ACM3.2

4921240635-C

Differential current module

Data sheet

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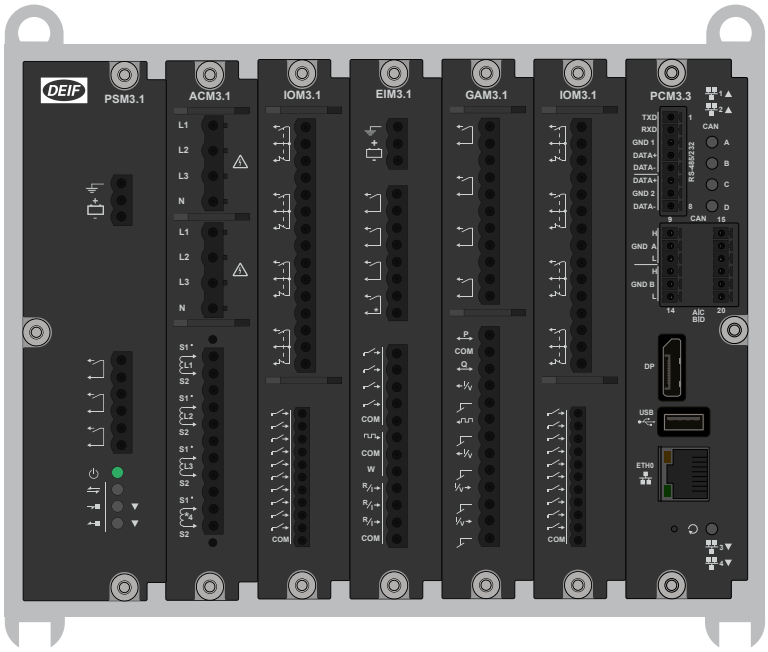
1. Series 300

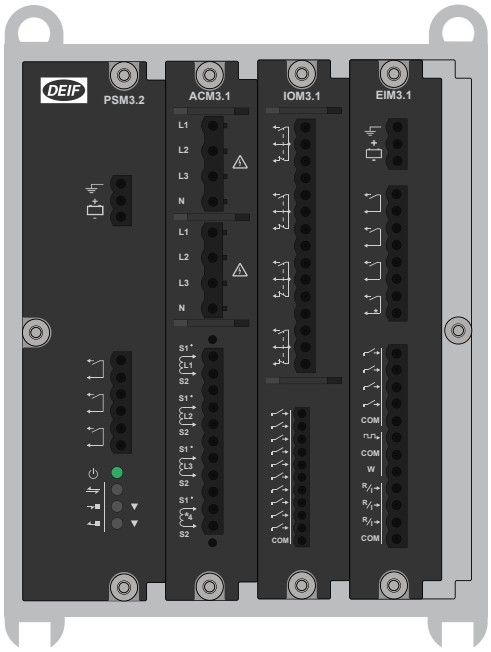
1.1 About the hardware modules

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.

