Network Analyzers

MPR-53 / EPM-07

Power and Energy Measuring for all Series

MPR-53 / EPM-07 series network analyzers allow monitoring more than 50 electrical parameters on their display

EPM-07 : Network Analyzer
EPM-07S : Network Analyzer with RS-485 (MODBUS)
MPR-53 : Network Analyzer with THD measurement
MPR-53S : Network Analyzer with THD measurement and RS-485 (MODBUS)
MPR-53CS : Network Analyzer with THD measurement , RS-485, Pulse Counter, Digital Hour Meter, Alarm Contact

PRODUCT SELECTION TABLE

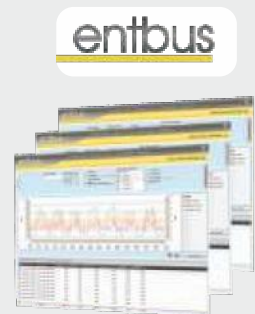| Product Code	3xV, 3xI, Frekans, W, VAr, VA,DP, DQ, DS, kWh, kVArh,Demand, Max., Min. CosL, I n6tr	THD-I	THD-V	Neutral Current	Digital Input	Energy Pulse Output	Dual Energy Meter	6 Different Energy Calculation Methods	CT-25 (120A)	Alarm Contact	Digital Hour Meter	Pulse Counter	RS-485 Comm.	Pcs/Box
EPM-07-96	●				●	●	●	●	○					12
EPM-07-DIN	●				●	●	●	●	○					12
EPM-07S-96	●				●	●	●	●	○				●	12
EPM-07S-DIN	●				●	●	●	●	○				●	12
MPR-53-96	●	●	●	●	●	●	●	●	○					12
MPR-53-DIN	●	●	●	●	●	●	●	●	○					12
MPR-53S-DIN	●	●	●	●	●	●	●	●	○				●	12
MPR-53S-OG-DIN	●	●	●	●	●	●	●	●					●	12
MPR-53CS-DIN	●	●	●	●	●	●	●	●	○	●	●	●	●	12
MPR-53CS-OG-DIN	●	●	●	●	●	●	●	●		●	●	●	●	12
MPR-53S-96	●	●	●	●	●	●	●	●	○				●	12
MPR-53CS-96	●	●	●	●	●	●	●	●	○	●	●	●	●	12

○ Optional

MPR-53S-DIN-CT25

CT-25

CT-25 is a unique solution to reduce measurement costs in low current systems (up to 120A).

