



# PEWM – 3A

## PORTABLE THREE-PHASE ENERGY STANDARD CLASS 0.05

### Application and brief description

The three-phase standard PEWM-3A is used for a precise verification of all types of electricity meters on site or in a laboratory. The current can be measured via direct connection in two ranges (up to 12A or to 120A). Measurements with current clamps to 120A are also possible. The current clamps are electronically compensated.

The accuracy class of PEWM-3A is 0.05 for direct measurement of voltage, current and power; class 0.2 for current clamps.

The revolutions or the pulses from the electricity meter are counted with a scanning head or manually with the help of a functional button. The registers of the electricity meter can be tested too.

The display of vector diagram and the numerical values of current, voltage and phase shift help the operator to detect circuit faults.

Other functions of the device are power, phase shift and harmonic measurement; drawing of the waveforms.

### Standard Equipment Set:

- Four safety cables for voltage
- Six current cables
- Three current clamps
- Cable for auxiliary supply
- Portable case
- RS 232 cable (option)
- Scanning head with mechanics (option)
- Hand switch
- Mains cable
- Alligator clips

### Technical data

- ◆ Power supply 80V ÷ 275V, optional 80V ÷ 500V
- ◆ Power consumption 20 VA
- ◆ Operation temperature - 5°C ÷ + 50°C
- ◆ Relative humidity < 90% non condensing
- ◆ Frequency range 45 ÷ 65 Hz
- ◆ Pulse output 100 000 imp/ kWh (kVarh)
- ◆ Graphic LCD, color display 640 x 480 pixels
- ◆ Housing plastic case
- ◆ Dimensions 340 x 300 x 160 mm
- ◆ Weight 6 kg
- ◆ Degree of protection IP 40 (opened case); IP 65 (closed case)

### ERRORS AND RANGES

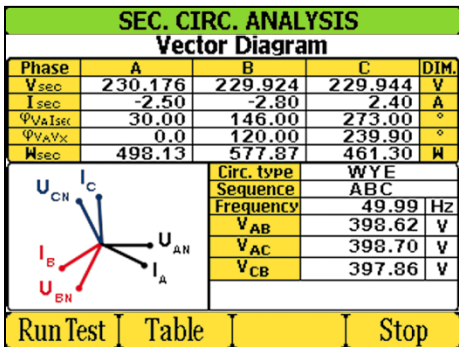
	ERROR (%)	RANGE (%)
◆ Voltages measurement (phase zero)	± 0.05 [%]	(10V ÷ 300V)
◆ Current measurement (direct to 120A)	± 0.05 [%]	(0.50A ÷ 120.00A)
	± 0.2 [%]	(0.05A ÷ 0.49A)
• Current measurement (direct to 12A)	± 0.05 [%]	(0.05A ÷ 12.00A)
	± 0.2 [%]	(0.01A ÷ 0.05A)
• Current measurement with 100A current clamps	± 0.2 [%]	(0.200A ÷ 100.00A)
	± 0.5 [%]	(0.020A ÷ 0.199A)
• Power/ energy measurement (direct to 120A)	± 0.05 [%]	(0.50A ÷ 120.00A)
	± 0.2 [%]	(0.05A ÷ 0.49A)
• Power/ energy measurement (direct to 12A)	± 0.05 [%]	(0.05A ÷ 12.00A)
	± 0.2 [%]	(0.01A ÷ 0.05A)
• Power/ energy measurement (current clamps)	± 0.2/cos φ [%]	(0.200A ÷ 100.00A)
	± 0.5/cos φ [%]	(0.020A ÷ 0.199A)

**SAFETY TESTS:** EN 61010-1 (Transient over voltage CAT III 300V)

**EMC TESTS:** EN 61010-4-2, EN 61000-4-4, EN 61000-4-5, EN 61000-4-6

**Functionality according to : IEC 60736**

# Functions of PEWM-3A



- First mode – “Vector diagram”

The Vector diagram of the three – phase load is drawn on the large graphic color display in this mode. The true RMS values of voltage and current, the angle between them, the frequency and the sequence of rotation are also indicated.

This mode can be switched for three – wire or four– wire measurement.

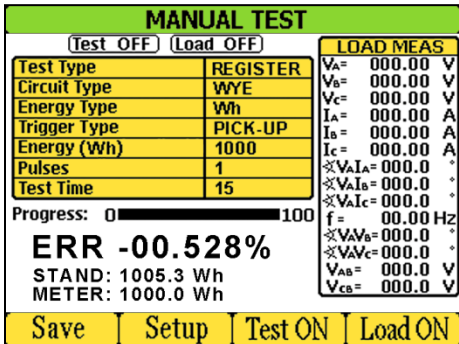
- Second mode – “Error”

The constant of the electricity meter, the number of revolutions(pulses) and the measurement mode are preset by the operator with the help of the buttons.

Measurement mode is selected out of the following:

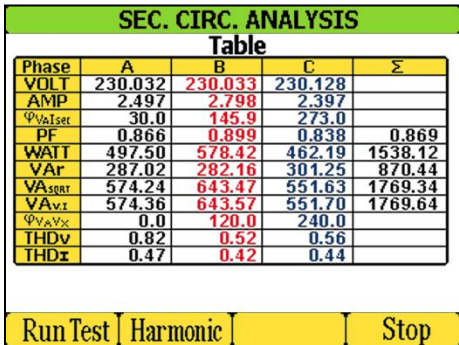
- two –, three –, or four – wire measurement
- active / reactive energy measurement
- delivery of pulses from scanning head or manually (with functional button)
- register verification or error measurement

The device indicates error of the electricity meter in [%] and the true value of energy. The delivery of pulses is traced with a bargraph.



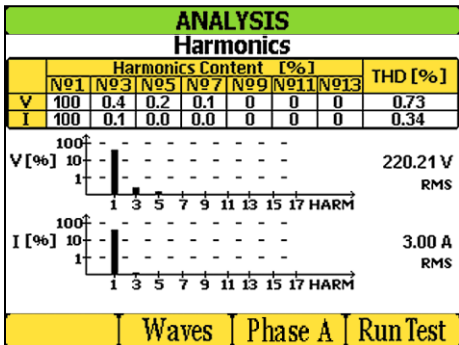
- Mode – “Power Table”

The values of active, reactive and apparent power of the three phase indicated. The TRMS values of voltage and current, phase shift , PF and are also indicated. This mode can be switched for three-wire or four-wire measurement.



- Mode “Harmonics”

The harmonic content of each input signal of voltage or current can be measured in this mode. The results are displayed graphically and numerically.



- Mode “Wave Forms”

The wave forms of all six input signals – three voltages and three currents are drawn on the display.

