BENDER
The Power in Electrical Safety©

Power Quality and Energy Measurement
PEM735 measuring case

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Device characteristics

- Class A power analyser certified acc. to DIN EN 61000-4-30
- Voltage quality monitoring acc. to DIN EN 50160
- Accuracy class acc. to IEC 62053-22: 0.2 S
- TFT colour display (640x480) 5.7“
- Modbus RTU and Modbus TCP
- 4 current inputs
- 5 voltage inputs
- 1 GB internal memory
- An integrated web server
- Flicker measurement
- Transient detection and recording (40 µs)
- Sampling rate: 512 samples/cycle
- Individually configurable recorder for waveforms, consumption, long-term recordings

Product description

The PEM735 measuring and demonstration case is a complete mobile measuring set for power quality analysis according to DIN EN 50160 (measurement acc. to IEC 61000-4-30 class A).

The plastic case is sturdy and lockable.

Function

- PEM735 class A Power Quality analyser
- Measures nominal voltage up to AC 690 V
- Supply voltage U_s AC 230 V

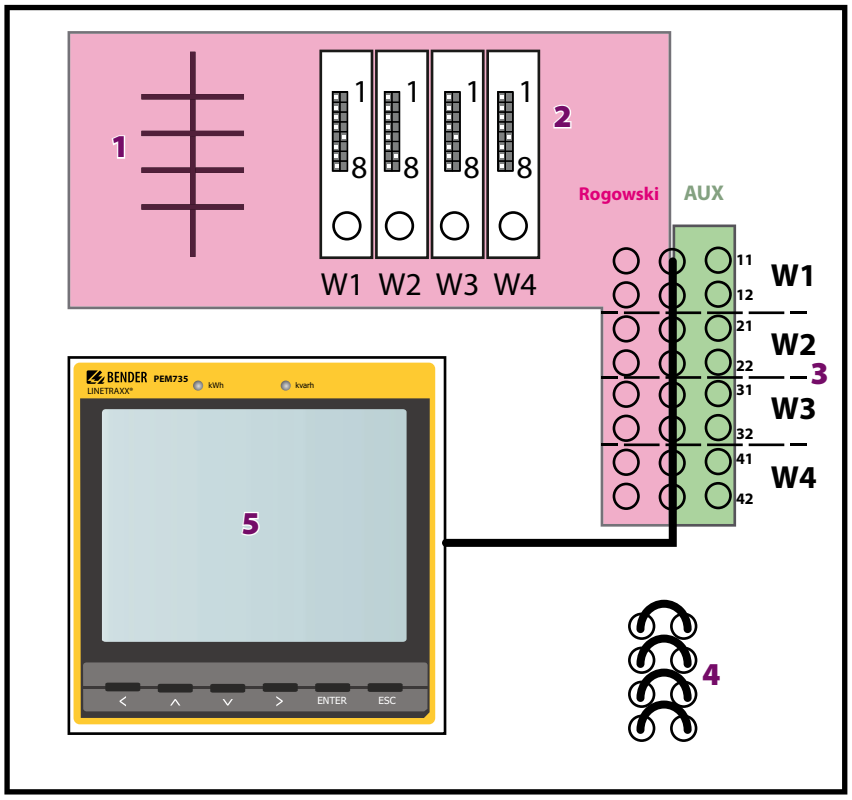
Scope of delivery

- 4 flexible current transformers for measurements up to 4000 A
- 1 current measuring clamp 1000 A, 5 kHz
- 1 current measuring clamp 250/500/1000 A, 1 kHz
- incl. integrated WLAN router, a trolley, various safety test probes

Ordering information

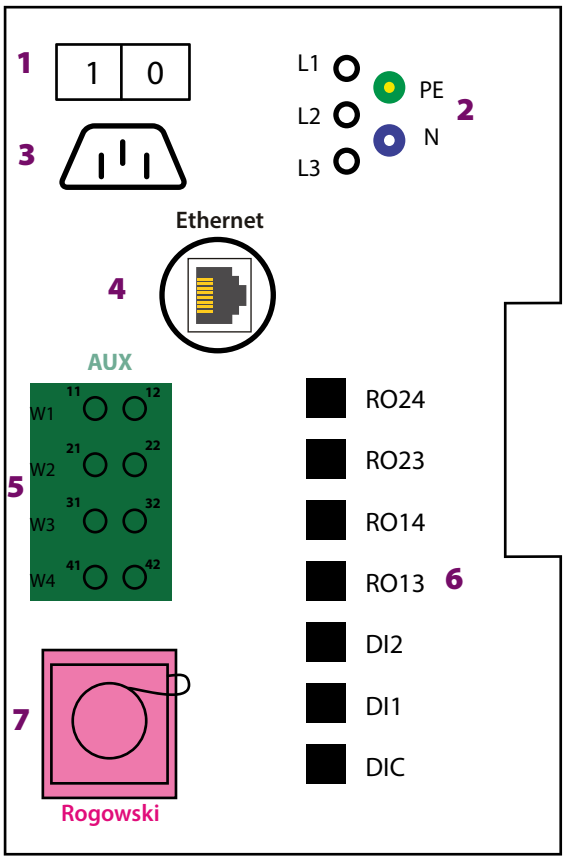
Type	Art. no.
PEM735 measuring case	B 9830 0014

