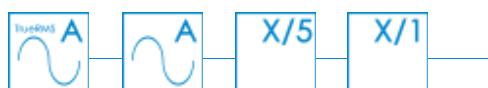


Series MAG-35

AMMETERS AC for Current Transformers X/5 and X/1

MAG-35-04	Ammeter AC	5 Aac
MAG-35-06	Ammeter AC	1 Aac
MAG-35-17	Ammeter TrueRMS	5 Aac TrueRMS



IDEAL SOLUTION to display AC current values from standard X/5 and X/1 standard current transformer signals. Instruments for standard AC measures and units for TrueRMS measures, recommended for AC current signals with irregular wave shapes. Available options for relay output, analogue output, serial outputs and others. Multiple signal ranges selectable.



FEMA ELECTRÓNICA, S.A.

USER'S MANUAL
(HT6995-r011206)

Series MAG-35

Ammemeters AC and TrueRMS

Panel meters to measure AC currents up to 5A direct and from standard X/5 and X/1 current transformers. Reading scalable by internal jumper selection. Measures in standard AC and TrueRMS AC techniques. TrueRMS recommended for signals with irregular wave shapes.

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
DIGITHEIGHT	14 mm (0.55")
DISPLAY	±1.8.8.8
POLARITY	Automatic ±
DECIMALPOINTS	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	0.2% ±1 digit
NMRR	50 dB
THERMAL DRIFT	150 ppM
TEMP CO ZERO	0.13% /°C 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	-	-	-	-	-
04	0	SP11	SAR	HM	0/5 Aac = 0/150.0 A
06	1	SP21	MPA2		0/5 Aac = 0/ 750 A
17	2	SDA			...
	3	RS2			
	6	RS4			
	8				

MAG-35-04

Ammeter AC for 5 Aac signals

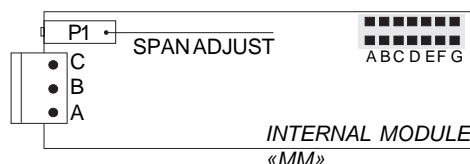


Instrument with Ammeter function for AC current measures up to 5A direct, and higher current values when connected through a standard X/5 current transformer. Reading scalable by selecting internal jumpers.

Note .- recommended current transformers with class 0.5 or higher

READING SCALE SELECTION

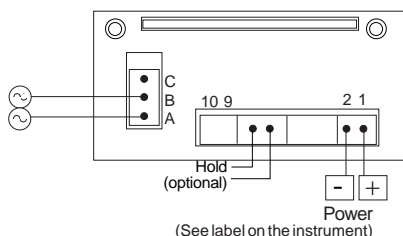
Scale the reading to the desired value at full scale, for a 5A signal, by selecting the jumpers on the «MM» module, as shown on table below, and select jumpers «D» to light the decimal point (see figure1 on page 4). Potentiometer «P1» allows manual adjustment of the scale. Potentiometer «SPAN» at the front of the instrument is for small «on-the-field» manual error corrections on the scaled display.



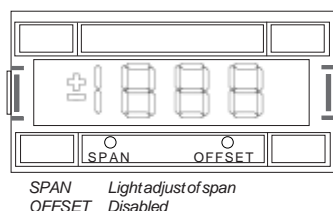
RANGE X/5	JUMPER «MM»	JUMPER «D»
5.00	D	D2
10.00	F	D2
15.00	G	D2
15.0	A	D1
25.0	B	D1
40.0	C	D1
50.0	D	D1
60.0	E	D1
100.0	F	D1
150.0	G	D1

RANGE X/5	JUMPER «MM»	JUMPER «D»
199.9	A,D	D1
250	B	---
300	B,D	---
400	C	---
500	D	---
600	E	---
750	D,F	---
800	E,F	---
1000	F	---
1500	G	---

CONNECTIONS



FRONT VIEW



MAG-35-17

Ammeter AC TrueRMS for 5 Aac signals



Instrument with TrueRMS Ammeter function for AC current measures up to 5A direct, and higher current values when connected through a standard X/5 current transformer. Measures in TrueRMS technique recommended for signals with irregular wave shapes. Reading scalable by selecting internal jumpers.

Note .- recommended current transformers with class 0.5 or higher

READING SCALE SELECTION

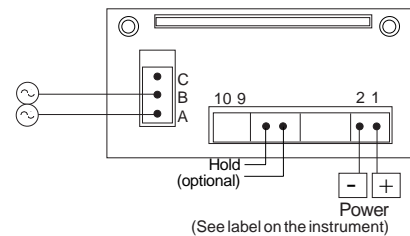
Scale the reading to the desired value at full scale, for a 5A signal, by selecting the jumpers on the «MM» module, as shown on table below, and select jumpers «D» to light the decimal point (see figure 1 on page 4). Potentiometer «SPAN» at the front of the instrument is for small «on-the-field» manual error corrections on the scaled display.



