

M40-A AC Voltmeter and Ammeter

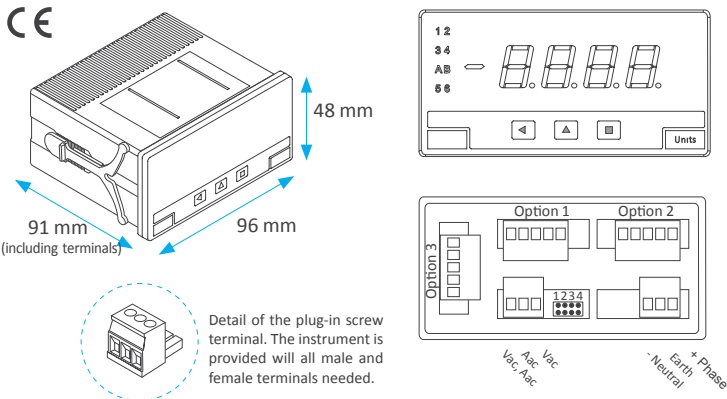
Panel mount AC Voltmeter and AC Ammeter with multiple input scales up to 600 Vac and up to 5 Aac. Reading with 4 digits and 14 mm digit height. Standard 96 x 48 mm (1/8 DIN) size, for panel mount. True RMS measure. Universal high and low AC and DC power options. Optional output modules with relay, transistor, SSR control, analog outputs and MODBUS RTU communication.



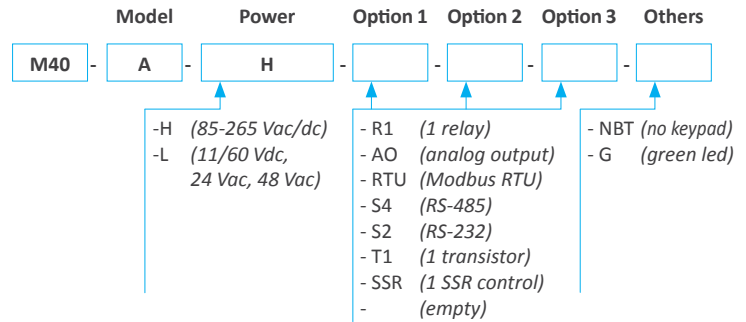
Technical specifications

Digits	4
Reading	9999 / -9999
Decimal point	configurable
Led color	red or green
Digit height	14 mm
Signal ranges	600 Vac, 100 Vac, 10 Vac, 1 Vac, 0.1 Vac 5 Aac, 1 Aac
Type of measure	True RMS
Coupling	'AC' or 'AC+DC' (by internal jumper selection)
Accepted connections	phase - neutral and phase - phase
Oversignal	up to +20 % of the scale
Bandwidth	1.3 KHz for measures in Vac 2.0 KHz for measures in Aac
Crest factor	3 for nominal accuracy 5 for accuracy 2.5 % F.S.
Accuracy	0.15 % to 0.25 % F.S. depends on the range
Offset drift	75 ppm/°C to 150 ppm/°C depends on the range
Span drift*	100 ppm/°C to 200 ppm/°C depends on the range *span drift value includes offset drift
Readings	15 readings / second
Response time to the step	<300 mSec. (0 % to 99 % signal)
Input impedance	depends on range (see User's Manual)
Power 'H'	85 to 265 Vac/dc (isolated 2500 Veff)
Power 'L'	11 to 60 Vdc and 24/48 Vac (isolated 1500 Veff)
Retransmission and control options	relays, analog output, Modbus RTU, ...
Consumption	<1.5 W (meter only) <4.0 W (meter with options)
Front protection	IP65
Connections	plug-in screw terminal
Weight	<150 grams
Mounting	panel
Front size	96 x 48 mm
Panel cut-out	92 x 44 mm
Deep	91 mm (including terminals)
Operating temperature	0 to 50 °C

Dimensions and connections



Order reference



* Relays R1 with contacts (NC / NO / Common), max. 250 Vac 8 A
 * Special options with 4 and 6 relays.
 * Analog outputs and serial outputs, isolated.

