Network Analyzers

MPR-52S / MPR-60S / MPR-63

MPR-63

Power and Energy Measuring for all Series

MPR-52S-10: Network Analyser with THD Measurement RS-485 (MODBUS) and Alarm Contact
MPR-60S: Network Analyser with THD Measurement RS-485 (MODBUS), Alarm Contact and 1MB Memory
MPR-63: Network Analyser with THD, up to 31st Harmonics Measurement, RS-485 (MODBUS), Alarm Contact and 1MB Memory

PRODUCT SELECTION TABLE

Product Code	3xV, 3xI, Frequency, W, VAr, VA, ∠P, ∠Q, ∠S, kWh, kVArh,kVAh Demand, Max., Min. Cos∠, I neutral	THD-I, THD-V	2-31st Harmonics	Neutral Current	Alarm Contact	Digital Input	Energy Pulse Output	RS-485 Comm.	0/2-10V Analog Output	0/4-20mA Analog Output	Memory	Real Time Clock	LCD Display	Pcs/Box
MPR-52S-10	●	●		●	●	●		●					●	8
MPR-60S	●	●		●	●		●	●			●	●	●	8
MPR-60S-10	●	●		●	●	●		●			●	●	●	8
MPR-60S-20	●	●		●	●	●		●	●		●	●	●	8
MPR-60S-21	●	●		●	●		●	●	●		●	●	●	8
MPR-60S-40	●	●		●	●	●		●		●	●	●	●	8
MPR-60S-41	●	●		●	●		●	●		●	●	●	●	8
MPR-63	●	●	●	●	●		●	●			●	●	●	8
MPR-63-10	●	●	●	●	●	●		●			●	●	●	8
MPR-63-20	●	●	●	●	●	●		●	●		●	●	●	8
MPR-63-21	●	●	●	●	●		●	●	●		●	●	●	8
MPR-63-40	●	●	●	●	●	●		●		●	●	●	●	8
MPR-63-41	●	●	●	●	●		●	●		●	●	●	●	8
MPR-63-42	●	●	●	●	●	●		●		2	●	●	●	8

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.

entbus

** For more detailed information, see Page 84.*

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MEASURED PARAMETERS

Phase - Neutral Voltages (V_{LN})	Neutral Currents (In)	Active Power (P)	Active Energy Import (kWh veya Mwh)
Phase - Phase Voltages (V_{LL})	Total Current (∑I)	Reactive Power (Q)	Active Energy Export (kWh veya MWh)
Average Phase-Neutral Voltage	Power Factor (P.F)	Apparent Power (S)	Inductive Reactive Energy (kVArh veya MVArh)
Average Phase-Phase Voltage	Cos∑	Total Active Power (∑P)	Capacitive Reactive Energy (kVArh veya MVArh)
Max. Demand	Frequency (Hz)	Total Reactive Power (∑Q)	
Phase Currents (IL)	Max. / Min. Values	Total Apparent Power (∑S)	

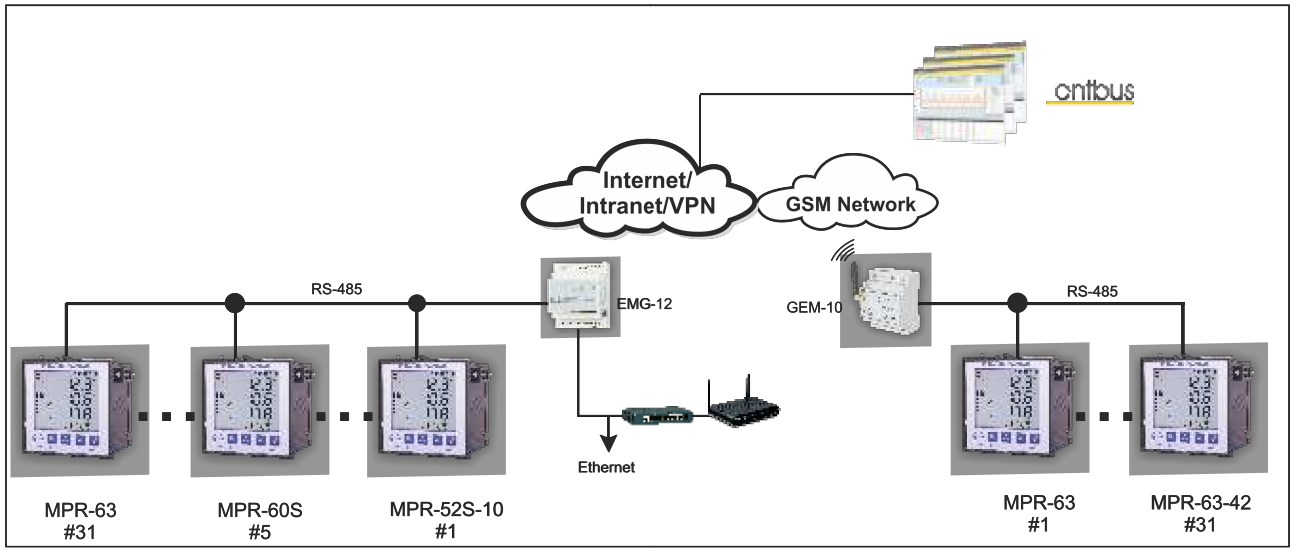
Total Harmonic Distortion for Voltage (THD-V)	Total Harmonic Distortion for Current (THD-I)