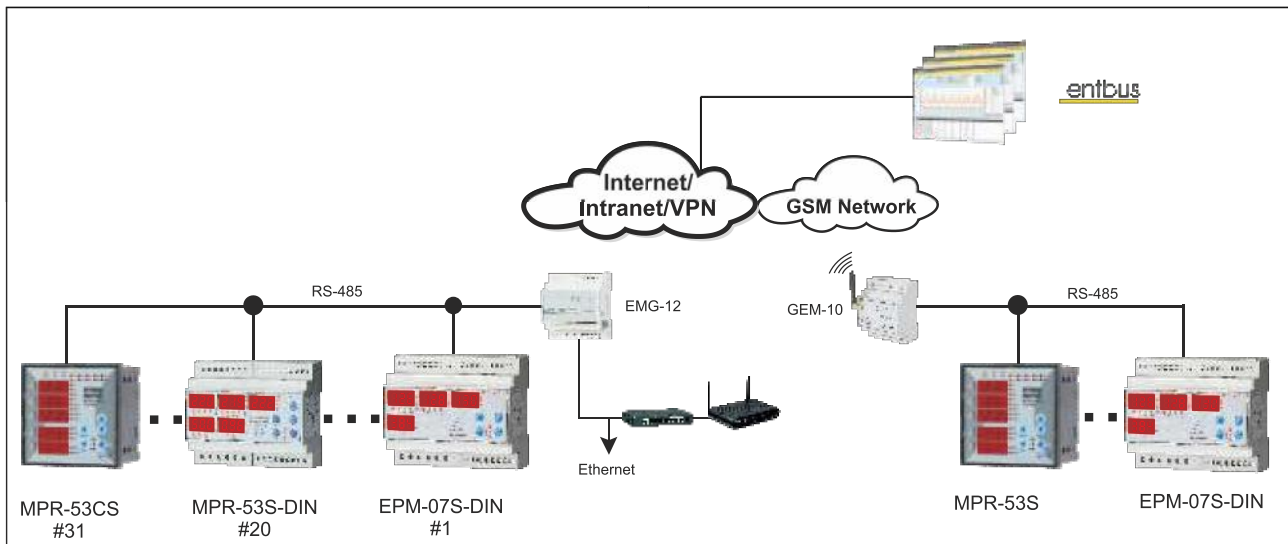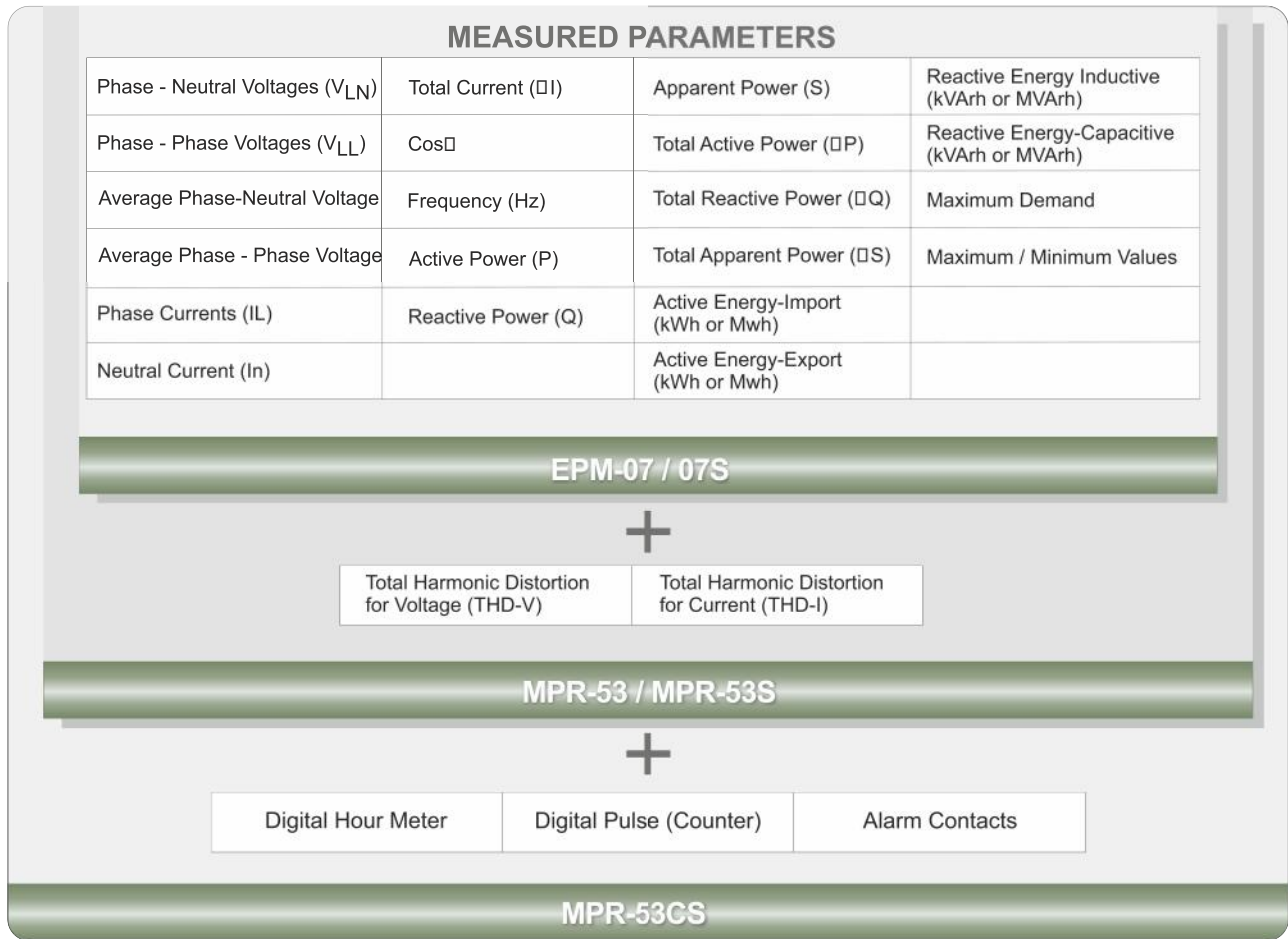*For CT-25, see page 80*

