AXL F PM EF 1F - Function module

2702671

https://www.phoenixcontact.com/us/products/2702671

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Axioline F, power measurement module, input voltage: up to 400 V AC (phase/neutral) or 690 V AC (phase/phase), input current: up to 5 A AC, transmission speed in local bus: 100 Mbps, degree of protection: IP20 , including bus base module and Axioline F connectors

Product description

The module is designed for use within an Axioline F station. The power measurement module is used for direct measurement of AC currents up to 5 A, including neutral conductor current and phase conductor voltages up to 400 V AC (phase to neutral conductor) or outer conductor voltages up to 690 V AC (phase to phase). The module is used to perform analysis of 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 use the power measurement module in two operating modes. In “R.m.s. Values” mode, the module acquires mains variables in three-phase mains. Mains variables are phase currents, neutral conductor current, phase and outer conductor voltages, real power, reactive power, and apparent power as well as the power factors of phases, energy flow directions, and frequency. In "Instantaneous Values" mode, the module acquires the instantaneous (scanning) values of a measuring signal. This measuring mode is used to analyze the waveform of the measuring signal.

Your advantages

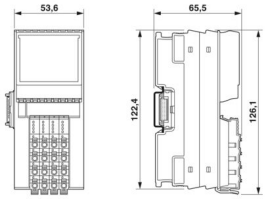
- 4 inputs, 0 A AC ... 5 A AC for phase currents and neutral conductor current
- 3 inputs for outer conductor voltages up to 690 V AC, supports direct connection
- Harmonics analysis
- Determination of maximum values
- Energy meter
- Process data update < 500 µs
- Also suitable for use in IT networks

Commercial data

Item number	2702671
Packing unit	1 pc
Minimum order quantity	1 pc
Sales key	DR02
Product key	DRI265
Catalog page	Page 91 (C-6-2019)
GTIN	4055626364940
Weight per piece (including packing)	293.9 g
Weight per piece (excluding packing)	222 g
Customs tariff number	85437090
Country of origin	DE

Technical data

Dimensions

Dimensional drawing	
Width	53.6 mm
Height	126.1 mm
Depth	65.5 mm
Note on dimensions	The depth applies when a TH 35-7.5 DIN rail is used (in accordance with EN 60715).

Notes

Utilization restriction

EMC note	EMC: class A product, see manufacturer's declaration in the download area

Interfaces

Axioline F local bus

Number of interfaces	2
Connection method	Bus base module
Transmission speed	100 Mbps

System properties

Module

Input address area	64 Byte
Output address area	0 Byte
Required parameter data	52 Byte
Required configuration data	7 Byte

Product properties

Product type	I/O component
Product family	Axioline F
Type	block modular
Mounting position	any (no temperature derating)
Operating mode	Process data mode with 32 words

Insulation characteristics

Pollution degree	2

Electrical properties

Potentials: Axioline F local bus supply (U_{Bus})

Supply voltage	5 V DC (via bus base module)
Current draw	max. 80 mA
	typ. 73 mA
Power consumption	max. 400 mW
	typ. 365 mW

Electrical isolation/isolation of the voltage ranges

Test voltage: 5 V supply for local bus (U_{Bus}) / peripheral range AC	4 kV, 50 Hz, 1 min.
Test voltage: 5 V supply of the local bus (U_{Bus}) / functional ground	500 V AC, 50 Hz, 1 min.

Connection data

Connection technology

Connection name	Axioline F connector
Note on the connection method	Please observe the information provided on conductor cross sections in the “Axioline F: system and installation” user manual. Only use reinforced or double-insulated conductors with a conductor cross section of 1.5 mm².

Axioline F connector

Connection method	Push-in connection
Note on the connection method	Please observe the information provided on conductor cross sections in the “Axioline F: system and installation” user manual. Only use reinforced or double-insulated conductors with a conductor cross section of 1.5 mm².
Conductor cross section, rigid	1.5 mm²
Conductor cross section, flexible	1.5 mm²
Conductor cross section AWG	16
Stripping length	8 mm

Environmental and real-life conditions

Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Degree of protection	IP20
Air pressure (operation)	70 kPa ... 106 kPa (up to 3000 m above sea level, from HW 01)
Air pressure (storage/transport)	70 kPa ... 106 kPa (up to 3000 m above sea level)
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)

