IB IL PM 3P/N/EF-PAC - Function module

2700965

https://www.phoenixcontact.com/us/products/2700965

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Inline power measurement terminal for direct measurement of AC currents up to 5 A, including neutral conductor current and phase conductor voltages up to 400 V AC (phase/neutral conductor) or 690 V AC (phase/phase) complete with accessories (connectors and labeling fields)

Product description

The terminal is designed for use within an Inline station. The power measurement terminal is used to analyze AC power grids. You can use it in distribution systems for measuring current, voltage, and power as well as detecting distortion and harmonics. You can run the power measurement terminal in five operating modes. In “Basic measured values” operating mode, the power measurement terminal is used to acquire mains variables in three-phase mains. Mains variables are phase currents, neutral conductor current, phase and phase-to-phase voltages, active power, reactive power, and apparent power as well as the power factors of phases, energy flow directions, and frequency. The measured variables and operands are calculated in accordance with DIN 40110 Parts 1 and 2 (non-sinusoidal variables). In “Scanning measured values” operating mode, the power measurement terminal acquires the instantaneous values (scanning values) of a measuring signal. This measuring mode is used to analyze the waveform of the measuring signal. In “Heating current measured values” operating mode, the power measurement terminal monitors non-equivalence. Phase currents and phase voltages are measured to detect faults at an early stage. In the “1-phase or 3-phase synchronization” operating modes, the power measurement terminal acquires measured values that can be used for controlling the voltage, speed, and phase angle of a generator so that connection to the mains is possible.

Your advantages

- 4 inputs, 0 A AC ... 5 A AC for phase currents and neutral conductor current
- 3 inputs for outer conductor voltages up to 690 V AC, supports direct connection
- Triggers for meas. intervals can be freely defined
- Harmonics analysis
- Determination of maximum values
- Operating hours counter
- Energy meter
- Bimetal filtering
- Short-time control

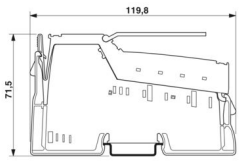
Commercial data

Item number	2700965
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR01
Product key	DRI165
GTIN	4046356665919
Weight per piece (including packing)	231.2 g
Weight per piece (excluding packing)	200 g

Customs tariff number	85389099
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	48.8 mm
Height	119.8 mm
Depth	71.5 mm
Note on dimensions	Housing dimensions

Notes

Note on application

Note on application	Only for industrial use

Material specifications

Color (Housing)	green (RAL 6021)

Interfaces

Inline local bus

Number of interfaces	2
Connection method	Inline data jumper
Transmission speed	500 kbps

System properties

Programming data (LocalbusSlave)

Length code (hex)	0C
ID code (dec.)	220
Length code (dec)	12
Process data channel	192 bit
Input address area	24 Byte
Output address area	24 Byte
Parameter channel (PCP)	4 Byte
Register length (bus)	28 Byte

Fieldbus data telegram

Required parameter data	29 Byte
Required configuration data	5 Byte

Input data

Measurement: voltage

Input name	Voltage measuring input
Description of the input	Detection of phase voltages U1 ... U3, for phase-to-phase voltages up to 690 V AC (phase/phase), direct connection supported
Number of inputs	3

Measurement: Current

Input name	Current measuring input
Description of the input	Detection of I1 ... I3 and IN currents, up to 6 A AC can be connected directly
Number of inputs	4

Product properties

Product type	I/O component
Product family	Inline
Type	modular
Operating mode	Process data mode with 12 words, PCP with 2 words
Diagnostics messages	Two line conductors confused I/O error message
	One line conductor not connected or wire break at line conductor I/O error message
	Measuring circuit fault I/O error message
	Value range for transformer factors exceeded I/O error message
	Value range for other settings exceeded I/O error message

Insulation characteristics

Overvoltage category	III (up to 300 V), II (up to 400 V)
Pollution degree	2 (IEC 60664-1, EN 60664-1)

Electrical properties

Maximum power dissipation for nominal condition	2.7 W

Potentials: Communications power (U_L)

Supply voltage	7.5 V DC (via voltage jumper)
Current draw	typ. 130 mA

Connection data

Connection technology

Connection name	Inline connector

Inline connector

Connection method	Spring-cage connection
Conductor cross-section, rigid	0.2 mm² ... 1.5 mm²
Conductor cross-section, flexible	0.2 mm² ... 1.5 mm²
Conductor cross-section AWG	24 ... 16

Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 55 °C
Degree of protection	IP20
Air pressure (operation)	80 kPa ... 106 kPa (up to 2000 m above sea level)
Air pressure (storage/transport)	80 kPa ... 106 kPa (up to 2000 m above sea level)
Ambient temperature (storage/transport)	-25 °C ... 85 °C
Permissible humidity (operation)	10 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	10 % ... 95 % (non-condensing)

