



12CP52

Compact-Power Blockline™



Compact-Power™
12CP52 17Ah-20Ah
Nominal voltage: 12.8V 1.7Ah 60-70%
51Ah 60-70%
63Ah 60-70%
75Ah 60-70%
87Ah 60-70%
100Ah 60-70%
112Ah 60-70%
125Ah 60-70%
137Ah 60-70%
150Ah 60-70%
162Ah 60-70%
174Ah 60-70%
186Ah 60-70%
200Ah 60-70%
212Ah 60-70%
225Ah 60-70%
237Ah 60-70%
250Ah 60-70%
262Ah 60-70%
275Ah 60-70%
287Ah 60-70%
300Ah 60-70%
312Ah 60-70%
325Ah 60-70%
337Ah 60-70%
350Ah 60-70%
362Ah 60-70%
375Ah 60-70%
387Ah 60-70%
400Ah 60-70%
412Ah 60-70%
425Ah 60-70%
437Ah 60-70%
450Ah 60-70%
462Ah 60-70%
475Ah 60-70%
487Ah 60-70%
500Ah 60-70%
512Ah 60-70%
525Ah 60-70%
537Ah 60-70%
550Ah 60-70%
562Ah 60-70%
575Ah 60-70%
587Ah 60-70%
600Ah 60-70%
612Ah 60-70%
625Ah 60-70%
637Ah 60-70%
650Ah 60-70%
662Ah 60-70%
675Ah 60-70%
687Ah 60-70%
700Ah 60-70%
712Ah 60-70%
725Ah 60-70%
737Ah 60-70%
750Ah 60-70%
762Ah 60-70%
775Ah 60-70%
787Ah 60-70%
800Ah 60-70%
812Ah 60-70%
825Ah 60-70%
837Ah 60-70%
850Ah 60-70%
862Ah 60-70%
875Ah 60-70%
887Ah 60-70%
900Ah 60-70%
912Ah 60-70%
925Ah 60-70%
937Ah 60-70%
950Ah 60-70%
962Ah 60-70%
975Ah 60-70%
987Ah 60-70%
1000Ah 60-70%

oerlikon
batteries

SAFETY SYMBOLS:
! (Warning)
⚡ (High Voltage)
♻️ (Recycling)
🔥 (Flammable)
☠️ (Toxic)
🚫 (Prohibited)

Technical specifications

Type

12CP52

Part number

66080052


Electrical Data

Nominal voltage	12 V	
Number of cells	6	
Rated capacity C ₁₀ to 1.80 Vpc at 20 °C	52 Ah	
Rated capacity C ₈ to 1.75 Vpc at 25 °C	53 Ah	
Current/Power for 0.5 h back-up time 1.65 Vpc 20 °C	62.5 A	696 W
Current/Power for 1.0 h back-up time 1.67 Vpc 20 °C	36.0 A	405 W
Current/Power for 2.0 h back-up time 1.80 Vpc 20 °C	19.9 A	226.8 W
Current/Power for 4.0 h back-up time 1.80 Vpc 20 °C	11.3 A	130.2 W
Current/Power for 8.0 h back-up time 1.80 Vpc 20 °C	6.3 A	73.8 W
Current/Power for 10.0 h back-up time 1.80 Vpc 20 °C	5.2 A	61.2 W
Current/Power for 20.0 h back-up time 1.80 Vpc 20 °C	2.8 A	34.2 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	5.5 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	≈ 0.31 W	

Mechanical Data

Weight ready for use	28.6 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 ² /70 mm ² *)	
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 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
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

