

Datasheet



6CP80

Compact-Power Blockline™



Technical specifications

Type

6CP80

Part number

63010080


Electrical Data

Nominal voltage	6 V	
Number of cells	3	
Rated capacity C ₁₀ to 1.80 Vpc at 20 °C	80 Ah	
Rated capacity C ₈ to 1.75 Vpc at 25 °C	80 Ah	
Current/Power for 0.5 h back-up time 1.65 Vpc 20 °C	98.8 A	543 W
Current/Power for 1.0 h back-up time 1.67 Vpc 20 °C	57.0 A	318 W
Current/Power for 2.0 h back-up time 1.80 Vpc 20 °C	31.1 A	117.9 W
Current/Power for 4.0 h back-up time 1.80 Vpc 20 °C	17.4 A	101.1 W
Current/Power for 8.0 h back-up time 1.80 Vpc 20 °C	9.7 A	56.1 W
Current/Power for 10.0 h back-up time 1.80 Vpc 20 °C	8.0 A	45.9 W
Current/Power for 20.0 h back-up time 1.80 Vpc 20 °C	4.4 A	24 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	2.7 mΩ	
Short circuit current (± 10%) to IEC/EN 60896-21	2.2 kA	
Self discharge at 20 °C to IEC/EN 60896-21	max. 3%/month	
Heat loss during float service at 20 °C	≈ 0.24 W	

Mechanical Data

Weight ready for use	23.3 kg	
Height of monobloc	283 mm	
Height over terminal connector	298 mm	
Width	177 mm	
Depth	205 mm	
Number of terminals	1⊕/1⊖	
Dimension of connector screw hole	M8	
Suggested/maximum cable cross-section	70 mm ² /185 mm ² *)	
Connection torque	11 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	90 mm ²	
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 (std.) ABS-PC – UL 94 V-0 with LOI > 32%, halogen-free
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

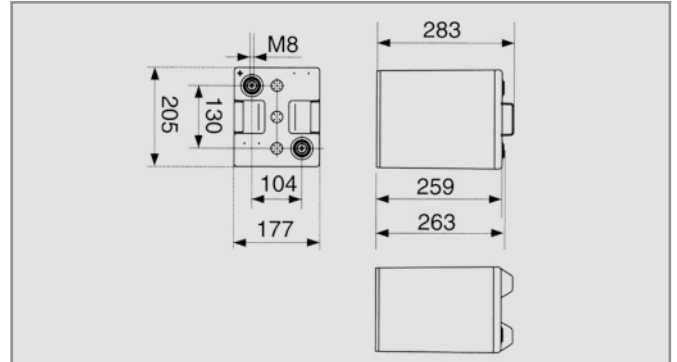
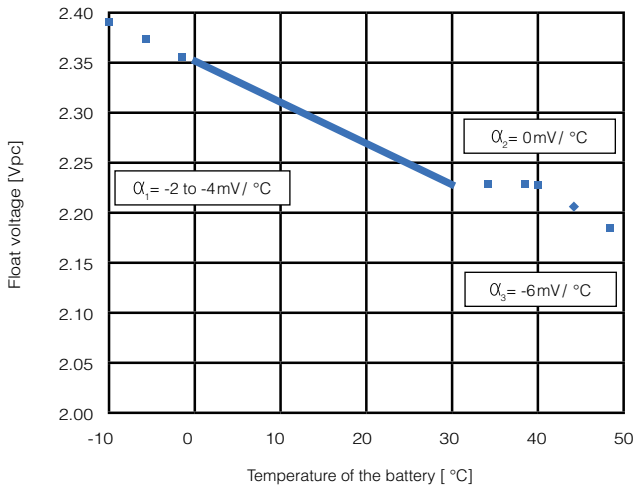


Figure 3



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 $3 \cdot I_{10}$ 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

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

$Q = 0.05 \cdot N_{\text{cells}} \cdot I_{\text{gas}} \cdot C_{\text{Ah C10}} \cdot 10^{-3}$ [m³/h]