MPR-52S / MPR-60S

+

1-31st Individual Voltage Harmonics	1-31st Individual Current Harmonics

MPR-63



Network Analyzers

MPR-52S / MPR-60S / MPR-63

SPECIFICATIONS

	MPR-52S-10	MPR-60S	MPR-63
ENCLOSURE			
Dimensions	96x96mm PR19		
Protection Class	IP 40 front panel; IP 54 optional		
Weight	0,75kg/pcs		
Display	3,6" LCD		
MEASUREMENTS			
Voltage			
Measurement Range	1.0-300 VAC (L-N); 2.0-500 VAC (L-L)		
Measurement Range with Transformer	1-400,0kV Transformer Ratio: 1.0-5000.0		
Accuracy	0.5% ± 2 digits		
Input Impedance	1.8MΩ		
Burden (Input Load)	<0.5 VA		
Overload Voltage	1.2 x measurement range		
Current			
Nominal Current	In : 5A		
Minimum Current	5 mA		
Measurement Range with Transformer	5 mA - 5,5 A Accuracy : 0.5% ± 2 digits		
Measurement	5 mA -10000 A Transformer Ratio : 1 - 5000.0		
Burden	0,5 VA		
Overload Current	2xIn		
Short-Time Overload	10xIn		
Power/Energy			
Active Power	Range: 0 - 4000 MW, Accuracy: 1% ± 2 digits		
Reactive Power	Range: 0 - 4000 MVAr, Accuracy: 2% ± 2 digits		
Apparent Power	Range: 0 - 4000 MVA, Accuracy: 2% ± 2 digits		
Power Factor	Range: ±1.00 Accuracy: ± 0,01		
Active Energy	Range: 0 - 99 999 999 kWh or Mwh Accuracy: 1% ± 2 digits		
Reactive Energy	Range: 0 - 99 999 999 kVArh or MVArh Accuracy: 2% ± 2 digits		
Total Harmonic Distortion (THD)	THD V%, THD I%		
Harmonics			2-31 Voltage(V) and Current(I)
Demand Period	15 min.		
Frequency	45-65 Hz		
Number of Samples In One Period	64		
SUPPLY			
Operating Voltage	85 - 265 VAC/DC		
Operating Frequency	50/60 Hz		
Power Consumption	<6 VA		
INPUT/OUTPUT/STRUCTURE			
Digital Input	2	2 (MPR60S-10/20/40)	2 (MPR63-10/20/40/42)
Digital Output	-	2 (MPR60S-21/41)	2 (MPR63-21/41)
Analogue Output	-	0/4-20 mA (MPR60S-40/41; MPR63-40/41/42) 0/2-10 V (MPR60S-20/21; MPR63-20/21)	
Contact Output	2 NO contact 5A ; 1250 VA cosφ=1.00		
Energy Pulse Output	-	Active energy output (1kWh/pulse - 50MWh/pulse) Reactive energy output (1kVArh/pulse - 50MVArh/pulse)	
Delay Time	-	Voltage Parameters 0-300 sec;Current and power parameters 0-900 sec; Frequency,PF,Cosφ and Harmonic parameters 0-600 sec	
PULSE OUTPUT			
Switching Current	-	Max. 50 mA	
Switching Voltage	-	5..24 VDC	
Pulse Width	-	100 …2500 ms	
Maximum Voltage	-	Max. 30 VDC	
MEMORY			
Data Record	-	Selectable 28 parameters with time stamp (15000 record)	
Memory Size	-	1MB	
COMMUNICATION			
Communication Interface/Protocol	RS-485 / MODBUS RTU		
Transfer Speed	1200 - 38400 bps		
AMBIENT CONDITIONS			
Ambient Temperature	- 5 / +55°C		
Storage Temperature	- 25 / +70°C		
Overvoltage Category	III		
Pollution Degree	II		
Ambient Humidity	90%		
STANDARDS			
Applied Security Standards	EN-61010-1		
Applied EMC Standards	EN-61000-6-2, EN-61000-6-4		
Applied Mechanical Endurance Standards	EN 60529		
CONNECTIONS			
Mounting	Front Panel Mounting		
Connection Terminals	Screw Terminal with Socket		
Connection Types	3 Phase Neutral (3P4W); 3 Phase (3P3W); 3 Phase (Aron)		

