

# Series CCT

## Signal Converters with isolation for AC current signals



**CCT-04**

**Currents in AC**

**up to 5 Aac**

*IDEAL SOLUTION to convert a wide range of analogue signals (process, temperatures, current, frequencies...) to standard 10Vdc or 20mA process signals, for further retransmission to a remote data acquisition system or PLC's. The galvanic isolation offered by the CCT instruments between the signal circuit and the remote equipment, reduces to a minimum any eventual problem related to ground loops between different circuits.*

# Model CCT-04

## Converters for AC currents

Signal converters for AC single-phase currents. Selection of input and output ranges with internal jumpers and potentiometers. Galvanic isolation between input, output and power circuits.



### Order Reference

<b>CCT</b>	-	<b>04</b>	-	<b>0</b>	=	<b>4/20mA</b>
				-0 (230 Vac) -1 (115 Vac) -2 (24 Vac) -3 (48 Vac) -6 (24Vdc isolated)		4/20mA 0/10Vdc ...
				0/5 Aac 0/1 Aac 0/500 mAac 0/50 mAac ...		

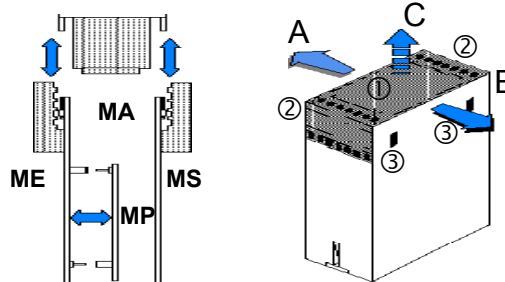
### Technical Data

Accuracy CCT-01	Class <0.3
Ripple	<0,5 %
Temperature coefficient	<0,015 %/ °C
Pass band	1.5 Hz (-3 dB a 3Hz)
Response time	<250 mSec.
Output in mA	0/20 mA / 4/20 mA, ... R <sub>L</sub> < 600 Ohms max. 22mA active output loop
Output in Vdc	0/10 Vdc, 0/1 Vdc, ... R <sub>L</sub> > 1000 Ohms max. 11Vdc
Isolation	2 KVe <sub>eff</sub> / 50Hz / 1 min (tested at 4 KVe <sub>eff</sub> )
Isolated circuits	input / output / power
Weight	270 gr.
Wire section	4mm <sup>2</sup> maximum
Housing IP protection	IP40
Terminals IP protection	IP20
Housing material	polycarbonate, light grey RAL 7032, UL 94 V-1
Mounting	standard DIN rail (DIN46277,
DIN EN 50022) (35 x 7,5mm) (1,38 x 0,3")	
Terminals	Polycarbonate, UL 94 V-2
Consumption	<1,5 VA
Storage temperature	-30 to +80 °C
Working temperature	-10 to +60 °C

### Access to internal circuits

With a flat screwdriver, force the front cover and walls towards **A** and **B**, until fixations '3' are free. Take the instrument from points '2', and extract it pulling towards **C**, until the internal circuits appear. The internal circuits have the following names:

- ME .- Signal Input Module
- MS .- Signal Output Module
- MA .- Power Module
- MP .- Personalized Module



### Power options

The CCT converters allow different power modules in AC and DC. The instrument does not have internal protection fuse. Following is a recommendation on value and type of fuse for each power module available.

Ref.	Power	Fuse Recommended
«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	300 mA Fast Fuse

# CCT-04

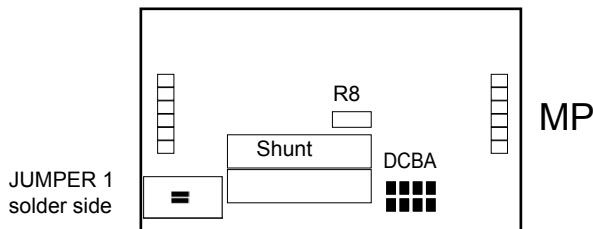
## AC Current Signals up to 5 Aac



Signal converter for AC single-phase current signals. Internal jumper selection for 5 different ranges of measure, ranging from 0/5 mAac up to 0/5 Aac.

