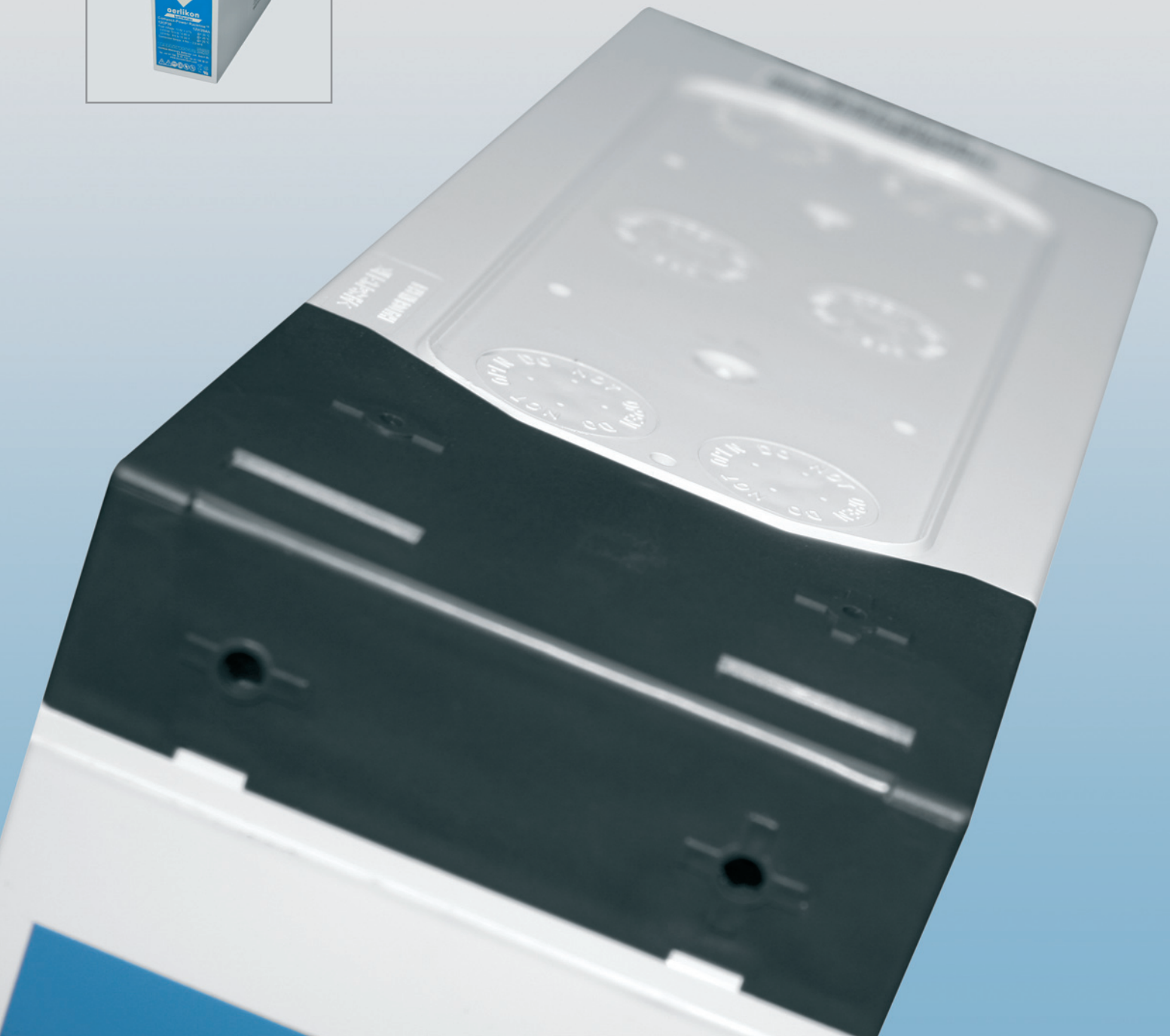




# 12CP30

Compact-Power Rackline™



# Technical specifications

## Type

# 12CP30

Part number

66300030


### Electrical Data

Nominal voltage	12 V	
Number of cells	6	
Rated capacity C <sub>10</sub> to 1.80 Vpc at 20 °C	29 Ah	
Rated capacity C <sub>8</sub> to 1.75 Vpc at 25 °C	28.8 Ah	
Current/Power for 0.5 h back-up time 1.65 Vpc 20 °C	35.5 A	397.8 W
Current/Power for 1.0 h back-up time 1.67 Vpc 20 °C	20.5 A	245.4 W
Current/Power for 2.0 h back-up time 1.80 Vpc 20 °C	11.2 A	141 W
Current/Power for 4.0 h back-up time 1.80 Vpc 20 °C	6.3 A	81 W
Current/Power for 8.0 h back-up time 1.80 Vpc 20 °C	3.5 A	42.6 W
Current/Power for 10.0 h back-up time 1.80 Vpc 20 °C	2.9 A	34.2 W
Current/Power for 20.0 h back-up time 1.80 Vpc 20 °C	1.6 A	17.4 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	9.0 mΩ	
Short circuit current (± 10%) to IEC/EN 60896-21	1.3 kA	
Self discharge at 20 °C to IEC/EN 60896-21	max. 3%/month	
Heat loss during float service at 20 °C	≈ 0.18 W	