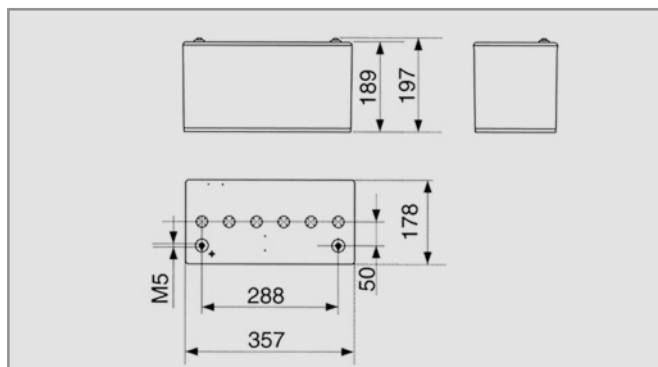
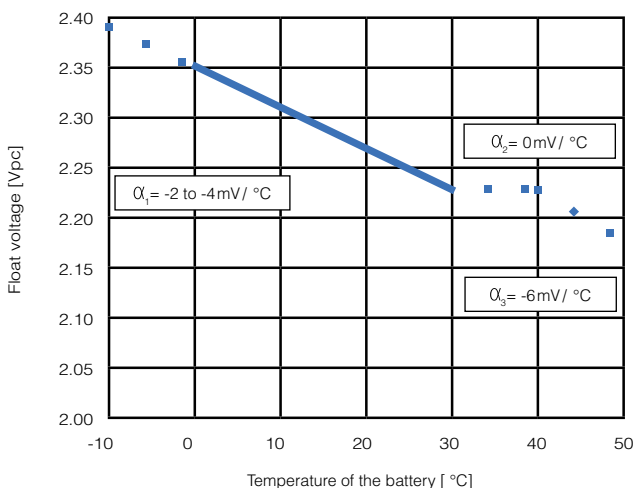


Figure 3



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 · I₁₀ 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 I₁₀ 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_{gas} = 1 (at 2.25 Vpc) I_{gas} = 8 (at 2.40 Vpc)