Standards and regulations

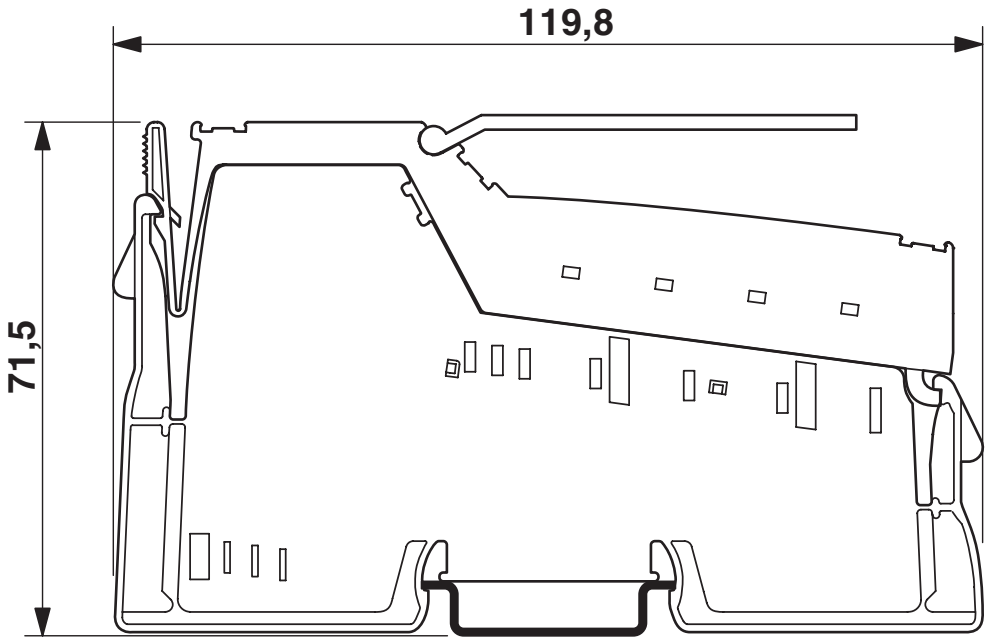
Protection class	II (IEC 61140, EN 61140, VDE 0140-1)

Mounting

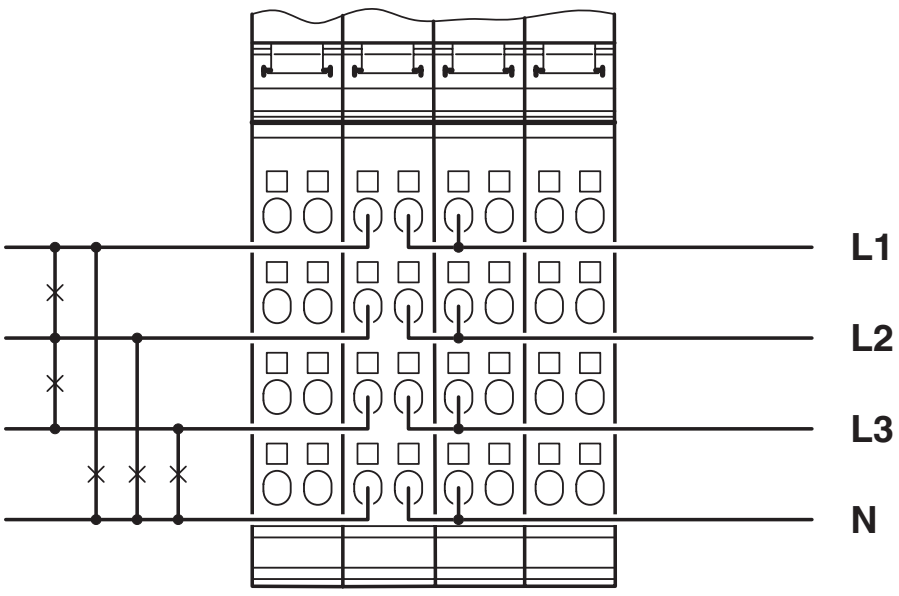
Mounting type	DIN rail mounting

Drawings

Dimensional drawing



Connection diagram



Direct connection

Classifications

ECLASS

ECLASS-13.0	27242605
ECLASS-15.0	27242605

ETIM

ETIM 10.0	EC001601

UNSPSC

UNSPSC 21.0	32151600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	7(a), 7(c)-I

China RoHS

Environment friendly use period (EFUP)	EFUP-E
	No hazardous substances above the limits

EU REACH SVHC

REACH candidate substance (CAS No.)	Lead(CAS: 7439-92-1)
SCIP	24c5394e-f8a5-43dc-94a1-04c11d49f9fa

EF3.1 Climate Change

CO2e kg	21.73 kg CO2e

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