Wiring diagram of the front plate



1 - Overview of the DIP switch settings for the transducers of the Rogowski coils
2 - Transducers for the Rogowski coils
3 - Jumper wire slots to configure the measuring current transformers in use
4 - Slots for replacement jumper wires
5 - Universal measuring device PEM735

Wiring panel side



1 - On/off switch of the measuring case
2 - Measuring voltage inputs
3 - Power supply socket for measuring case
4 - Ethernet connection socket
5 - Measuring current transformer inputs
6 - Digital inputs and relay outputs
7 - Connection Rogowski coils

Technical data PEM735

Insulation coordination

Measuring circuit

Rated insulation voltage	600 V
Overvoltage category	III
Pollution degree	2

Supply circuit

Rated insulation voltage	300 V
Overvoltage category	II
Pollution degree	2

Supply voltage

Rated supply voltage	100…240 V
Frequency range of U_S	47…63 Hz

Measuring circuit

Measuring voltage inputs

$U_{L1\text{-}N,L2\text{-}N,L3\text{-}N}$	400 V
$U_{L1\text{-}L2,L2\text{-}L3,L3\text{-}L1}$	690 V
Measuring range	10… 120 % U_n
Rated frequency	45…65 Hz
Internal resistance (L-N)	> 6 MΩ

Measuring current inputs

External measuring current transformers	should at least comply with accuracy class 0.2 S
Burden	n.A., internal current transformers
Measuring range	0.1… 120 % I_n
Measuring current transformer conversion ratio, secondary	1…5 A
Measuring current transformer conversion ratio, primary	1…30000 A

Accuracies (mv = of measured value/fs = of full scale value)

Phase voltage $U_{L1\text{-}N}$, $U_{L2\text{-}N}$, $U_{L3\text{-}N}$	± 0.1 % mv
Current	± 0.1 % mv + 0.05 % fs
Frequency	± 0.005 Hz
Phasing	± 1 °
Measurement of the active energy	acc. to DIN EN 62053-22 (VDE 0418 part 3-22)
Measurement of the voltage r.m.s. values	acc. to DIN EN 61557-12 (VDE 0413-12), chapter 4.7.6
Measurement of the phase current r.m.s. values	acc. to DIN EN 61557-12 (VDE 0413-12), chapter 4.7.5
Frequency measurement	acc. to DIN EN 61557-12 (VDE 0413-12), chapter 4.7.4
Measurement of the harmonics	acc. to DIN EN 61000-4-7 class A

Interface

Interface/protocol	RJ-45, Modbus TCP

Switching elements

Outputs (RO)				2 x N/O contacts
Operating principle				N/O operation
Rated operational voltage	AC 230 V	DC 24 V	AC 110 V	DC 12 V
Rated operational current	5 A	5 A	6 A	5 A
Minimum contact rating				1 mA at AC/DC ≥ 10 V
Inputs				2 electrically separated digital inputs
I_{min}				2.4 mA
U_{DI}				DC 24 V

Environment/EMC

Operating temperature	-0…+ 40 °C
	Classification of climatic conditions acc. to DIN EN 60721
Height	up to 4000 m

Other

Degree of protection	IP20
Dimensions	approx. 556 x 416 x 295 mm
Weight	≤ 16 kg

Wiring panel measuring case

Measuring current transformer included in the scope of delivery

Material for voltage measurement

BENDER
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Bender GmbH & Co. KG
P.O. Box 1161 • 35301 Gruenberg • Germany
Londorfer Straße 65 • 35305 Grünberg • Germany
Tel.: +49 6401 807-0 • Fax: +49 6401 807-259
E-mail: info@bender.de • www.bender.de

BENDERGroup