

DATASHEET

Power Rider 25A

Catalog number P/N: RD000085

Power Rider 25A – Protect, manage and maintain
Smart, electronic circuit breaker and EPD building block

Functionality:

- Up to 25A circuit breaker
- 8-48V DC
- Circuit breaker, relay, and contactor in the same product
- 3 levels of protection:
 - Software – I²t, over current, over voltage, over temperature.
 - Hardware – 1μ second cutoff of over current
 - Thermal fuse
- Solid state-based technology
- Support circuit breakers network.
- Configurable – over 20 parameters flexible configuration.
- Intuitive GUI, DLL library.
- Building block for ‘Power Distribution Unit’
- Measurement of input voltage, output voltage, load current and temperature
- Communication: CAN bus (1Mbit- J1939) or RS 422/485
- Supports high level of maintenance - logs of events, graphs, conditioned alerts
- Discrete I/O: 1-digital input, 1- digital output (open collector).
- Operational switch with smart background light. Indication function of smart switch: channel current consumption, channel status, fail indicators).
- BIT
- Shut down state



Power Rider 25A Configuration:

#	Functionality	Description
1	Over Current	Parameter controlled by user
2	I ² T	Parameter controlled by user
3	Voltage Error	Parameter controlled by user (low voltage, high voltage)
4	Temperature Error	Parameter controlled by user (low temperature, high temperature)
5	Trip Event (Software)	Trip event software protection.
6	Trip Event (Hardware)	Trip event hardware protection (hard short). Not controlled by user.
7	Trip Recovery	A user can set the number of attempts and at what intervals to perform a recovery.
8	Channel Logic Control Function	A user can define a logical expression that characterizes the operation of the channel. Possible functionality: digital input, voltage error, temperature error, BIT, trip status, channel status).
9	Digital Output Logic Control Function	A user can define a logical expression that characterizes the operation of the digital output. Possible functionality: digital input, voltage error, temperature error, BIT, trip status, channel status).
10	Channel Control Timeout.	Parameter controlled by user
11	Digital Output control Timeout.	Parameter controlled by user
12	Status Report Messages	Automatically generated user-defined status report
13	Event Log File	All events are registered on internal memory for event log reporting
14	CANBUS communications baud rate	Parameter controlled by user. Range :1 Mbps – 50 kbps
15	Serial communications baud rate.	Parameter controlled by user. Range :1Mbps – 1200 bps

Table 1 Configuration Parameters Table

Mechanical dimensions:

(in mm unless otherwise noted)

