



MPR-4 Series New Generation Network Analyzers

MPR-4 Series **panel type** network analyzers are compact solutions with their **96 x 96 x 45 mm** dimensions designed for detailed measurement and analysis of electrical parameters. It has wide operating voltage range of 50-270 VAC/DC.

Devices with **internal memory up to 16 MB** offer a **wide range of I/O solutions with their replaceable modular structure** depending on requirements and areas of use. Therefore they provide flexible detection and control of devices in the field.

Real-time monitoring is possible via **large graphic screen**. Thanks to **the communication feature** of MPR-4 Series, energy measurements can be monitored easily from a single monitoring center.

- Digital input/output, analog output, relay and temperature measurement options with modular I/O structure
- 96 x 96 x 45 mm slim design
- 3,5 inch large LCD screen
- 16 MB memory
- Current / voltage unbalance measurement
- Detailed measurement up to 51 harmonics
- 256 event log
- Sag / Swell measurement
- Compatible with **plug&meter** current transformers
- IP54 (optionnel)



SPECIFICATIONS

	MPR-45	MPR-45S	MPR-46	MPR-46S-L	MPR-46S	MPR-47S	MPR-47S-D	MPR-46S-PM	MPR-47S-PM	
ENCLOSURE										
Dimensions	96x96x45mm									
Protection Class	Terminals = IP20, Enclosure Protection Class = IP51, IP54 optional									
Display	3,5 inch LCD screen									
MEASUREMENTS										
Voltage										
Measurement Range	5 - 300 VAC (L-N) 5 - 480 VAC (L-L)									
Measurement Range with Transformer	1 - 400.0kV Transformer Ratio: 1-5000									
Accuracy	%0,5 ± 1 Digit (%0.2 for MPR-4X-0,5)									
Input Impedance	>1M									
Burden (Input Load)	<0,5 VA									
Current										
Nominal Current	In : 5A / 1A									
Minimum Current	5 mA									
Measurement Range	50 mA - 5,5 A Accuracy : %0,5 ± 1 Digit (%0.2 for MPR-4X-0,5)									
Measurement Range with Transformer	50 mA - 10000 A									
Burden	0,5 VA									
Overload Current	1,2 In continuous									
Short Time Overload (1s)	10xIn									
Power/Energy										
Active Power	0 - 1 GW Accuracy: %1 ± 1 Digit (%0.5 for MPR-4X-0,5)									
Reactive Power	0 - 1 GVar Accuracy: %1 ± 1 Digit									
Apparent Power	0 - 1 GVA Accuracy: %1 ± 1 Digit									
Power Factor	±1.00 Accuracy: ± 0,02									
Active Energy	0 - 99 999 999 kWh or MWh Accuracy: %1 Class 1 (Class 0,5 for MPR-4X-0,5)									
Reactive Energy	0 - 99 999 999 kVarh or MVarh Accuracy: %2 Class 2 (Class 1 for MPR-4X-0,5)									
Individual Harmonics	-			2-51 Voltage(V) and Current(I)			-		2-51 Voltage(V) and Current(I)	
Demand Period	1,2,5,10,15,20,30,60 minute adjustable									
Frequency	45-65 Hz									
Sampling Period	128									
SUPPLY										
Operating Voltage	50 - 270 VAC/DC				24 - 60 VAC/DC		50 - 270 VAC/DC			
Operating Frequency	50/60 Hz									
Power Consumption	<5 VA									
PULSE OUTPUT										
Energy Pulse Output	*Active Energy Output (1kWh/pulse - 50MWh/pulse) *Reactive Energy Output (1kVarh/pulse - 50MVarh/pulse)									
Switching Current	*Maximum 50 mA									
Switching Voltage	*5...24 VDC									
Pulse Width	*100 ... 2500 ms									
Maximum Voltage	*Maximum 30 VDC									
MEMORY										
Internal Memory Size	-	16MB	-							16MB
COMMUNICATION										
Communication Interface/Protocol	-	RS-485 / MODBUS RTU	-							RS-485 / MODBUS RTU
Transfer Speed	-	2400-115200	-							2400-115200
AMBIENT CONDITIONS										
Operating Temperature	- 5 / +55 °C									
Storage Temperature	- 20 / +70 °C									
Overvoltage Category	III									
Pollution Degree	II									
Ambient Humidity	%90									
STANDARDS										
Standards	EN 61557-12, EN 61326-1, EN 61000-6-2, EN 61000-6-3, EN 61000-6-4 EN 62053, EN 60068, EN 61010									
CONNECTIONS										
Mounting	Front Panel Mounting with Rear Terminals									
Connection Terminals	Screw Terminal with Socket									
Connection Types	3P4W, 3P3W, 3 Phase (Aron), 3P4W Balanced, 3P3W Balanced									

Compatible with
ENTES plug & meter
current transformers.