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

e.g. 48 V: 0.096 m³/h = 3.39 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	167	159	146	135	121	103	90.5	80.8	73.2	61.8	53.7	47.6	35.8	28.9	21.1	16.7	14.0	12.0	9.4	7.8	6.7	4.4	3.7
	25 °C	172	164	150	139	125	106	93.2	83.2	75.4	63.7	55.3	49.0	36.9	29.8	21.7	17.2	14.4	12.4	9.7	8.0	6.9	4.5	3.8
1.87	20 °C	201	190	172	156	137	115	100	88.0	79.0	65.9	56.7	50.0	37.1	29.7	21.5	17.0	14.2	12.2	9.5	7.9	6.8	4.4	3.8
	25 °C	207	196	177	161	141	118	103	90.6	81.4	67.9	58.4	51.5	38.2	30.6	22.1	17.5	14.6	12.6	9.8	8.1	7.0	4.5	3.9
1.85	20 °C	224	210	188	170	148	122	105	92.1	82.3	68.2	58.5	51.3	37.8	30.2	21.8	17.2	14.3	12.2	9.6	7.9	6.8	4.4	3.8
	25 °C	231	216	194	175	152	126	108	94.9	84.8	70.2	60.3	52.8	38.9	31.1	22.5	17.7	14.7	12.6	9.9	8.1	7.0	4.5	3.9
1.84	20 °C	236	221	196	176	153	126	107	94.0	83.8	69.2	59.2	51.9	38.1	30.4	21.9	17.2	14.3	12.3	9.6	7.9	6.8	4.4	3.8
	25 °C	243	228	202	181	158	130	110	96.8	86.3	71.3	61.0	53.5	39.2	31.3	22.6	17.7	14.7	12.7	9.9	8.1	7.0	4.5	3.9
1.83	20 °C	247	231	204	182	157	129	110	95.8	85.3	70.2	59.9	52.4	38.4	30.6	22.0	17.3	14.3	12.3	9.6	8.0	6.8	4.4	3.8
	25 °C	254	238	210	187	162	133	113	98.7	87.9	72.3	61.7	54.0	39.6	31.5	22.7	17.8	14.7	12.7	9.9	8.2	7.0	4.5	3.9
1.82	20 °C	258	240	212	189	162	132	112	97.5	86.6	71.1	60.6	52.9	38.7	30.8	22.1	17.4	14.4	12.3	9.6	8.0	6.8	4.4	3.8
	25 °C	266	248	218	194	167	136	115	100	89.2	73.2	62.4	54.5	39.9	31.7	22.7	17.9	14.8	12.7	9.9	8.2	7.0	4.5	3.9
1.80	20 °C	281	259	226	200	170	137	116	100	88.9	72.7	61.7	53.8	39.2	31.1	22.2	17.4	14.4	12.4	9.7	8.0	6.8	4.4	3.8
	25 °C	289	267	233	206	176	142	119	103	91.6	74.8	63.5	55.4	40.3	32.0	22.9	18.0	14.9	12.7	10.0	8.2	7.0	4.6	3.9
1.77	20 °C	312	286	246	215	181	145	121	104	91.8	74.6	63.1	54.8	39.7	31.4	22.4	17.6	14.5	12.4	9.7	8.0	6.9	4.4	3.8
	25 °C	321	294	254	222	187	149	124	107	94.6	76.8	65.0	56.5	40.9	32.3	23.1	18.1	15.0	12.8	10.0	8.3	7.1	4.6	3.9
1.75	20 °C	331	302	258	224	188	149	124	106	93.4	75.6	63.8	55.4	40.0	31.6	22.5	17.6	14.6	12.4	9.7	8.0	6.9	4.4	3.8
	25 °C	341	311	266	231	193	153	127	109	96.2	77.9	65.7	57.0	41.2	32.5	23.2	18.1	15.0	12.8	10.0	8.3	7.1	4.6	3.9
1.72	20 °C	358	324	274	236	196	154	127	109	95.0	77.0	65.0	56.0	40.4	31.8	22.6	17.7	14.6	12.5	9.7	8.0	6.9	4.4	3.8
	25 °C	369	334	282	243	202	159	131	112	97.9	79.3	67.0	57.7	41.6	32.8	23.3	18.2	15.0	12.9	10.0	8.2	7.1	4.5	3.9
1.70	20 °C	374	337	284	243	201	157	129	110	96.6	77.7	65.3	56.5	40.6	31.9	22.7	17.7	14.6	12.5	9.8	8.0	6.9	4.4	3.8
	25 °C	385	348	292	251	207	161	133	114	99.5	80.0	67.2	58.2	41.8	32.9	23.3	18.3	15.1	12.9	10.0	8.3	7.1	4.6	3.9
1.67	20 °C	396	355	296	253	207	160	132	112	98.0	78.6	65.9	57.0	40.8	32.1	22.7	17.8	14.7	12.5	9.8	8.1	6.9	4.4	3.8
	25 °C	408	366	305	260	213	165	136	116	101	81.0	67.9	58.7	42.1	33.1	23.4	18.3	15.1	12.9	10.1	8.3	7.1	4.6	3.9
1.65	20 °C	410	366	304	258	211	163	133	113	98.8	79.1	66.3	57.2	41.0	32.2	22.8	17.8	14.7	12.5	9.8	8.1	6.9	4.4	3.8
	25 °C	422	377	313	266	217	168	137	117	102	81.5	68.3	58.9	42.2	33.1	23.5	18.3	15.1	12.9	10.1	8.3	7.1	4.6	3.9
1.63	20 °C	422	376	311	263	214	165	134	114	99.5	79.6	66.6	57.5	41.1	32.2	22.8	17.8	14.7	12.6	9.8	8.1	6.9	4.4	3.8
	25 °C	435	387	320	271	220	169	138	118	102	81.9	68.6	59.2	42.3	33.2	23.5	18.4	15.1	12.9	10.1	8.3	7.1	4.6	3.9
1.60	20 °C	438	389	319	269	218	167	136	115	100	80.1	67.0	57.7	41.2	32.3	22.9	17.8	14.7	12.6	9.8	8.1	6.9	4.4	3.8
	25 °C	451	400	329	277	225	172	140	119	103	82.5	69.0	59.5	42.5	33.3	23.6	18.4	15.2	12.9	10.1	8.3	7.1	4.6	3.9

