

# MPR-63

# NETWORK ANALYSER



ETHERNET  
CONVERTER



- 3,6" LCD with backlight
- VLN, VLL, I,  $\Sigma I$ , P.F, Hz, P, Q, S,  $\Sigma P$ ,  $\Sigma Q$ ,  $\Sigma S$ , kWh, kVArh
- Neutral Current Measurement
- Up to 31th harmonic for current and voltage separately
- THD V%, THD I% Measurement with Bar Graphic
- 1 MB Internal Memory
- Programmable Demand Time (1-60 min.)
- Alarm Contact Output
- Energy Pulse Output
- Computer Communication (RS-485 MODBUS RTU)
- Real Time Clock
- Password Protection
- 4-20 mA Analog Output (Optional)



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# MPR-SW Software for data recording and monitoring



## General

MPR-SW Software is designed for monitoring and recording the electrical network parameters on PC, via Internet / Intranet (TCP/IP).

## Features

- Communication with max. 247 devices (MPR-63, MPR60S, MPR-53S, EPR-04S, EPM-03S, EVM-05S)
- Front panel simulations of devices on PC. (Figure 1)
- Display and analyse real time data on your PC. (Figure 2)
- Programming device settings via MPR-SW Software.
- Energy consumption between determined dates.

## Reporting :

- Compensation report.
- Periodical values report
- Energy consumption report with tariffs. (Figure 3)
- Graphic report between determined dates. (Figure 4)
- Exporting all measured values to Ms Excel.
- Printing reports.

## Minimum System Requirements:

- Windows 98/2000/XP
- 128 MB RAM (256 MB recommended)
- 60 MB HDD (200 MB recommended)
- CD-ROM drive
- RS-232 or USB interface

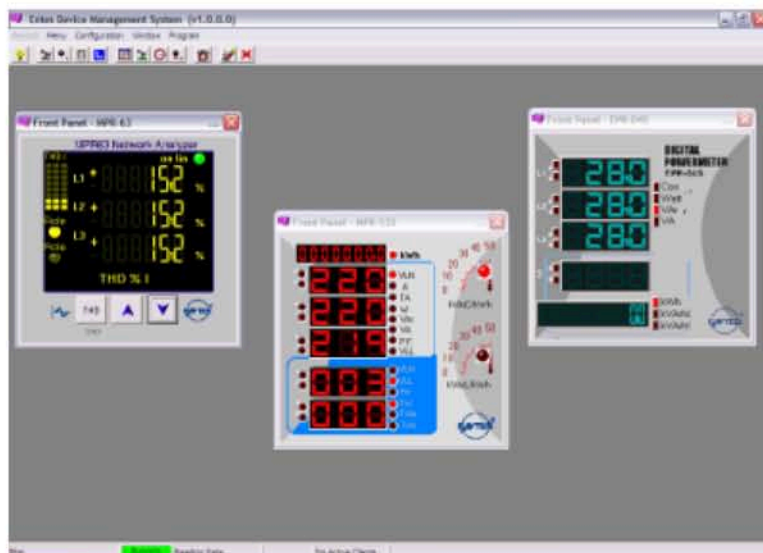


Figure 1: Front Panel Simulations



Figure 2: Data Display with Real Time

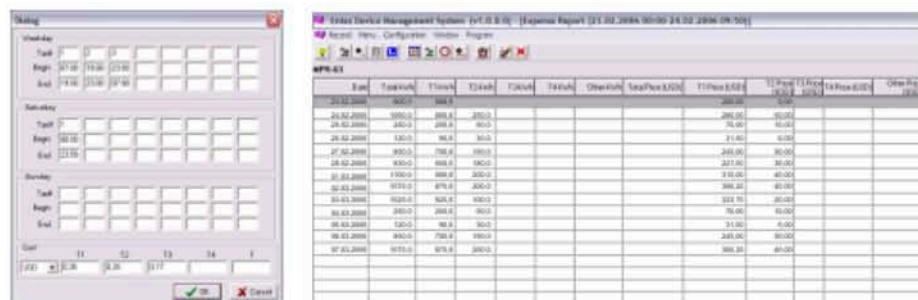


Figure 3: Energy Report with (4 Tariffs)

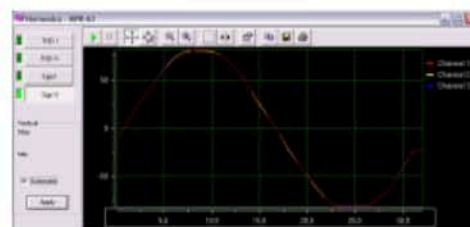


Figure 4: Graphic Reports

# General Information

**MPR-63** is designed to measure more than 250 electrical network parameters, including individual harmonics (up to 31th).