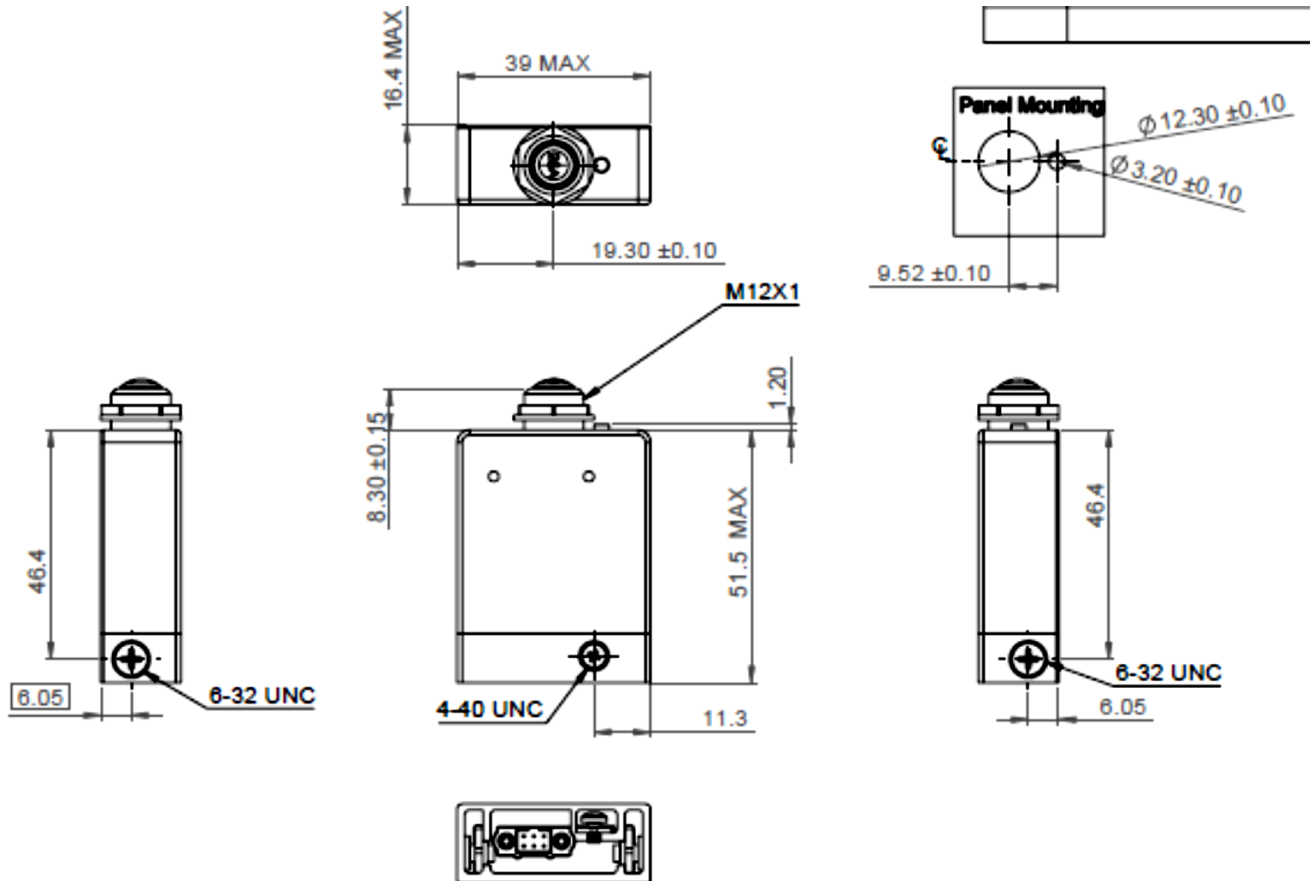


Figure 1 Mechanical Dimension

Unit weight: 45g

User Interface Description

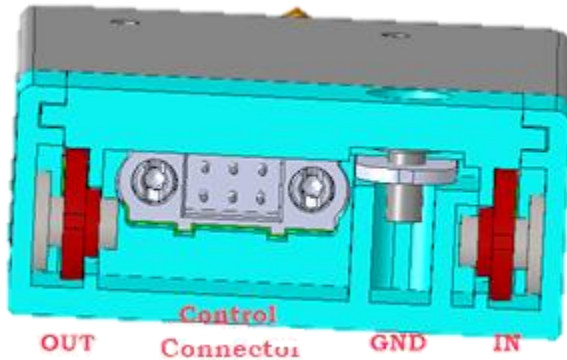


Table 3 User Interface Connection Side

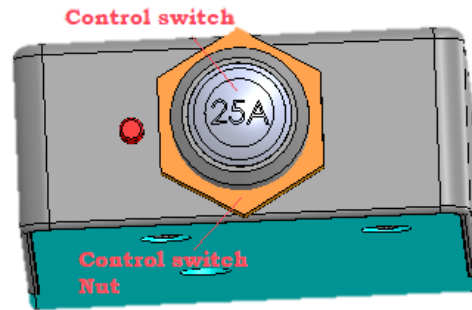


Table 2 User Interface Control Side

Name	Description	User Interface P/N	Notes
Control Connector	Communication and digital interface	Harwin M80-4D10642FC	See Table 5
IN	Power Input + (+Vin)	Phillips cross machine screws, #6-32-1/4	Stainless steel
IN cable end	User Interface Input Terminal Ring	Terminals Ring M2.5 Molex 193240002	
OUT	Power Output (Load)	Phillips cross machine screws, #6-32-1/4	Stainless steel
OUT cable end	User Interface Output Terminal Ring	Terminals Ring M2.5 Molex 193240002	
GND	Power Supply return	Phillips cross machine screws, #4-40-1/4	Stainless steel
GND cable end	User Interface GND Terminal Ring	Terminals Ring M2.5 Molex 193240001	
Control Switch Nut	Control Switch Nut	DIN 439B, Nut M12X1	Stainless steel

Table 4 User Interface Table

Control Connector Signal description:

Pin No	Signal Type	Signal Name -Signal Description
1	Ground	Signal Ground
2	DIN	GP Digital Input Leave open to “0” logic, connect to pin1 to “1”
3	CAN_H / RS-485 D-	Communication CANBUS channel / Communication RS-485 channel
4	CAN_L / RS-485 D+	Communication CANBUS channel / Communication RS-485 channel
5	D-out	Open drain 0.25 Ampere output.
6	Local COM.	Local communication

