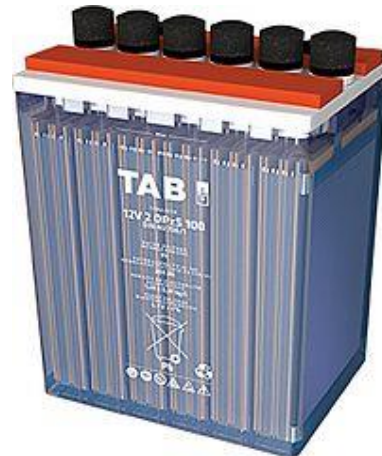


Technical specification for TAB stationary 12V battery type

12V 2 OPzS 100

Technical data

Nominal voltage of cells:	12,0 V
Capacity C ₁₀ :	103 Ah
Discharge current:	C ₁₀ /10h = 10,3 A
Final discharge voltage/cell	10,8V (1,80 V/cell)
Nominal S.G. of electrolyte:	1,24 ± 0,01 kg/l at 20°C
Rated temperature:	20°C
Specified torque for poll screws:	20±1 Nm
Internal resistance	9,3 mΩ
Short circuit current	1290 A
Self-discharge	app. 2% per month at 20°C
Ventilation requirement	EN IEC 62485-2



Dimensions and weight of the cell (DIN 40737-3)

Width	205 mm
Length	272 mm
Height	392 mm
Wet weight	50,0 kg ±5%
Dry weight	38,0 kg ±5%

Charging:

IU - characteristic	I max without limitation
Float charge	U = 2,23 V/cell +- 1%,
Boost charge	U = 2,35 to 2,40 V/cell
Temp. Correction factor	ΔU/ΔT= - 0,004 V/K; below 10°C or above 30°C in the monthly average

Design:

Positive electrode	Tubular plate with a nonwoven polyester gauntlet and solid grids in corrosion resistant LA-PbSbSe alloy
Negative electrode	Pasted type with long-life expander material
Separation	Micro porous separator
Electrolyte	Sulphuric acid with a density of 1,24 kg/l
Container	high impact transparent SAN with ABS lid in grey color
Plugs	Ceramic plugs according to DIN 40740
Pole sealing	100% gas and electrolyte tight sliding pole
Pole	M10 brass insertion
Connectors	Flexible insulated copper cables, with cross-section of 35 mm².
Type of protection	IP 25 regarding DIN 40050, touch protected according to VBG 4

Maintenance

Every 6 months	Check battery voltage, pilot cells voltage, temperature
Every 12 months	Check and record battery and cells voltages and temperatures

Operational data

Operational temperature	-20°C to 55°C;
Recommended operational temperature	10°C to 30°C
Design life	20 years at 20°C 10 years at 30°C 5 years at 40°C
Water refilling interval	> 2 years at float voltage at 20°C
EN 60896-11 cycles	1500
Transport	No dangerous goods during road transport

Discharge characteristics

Reference temperature	20°C
Initial capacity	100%
Depth of discharge (DOD)	up to 80%*

* Deep discharges more than 80% DOD or discharges beyond final discharge voltages (dependent on discharge current) should be avoided.

Table 1: Discharge at constant current [A] at 20°C

Cells [V]	10 min	20 min	30 min	40 min	50 min	1 h	2 h	3 h	4 h	5 h	6 h	7 h	8 h	9 h	10 h
1,65 V	157	114	89	74	63	58	37	26	21	17	15	13	12	11	11
1,70 V	133	106	85	71	62	56	34	26	20	17	15	13	12	11	10
1,75 V	116	94	78	68	60	54	33	25	20	17	15	13	12	11	10
1,80V	97	80	69	61	55	49	33	25	20	16	14	13	12	11	10
1,83 V	81	74	64	56	50	46	30	23	19	16	14	12	11	10	10
1,85V	69	69	60	52	48	44	29	23	18	16	14	12	11	10	10
1,87 V	62	62	54	48	43	40	27	21	17	15	13	11	10	10	9
1,90 V	51	51	45	41	37	34	25	19	16	13	12	10	9	9	8

Table 2: Discharge at constant power [W] at 20°C

Cells [V]	10 min	20 min	30 min	40 min	50 min	1 h	2 h	3 h	4 h	5 h	6 h	7 h	8 h	9 h	10 h
1,65 V	273	201	156	130	112	103	67	47	38	32	28	25	23	21	20
1,70 V	235	187	152	128	112	101	63	47	38	32	28	25	23	21	20
1,75 V	206	168	141	123	109	98	62	47	38	32	27	25	23	21	20
1,80V	176	145	127	112	100	90	61	46	37	31	27	24	22	20	20
1,83 V	146	134	117	103	93	85	57	44	36	30	27	24	21	20	19
1,85V	126	126	110	97	88	81	54	43	35	30	26	23	21	20	19
1,87 V	114	114	100	89	81	75	52	40	33	28	25	22	20	19	18
1,90 V	97	97	86	78	70	65	47	37	30	26	23	20	19	17	17