It has RS-485 MODBUS-RTU communication port, for communicating with the computer. MPR-63 has real time clock, **1MB** internal memory (enables up to 6 months data recording), password for setup, Alarm Contact Output, Displaying maximum, minimum and demand values.

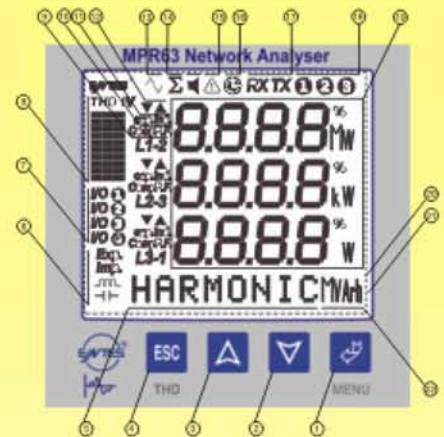
4-20 mA / 2-10V Analog Output for PLCs, Energy Pulse Outputs and Digital Input /Output are the optional features of MPR-63.

**Thanks to the user-friendly MPR-SW software!** So, the acquired data can be monitored and reported in a single personal computer easily.

# Technical Specifications

Operating Voltage (Un)	: 110 V AC or 220 V AC
Frequency	: 50 / 60 Hz
Power Consumption	: < 6 VA
Burden	: < 1 VA (Current burden) < 0,5 VA (Voltage burden)
Measurement Input	
Voltage	: 1,0 - 300,0 V AC (L-N) 2,0 - 500,0 V AC (L-L)
Current	: 5 mA - 5.5 A
Measurement Ranges	
Voltage	: 1,0 V - 400,0 kV
Current	: 5 mA - 10.000 A
Frequency	: 45,0 - 65,0 Hz
Power	: 0 - 4000 M (W, VAr, VA)
Energy	: 0 - 99 999 999 kWh, kVAh
Measurement Category	: CAT III
Accuracy	
Voltage, Current	: 0.5%±2digit
Active Power	: 1%±2digit
Reactive, Apparent Power	: 2%±2digit
Voltage Transformer Ratio	: 1,0...4000,0
Current Transformer Ratio	: 1...2000
Connection Type	: 3P-4W, 3P-3W, ARON
Relay Outputs	: 2 NO, 5A, 1250 VA
Demand Time	: 15 min. (programmable)
Communication Interface	: MODBUS RTU (RS-485)
Baud Rate	: 1.200 - 38.400 bps
Address	: 1 - 247
Parity	: None, Even, Odd Parity
Data Logging	
Parameters	: Chosen 28 parameters with date and time
Record Size	: 15000 record lines
Log Duration (time interval between 2 records)	: No, 5 - 30.000 seconds
Energy Record	: 1000 record lines (1 record in every 15 minutes)
Event	: Yes, No
Memory	: 1 MB Internal Memory
Energy Pulse Outputs	
Active Energy Pulse Output	: (1 kWh...50 MWh / pulse) - NPN Transistor
Reactive Energy Pulse Output	: (1 kWh...50 MVAh / pulse) - NPN Transistor
Switch Period	: Min. 1sec. (100 msec. - 2500 msec pulse width)
Operation Current	: Max. 50 mA
Operation Voltage	: 5...24 V DC, max. 30 V DC
Real Time Clock	
Ambient Temperature	: -5°C ; +55°C
Display	: 3,6" LCD with Backlight
Dimensions	: PR19
Equipment Protection Class	: Double Insulation-Class II (□)
Box Protection Class	: IP 40
Terminal Block Protection Class	: IP 00
Box Material	: Non-flammable
Installation	: Flush mounting with rear terminals
Wire Thickness for Voltage Connection	: 2,5 mm <sup>2</sup>
Wire Thickness for Current Connection	: 4,0 mm <sup>2</sup>
Wire Thickness for Pulse Connection	: 1,5 mm <sup>2</sup> (max.)
RS-485 Connection	: Category 5 Cable (Shielded Twisted Pair)
Weight	: 0,75 kg
Installation Category	: Class II
Type	: PR 19
Package Dimensions	: 350x290x240 mm
Package Weight	: 6 kg
Pcs per Package	: 8 pcs

