STANDARD
PANEL
METERS

FEMA ELECTRÓNICA

Series MAG-35

Panel meters for PROCESS signals in Vdc

MAG-35-36 for process 0/10 Vdc and similar

Vdc

IDEAL SOLUTION to display process signals in 0/10 Vdc and similar up to 200Vdc, with display scaled in engineering units. Provides excitation voltage output to power-up transducers. Available options for relay output, analogue output, serial outputs and others. Multiple input signal ranges selectable by internal jumpers.

FEMA ELECTRÓNICA, S.A.

USER'S MANUAL

(HT9693-r011206)

Model MAG-35-36

Instrument for PROCESS in Vdc

Panel meter to measure process signals in 0/10 Vdc and similar, up to 200 Vdc. Display scalable in engineering units. Input ranges selectable by internal jumpers and scaling of the display by potentiometers. Provides excitation voltage from 10 to 24 Vdc regulated, to power-up transducers. Accepts signals from transducers using 2, 3 and 4 wire connection techniques.

Additional options with relay outputs (1 or 2 relay), analogue outputs (in mA and Vdc), digital outputs in serial code (RS232 or RS485), parallel BCD code, display «Hold» function and power options in AC and DC.

GENERAL SPECIFICATIONS

DISPLAYS	Led 7 Segments Red Color
DIGIT HEIGHT	14 mm (0.55'')
DISPLAY	±1.8.8.8
POLARITY	Automatic ±
DECIMAL POINTS	Jumper selectable
INPUT CONFIGURATION	Bipolar Simple
A/D CONVERTER	Dual slope
INTEGRATION TIME	80 mSec.
NUMBER OF READINGS	3.12 per second
WARM-UP TIME	2 minutes
ACCURACY	0.15% ±1 digit
NMRR	50 dB
THERMAL DRIFT	100 ppM
TEMPCO ZERO	0.13% /ºC F.S.
OVERRANGE	+1999 flash
UNDERRANGE	-1999 flash
WORKING TEMP.	0°C to +50°C
STORAGE TEMP.	-40°C to +80°C
BURN-IN	48 hours
RECALIBRATION	Yearly
HOUSING	DIN 43700
DIMENSIONS	96 x 48 x 117 mm
PANEL CUT-OUT	44.5 x 92.5 mm
WEIGHT	310 gr.
CONNECTIONS	Plug-in screw clamps
CONSUMPTION	5.5 VA in AC 3.5 W in DC

OUTPUT AND CONTROL OPTIONS

MAG-35 instruments can be supplied with different options for data output and control. Compatibility between them is indicated at the «Ordering Reference» section down on this page. Technical data and operating instructions for these options are indicated in a separate user's manual.

«SP11»	1 Relay Output
«SP21»	2 Relay Output
«SAR»	Analogue Output
«HM»	Hold of display
«MPA2»	Detection of «peak and drop» signals
«SDA»	Parallel BCD
«RS2»	Serial RS232 output
«RS4»	Serial RS485 output

POWER OPTIONS

MAG-35 instruments can be supplied with different power options, for different AC and DC power ranges. The instruments do not have internal protection fuse. The value and type of the recommended fuse for each power type is indicated below.

Ref.	*Power*	*Recommended Fuse*
«0»	230 Vac 50/60 Hz	50 mA Time Lag
«1»	115 Vac 50/60 Hz	100 mA Time Lag
«2»	24 Vac 50/60 Hz	300 mA Time Lag
«3»	48 Vac 50/60 Hz	150 mA Time Lag
«6»	24 Vdc (15/30 Vdc Isolated)	350 mA Fast Fuse
«8»	48 Vdc (24/65 Vdc Isolated)	200 mA Fast Fuse

ORDERING REFERENCE

	Model	*Power*	*Option1*	*Option2*	*Option3*	*Scaling*
MAG-35 -	-	-	-	-	-	
	36	0 1 2 3 6 8	SP11 SP21 SDA RS2 RS4	SAR MPA2	HM	0/10 Vdc = 0/150.0 mm -20/+150 Vdc = 0/580 BAR ...

READING SCALE SELECTION

Select the desired input range and the reading scale, by selecting the jumpers on the «MM» module, as shown on table below, and select jumpers «D» to light the decimal point (see figure1). Potentiometer «P2» allows manual adjustment of the display at full-scale. Potentiometers «SPAN» and «OFFSET» at the front of the instrument are for small «on-the-field» error corrections on the scaled display. Potentiometer «P1» is to adjust the excitation voltage output.

