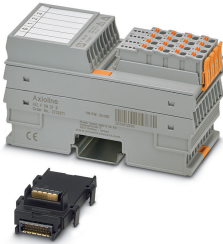


## Special function module - AXL F PM EF 1F - 2702671

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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 networks. 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
- ✓ Power meter
- ✓ Process data update < 500 µs



### Key Commercial Data

Packing unit	1 pc
GTIN	 4 055626 364940
GTIN	4055626364940
Weight per Piece (excluding packing)	300.000 g
Custom tariff number	85437090

## Special function module - AXL F PM EF 1F - 2702671

Country of origin	Germany
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### Technical data

#### Note

Utilization restriction	EMC: class A product, see manufacturer's declaration in the download area
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#### Dimensions

Width	53.6 mm
Height	126.1 mm
Depth	65.5 mm
Note on dimensions	The depth is valid when a TH 35-7,5 DIN rail is used (according to EN 60715).

#### Ambient conditions

Ambient temperature (operation)	-25 °C ... 60 °C
Ambient temperature (storage/transport)	-40 °C ... 85 °C
Permissible humidity (operation)	5 % ... 95 % (non-condensing)
Permissible humidity (storage/transport)	5 % ... 95 % (non-condensing)
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)
Degree of protection	IP20 (in accordance with IEC 60529 / EN 60529)

#### General

Mounting type	DIN rail
Color	traffic grey A RAL 7042
Net weight	222 g
Note on weight specifications	with connectors and bus base module
Operating mode	Process data mode with 32 words
Degree of pollution	2
Mounting position	any (no temperature derating)

#### Interfaces

Designation	Axioline F local bus
Number	2
Connection method	Bus base module
Transmission speed	100 Mbps

#### Axioline potentials

Designation	Axioline F local bus supply ( $U_{BUS}$ )
Supply voltage	5 V DC (via bus base module)
Current consumption	typ. 73 mA
	max. 80 mA

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## Technical data

### Axioline potentials

Power consumption	typ. 365 mW
	max. 400 mW

### Standards and Regulations

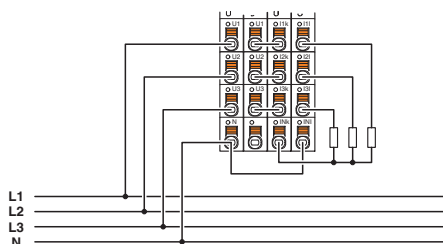
Immunity to ESD	Noise immunity test in accordance with EN 61000-6-2 Electrostatic discharge (ESD) EN 61000-4-2/IEC 61000-4-2 Criterion A, 6 kV contact discharge, 8 kV air discharge
Immunity to EF	Noise immunity test in accordance with EN 61000-6-2 Electromagnetic fields EN 61000-4-3/IEC 61000-4-3 Criterion A, Field intensity: 10 V/m
Immunity to burst	Noise immunity test in accordance with EN 61000-6-2 Fast transients (burst) EN 61000-4-4/IEC 61000-4-4 Criterion B, 4 kV / Criterion A, 2 kV
Immunity to surge	Noise immunity test in accordance with EN 61000-6-2 Transient overvoltage (surge) EN 61000-4-5/IEC 61000-4-5 Criterion A; DC supply lines: $\pm 0.5$ kV/ $\pm 1$ kV (symmetrical/asymmetrical) Criterion A, measurement input: $\pm 2$ kV/ $\pm 4$ kV (symmetrical/asymmetrical)
Immunity to conducted interference	Noise immunity test in accordance with EN 61000-6-2 Conducted interference EN 61000-4-6/IEC 61000-4-6 Criterion A, Test voltage 10 V
Interference emission	Noise emission test according to EN 61000-6-3 Class B
Mechanical tests	Vibration resistance in acc. with EN 60068-2-6/IEC 60068-2-6 5g
	Shock in acc. with EN 60068-2-27/IEC 60068-2-27 30g
	Continuous shock according to EN 60068-2-27/IEC 60068-2-27 10g
Protection class	II

### Environmental Product Compliance

REACH SVHC	Dechlorane Plus
China RoHS	Environmentally Friendly Use Period = 50 years
	For details about hazardous substances go to tab "Downloads", Category "Manufacturer's declaration"

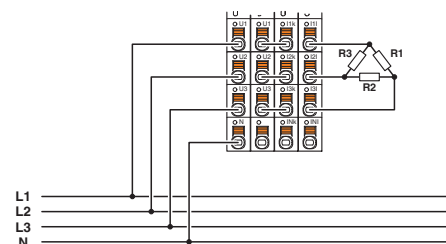
## Drawings

Connection diagram



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

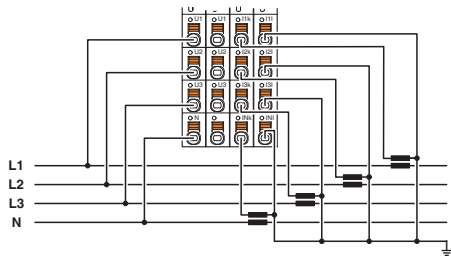
Connection diagram



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

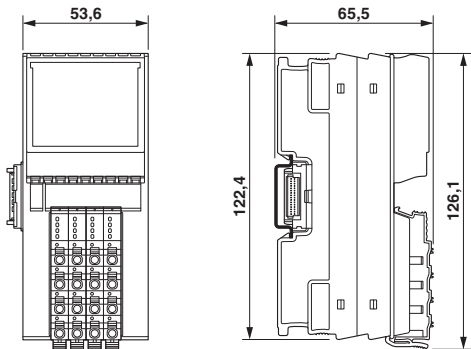
Special function module - AXL F PM EF 1F - 2702671

Connection diagram

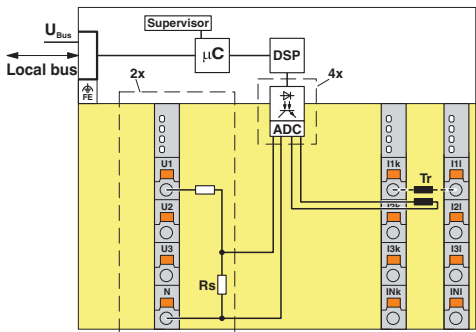


Connection of a 4-conductor network with current transformers

Dimensional drawing



Block diagram



Internal wiring of the terminal points

Classifications

eCI@ss

eCI@ss 10.0.1	27242605
eCI@ss 11.0	27242605
eCI@ss 6.0	27242600
eCI@ss 7.0	27242605
eCI@ss 9.0	27242605

ETIM

ETIM 6.0	EC001601
ETIM 7.0	EC001601

## Special function module - AXL F PM EF 1F - 2702671

### Approvals

#### Approvals

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##### Approvals




UL Listed / cUL Listed / cULus Listed

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##### Ex Approvals

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#### Approval details

UL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 357804
cUL Listed		<a href="http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm">http://database.ul.com/cgi-bin/XYV/template/LISEXT/1FRAME/index.htm</a>	FILE E 357804
cULus Listed			

### Accessories

#### Accessories

##### Device marking

Insert label - EMT (35X46)R - 0801604



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

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#### DIN rail connector

## Special function module - AXL F PM EF 1F - 2702671

### Accessories

Bus connector - AXL F BS F - 2688129



Axioline F bus base module for housing type F

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### Terminal marking

Zack marker strip - ZB 20,3 AXL UNPRINTED - 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

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Zack Marker strip, flat - ZBF 7,5:UNBEDRUCKT - 0809942



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