e.g. 48 V: 0.0624 m³/h = 2.0 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	138	118	106	96.1	84.9	71.4	61.8	54.7	49.1	41.1	35.4	31.3	23.4	18.9	13.8	11.0	9.2	7.9	6.2	5.2	4.4	2.8	2.4
	25 °C	142	122	109	99.0	87.4	73.5	63.7	56.3	50.6	42.3	36.5	32.2	24.1	19.5	14.2	11.3	9.5	8.1	6.4	5.4	4.5	2.9	2.5
1.87	20 °C	163	135	120	108	93.7	77.5	66.3	58.2	52.0	43.0	36.9	32.4	24.0	19.3	14.0	11.1	9.3	8.0	6.3	5.2	4.4	2.8	2.4
	25 °C	168	139	124	111	96.5	79.8	68.3	59.9	53.6	44.3	38.0	33.4	24.7	19.9	14.4	11.4	9.6	8.2	6.5	5.4	4.5	2.9	2.5
1.85	20 °C	180	147	129	115	99.2	81.2	69.0	60.2	53.6	44.1	37.7	33.0	24.4	19.5	14.1	11.2	9.3	8.0	6.3	5.2	4.5	2.8	2.4
	25 °C	185	151	133	118	102	83.6	71.1	62.0	55.2	45.4	38.8	34.0	25.1	20.1	14.5	11.5	9.6	8.2	6.5	5.4	4.6	2.9	2.5
1.84	20 °C	188	153	133	118	102	82.8	70.2	61.1	54.3	44.6	38.0	33.3	24.5	19.6	14.2	11.2	9.4	8.0	6.3	5.2	4.5	2.8	2.4
	25 °C	194	158	137	122	105	85.3	72.3	62.9	55.9	45.9	39.1	34.3	25.2	20.2	14.6	11.5	9.7	8.2	6.5	5.4	4.6	2.9	2.5
1.83	20 °C	197	158	137	122	104	84.5	71.4	62.0	55.0	45.1	38.4	33.6	24.6	19.7	14.2	11.3	9.4	8.1	6.3	5.2	4.5	2.8	2.4
	25 °C	203	163	141	126	107	87.0	73.5	63.9	56.7	46.5	39.6	34.6	25.3	20.3	14.6	11.6	9.7	8.3	6.5	5.4	4.6	2.9	2.5
1.82	20 °C	206	164	141	125	107	86.1	72.5	62.9	55.7	45.5	38.7	33.8	24.8	19.8	14.3	11.3	9.4	8.1	6.3	5.2	4.5	2.8	2.4
	25 °C	212	169	146	129	110	88.6	74.7	64.8	57.3	46.9	39.9	34.8	25.5	20.4	14.7	11.6	9.7	8.3	6.5	5.4	4.6	2.9	2.5
1.80	20 °C	223	175	149	131	111	88.9	74.5	64.4	56.8	46.3	39.3	34.2	25.0	19.9	14.4	11.3	9.4	8.1	6.3	5.2	4.5	2.8	2.4
	25 °C	229	180	154	135	114	91.6	76.8	66.3	58.6	47.7	40.5	35.3	25.8	20.5	14.8	11.7	9.7	8.3	6.5	5.4	4.6	2.9	2.5
1.77	20 °C	248	190	160	139	117	92.7	77.2	66.4	58.4	47.3	40.0	34.8	25.3	20.1	14.5	11.4	9.5	8.1	6.4	5.3	4.5	2.9	2.4
	25 °C	255	195	165	143	120	95.5	79.5	68.3	60.1	48.7	41.2	35.8	26.1	20.7	14.9	11.7	9.8	8.4	6.6	5.4	4.6	2.9	2.5
1.75	20 °C	265	199	167	144	120	94.9	78.7	67.5	59.2	47.9	40.4	35.1	25.5	20.2	14.5	11.4	9.5	8.1	6.4	5.3	4.5	2.9	2.4
	25 °C	273	205	172	149	124	97.8	81.1	69.5	61.0	49.3	41.6	36.1	26.2	20.8	14.9	11.8	9.8	8.4	6.6	5.4	4.6	2.9	2.5
1.72	20 °C	289	213	177	151	125	97.9	80.8	69.0	60.4	48.6	40.9	35.5	25.7	20.3	14.6	11.5	9.5	8.2	6.4	5.3	4.5	2.9	2.4
	25 °C	298	220	182	156	129	101	83.2	71.1	62.2	50.1	42.2	36.6	26.4	20.9	15.0	11.8	9.8	8.4	6.6	5.4	4.6	2.9	2.5
1.70	20 °C	306	222	182	156	128	100	82.0	69.9	61.1	49.1	41.3	35.7	25.8	20.4	14.6	11.5	9.5	8.2	6.4	5.3	4.5	2.9	2.4
	25 °C	315	228	188	160	132	103	84.4	72.0	62.9	50.6	42.5	36.8	26.6	21.0	15.1	11.8	9.8	8.4	6.6	5.4	4.6	2.9	2.5
1.67	20 °C	330	234	191	162	132	102	83.6	71.1	62.0	49.7	41.7	36.0	26.0	20.5	14.7	11.5	9.6	8.2	6.4	5.3	4.5	2.9	2.4
	25 °C	340	241	197	167	136	105	86.1	73.2	63.8	51.2	42.9	37.1	26.7	21.1	15.1	11.9	9.8	8.4	6.6	5.4	4.6	2.9	2.5
1.65	20 °C	345	242	196	166	135	104	84.6	71.8	62.5	50.0	41.9	36.2	26.1	20.6	14.7	11.6	9.6	8.2	6.4	5.3	4.5	2.9	2.4
	25 °C	356	249	202	170	139	107	87.1	73.9	64.4	51.5	43.2	37.3	26.8	21.2	15.1	11.9	9.9	8.4	6.6	5.4	4.6	2.9	2.5
1.63	20 °C	360	249	201	169	137	105	85.5	72.4	63.0	50.3	42.1	36.4	26.1	20.6	14.7	11.6	9.6	8.2	6.4	5.3	4.5	2.9	2.4
	25 °C	371	257	207	174	141	108	88.0	74.6	64.9	51.8	43.4	37.5	26.9	21.2	15.2	11.9	9.9	8.5	6.6	5.4	4.6	2.9	2.5
1.60	20 °C	382	259	207	173	140	107	86.6	73.2	63.6	50.7	42.4	36.6	26.2	20.7	14.8	11.6	9.6	8.2	6.4	5.3	4.5	2.9	2.4
	25 °C	393	267	213	179	144	110	89.2	75.4	65.5	52.2	43.7	37.7	27.0	21.3	15.2	11.9	9.9	8.5	6.6	5.4	4.6	2.9	2.5

