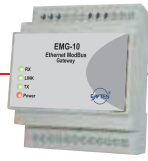


# NETWORK ANALYSER

## MPR-50 / MPR-52S / MPR-60S / MPR-63



MPR-63



Modbus / Ethernet Gateway



### General

- **MPR-50** : Network Analyser.
- **MPR-52S** : 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 31th Harmonics measurement, RS-485 (MODBUS), Alarm Contact and 1MB Memory.
- IEC 61000-6-2, IEC 61000-6-4, IEC 61010-1



Modbus



Memory



Analogue Output



Max. Demand



Harmonics



Digital Input



Alarm Contact

### Product Code

	% THD I, THD V	2-31th Harmonics	I neutral	Alarm Contact	Digital Input	Energy Pulse Output	RS-485 Comm.	0(2)-10V	0(4)-20mA	Memory	Real Time Clock	LCD Display	Pcs / Carton
--	----------------	------------------	-----------	---------------	---------------	---------------------	--------------	----------	-----------	--------	-----------------	-------------	--------------

MPR-50 (new)													8
MPR-52S (new)	•		•	•		•	•					•	8
MPR-52S-10 (new)	•		•	•	•		•					•	8
MPR-60S	•		•	•		•	•			•	•	•	8
MPR-60S-10	•		•	•	•		•			•	•	•	8
MPR-60S-20	•		•	•	•		•	•		•	•	•	8
MPR-60S-40	•		•	•	•		•		•	•	•	•	8
MPR-60S-41	•		•	•	•		•		•	•	•	•	8
MPR-63	•	•	•	•		•	•			•	•	•	8
MPR-63-10	•	•	•	•	•		•			•	•	•	8
MPR-63-20	•	•	•	•	•		•	•		•	•	•	8
MPR-63-40	•	•	•	•	•		•		•	•	•	•	8
MPR-63-41	•	•	•	•	•		•		•	•	•	•	8

### PC Interface Software (MPR-SW) :

MPR-SW is a graphic based software, which enables remote monitoring via internet or intranet.

Please refer to page 20 for MPR-SW Software.



Front Panel View

TOTAL		L1	L2	L3
VLN	2175	VLN	2175	2175
VLL	00	VLL	00	00
A	405	A	135	135
W	1350	W	450	450
WVA	88	WVA	29	29
WVA	88	WVA	29	29
AKA	14620	AKA	4830	4950
AKA	00	AKA	00	00
A.Dim	4.13	A.Dim	13.7	13.8
Freq	50.0	Freq	24.90	24.93
Harmonics		WFLn	00	00

Table View



Harmonics View

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

**Measured Parameters ( MPR-50 )**

+

Total Harmonic Distortion for Voltage (THD V %)	Total Harmonic Distortion for Current (THD I %)
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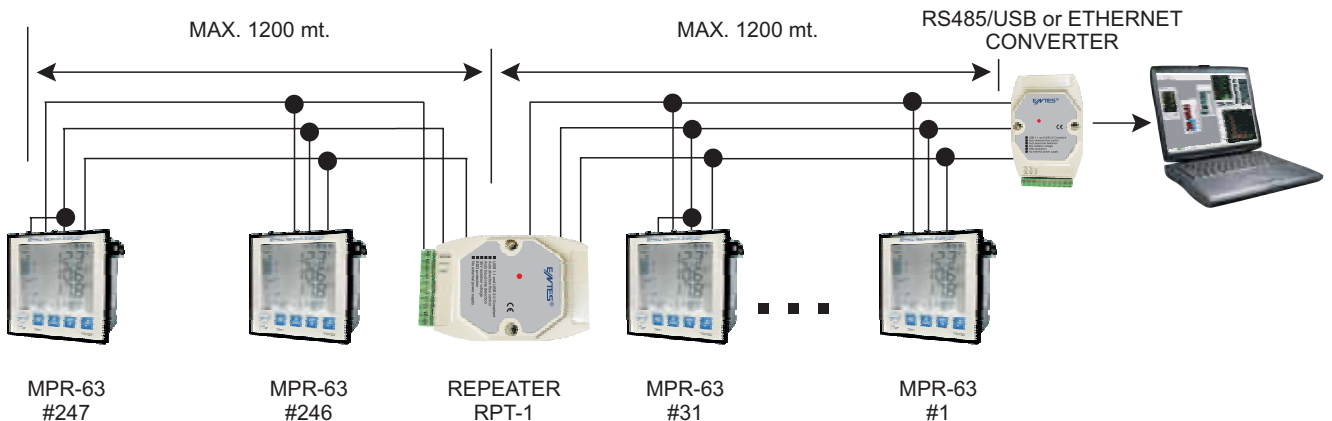
**Measured Parameters ( MPR-52S / MPR-60S )**

