8/M10
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	5 mm Ø
Connector (copper, tin-coated) rigid and insulated	40/80 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)	9 mm
Flame retardancy rating case/cover according to Underwriters Laboratories (UL) USA	ABS-PC – 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

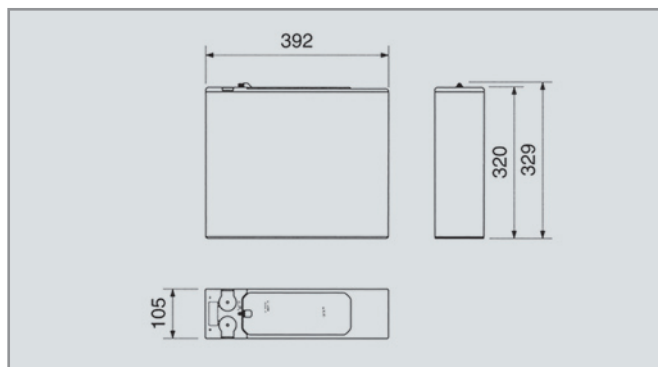
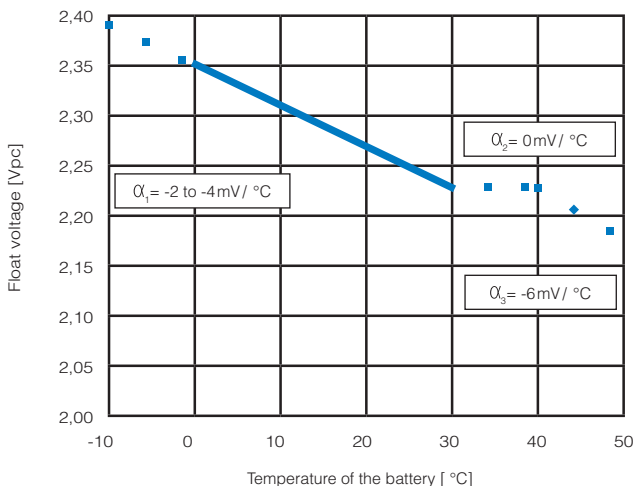


