



# 12CP65

Compact-Power Blockline™



# Technical specifications

## Type

## 12CP65

Part number

66080065


### Electrical Data

Nominal voltage	12 V	
Number of cells	6	
Rated capacity C <sub>10</sub> to 1.80 Vpc at 20 °C	65 Ah	
Rated capacity C <sub>8</sub> to 1.75 Vpc at 25 °C	66 Ah	
Current/Power for 0.5 h back-up time 1.65 Vpc 20 °C	78.2 A	870 W
Current/Power for 1.0 h back-up time 1.67 Vpc 20 °C	45.1 A	505.8 W
Current/Power for 2.0 h back-up time 1.80 Vpc 20 °C	24.9 A	283.2 W
Current/Power for 4.0 h back-up time 1.80 Vpc 20 °C	14.2 A	162 W
Current/Power for 8.0 h back-up time 1.80 Vpc 20 °C	7.9 A	91.8 W
Current/Power for 10.0 h back-up time 1.80 Vpc 20 °C	6.5 A	76.2 W
Current/Power for 20.0 h back-up time 1.80 Vpc 20 °C	3.6 A	42 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	4.8 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	≈ 0.39 W	

### Mechanical Data

Weight ready for use	34.2 kg	
Height of monobloc	197 mm	
Height over terminal connector	221 mm	
Width	178 mm	
Depth	357 mm	
Number of terminals	1⊕/1⊖	
Dimension of connector screw hole	M5	
Suggested/maximum cable cross-section	50 mm <sup>2</sup> /70 mm <sup>2</sup> *)	
Connection torque	5 Nm	
Terminal insulation class according to IEC/EN 60529	IP20	
Diameter of diagnostic hole for voltage probe	2 mm Ø	
Connector (copper, tin-coated) rigid and insulated	50 mm <sup>2</sup>	
Complete connector and terminal connection accessoires	available	

### 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 – UL 94 HB
Flame barriers at vents	installed
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

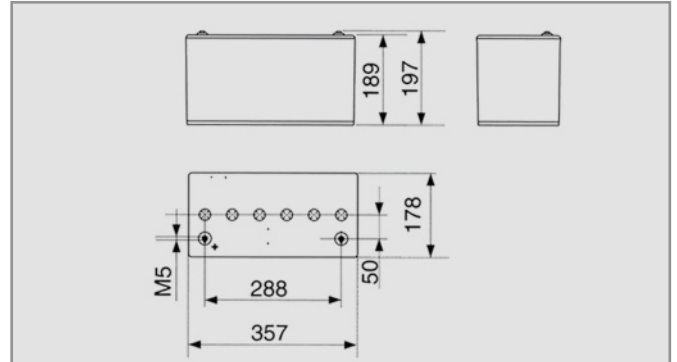
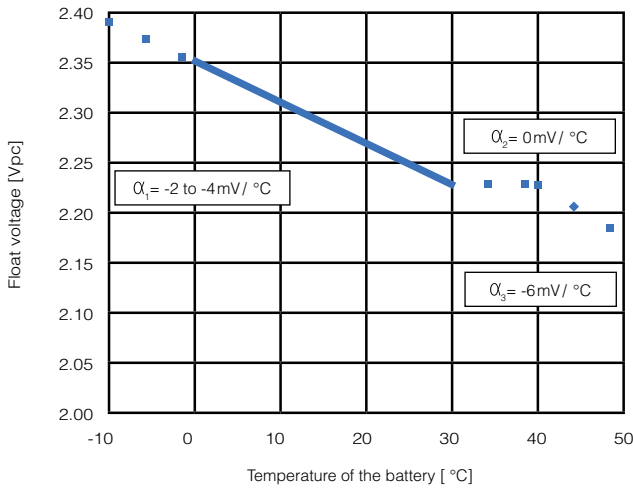


Figure 3



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

Air exchange

Preferred operating temperature range

Maximum long term operating temperature

Maximum short term operating temperature (for hours)

