

# S40-A AC Voltmeter and Ammeter

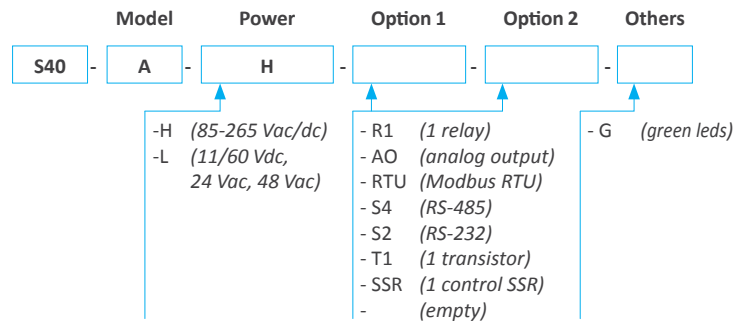
Panel meter with compact 72 x 36 mm size, and 14 mm digit height, for panel mount. AC Voltmeter and AC Ammeter with multiple input scales up to 600 Vac and up to 5 Aac. True RMS measure. Universal high and low AC and DC power options. Optional output modules with relay, transistor, SSR control, analog outputs and MODBUS RTU communication.



## Technical specifications

Digits	4
Reading	9999 / -1999
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
Reading	scalable
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, serial communications, ...
Consumption	<1.5 W (meter only) <4.0 W (meter with options)
Protection front	IP54
Connections	plug-in screw terminal
Weight	<150 grams
Mounting	panel
Front size	72 x 36 mm
Panel cut-out	69 x 32.5 mm
Deep	98 mm (including terminals)
Operating temperature	0 to 50 °C

## Order reference

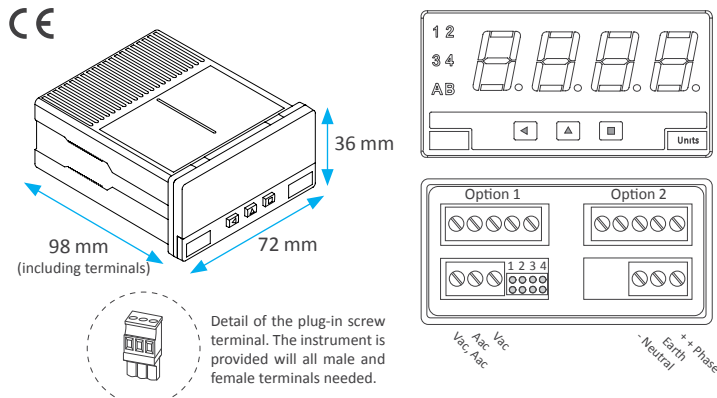


\* Relays R1 with contacts (NC / NO / Common), max. 250 Vac 8 A  
 \* Special options with 4 relays.  
 \* Analog outputs and serial outputs, isolated.

## 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.

## Dimensions and connections



## Output and control options

Model	Power	Option 1	Option 2	Others
S40	A			
Function	Installable options	Isolated		
R1	1 relay output	2	yes	
T1	1 transistor output	2	yes	
SSR	1 control for SSR relay	2	yes	
AO	1 analog output	2	yes	
RTU	1 Modbus RTU port	2	yes	
S4	1 RS-485 port	2	yes	
S2	1 RS-232 port	2	yes	
R2, R4	special modules up to 4 relay outputs. Check for information.			

## Other options

### Option G



Green leds

## Accessories

### KA72



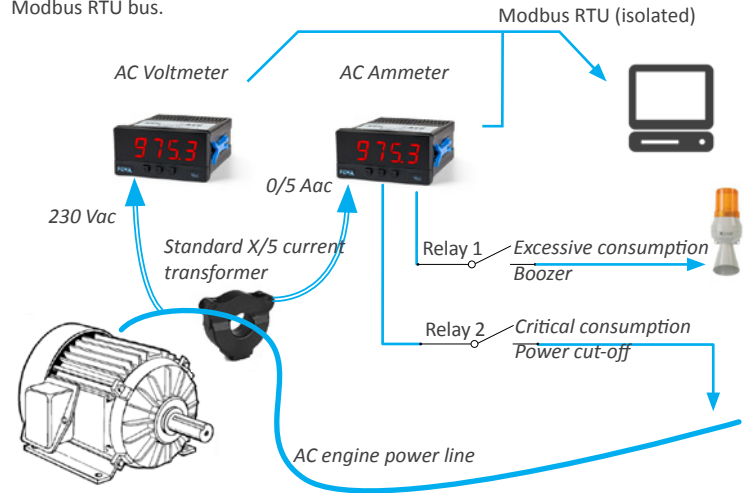
Adapter 72 x 72 mm

## Additional documentation

S40-A user's manual	<a href="http://www.fema.es/docs/1575_S40-A_manual_en.pdf">www.fema.es/docs/1575_S40-A_manual_en.pdf</a>
S40-A datasheet	<a href="http://www.fema.es/docs/3225_S40-A_datasheet_en.pdf">www.fema.es/docs/3225_S40-A_datasheet_en.pdf</a>
Options user's manual	<a href="http://www.fema.es/docs/4254_SERIES_M-K-S_OPTIONS_manual_en.pdf">www.fema.es/docs/4254_SERIES_M-K-S_OPTIONS_manual_en.pdf</a>

## 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 of 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 Voltmeters and Ammeters AC

### Series M

4, 5 y 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