Figure 3



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

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

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

e.g. 48 V: 0.12 m³/h = 4.23 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	209	199	183	169	151	129	113	101	91.5	77.3	67.1	59.5	44.7	36.1	26.4	20.9	17.4	15.0	11.8	9.8	8.4	5.5	4.7
	25 °C	215	205	188	174	156	133	116	104	94.2	79.6	69.1	61.3	46.0	37.2	27.2	21.5	17.9	15.5	12.2	10.1	8.7	5.7	4.8
1.87	20 °C	251	237	215	195	172	144	124	110	98.8	82.4	70.9	62.5	46.4	37.2	26.9	21.3	17.7	15.2	11.9	9.9	8.5	5.5	4.7
	25 °C	259	244	221	201	177	148	128	113	102	84.9	73.0	64.4	47.8	38.3	27.7	21.9	18.2	15.7	12.3	10.2	8.8	5.7	4.8
1.85	20 °C	280	263	235	212	185	153	131	115	103	85.3	73.1	64.1	47.3	37.8	27.2	21.5	17.8	15.3	12.0	9.9	8.5	5.5	4.7
	25 °C	288	271	242	218	191	158	135	118	106	87.9	75.3	66.0	48.7	38.9	28.0	22.1	18.3	15.8	12.4	10.2	8.8	5.7	4.8
1.84	20 °C	295	276	245	220	191	157	134	118	105	86.6	74.0	64.8	47.7	38.0	27.4	21.6	17.9	15.3	12.0	9.9	8.5	5.5	4.7
	25 °C	304	284	252	227	197	162	138	122	108	89.2	76.2	66.7	49.1	39.1	28.2	22.2	18.4	15.8	12.4	10.2	8.8	5.7	4.8
1.83	20 °C	309	288	255	228	197	161	137	120	107	87.8	74.9	65.5	48.1	38.3	27.5	21.6	17.9	15.4	12.0	10.0	8.5	5.5	4.7
	25 °C	318	297	263	235	203	166	141	124	110	90.4	77.1	67.5	49.5	39.4	28.3	22.2	18.4	15.9	12.4	10.3	8.8	5.7	4.8
1.82	20 °C	323	300	265	236	203	165	140	122	108	88.9	75.7	66.1	48.4	38.5	27.6	21.7	18.0	15.4	12.1	10.0	8.5	5.5	4.7
	25 °C	333	309	273	243	209	170	144	126	111	91.5	78.0	68.1	49.8	39.6	28.4	22.4	18.5	15.9	12.4	10.3	8.8	5.7	4.9
1.80	20 °C	351	324	283	250	213	172	145	126	111	90.8	77.1	67.2	49.0	38.8	27.8	21.8	18.1	15.5	12.1	10.0	8.5	5.5	4.7
	25 °C	361	334	292	258	219	177	149	129	114	93.6	79.4	69.2	50.4	40.0	28.6	22.5	18.6	15.9	12.5	10.3	8.8	5.7	4.9
1.77	20 °C	390	357	308	269	227	181	151	130	115	93.2	78.9	68.5	49.7	39.3	28.0	22.0	18.2	15.5	12.1	10.0	8.6	5.5	4.7
	25 °C	401	368	317	277	234	186	156	134	118	96.0	81.2	70.6	51.2	40.4	28.8	22.6	18.7	16.0	12.5	10.3	8.8	5.7	4.9
1.75	20 °C	414	377	323	281	235	186	155	133	117	94.6	79.8	69.2	50.0	39.5	28.1	22.0	18.2	15.6	12.2	10.0	8.6	5.5	4.7
	25 °C	426	389	333	289	242	191	159	137	120	97.4	82.2	71.3	51.5	40.7	29.0	22.7	18.7	16.0	12.5	10.3	8.8	5.7	4.9
1.72	20 °C	447	405	343	296	245	192	159	136	119	96.0	81.0	70.0	50.5	39.8	28.3	22.1	18.3	15.6	12.2	10.1	8.6	5.5	4.7
	25 °C	460	417	353	305	252	198	164	140	123	98.9	83.4	72.1	52.0	41.0	29.2	22.8	18.9	16.1	12.6	10.4	8.9	5.7	4.8
1.70	20 °C	468	422	355	304	251	196	162	138	121	97.1	81.6	70.6	50.7	39.9	28.3	22.2	18.3	15.6	12.2	10.1	8.6	5.5	4.7
	25 °C	482	434	365	313	259	202	166	142	124	100	84.1	72.7	52.3	41.1	29.2	22.8	18.8	16.1	12.6	10.4	8.9	5.7	4.9
1.67	20 °C	495	444	371	316	259	201	165	140	123	98.3	82.4	71.2	51.1	40.1	28.4	22.2	18.3	15.7	12.2	10.1	8.6	5.6	4.8
	25 °C	510	458	382	325	267	207	170	144	126	101	84.9	73.3	52.6	41.3	29.3	22.9	18.9	16.1	12.6	10.4	8.9	5.7	4.9
1.65	20 °C	512	458	380	323	264	203	167	142	124	98.9	82.9	71.5	51.2	40.2	28.5	22.3	18.4	15.7	12.2	10.1	8.6	5.6	4.8
	25 °C	528	471	391	332	271	209	172	146	127	102	85.4	73.7	52.8	41.4	29.3	22.9	18.9	16.2	12.6	10.4	8.9	5.7	4.9
1.63	20 °C	527	470	388	329	268	206	168	143	124	99.5	83.3	71.8	51.4	40.3	28.5	22.3	18.4	15.7	12.2	10.1	8.6	5.6	4.8
	25 °C	543	484	400	338	276	212	173	147	128	102	85.8	74.0	52.9	41.5	29.4	22.9	18.9	16.2	12.6	10.4	8.9	5.7	4.9
1.60	20 °C	548	486	399	336	273	209	170	144	125	100	83.8	72.2	51.6	40.4	28.6	22.3	18.4	15.7	12.2	10.1	8.6	5.6	4.8
	25 °C	564	501	411	347	281	215	175	149	129	103	86.3	74.4	53.1	41.7	29.5	23.0	19.0	16.2	12.6	10.4	8.9	5.7	4.9