Standards and regulations

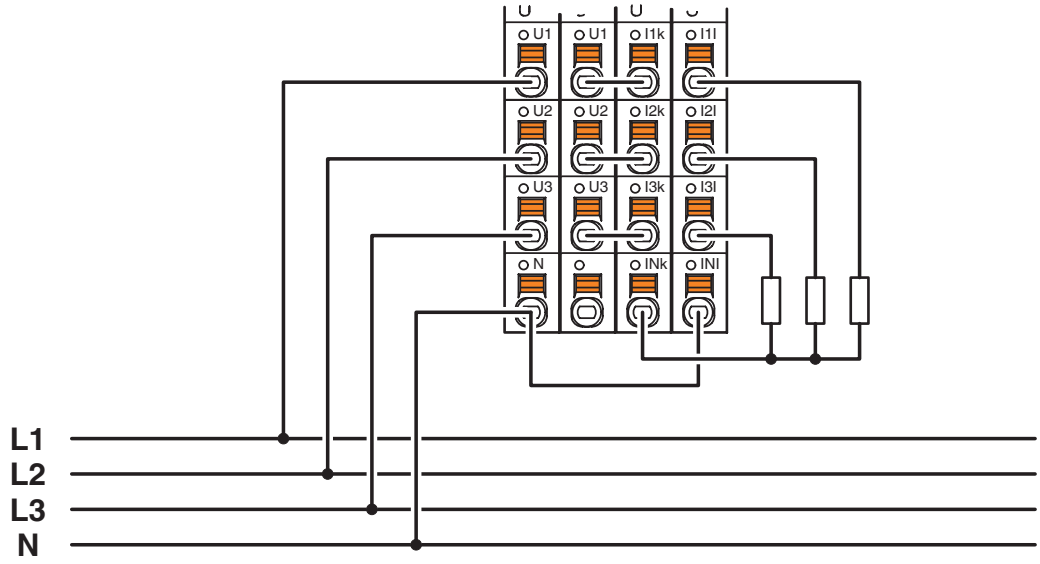
Protection class	II

Mounting

Mounting type	DIN rail mounting
Mounting position	any (no temperature derating)