# Front panel

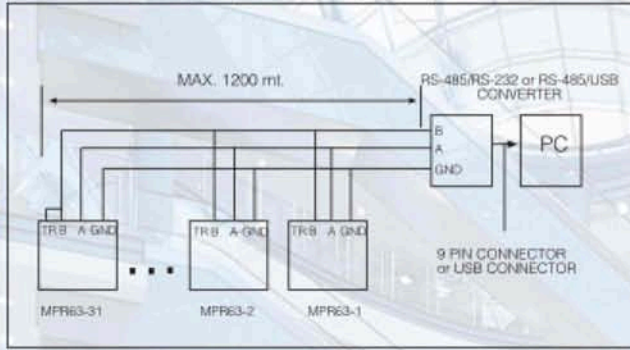


- 1 ..... Menu (ENTER) button.
- 2 ..... Down button.
- 3 ..... Up button.
- 4 ..... ESC button. Exits from a menu or settings at **any time**.  
(THD I, THD V can also be displayed)
- 5 ..... Menu / Energy line : Shows the present menu. / It also shows the energy values.
- 6 ..... Shows whether the value in the Energy Menu is Export, Import, Inductive or capacitive.
- 7 ..... Active output is indicated.
- 8 ..... Harmonic bars: The total harmonics of the 3 phases are displayed in bar graphs. The columns represent L1, L2 and L3 phases. Each step indicate 10% increase / decrease V is for the voltages harmonics and I is for the currents harmonics.
- 9 ..... Indicates if the measure is phase to phase or phase to neutral.
- 10..... The Cosφ or PF (Power Factor) value of the related phase.
- 11 ..... Indicates if the measurement is capacitive or inductive.
- 12 ..... Min. and Max. symbols for the demand menu.
- 13 ..... Indicates that the harmonics are displayed on the screen.
- 14 ..... Total symbol. Shows the total value of the related measurement.
- 15 ..... Phase sequence failure
- 16 ..... Demand symbol. Shows the demand value of the related parameter.
- 17 ..... PC Communication indicator.
- 18 ..... Phase indication symbols.
- 19 ..... Shows the following measurement values with units  
(V, kV, MV, A, kA, MA, W, kW, MW, VA, kVA, MVA, VAr, kVAh, MVAh %)
- 20 ..... 3.6" LCD Display.
- 21 ..... Backlight.
- 22 ..... Shows the unit of energy values. (kWh, kVAh, kVAh)

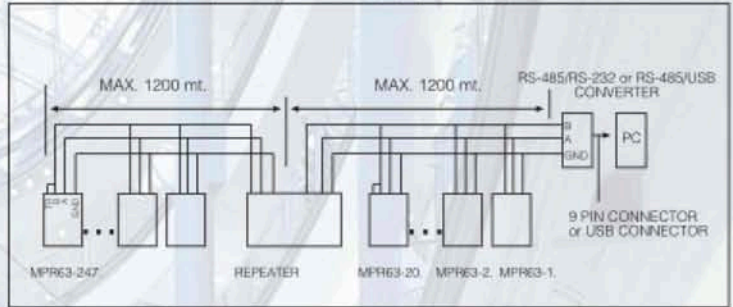


### MPR63 PC CONNECTION

RS-485/232 Converter is necessary for communicating with computer.



After 20 pieces of MPR63, a repeater is advised for amplifying the data signal.