### Mechanical Data

Weight ready for use	12.6 kg	
Height of monobloc	192 mm	
Height over gas collection system GCS™	207 mm	
Height over terminal connector	217 mm	
Width	100 mm	
Depth	275 mm	
Number of terminals	1⊕/1⊖	
Dimension of connector screw hole	M6	
Suggested/maximum cable cross-section	70 mm <sup>2</sup>	
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 <sup>2</sup>	
Complete connector and terminal connection accessories	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	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	

# Operating specifications

Figure 1



Figure 2

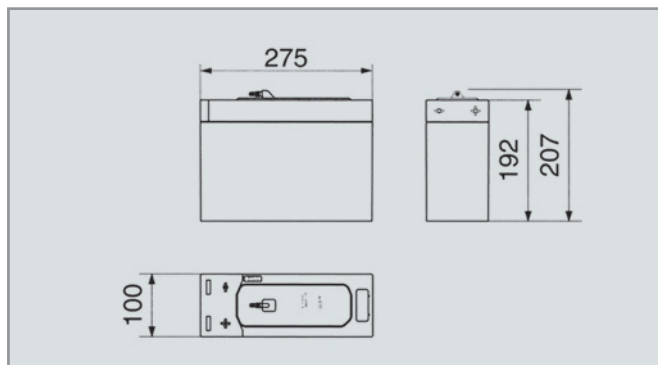
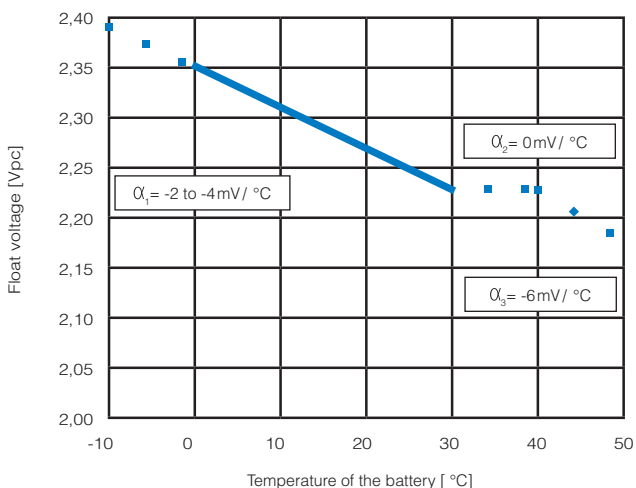


Figure 3



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

2.27 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

$$Q = 0.05 \cdot N_{\text{cells}} \cdot I_{\text{gas}} \cdot C_{\text{Ah C10}} \cdot 10^{-3} \text{ [m}^3\text{/h]}$$

$$I_{\text{gas}} = 1 \text{ (at 2.27 Vpc)} \quad I_{\text{gas}} = 8 \text{ (at 2.40 Vpc)}$$

$$\text{e.g. 48 V: } 0.0348 \text{ m}^3\text{/h} = 1.23 \text{ cu.ft/h (at 2.27 Vpc)}$$

