IOM3.3

4921240641-C

Input/output module

Data sheet

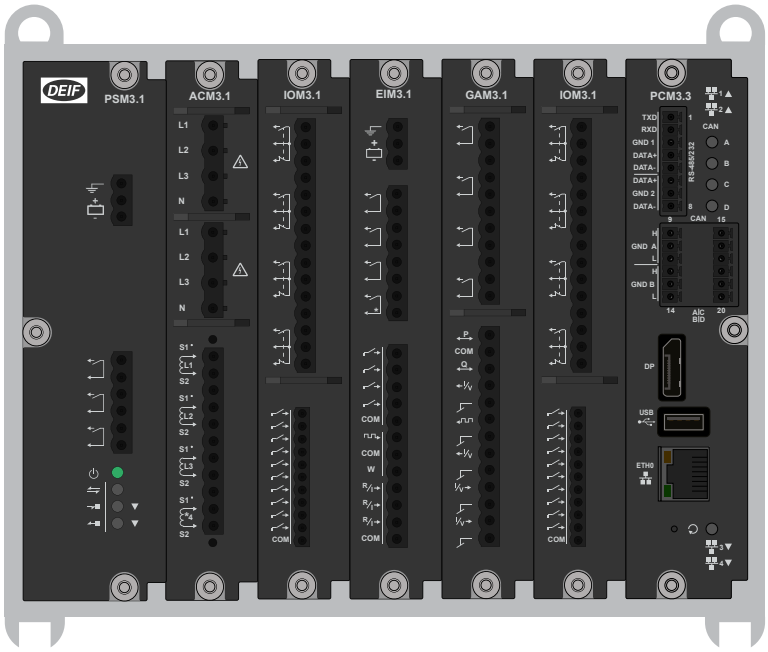
DEIF Improve Tomorrow

1. Series 300

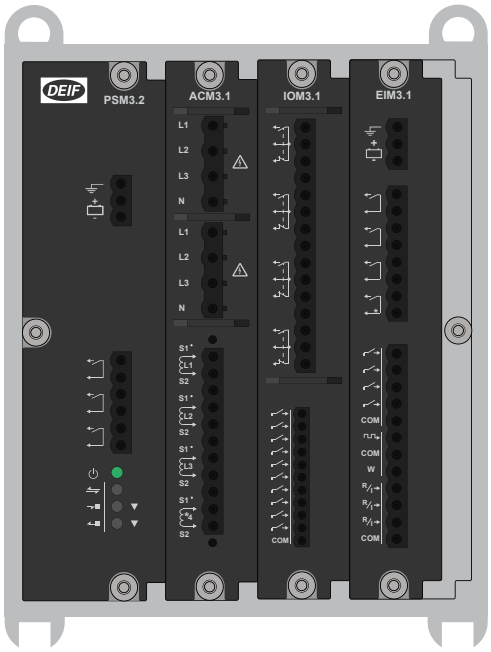
1.1 About the hardware modules

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).

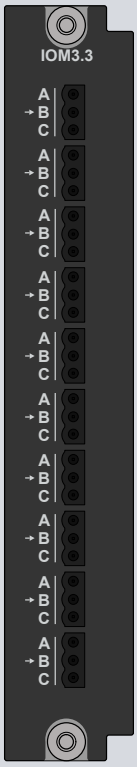
All slots must be covered during operation and blind modules can be used to cover unused slots.

2. Technical specifications

2.1 Input/output module IOM3.3

The input output module has 10 analogue multifunctional inputs. These I/Os are all configurable.

IOM3.3 terminals

Module	Count	Symbol	Type	Name
	10	A → B C	Analogue multifunctional inputs (mA, V DC, RMI)	Configurable

IOM3.3 technical specifications

Category	Specification
Analogue multifunctional inputs A → B C	**Digital inputs with wire break detection:** • Dry contact inputs, 3 V DC internal supply • Wire-break detection with maximum resistance for ON detection: 100 Ω to 400 Ω **Current inputs:** • From active transmitter: 0 to 20 mA, or 4 to 20 mA • Accuracy: ±10 uA ±0.25 % of actual reading **Voltage inputs (DC):** • Range: ±10 V DC / 0 to 10 V DC • Accuracy: ±10 mA ±0.25 % of actual reading **Resistance measurement inputs, 2 or 3 wire (RMI):** • Resistance measurement: 0 to 4.5 kΩ • Accuracy: ±1 Ω ±0.25 % of actual reading **Resistance measurement inputs, 1 wire (RMI):** • Resistance measurement: 0 to 4.5 kΩ • Accuracy: ±2 Ω ±0.25 % of actual reading **Pt100:** • Range: -200 to 850 °C

Category	Specification
	• Accuracy: ±1 °C ±0.25 % of actual reading **Pt1000:** • Range: -200 to 850 °C • Accuracy: ±0.5 °C ±0.25 % of actual reading **Thermocouple type, range and accuracy:** • E: -200 to 1000 °C (±2 °C ±0.25 % of actual reading) • J: -210 to 1200 °C (±2 °C ±0.25 % of actual reading) • K: -200 to 1372 °C (±2 °C ±0.25 % of actual reading) • N: -200 to 1300 °C (±2 °C ±0.25 % of actual reading) • R: -50 to 1768 °C (±2 °C ±0.25 % of actual reading) • S: -50 to 1768 °C (±2 °C ±0.25 % of actual reading) • T: -200 to 400 °C (±2 °C ±0.25 % of actual reading) **Note:** Twisted pair and shielded cable is recommended to achieve specification and optimisation of noise immunity. **General information for all inputs:** • Voltage withstand: ±36 V DC
Internal cold junction compensation (CJC)	**Internal temperature sensor:** • Range: 0 to 70 °C ◦ Accuracy: ±1.0 °C • Range: -40 to 0 °C ◦ Accuracy: ±2.0 °C **Mathematical compensation:** • If non channels are configured as 4-20 mA ◦ Accuracy: ±1.0 °C • If any channels are configured as 4-20 mA ◦ Accuracy: ±1.5 °C If it is needed to have 4-20 mA channels on the same card, it is recommended to use the top channels for 4-20 mA and the lower channels for TC's **Internal cold junction accuracy:** • Heat dissipated by nearby heat sources can cause errors in thermocouple measurements by heating the IOM3.3 terminals to a different temperature than the cold-junction compensation sensor. Thermal gradient across the terminals can cause the terminals of different IOM3.3 channels to be at different temperatures, which creates accuracy errors and affects the relative accuracy between channels. • The temperature measurement accuracy specifications include errors caused by the thermal gradient across the IOM3.3 terminals for configurations with the IOM3.3 terminals facing forward or upward.
Terminal connections	Terminals: Standard 45° plug, 1.5 mm^2 Wiring: 0.1 to 1.5 mm^2 (28 to 16 AWG), multi-stranded
Torques and terminals	Module faceplate screws: 0.5 N·m (4.4 lb-in) Connection of wiring to relay output terminals: 0.5 N·m (4.4 lb-in) Connection of wiring to input terminals: 0.25 N·m (2.2 lb-in) UL/cUL Listed: Wiring must be minimum 90 °C (194 °F) copper conductors only
Galvanic isolation	All 10 multi inputs have a common ground Galvanic isolation from rack: 600 V, 50 Hz for 60 s
Dimensions	L×H×D: 28 × 162 × 150 mm (1.1 × 6.4 × 5.9 in)
Weight	164 g (0.4 lb)

3. Legal information

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