PSM3.2

4921240644-C

Power supply module (Extension)

Data sheet

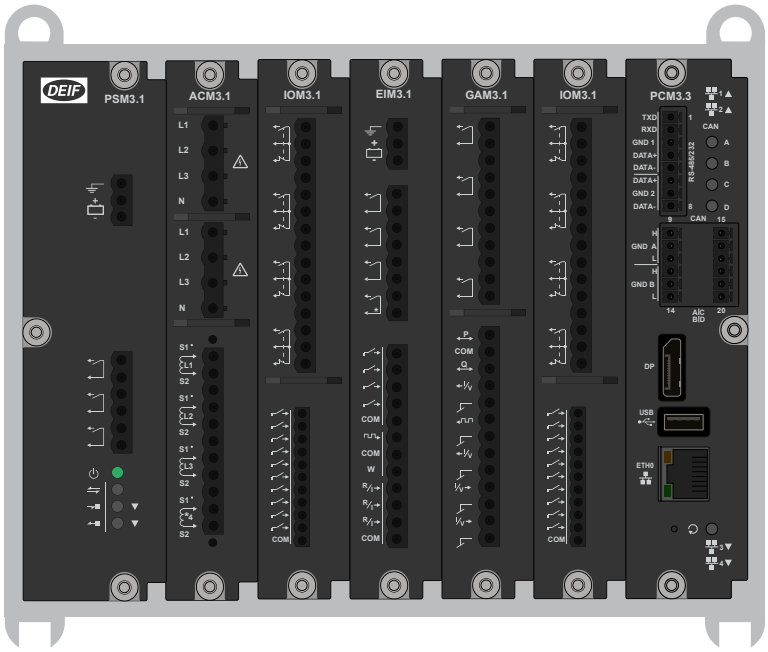
DEIF Improve Tomorrow

1. Series 300

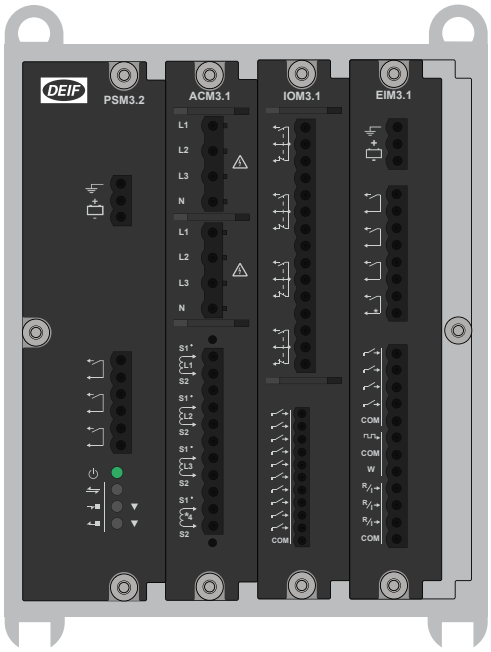
1.1 About the hardware modules

The hardware modules are printed circuit boards that slot in to either a rack R7.1 or rack R4.1. Depending on the type of module, they can provide AC or other measurements, inputs, outputs and give communication indication.

Example rack R7.1



Example rack R4.1



The hardware modules feature:

- Placement flexibility in the rack.
- Add, replace, or remove on-site.
- Automatically recognised.
- Configurable input and output functions (digital and analogue where applicable).

All slots must be covered during operation and blind modules can be used to cover unused slots.

2. Technical specifications

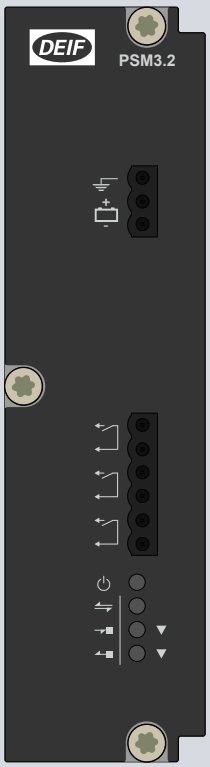
2.1 Power supply module PSM3.2 (Extension)

The power supply module provides power to all hardware modules in the extension rack. There are two ports for internal communication with the main controller. The internal communication (EtherCAT) connections are only used to communicate with the main controller. The rack status and alarms activate the three relay outputs.

