

MiniPowermonitor™ M620

The Allen-Bradley MiniPowermonitor M620 measures voltages and RMS currents of 3-phase power lines. It also measures the power factor and the active power and totalizes energy transferred for each phase and for all phases combined.

Benefits

- Measures all 3-phases of power parameters and has a 3-line display
- Voltage measurement with limit detection (for low or medium voltage power systems)
- Current measurement with selectable current transformer ratios
- Average and peak current measurements
- Energy measurement with unit pulse output
- Menu assisted instrument set-up via front panel key switches
- Optional 4-20 mA outputs (6) or RS485 ASCII interface

Description

The M620 measure voltages and RMS currents of 3-phase power lines. It also measures the power factor (Cos Φ) and active power and totalizes energy transferred for each phase and for all phases combined. Measurements of all 3 phases are indicated simultaneously on a 3-line 7 segment digital display. The M620 auto sequences the displays to indicate one parameter at a time. The user can pause the sequencing so that one selected parameter is continuously displayed as long as needed. LED lamps on the right side of the front face indicate which parameter is displayed at the moment.

Current ranges from 1A to 4000A can be measured through current transformers by selecting one of the 34 pre-programmed standardized primary ranges.



Instrument set-up, limit values adjustment and display functions are accessed using the three key switches on the front panel.

Peak current values, accumulated kWh counts, and instrument settings are stored in non-volatile memory, protected against power interruptions. These can be changed or re-entered through the key switches.

All 3-phase lines are continuously checked for over and under voltage conditions. Such a condition causes the alarm relay to trip and simultaneously a code character display identifies the cause of the alarm.

Energy measurements are converted to unit pulses and transmitted via relay contacts. The pulse rate per kWh is user programmable.

The M620 is designed for control panel installation.

The front panel can meet IP 65 class environmental protection by means of an optional front cover.

The instrument is generally maintenance free since batteries are not used for memory protection. The M620 can interface to external equipment or systems through six user configurable 4-20 mA analog retransmission outputs or through an RS485 ASCII network port.

Additional Valuable Features

- Line to neutral or line to line voltages
- Phase currents via /5A or /1A current transformers (selectable)
- Active power (kW units)
- Apparent power (kVA units)
- Energy transferred in kWh
- Cos Φ : Inductive or capacitive (power factor)
- Under and over voltage detection for each phase
- Average (15 min.) currents (bimetallic function)
- Peak currents (drag-pointer function)
- Compact Size, 77mm depth
- Peak value storage and display
- 15-minute averaged measurements (bimetallic function)
- Reduced installation and wiring costs
- DIN 43700 standard panel mounting enclosure
- UL, CE certified

General Parameters

Parameters	Value
AC Input Voltage, Control Power Nominal	120 VAC...400 VAC*
Frequency	50 / 60 Hz
Power Consumption	Approximately 7VA
Input Impedance, Nom.	Voltage inputs: 2 M Ω Current inputs: 0.02 Ω (shunts)
Overload Current, Max.	Voltage x 1.3 Current x 2
Operating Temperature	+5...+50
Storage Temperature	-20...+70
Isolation Voltage	250 V
Creep and air paths	Group III per VDE 0110; Pollution level 2
Breakdown Voltage 3.78 in x 3.78 in x 2.56 in	2000 V, per VDE 0435
Alarm Output	Under- and under-voltage limits
Energy Pulse Output	0, 0.01,...100 kWh/pulse (selectable)
Energy Limit Output	Relay is activated when user-adjusted energy limit is reached (Optional, instead of energy pulses output)
Contact Rating	Rated voltage: 250 VAC / 220 VDC Rated load: 60 VA / 60 W

*Per model number

Digital Displays

Display Description	7 Segment LED, Red
Lines x Characters	3 x 4
Character Size	14 mm (0.55 in)

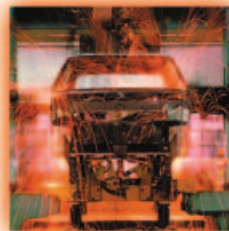
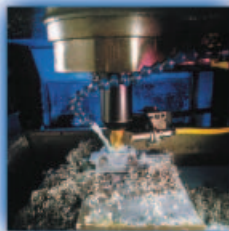
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Measured Parameters

Measuring Voltage Range	0...600 VAC
Current	0.1 A...8 A
Power Factor	$\pm 0.2\%$
kWh	Max. 999.999, with floating decimal point
Temperature Coefficient	< 0.01% / K
Indicating Range	0...9999
Display Description	7 Segment LED, Red
Character Size	14.3 mm
Protections Class	Front panel: IP20. Terminals: IP00 per DIN VDE 0471-1 (11/92)
Power and Relay Connections	Plug-in spring-clamp terminal blocks
Conductors Wire Size	2.5 mm ² fine-stranded wire; max. 7.0 mm ² , stripped (14 AWG)
DeviceNet Compatibility Description	—
Weight	0.3
Dimensions (HxWxD), Metric 3.78 in x 3.78 in x 3.34 in	96 mm x 96 mm x 85 mm

Measurement Accuracy and Range

Parameters	Accuracy	Nominal	Range	Maximum Limit
Volts	$\pm 1\%$	240V rms	10V rms...347V rms _{L-N} or 17V rms...600V rms _{L-L}	10V rms...347V rms _{L-N} or 17V rms...600V rms _{L-L}
Current	$\pm 1\%$	5 A	0.1 A...8 A	10 A
Power	$\pm 2\%$	—	—	—
Energy	$\pm 2\%$	—	—	—
Power Factor	$\pm 0.2\%$	—	—	—



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