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	323	307	281	259	231	197	172	154	139	118	102	90.7	68.7	55.7	40.7	32.3	27.0	23.3	18.3	15.0	12.7	8.0	7.0
	25 °C	332	316	290	266	238	203	177	158	143	121	105	93.4	70.7	57.3	41.9	33.3	27.8	24.0	18.9	15.5	13.0	8.2	7.2
1.87	20 °C	382	360	326	296	260	217	188	166	149	125	108	95.0	71.0	57.3	41.7	33.0	27.3	23.7	18.3	15.0	13.0	8.0	7.0
	25 °C	394	371	335	305	268	224	193	171	153	128	111	97.9	73.1	59.1	42.9	34.0	28.2	24.4	18.9	15.5	13.4	8.2	7.2
1.85	20 °C	422	395	354	319	278	230	197	173	155	129	111	97.3	72.3	58.0	42.0	33.3	27.7	23.7	18.3	15.3	13.0	8.0	7.0
	25 °C	435	407	365	329	286	237	203	178	159	133	114	100	74.5	59.7	43.3	34.3	28.5	24.4	18.9	15.8	13.4	8.2	7.2
1.84	20 °C	441	412	368	330	286	235	201	176	157	130	112	98.2	72.8	58.3	42.2	33.4	27.7	23.7	18.5	15.2	12.9	8.1	6.9
	25 °C	455	425	379	340	294	242	207	181	162	134	115	101	75.0	60.1	43.5	34.4	28.5	24.4	19.1	15.7	13.3	8.4	7.1
1.83	20 °C	460	429	381	340	294	241	205	179	160	132	113	99.1	73.3	58.7	42.4	33.5	27.8	23.8	18.5	15.2	12.9	8.1	6.9
	25 °C	474	442	392	350	303	248	211	184	164	136	116	102	75.5	60.4	43.7	34.5	28.6	24.5	19.1	15.7	13.3	8.4	7.1
1.82	20 °C	479	445	393	350	301	245	208	182	162	133	114	100	73.7	59.0	42.7	33.7	27.7	23.7	18.7	15.3	13.0	8.0	7.0
	25 °C	493	458	405	361	310	253	215	187	167	137	117	103	75.9	60.8	43.9	34.7	28.5	24.4	19.2	15.8	13.4	8.2	7.2
1.80	20 °C	514	475	416	369	315	254	215	187	166	136	116	101	74.7	59.3	42.7	33.7	28.0	24.0	18.7	15.3	13.0	8.0	7.0
	25 °C	529	489	429	380	324	262	221	192	171	140	119	104	76.9	61.1	43.9	34.7	28.8	24.7	19.2	15.8	13.4	8.2	7.2
1.77	20 °C	561	515	447	392	332	265	223	193	170	139	118	103	75.3	60.0	43.0	34.0	28.0	24.0	18.7	15.3	13.0	8.3	7.0
	25 °C	578	530	460	404	342	273	229	198	175	143	122	106	77.6	61.8	44.3	35.0	28.8	24.7	19.2	15.8	13.4	8.6	7.2
1.75	20 °C	589	539	465	406	341	272	227	196	173	141	119	104	76.0	60.3	43.3	34.0	28.0	24.0	18.7	15.3	13.0	8.3	7.0
	25 °C	607	555	479	418	352	280	234	202	178	145	123	107	78.3	62.1	44.6	35.0	28.8	24.7	19.2	15.8	13.4	8.6	7.2
1.72	20 °C	626	570	487	423	354	279	232	200	176	143	121	105	76.7	60.7	43.3	34.0	28.3	24.0	18.7	15.3	13.0	8.3	7.0
	25 °C	645	587	502	436	364	288	239	206	181	147	124	108	79.0	62.5	44.6	35.0	29.2	24.7	19.2	15.8	13.4	8.6	7.2
1.70	20 °C	648	587	500	433	360	283	235	202	177	144	122	106	77.0	61.0	43.7	34.3	28.3	24.0	18.7	15.3	13.0	8.3	7.0
	25 °C	667	605	515	446	371	292	242	208	183	148	125	109	79.3	62.8	45.0	35.4	29.2	24.7	19.2	15.8	13.4	8.6	7.2
1.67	20 °C	675	610	517	445	369	289	239	204	179	145	123	106	77.3	61.0	43.7	34.3	28.3	24.0	18.7	15.3	13.0	8.3	7.0
	25 °C	696	629	533	459	380	297	246	210	185	149	126	110	79.7	62.8	45.0	35.4	29.2	24.7	19.2	15.8	13.4	8.6	7.2
1.65	20 °C	691	623	526	452	373	291	241	206	181	1													