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, data storage, optimum energy consumption control with the analysis of stored data, improvements in energy costs, and sustainable goals for energy systems are accomplished.

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For more detailed information, see Page 84.

Network Analyzers

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MEASURED PARAMETERS

Phase - Neutral Voltages (V_{LN})	Total Current (ΣI)	Apparent Power (S)	Reactive Energy Inductive (kVArh or MVArh)
Phase - Phase Voltages (V_{LL})	Cosφ	Total Active Power (ΣP)	Reactive Energy-Capacitive (kVArh or MVArh)
Average Phase-Neutral Voltage	Frequency (Hz)	Total Reactive Power (ΣQ)	Maximum Demand
Average Phase - Phase Voltage	Active Power (P)	Total Apparent Power (ΣS)	Maximum / Minimum Values
Phase Currents (IL)	Reactive Power (Q)	Active Energy-Import (kWh or Mwh)	
Neutral Current (In)		Active Energy-Export (kWh or Mwh)	

EPM-07 / 07S

+

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

MPR-53 / MPR-53S

+

Digital Hour Meter	Digital Pulse (Counter)	Alarm Contacts

MPR-53CS

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Internet/Intranet/VPN   GSM Network

RS-485   EMG-12   GEM-10   RS-485

Ethernet

MPR-53CS
#31

MPR-53S-DIN
#20

EPM-07S-DIN
#1

MPR-53S

EPM-07S-DIN

Network Analyzers

MPR-53 / EPM-07

SPECIFICATIONS

	EPM-07	EPM-07S	MPR-53S/53S-OG	MPR-53CS/53CS-OG	MPR-53
ENCLOSURE					
Dimensions			96x96mm Pr19, DIN6 PK26		
Protection Class			IP40 Front Panel,IP54 Optional		
Weight			0,6kg/pcs		
Display			Red LED; height 10mm		
MEASUREMENTS					
Voltage					
Measurement Range			10-300 VAC (L-N), 10-500 VAC (L-L)		
Measurement Range with Transformer			10-200kV, Voltage transformer ratio:0.1-4000.0		
Accuracy			1%±1 digit [(10%-110%)xFull scale]		
Input Impedance			1.8 MΩ		
Burden (Input Load)			<0.5 VA		
Current					
Nominal Current			In:5,5A		
Minimum Current			50mA		
Measurement Range			50mA-5,5A Accuracy: 1%±1 digit [(10%-110%)xFull scale]		
Measurement Range with Transformer			50mA-10.000A Tranformer ratio:1-2000		
Burden			<1 VA		
Over Load Current			1,2 In		
Power/Energy					
Active Power			Range: 0-215 MW Accuracy: 1%±1 digit [(10%-110%)xFull scale]		
Reactive Power			Range: 0-215 MVAr, Accuracy: 1%±1 digit [(10%-110%)xFull scale]		
Apparent Power			Range: 0-215 MVA, Accuracy: 1%±1 digit [(10%-110%)xFull scale]		
Power Factor			4 quadrant		
Active Energy			Range: 0-99 999 999 999,9 kWh		
Reactive Energy			Range: 0-99 999 999 999,9 kVArh		
Demand Period			1-60 minute		
Frequency			45-65 Hz		
Number of Samples In One Period			64		
SUPPLY					
Operating Voltage			110 VAC/230 VAC ±% 10 or 45-265 VAC/DC or 10-56 VDC (MPR-53S-OG/MPR-53CS-OG)		
Operating Frequency			45-65 Hz		
Power Consumption			<4VA		
INPUT/OUTPUT STRUCTURE					
Digital Input			2		
Digital Input Pulse Width			20ms.		
Digital Input Operating Voltage			12...48 VAC/DC		
Digital Hour Meters			3 hourmeters HH HH HH HH.HH,total hours (non-resettable), run hours (resettable), setpoint hours (resettable). (for MPR-53CS)		
Delay Time			Delay on and delay off 0-999,9 sec (for MPR-53CS)		
Contact Output			2NO contact 5A;1250VA (for MPR 53 CS)		
Energy Pulse Output			NPN transistor		
Switching Current			Maximum 50 mA		
Switching Voltage			5..24VDC Maximum 30V DC		
Pulse			100ms pulse period, 80ms pulse width		
COMMUNICATION					
Communication Interface/Protocol	–		MODBUS RTU(RS-485)		–
Parity	–		no, odd, even		–
Address	–		1-247		–
Transfer Speed	–		2400-38400 bps		–
AMBIENT CONDITIONS					
Ambient Temperature			-5 / +50°C		
Over Voltage Category			III		
Pollution Degree			II		
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 (PR 19) / Rail Mounting (PK 26)		
Connection Terminals			Screw Terminal with Socket		
Connection Types			3 Phase Neutral, 3 Phase, 3 Phase (Aron)		