Minimum fully charged operating temperature

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

2.25 Vpc ± 1% at 20 to 25 °C (68 to 77 °F)

2.29 Vpc - 2.30 Vpc (no correction factor needed)

unlimited, otherwise 3 · I<sub>10</sub> 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<sub>10</sub> max. for 24 h max. at t < 30 °C

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<sub>gas</sub> = 1 (at 2.25 Vpc) I<sub>gas</sub> = 8 (at 2.40 Vpc)

e.g. 48 V: 0.078 m<sup>3</sup>/h = 2.75 cu.ft/h (at 2.25 Vpc)

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

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

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

-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	173	148	132	120	106	89.3	77.3	68.4	61.5	51.4	44.3	39.1	29.3	23.6	17.3	13.8	11.5	9.9	7.8	6.5	5.5	3.5	3.0
	25 °C	178	152	136	124	109	92.0	79.6	70.5	63.3	52.9	45.6	40.3	30.2	24.3	17.8	14.2	11.8	10.2	8.0	6.7	5.7	3.6	3.1
1.87	20 °C	203	169	149	134	117	96.8	82.9	72.7	64.9	53.8	46.1	40.5	30.1	24.1	17.6	13.9	11.6	10.0	7.8	6.5	5.5	3.5	3.0
	25 °C	209	174	153	138	121	100	85.4	74.9	66.8	55.4	47.5	41.7	31.0	24.8	18.1	14.3	11.9	10.3	8.0	6.7	5.7	3.6	3.1
1.85	20 °C	224	184	161	143	124	101	86.2	75.3	67.0	55.2	47.1	41.3	30.5	24.4	17.7	14.0	11.7	10.0	7.9	6.5	5.6	3.5	3.0
	25 °C	231	190	166	147	128	104	88.8	77.6	69.0	56.9	48.5	42.5	31.4	25.1	18.2	14.4	12.1	10.3	8.1	6.7	5.8	3.6	3.1
1.84	20 °C	235	191	166	148	127	103	87.8	76.4	67.9	55.8	47.6	41.6	30.7	24.5	17.8	14.1	11.7	10.1	7.9	6.5	5.6	3.5	3.0
	25 °C	242	197	171	152	131	106	90.4	78.7	69.9	57.5	49.0	42.8	31.6	25.2	18.3	14.5	12.1	10.4	8.1	6.7	5.8	3.6	3.1
1.83	20 °C	246	198	171	152	130	106	89.2	77.5	68.8	56.4	48.0	42.0	30.8	24.6	17.8	14.1	11.7	10.1	7.9	6.5	5.6	3.5	3.0
	25 °C	253	204	176	157	134	109	91.9	79.8	70.9	58.1	49.4	43.3	31.7	25.3	18.3	14.5	12.1	10.4	8.1	6.7	5.8	3.6	3.1
1.82	20 °C	257	205	177	156	133	107	90.6	78.6	69.6	56.9	48.4	42.3	31.0	24.7	17.9	14.1	11.8	10.1	7.9	6.5	5.6	3.6	3.0
	25 °C	264	211	182	161	137	111	93.3	80.9	71.7	58.6	49.9	43.5	31.9	25.5	18.4	14.6	12.1	10.4	8.1	6.7	5.7	3.7	3.1
