

PANEL MOUNTED MULTI POWER MONITOR Model 53U

FEATURES

- Single type module is usable for all of single-phase/2-wire and 3-wire, three-phase/3-wire and 4-wire systems.
- All measured variables can be transmitted to the host PC via RS-485/Modbus RTU.
- Energy count pulse or limit alarm output selectable. Pulse rate can be specified. Simulated output is also possible.
- Programming lock to prevent unwanted configuration changes.
- Input rating up to 480 Vac, 1 A or 5 A



53U CE

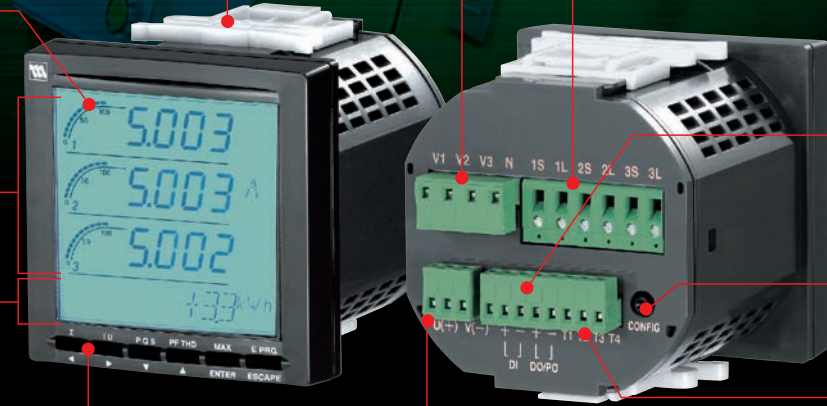
User-friendly Features in Every Component

LCD with backlight
Brightness adjustable in 4 increments

Measured value + bargraph displays

Information display
Energy value display in normal conditions (Refer to the other side for details.)

Mounting bracket(s)



Control Keys

Power input terminal block

Designed for safety

Separable voltage input terminal block
Unseparable current input terminal block
Independent and different style terminal blocks are employed to prevent wiring errors.

Di / Do / Po terminal block

Di is typically used to reset the energy count by an external contact, or to monitor the load (motor, etc.) running or not.

Configurator jack

PC Configurator Software is available to program the module.

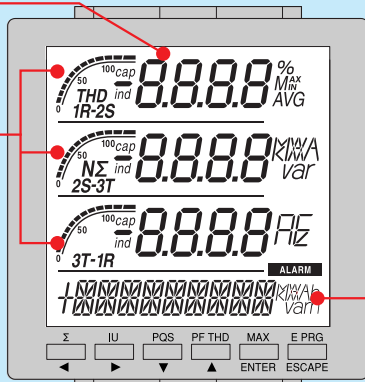
Network interface terminal block

FRONT MONITOR DISPLAY

Multi Power Monitor 53U

**500 types of measured variables;
1800 combinations**

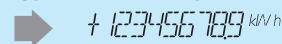
Bargraphs
Each measured variable is represented in percentage.



Information display

Shows the energy count in normal conditions.
Variable type in alarm condition is displayed when an alarm is triggered.
Parameter type is displayed in the setting mode.

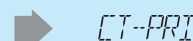
Normal mode : Energy count display



Alarm mode : Alarm trip display



Configuration mode : Parameter display



SPECIFICATIONS

Multi Power Monitor 53U

GENERAL SPECIFICATIONS

Construction: 96-mm square (1/4 DIN size)
panel flush mounted
Ingress protection
Front panel: Equivalent to IP 50
Terminal block, housing: Equivalent to IP 30
Configuration: Single phase/2-wire and 3-wire,
3-phase/3-wire balanced/unbalanced load,
3-phase/4-wire balanced/unbalanced load
Housing material: Flame-resistant resin (gray)
Isolation: Voltage input to current input to contact
input to network interface or configurator
jack to contact output to power
Measured variables
Voltage: 1 - N, 2 - N, 3 - N, 1 - 2, 2 - 3, 3 - 1
Current: 1, 2, 3, N
Average current: 1, 2, 3
Active / reactive / apparent power: 1, 2, 3, Σ
Power factor: 1, 2, 3, Σ
Frequency
Active energy incoming / outgoing: Σ
Reactive energy inductive / capacitive: Σ
Apparent energy: Σ
Active / reactive / apparent power intervals
(demand)
Other demands
Hartmonic contents: 2nd to 31st
Max. and min. values