+

Individual Harmonics for Voltage - up to 31th	Individual Harmonics for Current - up to 31th
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**Measured Parameters ( MPR-63 )**

247 DEVICES CAN BE CONNECTED SERIALLY BY USING REPEATERS.



# NETWORK ANALYSER

## MPR-50 / MPR-52S / MPR-60S / MPR-63

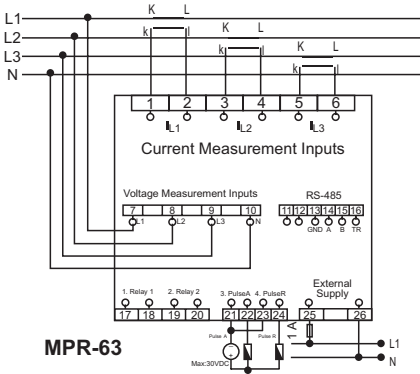
	(new) MPR50	(new) MPR52S	MPR60S	MPR-63
<b>MODEL</b>				
<b>SPECIFICATIONS</b>				
<b>Electrical Parameters</b>				
<b>Harmonic Measurement</b>	-	THD V%, THD I%		2 - 31th separately voltage & current THD V%, THD I%
<b>Operating Voltage</b>	85-265V AC / DC ; 50/60 Hz			
<b>Network Type</b>	3-phase / 4-wire (Star) ; 3-phase / 3-wire (Delta) ; 3-phase / 3-wire (Aron)			
<b>Accuracy</b>				
<i>Voltage</i>	0,5 % ± 2 digit			
<i>Current</i>	0,5 % ± 2 digit			
<i>Frequency</i>	0,1 % ± 2 digit			
<i>Active Power</i>	1 % ± 2 digit			
<i>Reactive Power</i>	2 % ± 2 digit			
<b>Current Transformer Ratio</b>	1...2000 (programmable)			
<b>Voltage Transformer Ratio</b>	1,0...4000,0 (programmable)			
<b>Measurement input</b>				
<i>Voltage</i>	1,0 - 300,0 V AC (P-N), 2,0 - 500,0 V AC (P-P)			
<i>Current</i>	5 mA - 5,5 A			
<b>Measurement Ranges</b>				
<i>Voltage</i>	1,0 - 400,0 kV			
<i>Current</i>	5 mA - 10.000 A			
<i>Frequency</i>	45,0 - 65,0 Hz			
<i>Power</i>	0 - 4.000 M (W, VAr, VA)			
<i>Energy</i>	0 - 99.999.999 kWh, kVArh			
<b>Power Consumption</b>	< 6 VA			
<b>Burden</b>	< 1 VA (Current burden), < 0,5 VA (Voltage burden)			
<b>Demand Time</b>	15 min. (Programmable via MPR-SW)			
<b>Communication Interface</b>	-	MODBUS RTU (RS-485)		
<i>Baud Rate / Adress / Parity</i>	-	1.200 - 38.400 bps / 1 - 247 / None, Odd, Even		
<b>Alarm Contact Output</b>	-	Output 1 / Output 2 : 2 NO relays , 5A, 1250 VA (resistive)		
<b>Digital Input</b>	-	Output 3 / Output 4 : 2 Digital Inputs		
<i>Functions</i>	-	Real Time / Latch		
<i>Input Pulse Width</i>	-	50 msec. (Min.)		
<i>Operation Voltage</i>	-	5...24VDC, 30VDC (Max.)		
<b>Digital Output</b>		●		
<b>Energy Pulse Output</b>	-	for MPR-52S-10 & MPR6x-10	<b>Output 3 :</b> Active Energy Pulse Output (1 kWh...50 MWh / pulse) <b>Output 4 :</b> Reactive Energy Pulse Output (1 kVArh...50 MVAh / pulse)	
<b>Switch Period</b>	-	MPR63-MPR60s MPR63-41 / 21	MPR60s- 21 / 41	Min. 1 sec. (100...2500 msec. pulse width)
<i>Operation Current</i>	-			Max. 50 mA
<i>Operation Voltage</i>	-			5...24V DC, max. 30V DC
<b>Analog Output (optional)</b>	0/4-20mA (MPR6X-40, MPR6x-41) / 0/2-10V (MPR6x-21)			
<b>Display</b>	3,6" LCD with Backlight, 12 mm Height			
<b>Data Logging</b>	-	Selectable 28 parameters with Time Stamp (15.000 records)		
<b>Memory</b>	-	1 MB Internal Memory		
<b>Mechanical Parameters</b>				
<b>Equipment Protection</b>	Double Isolation ( <input type="checkbox"/> )			
<b>Degree of Protection</b>	IP40 (front panel), IP54 (Optional)			
<b>Ambient Operating Temperature</b>	-5°C, +55°C			
<b>Connection / Installation</b>	Terminal / Flush-mounting with rear terminals			
<b>Dimensions</b>	96x96 mm (PR19)			
<b>Weight / each</b>	0,9 kg			
<b>Quantity in 1 package</b>	8 pcs			