1.80	20 °C	278	218	187	164	139	111	93.2	80.5	71.1	57.9	49.1	42.8	31.3	24.9	18.0	14.2	11.8	10.1	7.9	6.5	5.6	3.6	3.0
	25 °C	287	225	192	169	143	114	96.0	82.9	73.2	59.7	50.6	44.1	32.2	25.7	18.5	14.6	12.1	10.4	8.2	6.7	5.8	3.7	3.1
1.77	20 °C	311	238	201	174	146	116	96.5	83.0	73.0	59.2	50.1	43.5	31.7	25.2	18.1	14.3	11.8	10.2	8.0	6.6	5.6	3.6	3.0
	25 °C	320	245	207	179	151	119	99.4	85.5	75.2	61.0	51.6	44.8	32.6	25.9	18.6	14.7	12.2	10.5	8.2	6.8	5.8	3.7	3.1
1.75	20 °C	332	250	209	181	151	119	98.5	84.4	74.1	59.9	50.6	43.9	31.9	25.3	18.2	14.3	11.9	10.2	8.0	6.6	5.6	3.6	3.0
	25 °C	342	257	215	186	155	122	101	87.0	76.3	61.7	52.1	45.2	32.8	26.0	18.7	14.7	12.2	10.5	8.2	6.8	5.8	3.7	3.1
1.72	20 °C	363	267	221	190	157	122	101	86.3	75.6	60.9	51.2	44.4	32.1	25.5	18.2	14.4	11.9	10.2	8.0	6.6	5.6	3.6	3.0
	25 °C	374	275	228	195	161	126	104	88.9	77.8	62.7	52.8	45.8	33.1	26.2	18.8	14.8	12.3	10.5	8.2	6.8	5.8	3.7	3.1
1.70	20 °C	383	278	228	195	160	125	103	87.4	76.4	61.4	51.6	44.7	32.3	25.6	18.3	14.4	11.9	10.2	8.0	6.6	5.6	3.6	3.0
	25 °C	394	286	235	201	165	128	106	90.0	78.7	63.3	53.2	46.0	33.3	26.3	18.8	14.8	12.3	10.5	8.2	6.8	5.8	3.7	3.1
1.67	20 °C	412	293	239	202	165	128	105	88.9	77.5	62.1	52.1	45.1	32.5	25.7	18.4	14.4	12.0	10.2	8.0	6.6	5.6	3.6	3.0
	25 °C	425	302	246	208	170	131	108	91.5	79.8	64.0	53.7	46.4	33.5	26.4	18.9	14.9	12.3	10.6	8.2	6.8	5.8	3.7	3.1
1.65	20 °C	431	303	245	207	168	129	106	89.7	78.2	62.5	52.4	45.3	32.6	25.7	18.4	14.5	12.0	10.3	8.0	6.6	5.6	3.6	3.0
	25 °C	444	312	252	213	173	133	109	92.4	80.5	64.4	54.0	46.7	33.6	26.5	18.9	14.9	12.3	10.6	8.3	6.8	5.8	3.7	3.1
1.63	20 °C	450	312	251	211	171	131	107	90.5	78.7	62.9	52.7	45.5	32.7	25.8	18.4	14.5	12.0	10.3	8.0	6.6	5.6	3.6	3.0
	25 °C	464	321	258	217	176	135	110	93.2	81.1	64.8	54.3	46.9	33.7	26.6	19.0	14.9	12.3	10.6	8.3	6.8	5.8	3.7	3.1
1.60	20 °C	477	324	259	217	175	133	108	91.5	79.5	63.4	53.0	45.8	32.8	25.9	18.5	14.5	12.0	10.3	8.0	6.6	5.6	3.6	3.0
	25 °C	492	334	267	223	180	137	112	94.3	81.9	65.3	54.6	47.1	33.8	26.7	19.0	14.9	12.4	10.6	8.3	6.8	5.8	3.7	3.1