Functions included

- 'Fast access' menu a single press on the front keypad gives access to alarm setpoint modification, special functions, memory of maximum and minimum reading, ...
- 'Field correction' function for fast and easy offset corrections when installing on the field.
- DC component filter configurable filter to block the DC component of the signal.
- 'On power-up' function protects remote systems by delaying the output and control signals at cold start-up.
- Alarms with one or two setpoints, independent activation and deactivation delays, hysteresis, optional manual deactivation of the relay.
- Inverted relay for security applications, relay can be configured with inverted function.
- 'Peak & hold' function for test-break applications.
- Display filters recursive filters for noisy signals, optional reading in predefined steps, configurable fixed digits, ...
- Brightness 5 levels of brightness intensity.
- Password blocks access to configuration menu.

Output and control options

Model	Power	Option 1	Option 2	Option 3	Others
M40	A				
Function	Installable options	Isolated			
R1	1 relay output	3	yes		
T1	1 transistor output	3	yes		
SSR	1 control for SSR relay	3	yes		
AO	1 analog output	3	yes		
RTU	1 Modbus RTU port	3	yes		
S4	1 RS-485 port	3	yes		
S2	1 RS-232 port	3	yes		
R2, R4, R6	special modules up to 6 relay outputs. Check for information.				

Other options

Option NBT



Without front keypad

Option G



Green leds

Accessories

WME



Wall mount

DRA



DIN rail mount

THM



Benchtop housing

KIP



Protector IP65

KA96



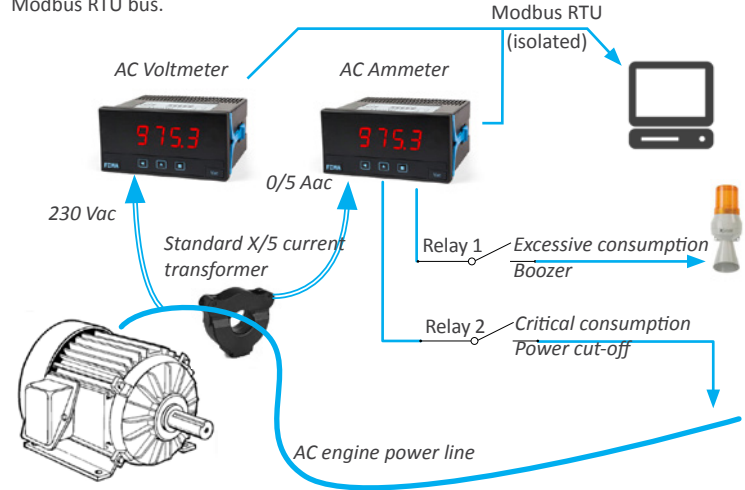
Adapter 96 x 96 mm

Additional documentation

M40-A user's manual	www.fema.es/docs/2144_M40-A_manual_en.pdf
M40-A datasheet	www.fema.es/docs/3178_M40-A_datasheet_en.pdf
Options user's manual	www.fema.es/docs/4254_SERIES_M-K-S_OPTIONS_manual_en.pdf

Application example

Measure of current consumption on an AC engine measured through a standard X/5 current transformer, and measure of the 230 Vac voltage level of the power line. A first relay output signal the excessive consumption for operator intervention. A second relay output controls the power cut-off in case of critical consumption. Re-transmission of the reading value to a remote SCADA or PLC unit through an isolated Modbus RTU bus.



Reading distances

Digit height (mm)	10	14	20	60	100
Reading distance	4 m	5 m	8 m	20 m	40 m
Series	L	M,S	K	B2x	B4x

Other AC Voltmeters and Ammeters

Series M

4, 5 and 6 digits

digit height 14 mm
color red, green
vision 5 meters
size 96 x 48 mm

DIGITAL PANEL METER
SERIES M
Full Signal Ranges Available



Series K

Further view

digit height 20 mm
color red
vision 8 meters
size 96 x 48 mm

DIGITAL PANEL METERS
SERIES K
20 mm Digit Size



Series S

Compact size

digit height 14 mm
color red, green
vision 5 meters
size 72 x 36 mm

DIGITAL PANEL METERS
SERIES S
Compact Size 72x36 mm

