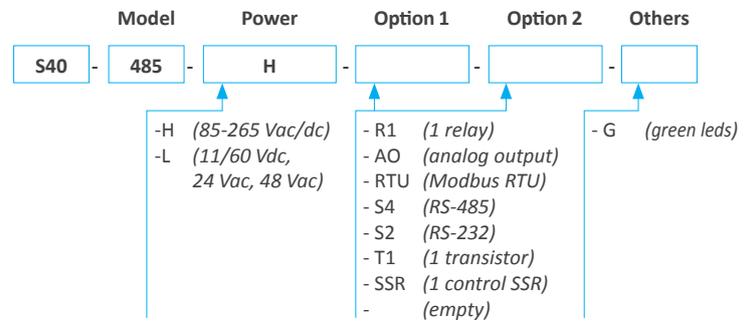# S40-485    Display for RS-485 ASCII

RS-485

Panel meter with compact 72 x 36 mm size, and 14 mm digit height, for panel mount. Display for ASCII code repeater, on RS-485 bus. Three working modes allows for local or remote control of alarms and data treated as numerical values or ASCII values. Reading range from 9999 to -1999. Decimal point. 'Watchdog' function, 'Bus activity' function, 'Fast access' menu, 'On power up' function. 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 | X.X.X.X |
| Led color | red or green |
| Digit height | 14 mm |
| Protocol | ASCII |
| Bus | RS-485 |
| Function | ASCII code repeater |
| Speed | from 38.400 bps to 600 bps (19.200 bps by default) |
| Data format | 8n1, 8e1, 8o1, 8n2 |
| Address | 1 to 31 |
| Bus terminators | not included |
| Watchdog | configurable from 1 to 120 seconds |
| Working modes | 'Process slave' for local control of alarms |
| | 'Full slave' for remote control of alarms |
| | 'Text' to work with ASCII characters |
| 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 ºC |

## Dimensions and connections

CE



98 mm (including terminals)    72 mm    36 mm

Detail of the plug-in screw terminal. The instrument is provided will all male and female terminals needed.

Option 1    Option 2

Gnd  A  B        + Phase / Earth / - Neutral

## Order reference

| | Model | Power | Option 1 | Option 2 | Others |
|---|---|---|---|---|---|
| S40 - | 485 - | H - | [ ] - | [ ] - | [ ] |

-H  (85-265 Vac/dc)
-L  (11/60 Vdc, 24 Vac, 48 Vac)

- R1   (1 relay)
- AO   (analog output)
- RTU  (Modbus RTU)
- S4   (RS-485)
- S2   (RS-232)
- T1   (1 transistor)
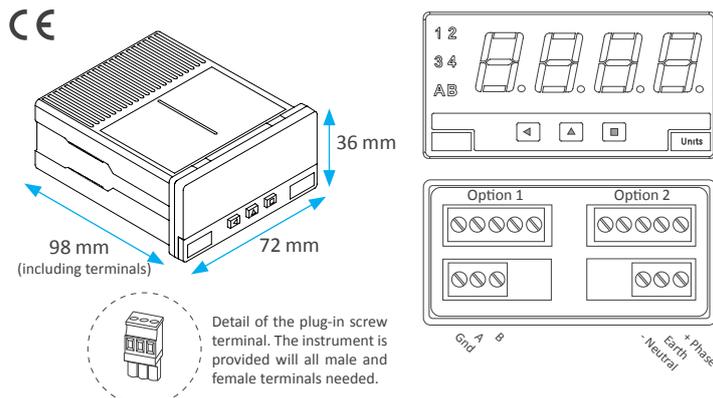- SSR  (1 control SSR)
-      (empty)

- G   (green leds)

*\* 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

'Process slave' . . . . . . . . . . . . . in 'Process slave' mode, alarms are configured locally and are associated to the display value

'Full slave' . . . . . . . . . . . . . . . in 'Full slave' mode alarms activate or deactivate writing on alarm registers.

'Text' . . . . . . . . . . . . . . . . . . . in 'Text' mode, ASCII characters received are not translated to number, but are directly displayed as 7 segment characters.

'**Watchdog**' function. . . . . . . generates error after predefined time without communication with the master. Alarm can be linked to the watchdog function.

'**Bus activity**' function . . . . . . detects electrical activity on the bus. Useful for troubleshooting.

'**Fast access**' menu . . . . . . . . specific menu entries can be associated to key UP ('▲'), such as display address, or alarm setpoints.

'**On power-up**' function . . . . . configurable delay at start-up, and configurable state of alarms at start-up.

Brightness . . . . . . . . . . . . . . . 5 levels of brightness intensity.

Password . . . . . . . . . . . . . . . . blocks access to configuration menu.

**45 YEARS** 1969-2014 | **Q ISO 9001** Certified Quality | **CE EN-61010-1** Security | **CE EN-61326-1** Electromagnetic C. | **5 YEARS** Extended Warranty

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## Output and control options

| Model | Power | Option 1 | Option 2 | Others |
|-------|-------|----------|----------|--------|
| S40 - | 485 - | □ - | □ - | □ - | □ |

| | 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*

## Application example

Factory signals are concentrated into a PLC who receives and manages factory processes. Critical information can be numerically communicated to local operators via RS-485 ASCII code repeaters S40-485. Local displayed values are of valuable help to the operator, who can review in a single and fast visual check the main critical parameters of the system.

**RS-485 ASCII**
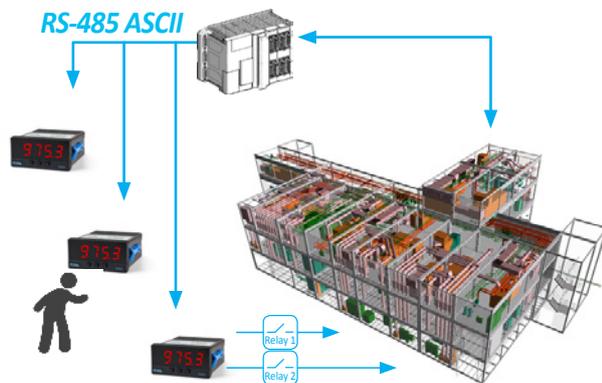


## Reading distances

| 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 repeaters for RS-485

**Series M**

DIGITAL PANEL METER
SERIES M
Full Signal Ranges Available

**4, 5 y 6 digits**
digit height . . . . . . 14 mm
color . . . . . . . . . . . red, green
vision . . . . . . . . . . . 5 meters
size . . . . . . . . . . . . . 96 x 48 mm



**Series K**

DIGITAL PANEL METERS
SERIES K
20 mm Digit Size

**Further view**
digit height . . . . . . 20 mm
color . . . . . . . . . . . red
vision . . . . . . . . . . . 8 meters
size . . . . . . . . . . . . . 96 x 48 mm



**Series S**

DIGITAL PANEL METERS
SERIES S
Compact Size 72x36 mm

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



## Additional documentation

| | |
|----|----|
| S40-485 user's manual | www.fema.es/docs/3806_S40-485_manual_en.pdf |
| S40-485 datasheet | www.fema.es/docs/3804_S40-485_datasheet_en.pdf |
| Options user's manual | www.fema.es/docs/4254_SERIES_M-K-S_OPTIONS_manual_en.pdf |

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**Q ISO 9001** Certified Quality

**CE EN-61010-1** Security

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