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	60	57	53	49	44	37	33	29	26	22	19	17	13	10.4	7.6	6.0	5.0	4.3	3.4	2.8	2.4	1.6	1.3
	25 °C	63	60	55	51	46	39	34	30	28	23	20	18	13	10.7	7.8	6.2	5.2	4.4	3.5	2.9	2.5	1.6	1.3
1.87	20 °C	72	68	62	56	49	41	36	32	28	24	20	18	13	10.7	7.7	6.1	5.1	4.4	3.4	2.8	2.4	1.6	1.4
	25 °C	76	72	65	59	52	43	38	33	30	25	21	19	14	11.0	7.9	6.3	5.3	4.5	3.5	2.9	2.5	1.6	1.4
1.85	20 °C	81	76	68	61	53	44	38	33	30	25	21	18	14	10.9	7.8	6.2	5.1	4.4	3.5	2.8	2.4	1.6	1.4
	25 °C	85	79	71	64	56	46	40	35	31	26	22	19	14	11.2	8.0	6.4	5.3	4.5	3.6	2.9	2.5	1.6	1.4
1.84	20 °C	85	79	70	63	55	45	39	34	30	25	21	19	14	10.9	7.9	6.2	5.1	4.4	3.5	2.8	2.4	1.6	1.4
	25 °C	89	83	74	66	58	48	40	35	32	26	22	20	14	11.2	8.1	6.4	5.3	4.5	3.6	2.9	2.5	1.6	1.4
1.83	20 °C	89	83	73	65	56	46	40	34	31	25	22	19	14	11.0	7.9	6.2	5.1	4.4	3.5	2.9	2.4	1.6	1.4
	25 °C	93	87	77	69	59	49	41	36	32	26	23	20	14	11.3	8.1	6.4	5.3	4.5	3.6	3.0	2.5	1.6	1.4
1.82	20 °C	93	86	76	68	58	47	40	35	31	26	22	19	14	11.1	7.9	6.2	5.2	4.4	3.5	2.9	2.5	1.6	1.4
	25 °C	98	91	80	71	61	50	42	37	33	27	23	20	14	11.4	8.1	6.4	5.4	4.5	3.6	3.0	2.6	1.6	1.4
1.80	20 °C	101	93	81	72	61	49	42	36	32	26	22	19	14	11.2	8.0	6.3	5.2	4.4	3.5	2.9	2.5	1.6	1.4
	25 °C	106	98	85	75	64	52	44	38	34	27	23	20	15	11.5	8.2	6.5	5.4	4.5	3.6	3.0	2.6	1.6	1.4
1.77	20 °C	112	103	89	77	65	52	43	37	33	27	23	20	14	11.3	8.0	6.3	5.2	4.5	3.5	2.9	2.5	1.6	1.4
	25 °C	118	108	93	81	68	55	46	39	35	28	24	21	15	11.6	8.2	6.5	5.4	4.6	3.6	3.0	2.6	1.6	1.4
1.75	20 °C	119	109	93	81	68	53	44	38	34	27	23	20	14	11.4	8.1	6.3	5.2	4.5	3.5	2.9	2.5	1.6	1.4
	25 °C	125	114	97	85	71	56	47	40	35	29	24	21	15	11.7	8.3	6.5	5.4	4.6	3.6	3.0	2.6	1.6	1.4
1.72	20 °C	129	116	99	85	70	55	46	39	34	28	23	20	15	11.4	8.1	6.4	5.2	4.5	3.5	2.9	2.5	1.6	1.4
	25 °C	135	122	103	89	74	58	48	41	36	29	25	21	15	11.7	8.3	6.6	5.4	4.6	3.6	3.0	2.6	1.6	1.4
1.70	20 °C	134	121	102	88	72	56	46	40	35	28	24	20	15	11.5	8.1	6.4	5.3	4.5	3.5	2.9	2.5	1.6	1.4
	25 °C	141	127	107	92	76	59	49	42	36	29	25	21	15	11.8	8.3	6.6	5.5	4.6	3.6	3.0	2.6	1.6	1.4
1.67	20 °C	142	128	107	91	75	58	47	40	35	28	24	21	15	11.5	8.2	6.4	5.3	4.5	3.5	2.9	2.5	1.6	1.4
	25 °C	149	134	112	95	78	61	50	42	37	30	25	22	15	11.8	8.4	6.6	5.5	4.6	3.6	3.0	2.6	1.6	1.4
1.65	20 °C	147	132	109	93	76	58	48	41	36	28	24	21	15	11.6	8.2	6.4	5.3	4.5	3.5	2.9	2.5	1.6	1.4
	25 °C	154	139	114	97	80	61	50	43	37	30	25	22	15	11.9	8.4	6.6	5.5	4.6	3.6	3.0	2.6	1.6	1.4
1.63	20 °C	152	135	112	95	77	59	48	41	36	29	24	21	15	11.6	8.2	6.4	5.3	4.5	3.5	2.9	2.5	1.6	1.4
	25 °C	160	142	118	99	81	62	51	43	37	30	25	22	15	11.9	8.4	6.6	5.5	4.6	3.6	3.0	2.6	1.6	1.4
1.60	20 °C	158	140	115	97	78	60	49	41	36	29	24	21	15	11.6	8.2	6.4	5.3	4.5	3.5	2.9	2.5	1.6	1.4
	25 °C	166	147	121	102	82	63	51	43	38	30	25	22	15	11.9	8.4	6.6	5.5	4.6	3.6	3.0	2.6	1.6	1.4

