

**PANEL METERS
LARGE DISPLAYS
SIGNAL CONVERTERS**



**ELECTRONICS
FOR INDUSTRIAL AUTOMATION**

45 years
1969-2014

Small catalogue
2014-15
www.fema.es

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ELECTRONICS FOR INDUSTRIAL AUTOMATION

PANEL METERS LARGE DISPLAYS SIGNAL CONVERTERS



Who we are

Since 1969, FEMA ELECTRÓNICA works in the development of products for the automation industry.

Based in Barcelona (Spain) the company moved to its current location in 1989, where it has 900m2 available for development, manufacturing, quality control, storage, and customer care.

Our company is strongly focused on export, and our high quality standards in this field were recognized by the "Industry Chamber of Commerce from Sabadell (Barcelona)" being offered the "Best Export Award" in 1992.

In 1999 FEMA ELECTRÓNICA was officially certified ISO9001 in our company processes. Today we sell most of our production through our net of country and area distributors.

What we do

FEMA ELECTRÓNICA develops and manufactures Panel Meters, Signal Converters, Signal Isolators and Large Displays for industry automation applications.

Together with our material we are proud to provide an excellent service in delivery times, order confirmations and shipment information.

We are focused on fast response to questions from our customers, both from pre-sales and post-sales. We help our partners and customers to choose the best product for a given application, and can adapt our current products to match special needs.

Either if you are an end-customer, an integrator company, an official sales point or a white-label commercial company, we have a set of products, services and the experience to provide an extra sales to your catalogue.

	Señales aceptadas																	
	Process	Pt100 / RTD	Thermocouples	Vac, Aac	Vdc, Adc	Frequency meter AC	Impulse counters	Ratemeters	Periodimeters	Load cell	Integrators	Resistances	Potentiometers	Chronometers	Real Time	BCD	Modbus RTU	RS485, RS232
Characteristics																		
Panel Meters 96x48mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●		●	●	●
Panel Meters 72x36mm	●	●	●	●	●	●	●	●	●			●	●	●			●	●
Panel Meters 48x24mm	●																	
Signal Converters	●	●	●	●	●	●				●	●	●	●					
Signal Isolators	●	●	●	●	●	●				●	●	●	●					
Large Displays	●	●	●				●	●						●	●	●		●
Bar meters	●																	

The signals we work

Our instruments are designed to acquire electrical signals, providing display reading, signal retransmission and isolation.

We work analog signals from Pt100/RTD probes, thermocouple, process signals, single phase AC voltages and AC currents (True-RMS voltmeters and ammeters, and frequency meters), DC voltages and currents from shunts, batteries and tachometric dynamos, signals from potentiometer, resistances, load cells, ...

Also with impulse signals, offering impulse counters, rate-meters and periodmeters, together with time counters and chronometers. Our instruments accept also communication protocols such as Modbus RTU, RS485, RS232 and parallel and multiplexed BCD code.

This catalogue

This catalogue is just a short view of our current product range. For a full view, please visit us at www.fema.es where you can get our full catalogue files.

For direct enquiries, you can directly contact and explain your needs at :

Contact

- Telephone **+34.93.729.6004**
- e-mail ***info@fema.es***

We will be glad to hear from you,

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	Power Options									Output and control Options											
	Universal 85-265Vac/dc	Universal 11-60Vdc, 24/48Vac	230 Vac	115 Vac	48 Vac	24 Vac	24 Vdc	12 Vdc	Loop powered	1 Relay	2 Relay	3 Relay	4 Relay	6 Relay	Modbus RTU	Analog outputs	RS485 outputs	RS232 outputs	BCD	Peak&Hold	
	Characteristics																				
	Panel Meters 96x48mm	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	
	Panel Meters 72x36mm	●	●	●	●	●	●	●	●		●	●		●		●	●	●	●		●
	Panel Meters 48x24mm							●	●												
	Signal Converters			●	●			●													
	Signal Isolators			●	●			●		●											
	Large Displays			●	●			●													
	Bar meters			●	●	●	●	●	●			●									

SERIES M



Function	96x48mm panel meter
Digits	4, 5, 6
Maximum display	999999
Minimum display	-199999
Format	96x48mm
Deep	91mm (includes connections)
Digit size	14mm
Color	red or green
Reading	scalable, segment linearization
Decimal point	selectable
Units	yes
Configuration	front push buttons
Power	85 to 265 Vac/dc 11 to 60 Vdc and 24/48 Vac
Option modules	3
Connections	plug-in screw clamps
Protection	IP54 or IP65

Signals accepted

Process	4/20mA, ± 20 mA, 0/10Vdc, ± 10 Vdc
Temperature	Pt100-RTD, Thermocouples J, K, T, E, S, R, N, C, L, X
Voltmeters and Ammeters	up to 600V, up to 5A DC and AC (TrueRMS)
Frequencymeter AC	up to 900KHz @500Vac
Impulse counters	up to 250KHz
Ratemeters	up to 900KHz
Periodmeters	up to 1000 seconds
Chronometers	start, stop, reset
Communications	Modbus RTU, RS485, RS232, BCD

Optional boards

Relay	1, 2, 4 or 6 relay output
Analog output	4/20mA (active/passive) or 0/10Vdc
Serial output	Modbus RTU, RS485, RS232
NBT	without front push buttons

SERIES S



Function	72x36mm panel meter
Digits	4
Maximum display	9999
Minimum display	-1999
Format	72x36mm
Deep	98mm (includes connections)
Digit size	14mm
Color	red or green
Reading	scalable, segment linearization
Decimal point	selectable
Units	yes
Configuration	front panel buttons
Power	85 to 265 Vac/dc 11 to 60 Vdc and 24/48 Vac
Option modules	2
Connections	plug-in screw clamps
Protection	IP54

