PowerPlex® BATT Monitor X0649-DC-BM2/4

Description

The ***PowerPlex®*** DC Battery Monitor offers eight multi-functional inputs, which can be used for measuring current, voltage and temperature on the DC battery strings. The Battery Monitor is available with two or four temperature sensors for use on multiple battery strings. It connects directly into the J1939 CANbus network through the E-T-A ***PowerPlex®*** Mini Module. The Mini Module also offers eight load outputs and is perfectly suitable for LEDs and ambient lighting. Its space-saving design supports the flexibility and modularity of the entire system. All ***PowerPlex®*** modules ensure reliable control and monitoring of all installed electrical devices and functions. In addition the modules are used to collect sensor data from level and temperature sensors as well as shunt resistors. Outputs for dimming of electrical loads are also available.

Typical Applications

- Watercraft, e.g. recreational and workboats, special vehicles

Features and Benefits

- Well-proven CAN technology
- Windows based configuration software
- Multifunctional inputs digital/analog
- Dimming function
- Eight load outputs
- Battery monitoring and management, undervoltage monitoring
- IP65 rated enclosure

Ordering information

X0649-DC-BM2/4	***PowerPlex®*** DC Battery Monitor

Approvals

E1 (pending)

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Technical Data

Voltage rating	DC 12 V / DC 24 V
Operating voltage	9…32 V DC
Current consumption	typically 32 mA at DC 12 V
	typically 16 mA at DC 24 V
Max. total current per module	12 A
Degree of protection	IP65 when mounted vertically with connectors pointing downwards
Operating temperature range	-40…+60 °C (-22…+140 °F)
Storage temperature range	-40…+85 °C (-22…+185 °F)
Humidity	
(IEC 60068-2-30, Db)	95 % RH, 144 hours
Vibration	
(IEC 60068-2-6, Fc)	10 Hz to 57 Hz: ± 0.38 mm 57 Hz to 200 Hz: acceleration 5 g
(IEC 60068-2-64, Fh)	10 Hz to 2000 Hz: acceleration approx. 2 grms
Shock	
(IEC 60068-2-27, Ea)	25 g (11ms)
EMC	EMC directive E1, CE logo to EN 61000-6-2/3
Mass	BM2 approx. 907 g, BM4 approx. 1176 g

Interfaces

CAN according to	SAE J1939 250kBits/s,
The CAN terminals at each end of the bus have to be connected with a 120 Ω terminating resistor.	
Inputs	
8 multifunctional inputs,	
configurable as:	
digital inputs (I1-I8):	0…50 Ω: ON; > 100 kΩ: OFF
analog inputs:	ground switching
a) for voltage monitoring (I1-I8):	
Measuring range 1:	0…32 V, Rin:40 kΩ resolution: 10 bit
Measuring range 2:	0…10 V, Rin:40 kΩ resolution: 10 bit
b) for battery monitoring:	
Measuring range 1:	0…32 V; potential free measurement of the battery voltage (only I1 & I2, I3 & I4)
Measuring range 2:	± 60 mV; battery current measurement with external shunt (only I5 & I6, I7 & I8) (shunt provided with device)
c) resistance measurement (I1-I8):	for tank levels & temperature
Measuring range:	0…750 Ω; level measuring with resistive tank sensors, temperature measurement with XPP-TS500R-HB
CANbus:	(1) 5-Pin M12 A-Code

Outputs:	
8 outputs with 1.5 A max. continuous current	
load output:	Power MOSFET, high side switching
max. current rating:	1.5 A
Ron at rated current (at 25 °C):	50 mΩ
tripping range at overload:	13.5 ≤ x ≤ 26.5 A
trip time:	typically 180 µs at 19 A
outputs are equipped with fail-safe elements	
current limitation:	typically 19 A at DC 12 V (25° C) typically 19 A at DC 24 V (25° C)
leakage current in OFF condition:	2 µA
dimmer function:	All load outputs can be dimmed in 80 steps with 488 Hz PWM