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	269	229	205	186	164	137	119	105	94.0	78.5	67.7	59.7	44.7	36.0	26.5	21.2	17.7	15.3	12.0	10.0	8.7	5.5	4.8
	25 °C	277	235	211	191	169	141	122	108	96.8	80.9	69.7	61.5	46.0	37.1	27.3	21.8	18.2	15.8	12.4	10.3	8.9	5.7	5.0
1.87	20 °C	312	259	229	206	179	148	126	111	98.8	81.8	70.2	61.7	45.7	36.7	26.8	21.3	17.8	15.3	12.2	10.2	8.7	5.7	4.8
	25 °C	321	267	236	212	184	152	130	114	102	84.3	72.3	63.5	47.0	37.8	27.6	22.0	18.4	15.8	12.5	10.5	8.9	5.8	5.0
1.85	20 °C	341	279	244	218	188	154	131	114	102	83.7	71.5	62.7	46.3	37.2	27.0	21.5	17.8	15.5	12.2	10.2	8.7	5.7	4.8
	25 °C	351	287	251	224	194	159	135	118	105	86.2	73.6	64.5	47.7	38.3	27.8	22.1	18.4	16.0	12.5	10.5	8.9	5.8	5.0
1.84	20 °C	355	288	251	223	192	157	133	116	103	84.5	72.1	63.1	46.5	37.3	27.1	21.5	17.9	15.5	12.2	10.1	8.7	5.6	4.8
	25 °C	366	297	259	230	198	162	137	119	106	87.1	74.3	65.0	47.9	38.4	27.9	22.1	18.5	15.9	12.6	10.4	8.9	5.8	4.9
1.83	20 °C	369	297	258	229	196	159	135	117	104	85.3	72.7	63.6	46.8	37.4	27.2	21.6	18.0	15.5	12.2	10.1	8.7	5.6	4.8
	25 °C	380	306	266	236	202	164	139	121	107	87.8	74.9	65.5	48.2	38.5	28.0	22.2	18.5	16.0	12.6	10.4	9.0	5.8	4.9
1.82	20 °C	383	307	265	234	200	162	137	119	105	86.0	73.2	64.0	47.0	37.5	27.2	21.7	18.0	15.5	12.2	10.2	8.7	5.7	4.8
	25 °C	394	316	273	241	206	167	141	122	108	88.6	75.4	65.9	48.4	38.6	28.0	22.3	18.5	16.0	12.5	10.5	8.9	5.8	5.0
1.80	20 °C	410	324	278	244	207	167	140	121	107	87.3	74.2	64.7	47.3	37.8	27.3	21.7	18.0	15.5	12.3	10.2	8.7	5.7	4.8
	25 °C	422	333	286	251	214	172	144	125	110	90.0	76.4	66.6	48.8	39.0	28.2	22.3	18.5	16.0	12.7	10.5	8.9	5.8	5.0
1.77	20 °C	449	347	295	257	217	173	144	124	110	89.0	75.3	65.5	47.8	38.2	27.5	21.8	18.2	15.7	12.3	10.2	8.7	5.7	4.8
	25 °C	462	358	304	265	223	178	148	128	113	91.7	77.6	67.5	49.3	39.3	28.3	22.5	18.7	16.1	12.7	10.5	8.9	5.8	5.0
1.75	20 °C	473	362	305	265	222	176	147	126	111	89.8	76.0	66.0	48.2	38.3	27.7	21.8	18.2	15.7	12.3	10.2	8.7	5.7	4.8
	25 °C	487	372	314	273	229	181	151	130	114	92.5	78.3	68.0	49.6	39.5	28.5	22.5	18.7	16.1	12.7	10.5	8.9	5.8	5.0
1.72	20 °C	508	381	319	276	230	181	150	128	113	91.0	76.8	66.7	48.5	38.5	27.7	21.8	18.2	15.7	12.3	10.2	8.8	5.7	4.8
	25 °C	523	393	329	284	237	186	154	132	116	93.7	79.1	68.7	50.0	39.7	28.5	22.5	18.7	16.1	12.7	10.5	9.1	5.8	5.0
1.70	20 °C	530	394	328	282	234	184	152	130	114	91.7	77.3	67.0	48.7	38.7	27.8	22.0	18.3	15.7	12.3	10.2	8.8	5.7	4.8
	25 °C	545	405	337	290	241	189	156	134	117	94.4	79.7	69.0	50.1	39.8	28.7	22.7	18.9	16.1	12.7	10.5	9.1	5.8	5.0
1.67	20 °C	560	411	339	291	240	187	154	132	115	92.7	77.8	67.5	48.8	38.8	27.8	22.0	18.3	15.7	12.3	10.2	8.8		