*Provided with digital output I / O modules

HEADQUARTERS

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Network Analyzers (LED)

MPR-4 Series

MEASURED PARAMETERS

Phase - Neutral Voltages (V_{LN})	Neutral Current (I_n)	Active Power (P)	Active Energy Import (kWh or MWh)
Phase - Phase Voltages (V_{LL})	Power Factor (P.F)	Reactive Power (Q)	Active Energy Export (kWh or MWh)
Average Phase-Neutral Voltage	$\text{Cos}\kappa$	Apparent Power (S)	Reactive Energy Capacitive (kVAh or MVAh)
Average Phase-Phase Voltage	Frequency (Hz)	Total Active Power (ΣP)	Reactive Energy Inductive (kVAh or MVAh)
Max. Demand	Max. / Min. Values	Total Reactive Power (ΣQ)	Apparent Energy (kVAh or MVAh)
Phase Currents (I_L)		Total Apparent Power (ΣS)	

MPR-45 / MPR-45S-L / MPR-45S



Total Harmonic Distortion for Voltage (THD-V)

Total Harmonic Distortion for Current (THD-I)

MPR-46 / MPR-46S-L / MPR-46S / MPR-46S-PM



Sag&Swell

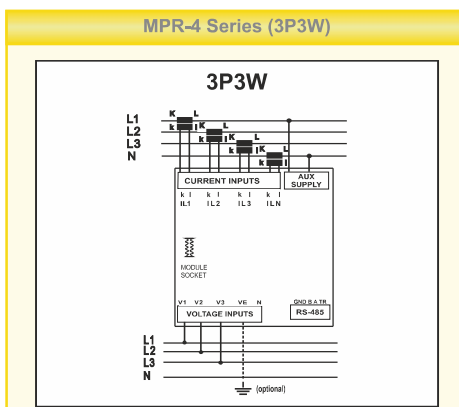
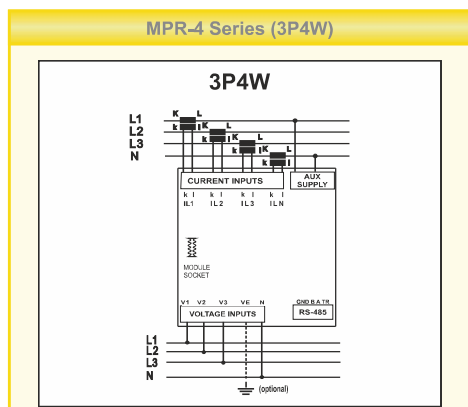
Voltage / Current Unbalances

1-51st Individual Voltage Harmonics

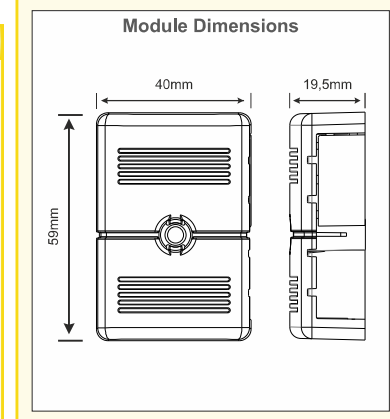
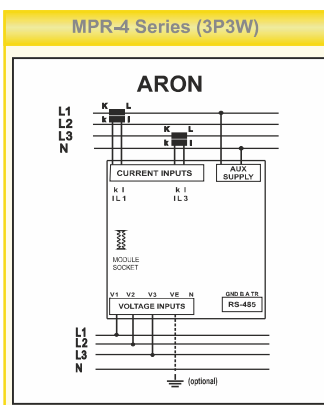
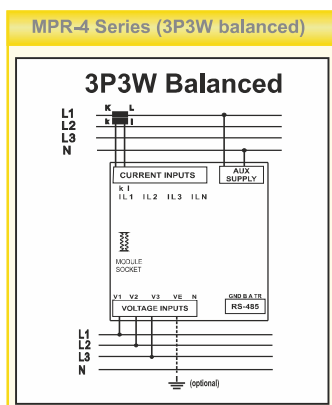
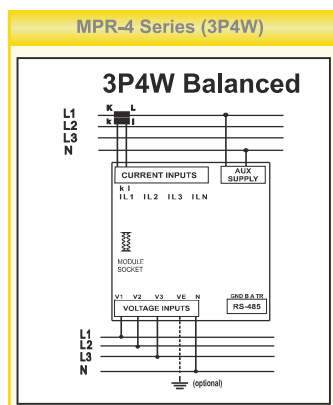
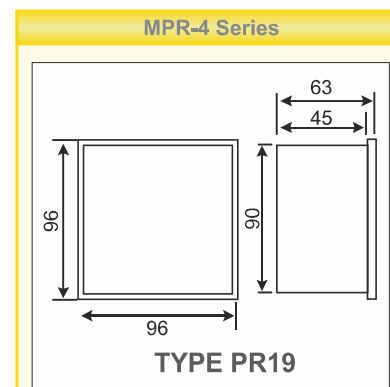
1-51st Individual Current Harmonics

MPR-47S / MPR-47S-D / MPR-47S-0,5 / MPR-47S-D-0,5 / MPR-47S-PM

Connection Diagram PR19 - MPR 4 Series (96x96mm)



Dimensions



Note: A current transformer on neutral current measurement input can be optionally connected, it does not affect the operation of the device.