**Connection Diagram**

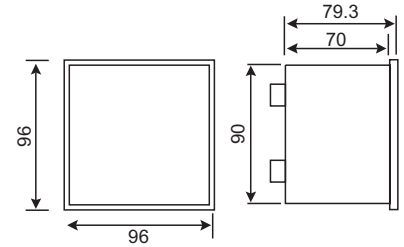
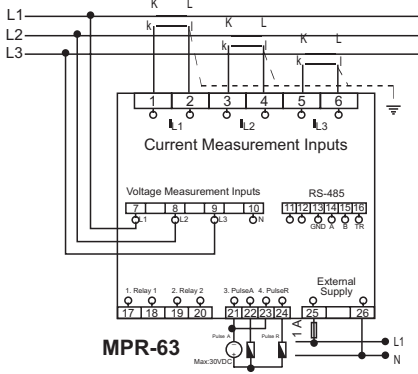
**(PR19- 96x96mm)**

**Dimensions**

3 Phase with neutral connection

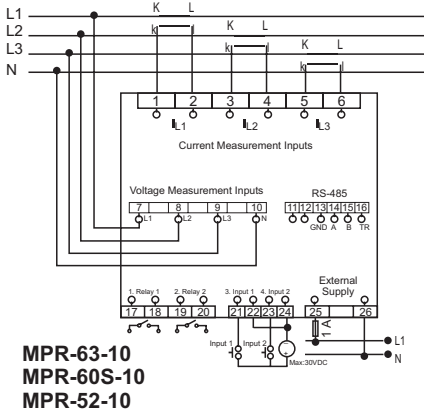


3 Phase without neutral connection

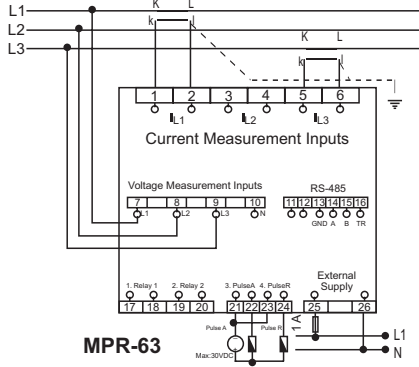


**TYPE PR 19**

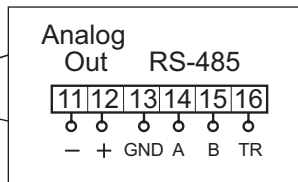
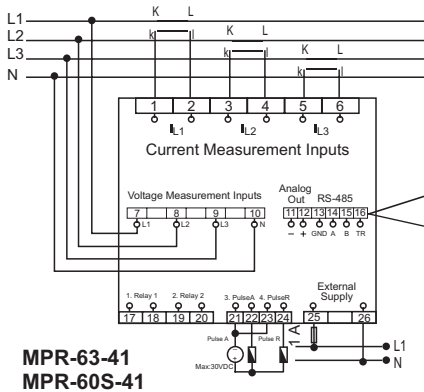
3 Phase with neutral connection



3 Phase without neutral Aron connection.



3 Phase with neutral connection



Connection diagrams are given for reference. Please always check the latest user manual given with product or download from [www.entes.com.tr](http://www.entes.com.tr).