

# Network Analyzers (LCD)

MPR-2 Series



MPR-2 Series

## MPR-2 Series DIN rail type Network Analyzers

MPR-2 Series DIN rail type Network analyzers are designed to measure and analyze various electrical parameters. With their communication features all measurements can be tracked from a single monitoring center.

MPR-2 series can detect the status and allow the control of devices (breakers, switches, contactors etc.) in the field via their digital inputs and outputs.

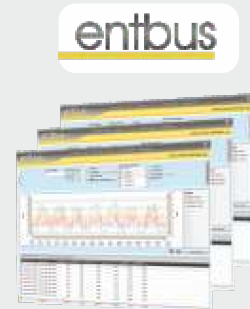


## PRODUCT SELECTION TABLE

Product Code	3xV, 3xI, Frequency, W, VA, VA, DP, DQ, DS, kWh, kVAh, Demand, Max., Min. Cost, I neutral	% THD I	% THD V	Harmonics 1-51.	RS-485	Digital Input	Digital Output	Analog Output (mA/V)	Temperature Input	Relay Output	Clock (RTC)	Number of Samples In One Period	Memory	Current - Voltage Unbalances	Pulse Counter	Operating Hours Meter	Alarm	Event Logs	Profile Logs	X/5, X/1	plug & meter	85-300 VAC/DC	Pcs/Box	
MPR-24		●									●	128										●	24	
MPR-24-PM		●									●	128				●	●					●	●	24
MPR-25S-22	plug & meter	●	●	●	●	2	2				●	128	4 MB		●	●	●	●	●	●	●	●	●	24
MPR-26S-21		●	●	●	51	●	2			1	●	128	4 MB	●	●	●	●	●	●	●	●	●	●	24
MPR-26S-21-PM	plug & meter	●	●	●	51	●	2			1	●	128	4 MB	●	●	●	●	●	●	●	●	●	●	24
MPR-27S-23		●	●	●	51	●	2	2	1		●	128	4 MB	●	●	●	●	●	●	●	●	●	●	24
MPR-28S-32		●	●	●	51	●	2	2	1		●	128	4 MB	●	●	●	●	●	●	●	●	●	●	24

## Remote Monitoring Software:

With the energy management software developed by ENTES, energy consumption and quality can be monitored in real time by reading the values measured by devices. As a result, comprehensive energy monitoring and data storage is provided. With the analysis of stored data, improvements in energy costs and sustainable savings are accomplished.



\* For more detailed information, see Page 84.



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## MEASURED PARAMETERS

Phase - Neutral Voltages ( $V_{LN}$ )	Neutral Current ( $I_n$ )	Active Power (P)	Active Energy Import (kWh or MWh)
Phase - Phase Voltages ( $V_{LL}$ )	Total Current ( $\Sigma I$ )	Reactive Power (Q)	Active Energy Export (kWh or MWh)
Average Phase-Neutral Voltage	Power Factor (P.F)	Apparent Power (S)	Reactive Energy Capacitive (kVAh or MVAh)
Average Phase-Phase Voltage	$\cos \phi$	Total Active Power ( $\Sigma P$ )	Reactive Energy Inductive (kVAh or MVAh)
Max. Demand	Frequency (Hz)	Total Reactive Power ( $\Sigma Q$ )	Apparent Energy (kVAh or MVAh)
Phase Currents (IL)	Max. / Min. Values	Total Apparent Power ( $\Sigma S$ )	

MPR-24



Total Harmonic Distortion for Voltage (THD-V)

Total Harmonic Distortion for Current (THD-I)

MPR-25S-22



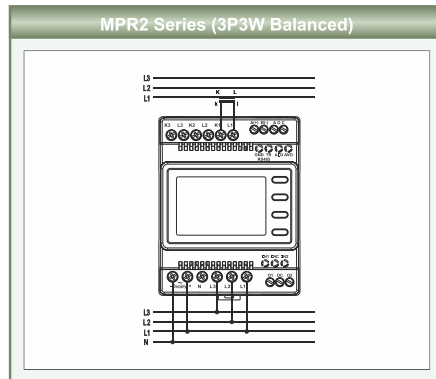
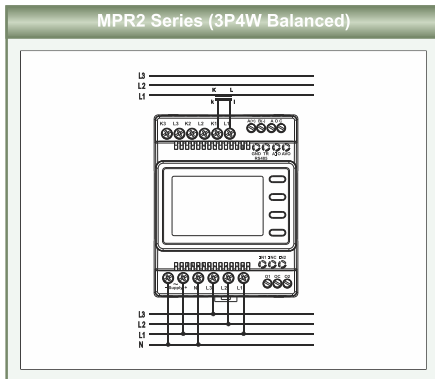
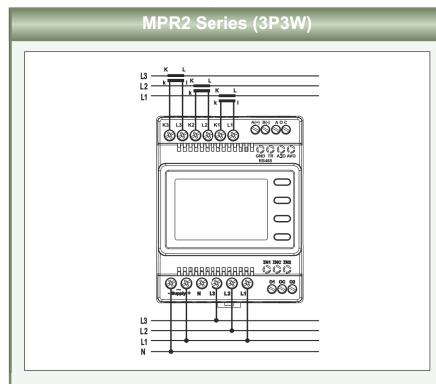
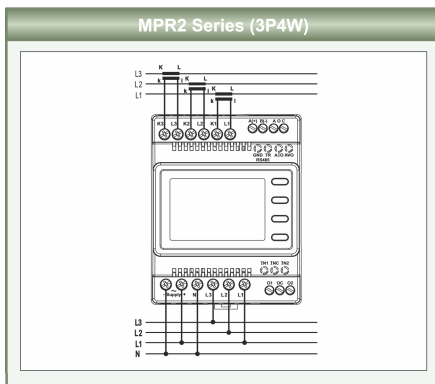
Voltage / Current Unbalances