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	336	286	256	232	205	172	148	131	118	98.2	84.5	74.7	55.8	45.0	33.0	26.3	22.0	19.0	15.0	12.5	10.7	7.0	6.0
	25 °C	346	294	263	239	211	177	153	135	121	101	87.0	76.9	57.5	46.4	34.0	27.1	22.7	19.6	15.5	12.9	11.0	7.2	6.2
1.87	20 °C	390	324	286	257	224	185	158	139	124	102	87.7	77.0	57.2	45.8	33.5	26.7	22.2	19.2	15.2	12.5	10.8	7.0	6.0
	25 °C	402	334	295	265	230	190	163	143	127	105	90.3	79.3	58.9	47.2	34.5	27.5	22.8	19.7	15.6	12.9	11.2	7.2	6.2
1.85	20 °C	426	349	305	272	235	193	164	143	127	105	89.3	78.3	57.8	46.3	33.7	26.8	22.3	19.3	15.2	12.7	10.8	7.0	6.0
	25 °C	439	359	314	280	242	198	169	147	131	108	92.0	80.7	59.6	47.7	34.7	27.6	23.0	19.9	15.6	13.0	11.2	7.2	6.2
1.84	20 °C	444	360	314	279	240	196	166	145	129	106	90.1	78.9	58.1	46.5	33.8	26.8	22.4	19.3	15.2	12.6	10.8	7.0	6.0
	25 °C	457	371	323	288	248	202	171	149	132	109	92.8	81.2	59.9	47.9	34.8	27.6	23.1	19.9	15.7	13.0	11.2	7.2	6.1
1.83	20 °C	461	372	323	286	246	199	169	147	130	107	90.8	79.4	58.4	46.7	33.9	26.9	22.4	19.3	15.2	12.6	10.8	7.0	6.0
	25 °C	475	383	332	295	253	205	174	151	134	110	93.5	81.8	60.2	48.1	34.9	27.7	23.1	19.9	15.7	13.0	11.2	7.2	6.1
1.82	20 °C	479	383	331	293	250	203	171	148	131	108	91.5	79.8	58.7	46.8	34.0	27.0	22.5	19.3	15.3	12.7	10.8	7.0	6.0
	25 °C	493	394	341	302	258	209	176	153	135	111	94.2	82.2	60.4	48.2	35.0	27.8	23.2	19.9	15.8	13.0	11.2	7.2	6.2
1.80	20 °C	513	404	347	305	259	208	175	151	134	109	92.7	80.8	59.2	47.2	34.2	27.0	22.5	19.3	15.3	12.7	10.8	7.0	6.0
	25 °C	528	416	357	314	267	215	180	156	138	112	95.4	83.3	60.9	48.6	35.2	27.8	23.2	19.9	15.8	13.0	11.2	7.2	6.2
1.77	20 °C	561	434	368	322	271	216	180	155	137	111	94.2	81.8	59.8	47.5	34.3	27.2	22.7	19.5	15.3	12.7	10.8	7.0	6.0
	25 °C	577	447	379	331	279	222	186	160	141	115	97.0	84.3	61.6	48.9	35.4	28.0	23.3	20.1	15.8	13.0	11.2	7.2	6.2
1.75	20 °C	591	452	381	332	278	220	183	158	139	112	94.8	82.5	60.2	47.8	34.5	27.2	22.7	19.5	15.3	12.7	10.8	7.0	6.0
	25 °C	609	465	393	341	286	227	189	162	143	116	97.7	85.0	62.0	49.3	35.5	28.0	23.3	20.1	15.8	13.0	11.2	7.2	6.2
1.72	20 °C	635	477	399	345	287	226	187	161	141	114	96.0	83.3	60.5	48.0	34.7	27.3	22.7	19.5	15.3	12.7	10.8	7.0	6.0
	25 °C	654	491	411	355	296	233	193	165	145	117	98.9	85.8	62.3	49.4	35.7	28.2	23.3	20.1	15.8	13.0	11.2	7.2	6.2
1.70	20 °C	662	492	410	353	293	229	190	162	142	115	96.5	83.8	60.7	48.2	34.7	27.3	22.8	19.5	15.3	12.7	10.8	7.0	6.0
	25 °C	682	507	422	363	301	236	195	167	146	118	99.4	86.3	62.5	49.6	35.7	28.2	23.5	20.1	15.8	13.0	11.2	7.2	6.2
1.67	20 °C	701	513	424	363	300	234	193	164	144	116	97.3	84.3	61.0	48.3	34.8	27.5	22.8	19.7	15.3	12.8	11.0	7.0	6.0
	25 °C	722	528	437	374	309	241	198	169	148	119	100	86.9	62.8	49.8	35.9	28.3	23.5	20.3	15.8	13.2	11.3		