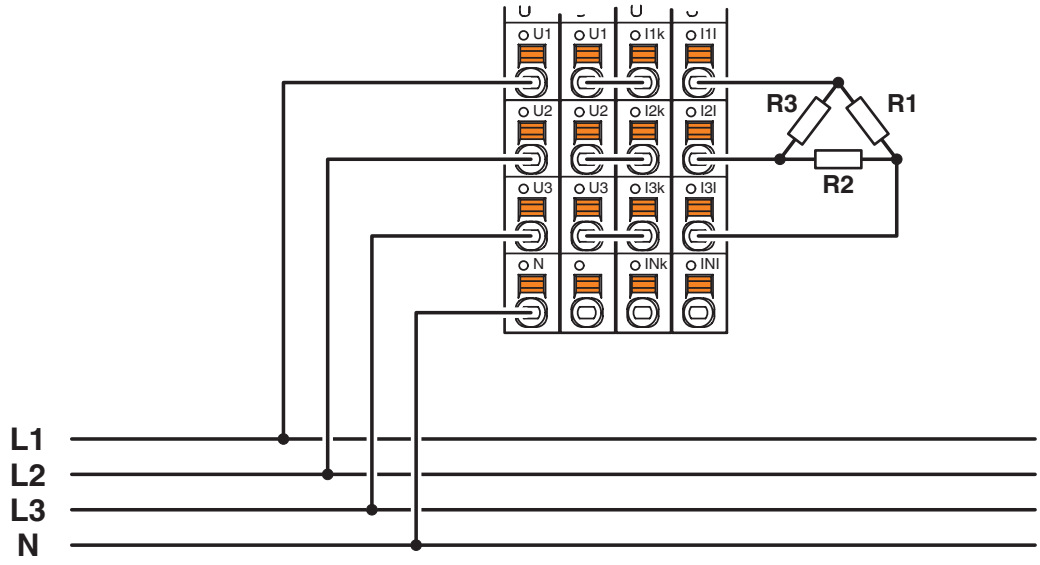
Drawings

Connection diagram



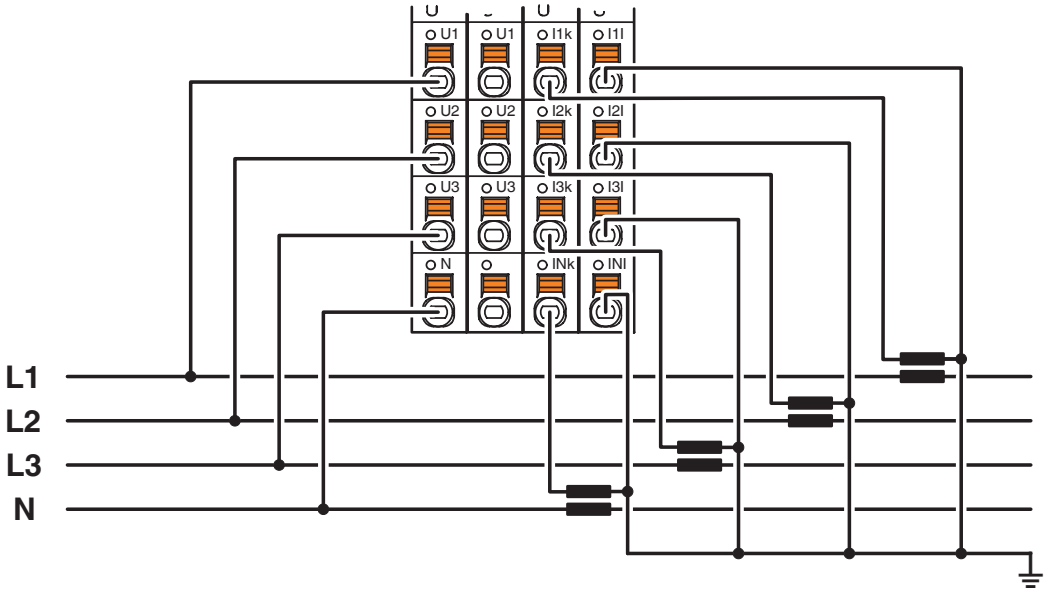
Connection of a 3-phase load for power measurement in star connection with neutral conductor current

Connection diagram



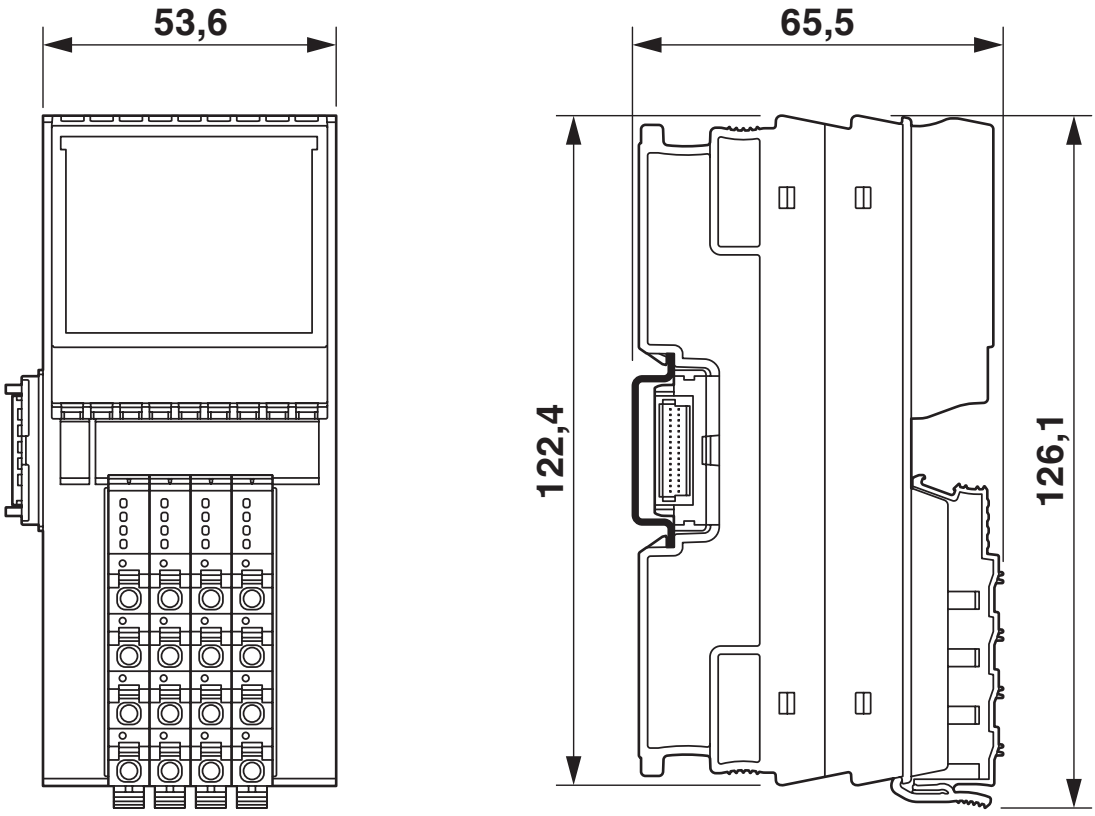
Connection of a 3-phase load for power measurement in delta circuit