1-51<sup>st</sup> Individual Voltage Harmonics

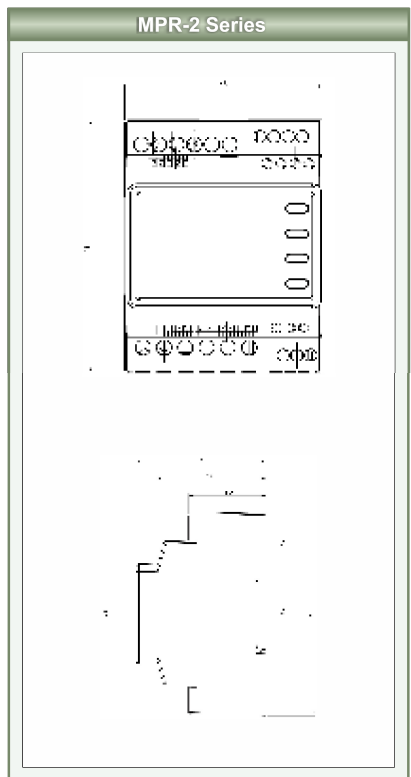
1-51<sup>st</sup> Individual Current Harmonics

MPR-26S-21 / MPR-27S-23 / MPR-28S-32

## Connection Diagram DIN4 - MPR-2 Series



## Dimensions



# Network Analyzers (LCD)

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## SPECIFICATIONS

	MPR-24PM / MPR-24	MPR-25S-22	MPR-26S-21	MPR-27S-23	MPR-28S-32	MPR-26S-21-PM
<b>ENCLOSURE</b>						
Dimensions	DIN4 Rail Mounting					
Protection Class	Terminals = IP20, Enclosure Protection Class = IP40					
Display	LCD					
<b>MEASUREMENTS</b>						
<b>VOLTAGE</b>						
Measurement Range	10-400 VAC (L-N) 10 - 690 VAC (L-L)					
Measurement Range with Transformer	1-400.0kV Transformer Ratio: 1-5000					
Accuracy	%0.5 ± 2 Digit					
Input Impedance	>1M Ω					
Burden (Input Load)	<0,5 VA					
<b>CURRENT</b>						
Nominal Current	In : 5A / 1A					
Minimum Current	5 mA					
Measurement Range	50 mA - 5,5 A Accuracy : : %0.5 ± 1 Digit					
Measurement Range with Transformer	50 mA - 10000 A					
Burden	<1 VA					
Overload Current	1,2 In continuous					
Short Time Overload (1s)	10xIn					
Compatible with Entes plug & meter current transformers. <span style="float: right;">Compatible with Entes plug &amp; meter current transformers.</span>						
<b>POWER/ENERGY</b>						
Active Power	0 - 1 GW Accuracy : %1 ± 1 Digit					
Reactive Power	0 - 1 GVA <sub>r</sub> 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					
Reactive Energy	0 - 99 999 999 kVA <sub>r</sub> h or MVA <sub>r</sub> h Accuracy : %2 class 2					
Total Harmonic Distortion (THD)	-	-	THD V%, THD I%			
Separate Harmonics	-	-	1-51 Voltage(V) and Current(I)			
Demand Period	1,2,5,10,15,20,30,60 dak.					
Frequency	45-65 Hz					
Number of Samples In One Period	128					
<b>SUPPLY</b>						
Operating Voltage	85 - 300 VAC/DC					
Operating Frequency	50/60 Hz					
Power Consumption	<6 VA					
<b>DIGITAL INPUT / OUTPUT</b>						
Digital Input Pulse Width	-	20/500 ms				
Digital Input Operating Voltage	-	12...48 VAC/DC				
Switching Current	-	Max 50mA				
Digital Output Supply Voltage	-	5-30 VDC (open collector)				
Pulse Duration	-	100ms pulse period 80ms pulse width				
Pulse Width	-	20-500 ms (Adjustable)				
<b>ANALOG OUTPUT</b>						
Current Output	-	-	0-20mA, 4-20mA, 4-24mA		-	-
Voltage Output	-	-	0-5V, 0-10V, ±5V, ±10V		-	-
<b>RELAY OUTPUT</b>						
Relay Output	-	-	1 NO Contact, 250 VAC/5A		-	1 NO Contact, 250 VAC/5A
<b>TEMPERATURE INPUT</b>						
Sensor Input Type	-	-	PTC or Thermocouple type			-
Thermocouple Type	-	-	B,C,K,R,S,T			-
<b>MEMORY</b>						
Internal Memory Size	-	-	4MB			
<b>COMMUNICATION</b>						
Communication Interface/Protocol	-	-	RS 485 / MODBUS RTU			
Transfer Speed	-	-	2400-115200			
<b>AMBIENT CONDITIONS</b>						
Operating Temperature	- 10 / +55°C					
Storage Temperature	- 20 / +70°C					
Overvoltage Category	III					
Pollution Degree	II					
Ambient Humidity	%95					
<b>STANDARDS</b>						
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					
<b>CONNECTIONS</b>						
Mounting	Rail Mounting					
Connection Terminals	Screw Terminal					
Connection Types	3P4W, 3P3W, 3 Phase Aron, 3P4W Balanced, 3P3W Balanced					