

EMA-90A



POWER ANALYZER designed for energy efficiency

Checks every parameter of your electrical installation



PRODUCT DESCRIPTION

The EMA-90A series power meters provide accurate 3-phase electrical parameters monitoring.

The product functions of power meters provide the various measurement capabilities required to monitor an electrical installation such as current, voltage, power, power factor, frequency, and energy. The accuracy of active energy measurements corresponds to class 0.2 S in accordance with EN 62053-22.

The current inputs are connected via external current transformer (.../1A or .../5A) .

DEVICE FEATURES

- FLUSH-MOUNT HOUSING, 96x96 mm
- TFT COLOUR DISPLAY (320x240) 3.5"
- KEYBOARD WITH 6 KEYS FOR VISUALIZATION AND SETTING
- EASY AND FAST NAVIGATION
- COMPATIBLE WITH LV, MV, HV APPLICATIONS
- TRUE RMS MEASUREMENTS
- CONTINUOUS SAMPLING
- MEASUREMENT REFRESH RATE 1s
- READING OF MORE THAN 300 ELECTRICAL PARAMETERS
- 4 CURRENT INPUTS
- HARMONIC ANALYSIS OF VOLTAGE AND CURRENT UP TO 21 ORDER
- EVENTS STORAGE
- GRAPHS: HISTORICAL VOLTAGES AND CURRENTS, POWER LOAD CURVE, ENERGY CONSUMPTION
- ANALOG INDICATORS V, I, PF, W, VAR
- ADVANCED PROGRAMMABLE I/O FUNCTIONS
- MODBUS RTU AND MODBUS TCP
- INTEGRATED WEB SERVER (WEB NG)



NEW NEEDS IN THE SECTOR

EMA-90A enables the control of electrical and energy variables in any type of installation, complying with the latest international regulations for the measurement and management of energy efficiency.

Photovoltaic plants



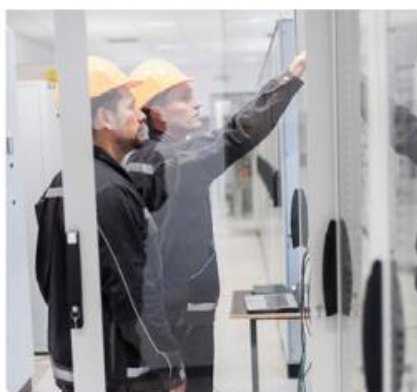
Tertiary sector



Buildings



Panel builders



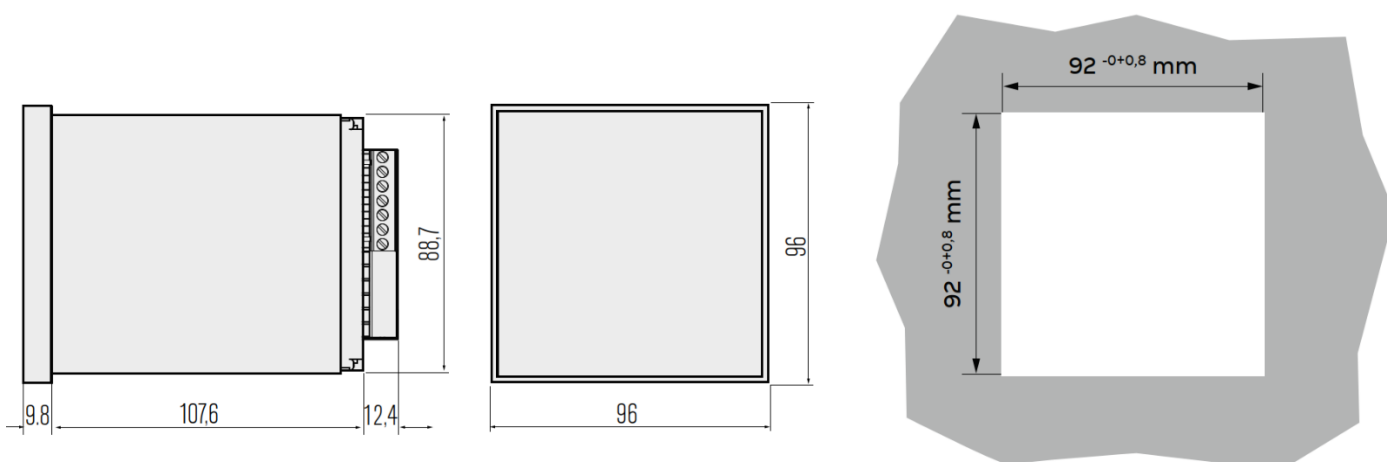
Industry



Production plants



MECHANICAL DIMENSIONS (mm)



TECHNICAL FEATURES

Auxiliary power supply	
Rated voltage	90÷250 VAC/DC 20÷60 VAC/DC
Frequency	50/60 Hz
Protection fuse	5x20 mm - 1A time lag (option 90÷250 Vac/dc) 5x20 mm - 3.15A time lag (option 20÷60 Vac/dc)
Power consumption	10VA max – 3VA min (depending on the options and activities)
Voltage inputs	
Type of input	Three phase + neutral
Measurement range	30 - 400 VAC L-N 52 - 693 VAC L-L
Frequency range	50 - 60 Hz Note: V1 terminal must be connected
Method of measuring	True RMS value
Current inputs	
Type of input	Inputs isolated by internal current transformers
Measurement range	for 5A scale: 50mA - 5A for 1A scale: 10mA - 1A
Method of measuring	True RMS value
Accuracy	
Energy	CEI EN 62053-21 compliant – Class 1 (1%) CEI EN 62053-22 compliant – Class 0.5 S (0.5%) CEI EN 62053-22 compliant – Class 0.2 S (0.2%)
Frequency	40 - 70 Hz
Power factor	± 1.000
Cosφ	± 1.000
THD	IEC62053-22 compliant
Harmonics	up to 21 th Harmonics – IEC62053-22
Refresh rate	~ 1000 mS
Ambient conditions	
Operating temperature	-20... +60°C
Storing temperature	-30... +80°C
Relative humidity	5...95%
Altitude	≤2000m
Housing	
Overall dimension	96x96x130 mm
Degree of protection	IP50 on front (IP65 with frontal transparent cover) IP20 housing and terminals
Weight	450 gr
Communication RS485	
Protocol	Modbus RTU
Standard	RS485 half-duplex with optical isolation
Baud rate	4.8 – 9.6 – 19.2 – 38.4 – 57.6 – 115.2 kbps
Node	1 ÷ 247
Parity	Even - Odd – None
Stop bit	1, 2
Communication Ethernet	
Protocol	ModbusTCP
Connector	RJ45
Digital input	
Number of digital inputs	2, 4
Input voltage range	Input rated voltage V _{INPUT} 24, 48, 115, 230 Vac/dc (only one defined in the order)
Input current	Rated input current I _{INPUT} @ V _{INPUT} : 5mA _{MAX} @ V _{INPUT} =all voltages
Digital output	
Number of digital outputs	2, 4, 6, 8
Type	Photo-MOS (solid state); R _{ON} = 8Ω typ. (12Ω MAX)
Range Voltage/Current	10 ÷ 300Vcc 150mA _{MAX} ; 12 ÷ 250Vca 150mA _{MAX}
Certifications and compliance	
References standards	CEI EN 61000-6-2:2006 CEI EN 61000-6-4:2007 CEI EN 61010-1:2013