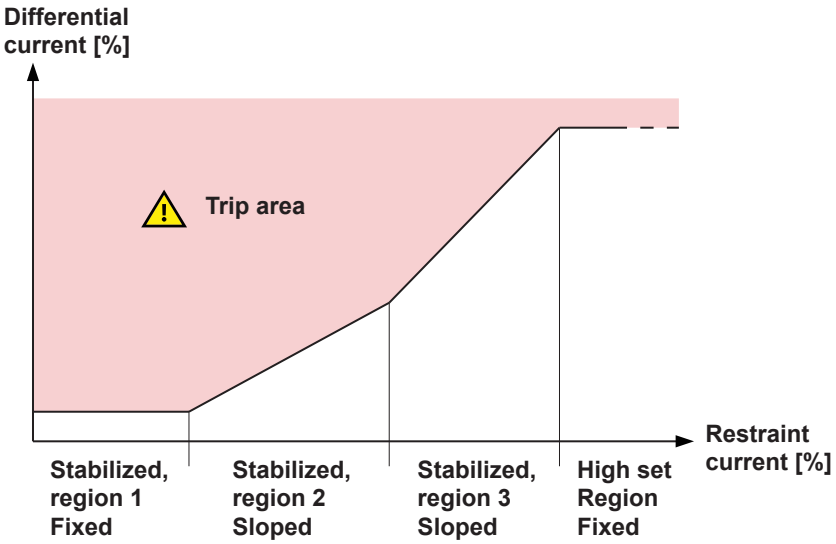
2. Technical specifications

2.1 Differential current module ACM3.2

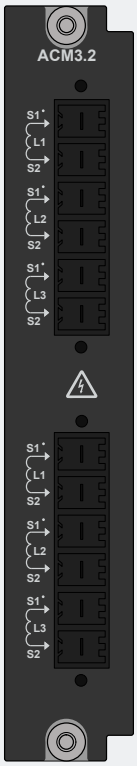
The differential current module ACM3.2 measures the generator outgoing 3-phase currents (consumer side) and star point 3-phase currents. The ACM3.2 uses the measurements to detect phase-to-phase faults or phase-to-earth faults (star point earthed generator stator only) in the generator stator, and dependent on the mounting of the CT's on the outgoing side, possibly also the cable between the generator and the main switchboard.

The protection consists of:

- A stabilised stage that uses an operating characteristic formed by a fixed and two sloped regions. This current restraint approach is also known as biased differential protection.
- A high set fixed differential stage (non-stabilised).



ACM3.2 terminals

Module	Count	Symbol	Type	Name
	1 × (L1, L2 and L3)		Current	3-phase current measurement - Consumer side
	1 × (L1, L2 and L3)		Current	3-phase current measurement - Neutral side

ACM3.2 technical specifications

Category	Specification
Nominal, reference and operating values	Current: Nominal value: 1 or 5 A AC from current transformer Frequency: • Nominal value: 50 or 60 Hz • Reference range: 40 to 70 Hz • Operating range: 20 to 78 Hz Temperature: • Reference range: 15 to 30 °C (59 to 86 °F) • Operating range: -40 to 70 °C (-40 to 158 °F)
Current measurements	Measurement range: 0.025 to 250 A AC. Truncation level: 20 mA Accuracy: • 0.025 to 20 A: ±1 % or ±10 mA of measured current (whichever is greater) • 20 to 250 A: ±1.5 % of measured current UL/cUL Listed: From listed or R/C (XODW2.8) current transformers 1 or 5 A Load on external current transformer: < 4 mΩ, including the terminal block Current withstand: • 20 A continuously • 100 A for 10 s • 400 A for 1 s • 1250 A for 10 ms (half wave)
Frequency measurement	Accuracy (within operating range): > 0.1 A: ±0.1 % of actual frequency
Temperature	Current measurement accuracy temperature coefficient: ±0.25 %, or ±2.5 mA per 10 °C (18 °F) outside reference range (whichever is greater)
Torques and terminals	Module faceplate screws: 0.5 N·m (4.4 lb-in) Secure the current measurement terminal block to the module faceplate: 0.25 N·m (2.2 lb-in) Connection of wiring to terminals:

Category	Specification
	• ≤ 4 mm^2: 0.5 N·m (4.4 lb-in) to 0.6 N·m (5.3 lb-in) • > 4 mm^2: 0.7 N·m (6.2 lb-in) to 0.8 N·m (7.1 lb-in) UL/cUL Listed: Wiring must be minimum 90 °C (194 °F) copper conductors only
Terminal connections	AC current terminals: Standard 0º plugs, 6 mm^2 with securing screws Wiring: 2.5 to 6 mm^2 (13 to 10 AWG), multi-stranded
Galvanic isolation	Between AC current and other I/Os: 2210 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: 28 × 162 mm × 152 mm (1.1 × 6.4 × 5.9 in)
Weight	230 g (0.5 lb) (including terminal blocks)
Accessories (included)	One roundel with 6 encoding pins (for the hardware module and terminal block)

3. Legal information

3.1 Disclaimer and copyright

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