The PSM3.2 must to be powered by a power supply with Power Boost function.

The PSM3.2 manages the hardware module self-checks for the rack and includes a power LED. The power supply terminals include circuit protection against load dump transients and JEM177 surge transients (rugged design). These terminals also include battery voltage measurement.

PSM3.2 terminals

Module	Count	Symbol	Type/Info	Name
	1		Ground	Frame ground
	1		12 or 24 V	Power supply
	3		Relay output	1 × Status OK (fixed) 2 × configurable
	1		**Off** : No power supply **Red flash** : PSM is starting or module failure **Green** : Power supply **Green flash** : Rack identification	Power supply indication
	1		**Off** : No EtherCAT communication **Green** : EtherCAT Communication	EtherCAT communication connections (to connect to the racks). LEDs are on the module front, connections are at the module bottom.
	1		EtherCAT communication (RJ45) input **Off** : No communication **Green** : Communication connected **Green flash** : Active communication	
	1		EtherCAT communication (RJ45) output **Off** : No communication **Green** : Communication connected **Green flash** : Active communication	

PSM3.2 technical specifications

Category	Specification
Frame ground	Voltage withstand: ±36 V DC to the power supply positive (terminal 1) and negative (terminal 2)
Controller power supply	Input voltage: 12 or 24 V DC nominal (8 to 36 V DC continuously) UL/cUL Listed: 10 to 32.5 V DC 0 V DC for 50 ms when coming from at least 8 V DC (cranking dropout) Consumption: Typical 20 W, maximum 35 W Voltage measurement accuracy: 0 to 30 V: ±1 V; 30 to 36 V: +1/-2 V Internal protection: 12 A fuse (not replaceable) (fuse size determined by load dump requirements) Voltage withstand: ±36 V DC Load dump protected by TVS diodes

Category	Specification

	Start current
	• Power supply current limiter
	  ◦ 24 V: 4 A minimum
	  ◦ 12 V: 8 A minimum
	• Battery: No limit

Relay outputs 	Relay type: Solid state Electrical rating and UL/cUL Listed: 30 V DC and 1 A, resistive Voltage withstand: ±36 V DC
Terminal connections	**Frame ground and power supply**: • Terminals: Standard 45° plug, 2.5 mm^2 • Wiring: 1.5 to 2.5 mm^2 (16 to 12 AWG), multi-stranded **Other connections**: • Terminals: Standard 45° plug, 2.5 mm^2 • Wiring: 0.5 to 2.5 mm^2 (22 to 12 AWG), multi-stranded
Communication connections	EtherCAT communication: RJ45. Use an Ethernet cable that meets or exceeds the SF/UTP CAT5e specifications
Torques and terminals	Module faceplate screws: 0.5 N·m (4.4 lb-in) Connection of wiring to terminals: 0.5 N·m (4.4 lb-in) UL/cUL Listed: Wiring must be minimum 90 °C (194 °F) copper conductors only
Galvanic isolation	Between power supply and other I/Os: 600 V, 50 Hz for 60 s Between relay groups and other I/Os: 600 V, 50 Hz for 60 s Between internal communication ports and other I/Os: 600 V, 50 Hz for 60 s
Ingress protection	Unmounted: No protection rating Mounted in rack: IP20 according to IEC/EN 60529
Dimensions	L×H×D: 43.3 × 162 × 150 mm (1.5 × 6.4 × 5.9 in)
Weight	331 g (0.7 lb)

3. Legal information

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