Network Analyzers

MPR-53 / EPM-07

Connection Diagram (PR19- 96x96mm)

MPR-53S (3 Phase Neutral)

MPR-53S (3 Phase without Neutral with Aron)

MPR-53S (3 Phase without Neutral)

MPR-53CS (3 Phase Neutral)

(PK 26 - DIN6)

MPR-53S (3 Phase Neutral)

MPR-53S (3 Phase without Neutral with Aron)

Dimensions

MPR-53S (3 Phase without Neutral)

MPR-53CS (3 Phase Neutral)

TYPE PR 19
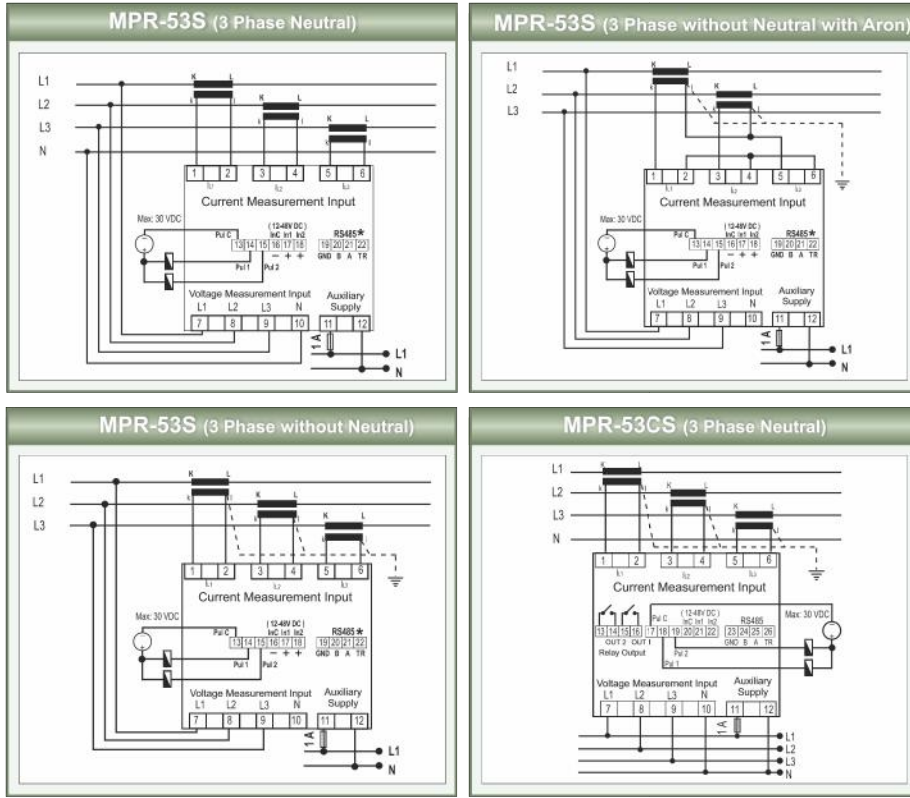
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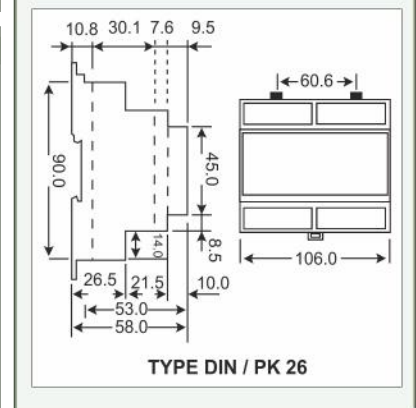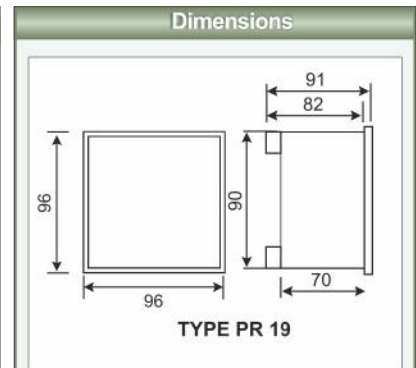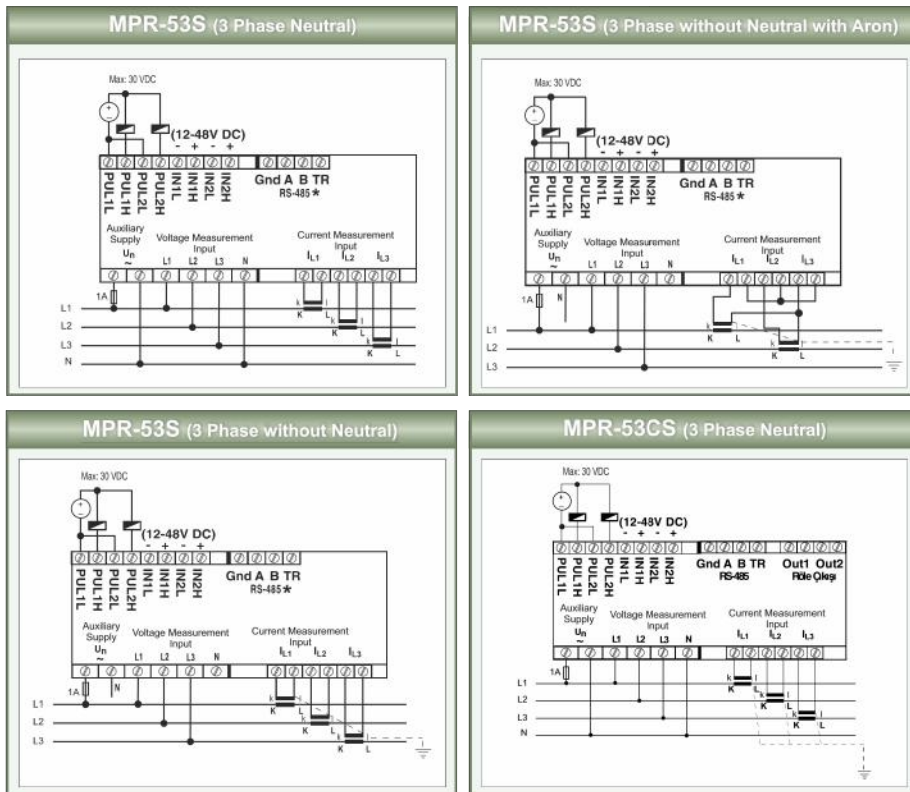
* RS-485 terminals are standard for EPM-07S and MPR-53S

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