■ **DISPLAY:** LCD with backlight
Signed: 4 digits, 3 lines
Energy: 9 digits, 1 line

INPUT

■ **CONTACT INPUT:** 24V DC or 110V DC
(input resistance 6kΩ)
Contact status can be monitored on the Modbus;
unable to reset the energy count.

OUTPUT

■ **NETWORK INTERFACE**
Transmission: Half-duplex, asynchronous, no
procedure
Interface: Conforms to EIA RS-485
Max. transmission distance: 500 meters
Baud rate: 1.2 - 38.4 kbps
Protocol: Modbus RTU
Media: Shielded twisted-pair cable

■ **OPEN COLLECTOR**
Programmable for either alarm or energy count.
Continuous rated load: 130V DC @30mA
Measurands applicable to alarm: Voltage, current,
current intervals, neutral current, frequency,
energy, energy intervals
Measurands applicable to count: Energy

INSTALLATION

Auxiliary power supply
AC: Operational voltage range 85 - 264V;
47 - 66 Hz; ≤4VA
DC: Operational voltage range 99 - 264V;
≤4W; ripple 10% p-p max.
Operating temperature: -10 to +55°C (14 to 131°F)
Weight: 300 g (0.66 lbs)

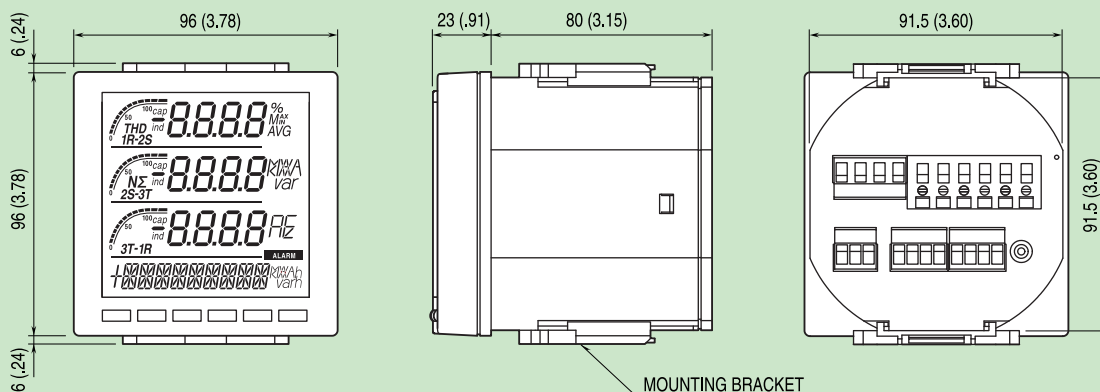
PERFORMANCE

Accuracy
Voltage: ±0.3%*
Current: ±0.3%*
Power: ±0.5%*
Power factor: ±0.5%
Frequency: ±0.1%*
Energy: ±1%
Harmonic contents: ±1%*
Response time: ≤2 seconds (0 - 99%)
Insulation resistance: ≥100MΩ with 500V DC
Dielectric strength: 4000V AC @1 minute
(voltage input or current input or contact
input or network interface or configurator
jack or contact output to power)
2500V AC @ 1 minute
(voltage input to current input to contact
input to contact output to network interface
or configurator jack)

CE conformity: EMC Directive (89/336/EEC)
EMI: EN61000-6-4
EMS: EN61000-6-2
Low Voltage Directive (73/23/EEC)
EN 61010
Installation category III, Pollution degree 2

EXTERNAL DIMENSIONS unit: mm (inch)

Multi Power Monitor 53U



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