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	403	384	352	323	289	246	215	192	174	147	128	113	85.7	69.7	51.0	40.7	34.0	29.3	23.0	19.0	16.0	10.3	8.7
	25 °C	415	395	362	333	297	253	221	198	179	151	131	117	88.2	71.8	52.5	41.9	35.0	30.2	23.7	19.6	16.5	10.6	8.9
1.87	20 °C	478	451	407	370	325	272	235	207	186	156	134	119	88.7	71.7	52.0	41.3	34.3	29.7	23.0	19.0	16.3	10.3	8.7
	25 °C	492	464	420	381	335	280	242	214	192	160	138	122	91.3	73.8	53.6	42.6	35.4	30.6	23.7	19.6	16.8	10.6	8.9
1.85	20 °C	527	494	443	399	347	287	246	216	193	161	138	122	90.3	72.7	52.7	41.7	34.7	29.7	23.3	19.0	16.3	10.3	8.7
	25 °C	543	509	456	411	357	296	253	223	199	165	142	125	93.0	74.8	54.2	42.9	35.7	30.6	24.0	19.6	16.8	10.6	8.9
1.84	20 °C	552	516	460	412	357	294	251	220	197	163	140	123	91.0	73.0	52.9	41.8	34.7	29.8	23.3	19.2	16.3	10.3	8.7
	25 °C	568	531	473	425	368	303	259	227	202	168	144	126	93.8	75.2	54.5	43.1	35.8	30.7	24.0	19.7	16.8	10.6	9.0
1.83	20 °C	575	536	476	425	367	301	256	224	199	165	141	124	91.7	73.4	53.1	42.0	34.8	29.8	23.3	19.2	16.3	10.3	8.7
	25 °C	593	552	490	438	378	310	264	231	205	170	145	128	94.4	75.6	54.7	43.2	35.9	30.7	24.0	19.8	16.8	10.6	9.0
1.82	20 °C	598	556	491	438	376	307	260	227	202	167	143	125	92.3	73.7	53.3	42.0	35.0	30.0	23.3	19.3	16.3	10.3	8.7
	25 °C	616	573	506	451	388	316	268	234	208	172	147	129	95.1	75.9	54.9	43.3	36.1	30.9	24.0	19.9	16.8	10.6	8.9
1.80	20 °C	642	594	521	461	393	318	268	233	207	170	145	127	93.3	74.3	53.7	42.3	35.0	30.0	23.3	19.3	16.3	10.3	8.7
	25 °C	661	611	536	474	405	328	276	240	213	175	149	130	96.1	76.6	55.3	43.6	36.1	30.9	24.0	19.9	16.8	10.6	8.9
1.77	20 °C	701	644	559	490	415	332	278	241	213	174	148	129	94.3	75.0	54.0	42.7	35.3	30.0	23.3	19.3	16.3	10.3	8.7
	25 °C	722	663	575	505	427	342	287	248	219	179	152	133	97.2	77.3	55.6	43.9	36.4	30.9	24.0	19.9	16.8	10.6	8.9
1.75	20 °C	736	673	581	507	427	339	284	245	216	176	149	130	95.0	75.7	54.3	42.7	35.3	30.3	23.7	19.3	16.3	10.3	8.7
	25 °C	758	694	598	523	439	350	292	252	222	181	153	134	97.9	77.9	56.0	43.9	36.4	31.2	24.4	19.9	16.8	10.6	8.9
1.72	20 °C	783	712	609	529	442	349	290	250	220	178	151	131	95.7	76.0	54.3	42.7	35.3	30.3	23.7	19.3	16.3	10.3	8.7
	25 °C	806	733	628	545	455	359	299	257	226	184	156	135	98.5	78.3	56.0	43.9	36.4	31.2	24.4	19.9	16.8	10.6	8.9
1.70	20 °C	810	734	626	541	450	354	294	252	222	180	152	132	96.0	76.3	54.7	43.0	35.3	30.3	23.7	19.3	16.3	10.3	8.7
	25 °C	834	756	644	557	464	365	302	260	228	185	157	136	98.9	78.6	56.3	44.3	36.4	31.2	24.4	19.9	16.8	10.6	8.9
1.67	20 °C	844	763	646	556	461	361	298	255	224	181	153	133	96.7	76.7	54.7	43.0	35.7	30.3	23.7	19.3	16.3	10.3	8.7
	25 °C	870	786	665	573	475	371	307	263	231	187	158	137	100	79.0	56.3	44.3	36.7	31.2	24.4	19.9	16.8	10.6	8.9