Table 5 Control Connector Table

Electrical Interface:

Power Supply Parameter	Parameter	Unit
Input Voltage	8-48	V
Power consumption (operating)	20	mA
Total channel Current (*see Figure 2)	0-25	A

General Purpose Interface Parameter	Remarks	Parameter	Unit
Digital Output Voltage	open collector	0-50	V
Digital Output Current	open collector	0.25	A
Digital Input Voltage	active low	3-32	V
Digital Input Current	active low	<30	mA

Communications:

Communication Parameter	Test conditions	Min	Max	Unit
CAN bus (J1939)	CAN 2.0B	50	1000	Kbit/sec
RS-422/485			614400	Bit/sec

Temperature:

Temperature Parameter	Min	Max	Unit
Operating Temperature (*see Figure 2)	-40	+71	C
Storage Temperature	-65	+150	C

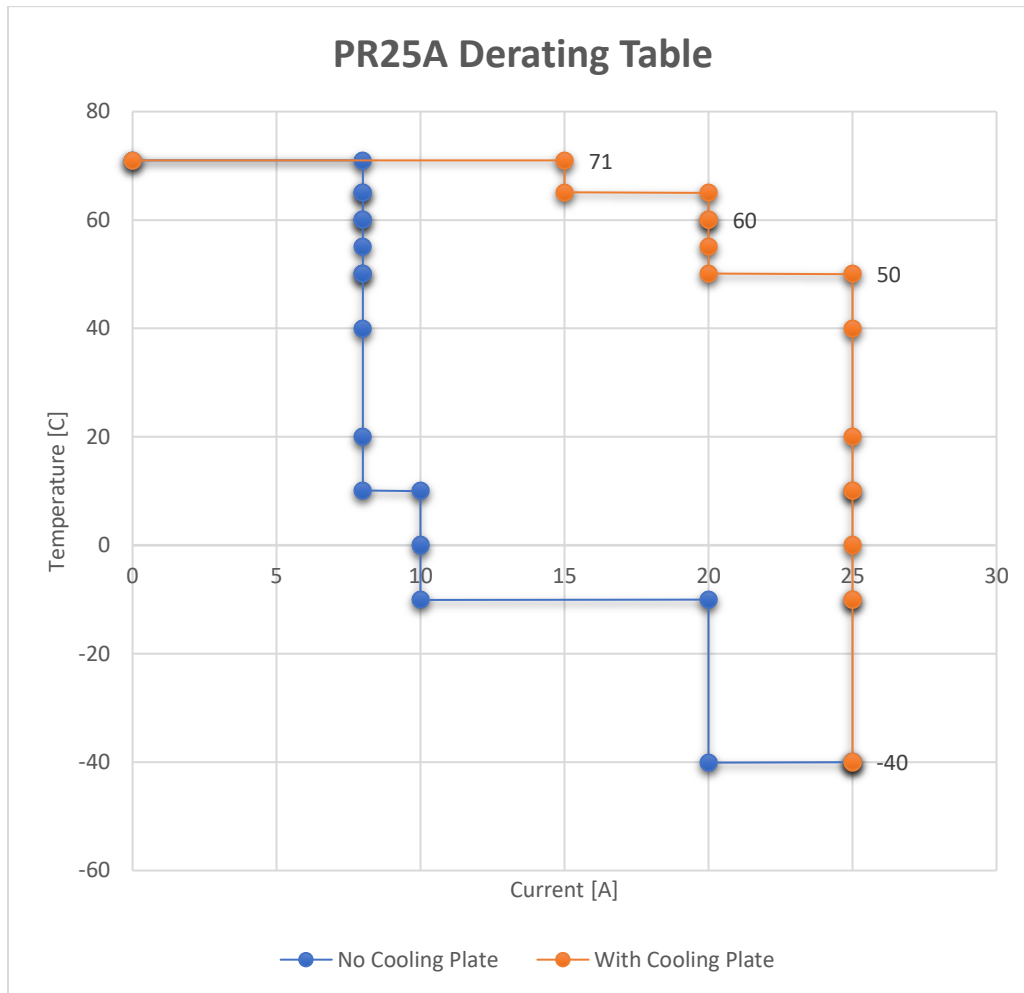


Figure 2 Power Rider 25A Derating Table

- Cooling Plate dimension: 190x105x5 mm