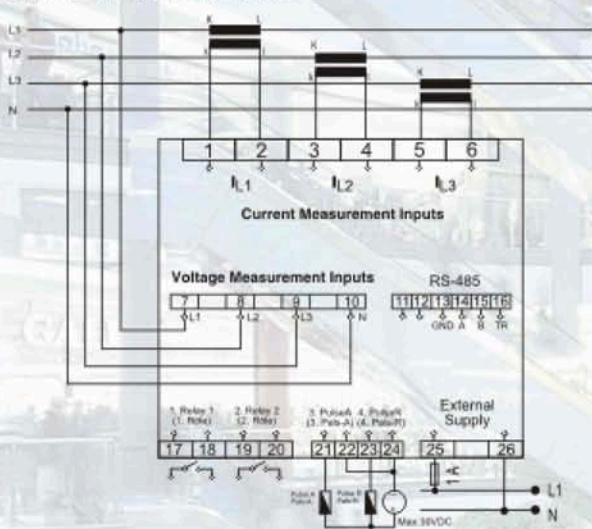
By using repeaters, 247 devices can be connected to the same line.

31 devices can be connected to the same line.\*

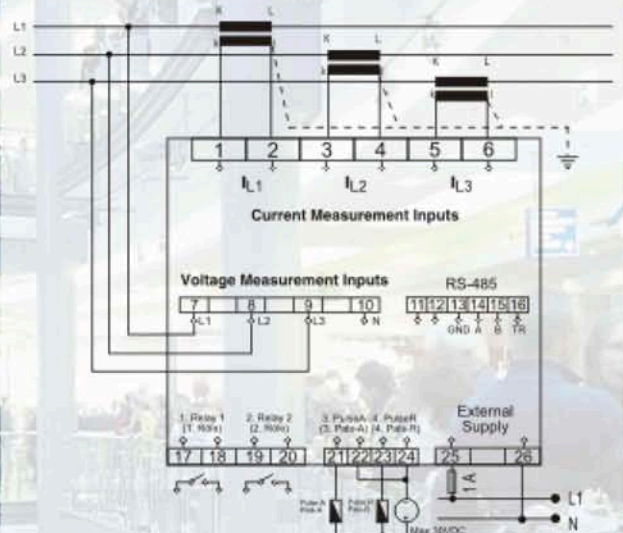
\* Max. 20 devices are advised to connect to the same line.

### Connection Diagram

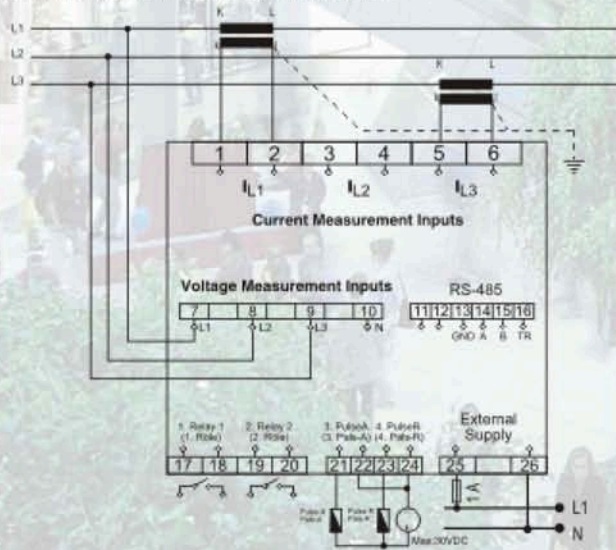
#### 3 Phase with neutral connection



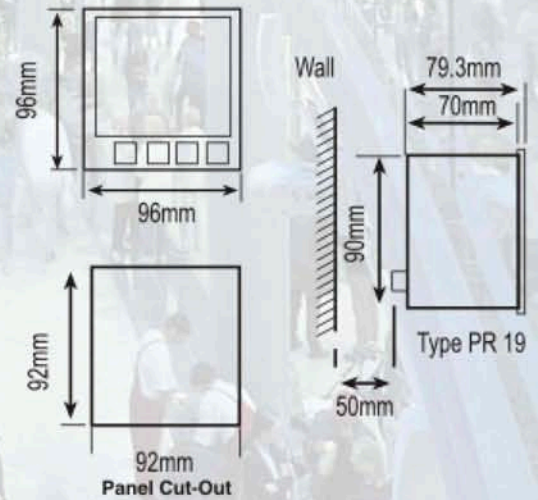
#### 3 Phase without neutral connection



#### 3 Phase without neutral Aron connection.



### Dimensions



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