Signals accepted

Process	4/20mA, ± 20 mA, 0/10Vdc, ± 10 Vdc
Temperature	Pt100-RTD, Thermocouples J, K, T, E, S, R, N, C, L, X
Voltmeters and Ammeters	up to 600V, up to 5A DC and AC (TrueRMS)
Frequencymeter AC	up to 900KHz @500Vac
Impulse counters	up to 250KHz
Ratemeters	up to 900KHz
Periodmeters	up to 1000 seconds
Chronometers	start, stop, reset
Communications	Modbus RTU, RS485, RS232, BCD

Optional boards

Relay	1, 2 or 4 relay output
Analog output	4/20mA (active/passive) or 0/10Vdc
Serial output	Modbus RTU, RS485, RS232

SERIES ISC



Function Signal converter & Signal isolator

Inputs	1 (see below for types)
Outputs	1 (4/20mA or 0/10Vdc)
Format	DIN rail
Isolation	up to 3500Veff
Configuration	jumpers
	span and offset potentiometers
Power	230Vac, 115Vac, 24Vdc
Option modules	No
Width	22.5mm (DC powered units)
	37mm (AC powered units)
Connections	plug-in screw terminals

Signals accepted

Process	4/20mA, 0/10Vdc, 0/20mA, ...
Temperature	Pt100-RTD, Thermocouples J, K, T, E, S, R
Vac and Aac ranges	0/75mVac up to 0/650Vac 0/100mAac up to 0/5Aac
Vdc and Adc ranges	0/75mVdc up to 0/650Vdc 0/100mAdc up to 0/5Adc
Frequency	0/40Hz up to 0/50KHz
Potentiometers	100 Ohm up to 1MOhm pot.
Resistances	0/1.5KOhm up to 0/10KOhm

Optional boards

None no optional boards

SERIES BDF



Function Large displays (panel or wall mount)

Digits	4 or 6
Maximum display	9999 / 999999
Minimum display	-9999 / -999999
Format	panel or wall mount
Deep	112mm
Digit size	60mm or 100mm
Color	red or green
Reading	scalable span and offset
Decimal point	selectable
Configuration	depends on model
Power	230Vac, 115Vac, 24Vdc
Option modules	no
Connections	plug-in screw clamps
Protection	front IP65 or full IP65 housing

Signals accepted

Process	4/20mA, 0/10Vdc, 0/20mA, ...
Temperature	Pt100-RTD, thermocouples J, K, T, E, S, R
Impulses	impulse counters (1 or 2 inputs)
Frequency	ratemeter up to 10KHz
Serial ASCII	RS232, RS485, ...
BCD	parallel BCD signal
Time	time counters

Optional boards

None no optional boards

SERIES VIR30



Function 72x36mm low-cost meter

Digits	3
Maximum display	999
Minimum display	-999
Format	72x36mm
Deep	75mm (includes connections)
Digit size	14mm
Color	red
Reading	scalable span and offset
Decimal point	selectable
Units	yes
Configuration	jumpers and potentiometers
Power	230Vac, 115Vac, 24Vac, 48Vac 15-30Vdc
Option modules	no
Connections	plug-in screw clamps
Protection	IP40

Signals accepted

Process	4/20mA, 0/10Vdc
Temperature	Pt100-RTD
Vac and Aac ranges	0/100Vac up to 0/400Vac 0/1000mAac up to 0/5Aac
Vdc and Adc ranges	0/60mVdc up to 0/450Vdc 0/1000mAdc up to 0/5Adc
Frequency	40/70 Hz AC line
Potentiometer	0/1KOhm up to 0/20KOhms

Optional boards

None	no optional boards
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SERIES BAR



Function Bar meter

Number of segments	30
Maximum display	100%
Minimum display	0%
Format	96x48mm (or 96x24mm)
Deep	117mm (or 75mm)
Color	red or green
Reading	scalable span and offset
Units	no
Configuration	jumpers and potentiometers
Power	230Vac, 115Vac, 24Vac, 48Vac 15-30Vdc
Option modules	2 relay
Connections	plug-in screw clamps
Protection	IP40

Signals accepted

Process in mA	4/20mA, 0/20mA, ...
Process in Vdc	0/10Vdc, ± 10 Vdc, ...

Optional boards

Relay	2 relay output
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ISOLATOR CCT100



Function Loop powered galvanic isolator

Signal input	0/50mA
Signal output	0/50mA (identical to input)
Format	DIN rail
Isolation	2000Veff Input / Output
Configuration	no configuration needed
Power	loop powered
Option modules	No
Width	22.5mm
Connections	fixed screw terminals

Signals accepted

Process 0/50mA

Optional boards

None no optional boards

MINIATURE L35



Function 48x24mm process meter, miniature

Digits	3 1/2
Maximum display	1999
Minimum display	-1999
Format	48x24mm
Deep	68mm (includes connections)
Digit size	10mm
Color	red
Reading	scalable span and offset
Decimal point	selectable
Units	no
Configuration	jumpers and potentiometers
Power	10-30 Vdc
Option modules	no
Connections	plug-in screw clamps
Protection	IP40

Signals accepted

Process in mA 4/20mA, 0/20mA, 0/50mA, ...
Process in Vdc 0/10Vdc, ± 2 Vdc, ± 20 Vdc, ± 200 Vdc

Optional boards

None no optional boards

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FEMA
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