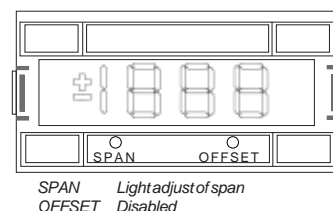
RANGE X/5	JUMPER «MM»	JUMPER «D»
5.00	F	D2
10.00	C	D2
15.00	B	D2
40.0	G	D1
50.0	F	D1
60.0	E	D1
75.0	D	D1
100.0	C	D1
150.0	B	D1

RANGE X/5	JUMPER «MM»	JUMPER «D»
400	G	---
500	F	---
600	E	---
750	D	---
1000	C	---
1500	B	---
1999	A	---

CONNECTIONS



FRONT VIEW



MAG-35-06

Ammeter AC for 1 Aac signals

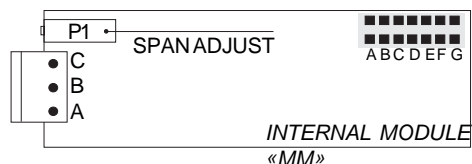


Instrument with Ammeter function for AC current measures up to 1A direct, and higher current values when connected through a standard X/1 current transformer. Reading scalable by selecting internal jumpers.

Note .- recommended current transformers with class 0.5 or higher

READING SCALE SELECTION

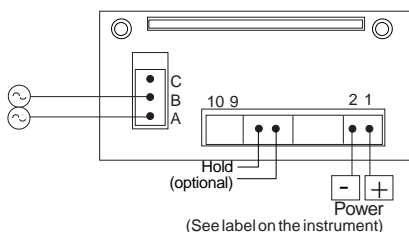
Scale the reading to the desired value at full scale, for a 1A signal, by selecting the jumpers on the «MM» module, as shown on table below, and select jumpers «D» to light the decimal point (see figure1 on page 4). Potentiometer «P1» allows manual adjustment of the scale. Potentiometer «SPAN» at the front of the instrument is for small «on-the-field» manual error corrections on the scaled display.



RANGE X/1	JUMPER «MM»	JUMPER «D»
5.00	D	D2
10.00	F	D2
15.00	G	D2
15.0	A	D1
25.0	B	D1
40.0	C	D1
50.0	D	D1
60.0	E	D1
100.0	F	D1
150.0	G	D1

RANGE X/1	JUMPER «MM»	JUMPER «D»
199.9	A,D	---
250	B	---
300	A,D	---
400	C	---
500	D	---
600	E	---
750	D,F	---
800	E,F	---
1000	F	---
1500	G	---

CONNECTIONS



FRONT VIEW

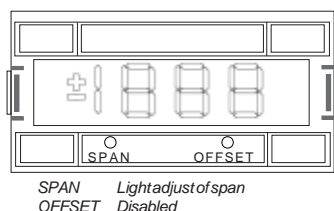


FIGURE1 - DECIMAL POINT SELECTION

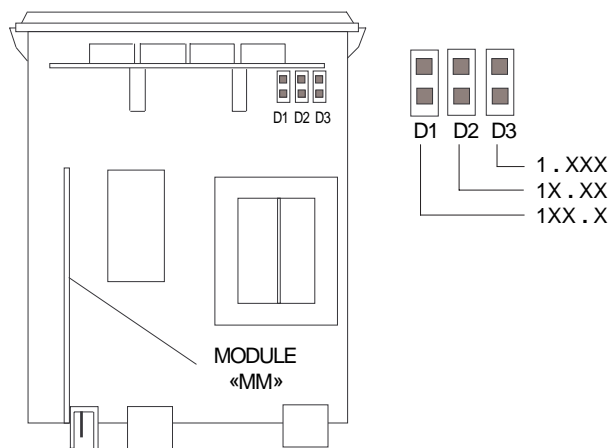
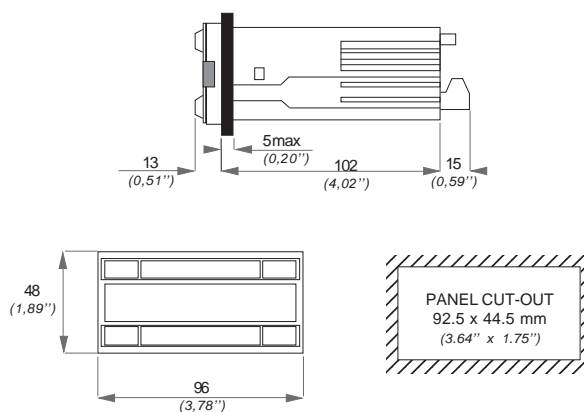


FIGURE2 - SIZES in mm (inches)



CE 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)

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

EMMISSIONS
UNE EN 50081-1 (1993)

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