Connection diagram

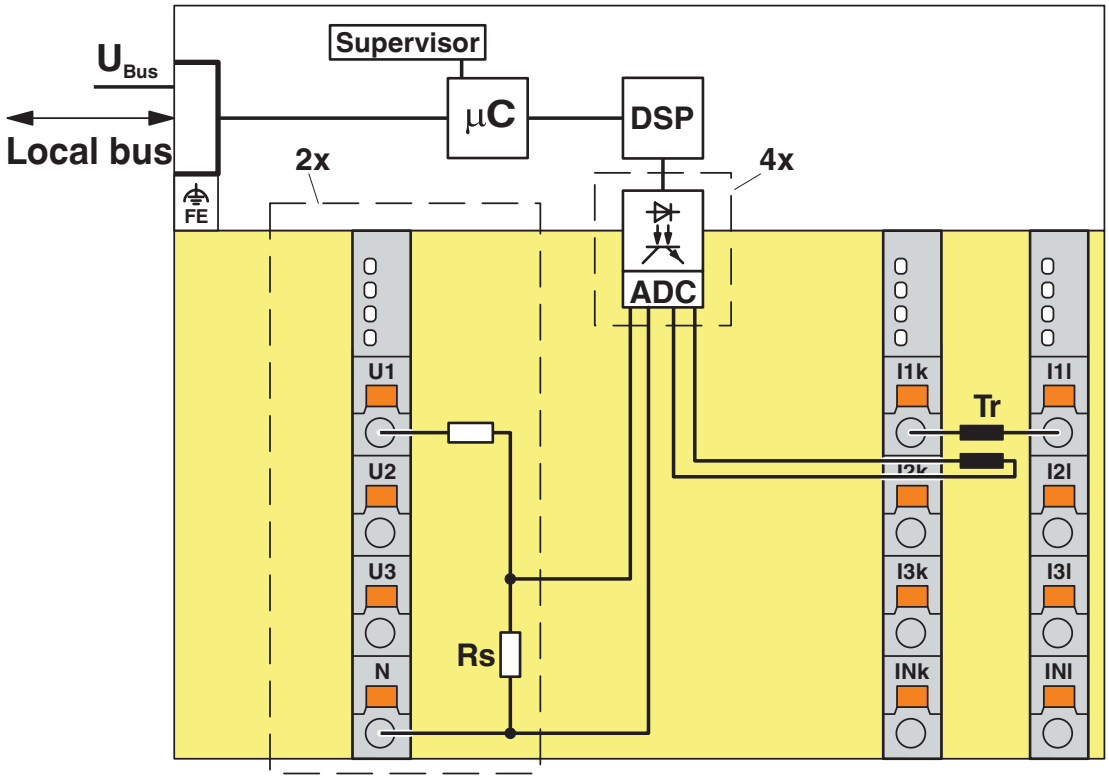


Connection of a 4-conductor grid with current transformers

Dimensional drawing



Block diagram



Internal wiring of the terminal points

Approvals

To download certificates, visit the product detail page: https://www.phoenixcontact.com/us/products/2702671

UL Listed
Approval ID: FILE E 357804

cUL Listed
Approval ID: FILE E 357804

UAE-RoHS
Approval ID: 23-02-63243

cULus Listed

Classifications

ECLASS

ECLASS-11.0	27242605
ECLASS-12.0	27242605
ECLASS-13.0	27242605

ETIM

ETIM 9.0	EC001601

UNSPSC

UNSPSC 21.0	32151600

Environmental product compliance

EU RoHS

Fulfills EU RoHS substance requirements	Yes
Exemption	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.)	No substance above 0.1 wt%

Accessories

AXL F BS F - Bus connector

2688129

https://www.phoenixcontact.com/us/products/2688129



Axioline F bus base module for housing type F

ZB 20,3 AXL UNPRINTED - Zack marker strip

0829579

https://www.phoenixcontact.com/us/products/0829579



Zack marker strip for Axioline F (device labeling), in 2 x 20.3 mm pitch, unprinted, 25-section, for individual labeling with B-STIFT 0.8, X-PEN, or CMS-P1-PLOTTER

ZBF 7,5:UNBEDRUCKT - Zack Marker strip, flat

0809942

https://www.phoenixcontact.com/us/products/0809942



Zack Marker strip, flat, Strip, white, unlabeled, can be labeled with: PLOTMARK, CMS-P1-PLOTTER, mounting type: snapped, for terminal block width: 7.5 mm, lettering field size: 5.15 x 7.4 mm, Number of individual labels: 10

EMT (35X46)R - Insert label

0801604

https://www.phoenixcontact.com/us/products/0801604



Insert label, for marking the Axioline F series from Phoenix Contact, Roll, white, unlabeled, can be labeled with: THERMOMARK E.300 (D)/600 (D), THERMOMARK ROLL 2.0, THERMOMARK ROLL, THERMOMARK ROLL X1, THERMOMARK ROLLMASTER 300/600, THERMOMARK X1.2, mounting type: insert, lettering field size: 35 x 46 mm, Number of individual labels: 500

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