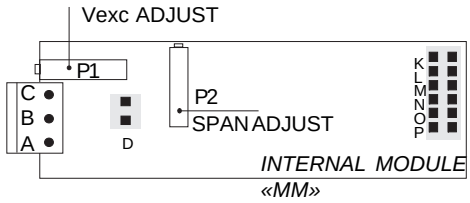


Table1 - Signal

RANGE «MM»	JUMPER
0/20 Vdc	---
0/200 Vdc	D

Table3 - Offset display

OFFSET RANGE	JUMPER «MM»
0 / 500	P
501 / 1000	---
1001 / 1999	N

Table2 - Span display

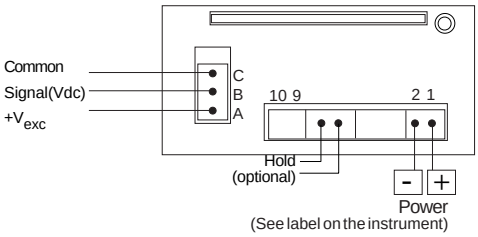
SPAN	JUMPER «MM»
0 / 500	K
501 / 1000	---
1001 / 2000	L

OFFSET TYPE	JUMPER «MM»
POSITIVE	O
NEGATIVE	M

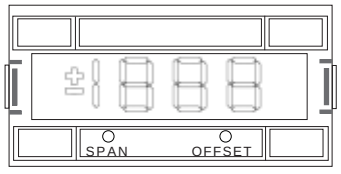
EXCITATION VOLTAGE

VOLTAGE Vexc	from 10 to 24 Vdc regulated
CURRENT	50 mA max.
RIPPLE	0.2% max. (at 50/60 Hz)

CONNECTIONS



FRONT VIEW



SPAN Light adjust of span
OFFSET Light adjust of zero

FIGURE1 - DECIMAL POINT SELECTION

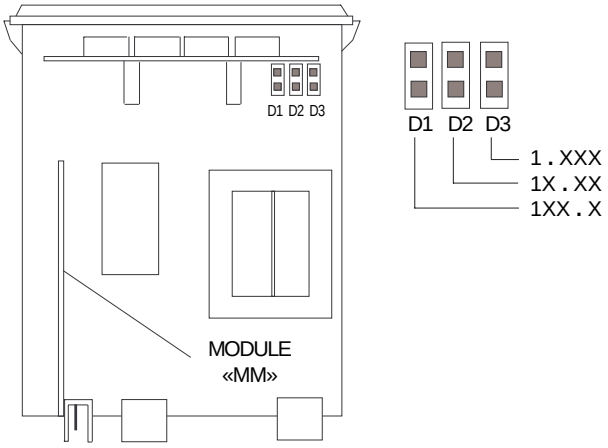
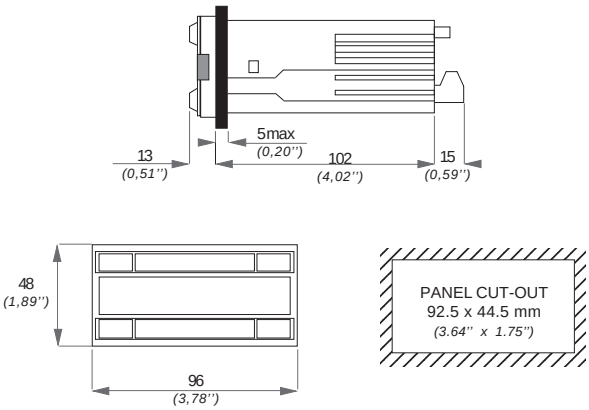


FIGURE2 - SIZES in mm (*inches*)



DECLARATION OF CONFORMITY

Manufacturer.- **FEMA ELECTRÓNICA, S.A.**
Address .- Pol. Ind. Santiga - Altimira 14 (T14 - N2)
E-08210 Barberà - BARCELONA
ESPAÑA - SPAIN

Conforming Products
Series .- MAG-35
Models .- 01, 02, 03, 04, 06, 07, 08, 10, 11, 12, 15, 16, 17, 20, 21, 22, 23, 24, 25, 26, 27, 32, 35, 36, 80, 90, 95

We hereby declare that the above products conform to the essential protection requirements of Directives and Standards stated below.

DIRECTIVES

EUROPEAN DIRECTIVE FOR LOW VOLTAGE D73/23/CEE AMENDED BY D93/68/CEE. Equipments powered from 50 to 1000 Vac and/or from 75 to 1500 Vdc

ELECTROTECHNICAL REGULATION FOR LOW VOLTAGE (RBT) ITC21, ITC29, ITC35. Equipments with power supply lower than 50 Vac and/or 75Vdc.

EUROPEAN DIRECTIVE FOR ELECTROMAGNETIC COMPATIBILITY D89/336/CEE AMENDED BY D93/68/CEE

STANDARDS

IMMUNITY
UNE EN 50082-1 (1997)

EMMISIONS
UNE EN 50081-1 (1993)

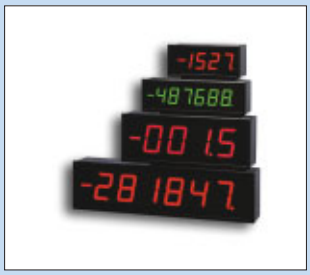
ELECTRICAL SAFETY
UNE EN 61010-1 (1996)
UNE EN 60204-1 (1997)

Signed .- D. Juncà
Position .- Quality Manager
Barberà, 2005

other products

Programmable
Panel Meters

Signal Converters &
Isolated Transmitters



Large Displays

Standard
Panel Meters

Miniature
Panel Meters

Large Displays
for TIME

www.fema.es

ELECTRONIC INSTRUMENTATION FOR INDUSTRY

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