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	118	112	103	95	84	72	63	57	51	44	38	34	27	21.9	16.3	12.9	10.7	9.1	7.0	5.6	4.7	2.9	2.4
	25 °C	124	118	108	99	89	75	66	59	54	46	40	36	27	22.6	16.8	13.3	11.0	9.4	7.2	5.8	4.8	3.0	2.5
1.87	20 °C	141	133	120	109	95	80	69	61	55	47	41	36	28	22.6	16.6	13.2	10.8	9.2	7.0	5.7	4.7	2.9	2.4
	25 °C	148	140	126	114	100	84	72	64	58	49	43	38	28	23.3	17.1	13.6	11.1	9.5	7.2	5.9	4.8	3.0	2.5
1.85	20 °C	156	146	131	118	102	84	72	64	57	48	42	37	28	22.9	16.8	13.3	10.9	9.3	7.1	5.7	4.8	2.9	2.4
	25 °C	164	153	138	124	107	89	76	67	60	51	44	39	29	23.6	17.3	13.7	11.2	9.6	7.3	5.9	4.9	3.0	2.5
1.84	20 °C	163	152	136	122	105	87	74	65	58	49	42	37	28	23.0	16.9	13.3	11.0	9.3	7.1	5.7	4.8	2.9	2.4
	25 °C	171	160	143	128	110	91	78	68	61	51	44	39	29	23.7	17.4	13.7	11.3	9.6	7.3	5.9	4.9	3.0	2.5
1.83	20 °C	170	158	141	126	108	88	75	66	59	49	43	38	29	23.2	17.0	13.4	11.0	9.3	7.1	5.7	4.8	2.9	2.4
	25 °C	179	166	148	132	113	93	79	69	62	52	45	40	29	23.9	17.5	13.8	11.3	9.6	7.3	5.9	4.9	3.0	2.5
1.82	20 °C	177	164	145	129	111	90	77	67	60	50	43	38	29	23.3	17.0	13.4	11.0	9.3	7.1	5.7	4.8	2.9	2.4
	25 °C	186	172	152	135	117	95	81	70	63	52	45	40	30	24.0	17.5	13.8	11.3	9.6	7.3	5.9	4.9	3.0	2.5
1.80	20 °C	189	175	153	136	116	93	79	69	61	51	44	39	29	23.5	17.1	13.5	11.1	9.4	7.1	5.7	4.8	2.9	2.4
	25 °C	198	184	161	143	122	98	83	72	64	53	46	41	30	24.2	17.6	13.9	11.4	9.7	7.3	5.9	4.9	3.0	2.5
1.77	20 °C	205	188	164	144	121	97	82	71	63	52	45	39	29	23.8	17.2	13.5	11.1	9.4	7.1	5.7	4.8	2.9	2.4
	25 °C	215	197	172	151	127	102	86	74	66	54	47	41	30	24.5	17.7	13.9	11.4	9.7	7.3	5.9	4.9	3.0	2.5
1.75	20 °C	214	196	169	148	124	99	83	72	64	53	45	40	30	23.9	17.3	13.8	11.1	9.4	7.1	5.7	4.8	2.9	2.4
	25 °C	225	206	177	155	130	104	87	75	67	55	47	42	30	24.6	17.8	14.2	11.4	9.7	7.3	5.9	4.9	3.0	2.5
1.72	20 °C	225	205	176	153	128	101	85	73	65	53	46	40	30	24.0	17.4	13.6	11.2	9.4	7.2	5.8	4.8	2.9	2.4
	25 °C	236	215	185	161	134	106	89	77	68	56	48	42	31	24.7	17.9	14.0	11.5	9.7	7.4	6.0	4.9	3.0	2.5
1.70	20 °C	231	210	180	156	130	102	85	74	65	53	46	40	30	24.1	17.4	13.6	11.2	9.5	7.2	5.8	4.8	2.9	2.4
	25 °C	243	221	189	164	137	107	90	77	68	56	48	42	31	24.8	17.9	14.0	11.5	9.8	7.4	6.0	4.9	3.0	2.5
1.67	20 °C	239	217	185	160	132	102	86	74	65	54	47	41	31	24.1	17.4	13.7	11.2	9.5	7.2	5.8	4.8	2.9	2.4
	25 °C	251	228	194	168	139	107	90	78	69	57	49	43	32	24.8	17.9	14.1	11.5	9.8	7.4	6.0	4.9	3.0	2.5
1.65	20 °C	245	221	188	162	134	105	87	75	66	54	46	41	30	24.2	17.5	13.7	11.3	9.5	7.2	5.8	4.8	2.9	2.4
	25 °C	257	232	197	170	141	110	92	79	70	57	49	43	31	24.9	18.0	14.1	11.6	9.8	7.4	6.0	4.9	3.0	2.5
1.63	20 °C	251	226	191	165	136	106	88	76	67	54	47	41	30	24.2	17.5	13.7	11.3	9.5	7.2	5.8	4.8	2.9	2.4
	25 °C	264	237	201	173	143	111	92	79	70	57	49	43	31	24.9	18.0	14.1	11.6	9.8	7.4	6.0	4.9	3.0	2.5
1.60	20 °C	259	233	196	168	138	108	89	76	67	55	47	41	30	24.3	17.6	13.8	11.3	9.5	7.2	5.8	4.8	2.9	