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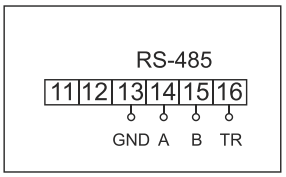
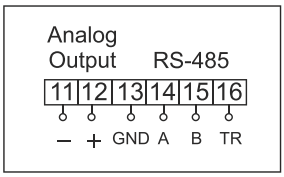


MPR63 MPR60S MPR52S-10
MPR63-10 MPR60S-10



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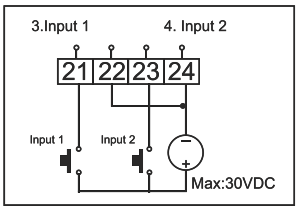
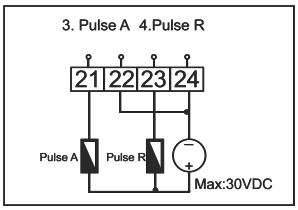
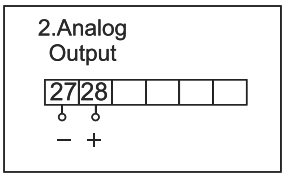
MPR63-21 MPR60S-21
MPR63-40 MPR60S-40
MPR63-41 MPR60S-41
MPR63-42



MPR63-10 MPR52S-10
MPR63-20 MPR60S-10
MPR63-40 MPR60S-20
MPR63-42 MPR60S-40



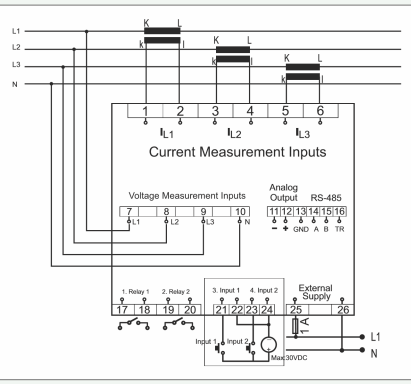
MPR63 MPR60S
MPR63-21 MPR60S-21
MPR63-41 MPR60S-41



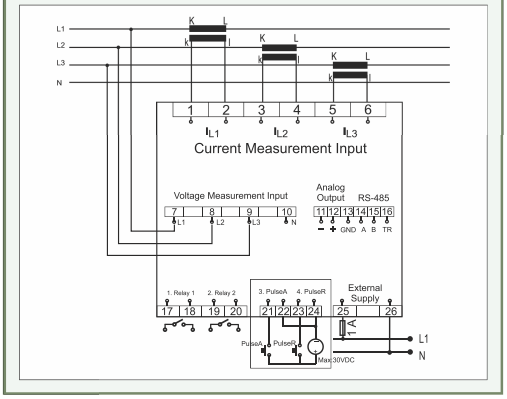
MPR63-42

Connection Diagram (PR19- 96x96mm)

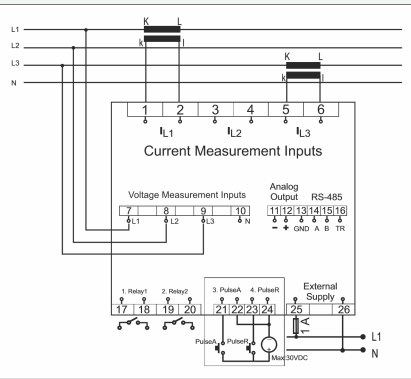
3 Phase with neutral connection



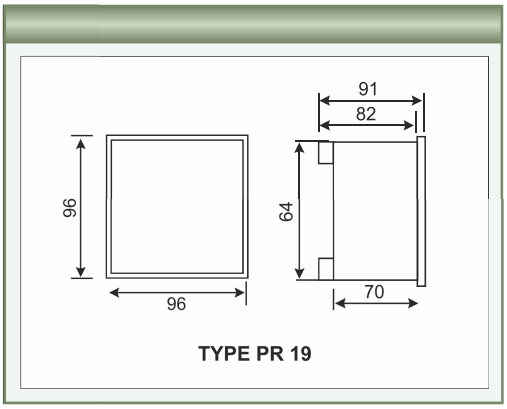
3 Phase without neutral connection



3 Phase without neutral Aron connection



Dimensions



Connection diagrams are given as references. For the latest connection diagrams, please refer to the user manual or www.entes.com.tr.