### INPUT RANGE SELECTION

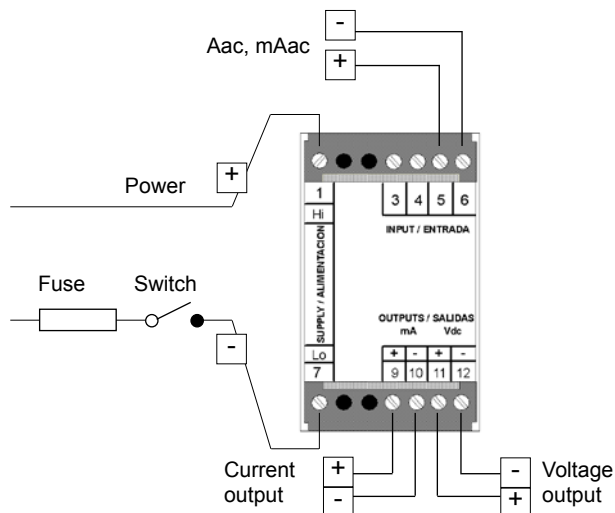
Configure the desired Aac input range by selecting the appropriate jumpers on «MP» module, as shown on the table below:



RANGE	JUMPERS «MP» / «ME»	Rshunt	OVERLOAD	Zin	MINIMUM RANGE
5 Aac	A,1 / ---	0.02 Ohm*	7.5A	0.02Ohm	500mA
1 Aac	A,1 / ---	0.1 Ohm*			100mA
500mAac	A,1 / ---	0.2 Ohm*			50mA
50mAac	D / ---	Not used	100mA	20 KOhm	5mA
5mAac	A,D / ---	Not used			0.05mA

\*Resistances of 3 W

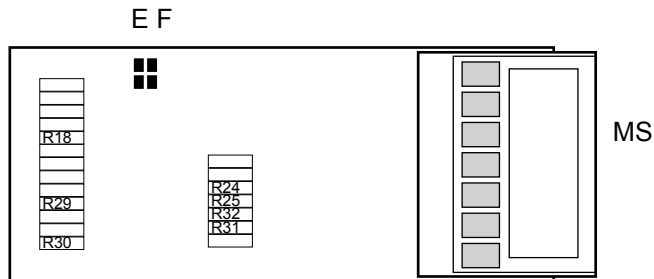
### CONNECTIONS



BLANK SECTION

### Output signal module (MS)

The CCT has available outputs in voltage and current. Only one of the outputs can be active. Additional to the standard 0/10 Vdc and 4/20mA outputs, it is possible to reconfigure the instrument to any of the outputs shown in the table below.



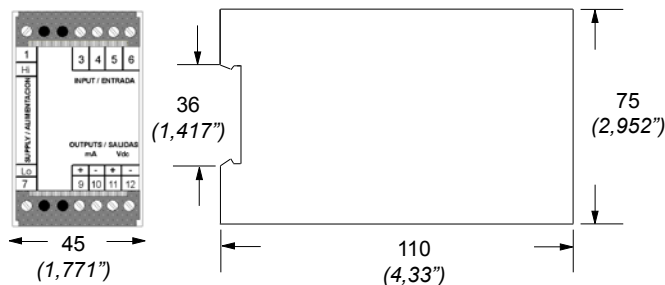
Other mA outputs (Resistances in Ohms)			Other Vdc outputs (Resistances in KOhms)					
OUTPUT	R18	R24	R25	OUTPUT	R29	R30	R31	R32
0/5mA	---	100	---	±10Vdc	49,9	---	200	---
0/10mA	---	49,9	---	0/1Vdc	---	---	11	100
1/5mA	100K	124	---	0/5Vdc	---	---	100	100
0/20mA	---	---	24,9	1/5Vdc	---	100	66,5	100

Jumpers E and F .- Closed in 4/20 mA output. Open for other outputs  
 Note .- The symbol «- - -» means «NOT installed»

### Readjustment procedure

- 1.- Open the housing to access the instrument internal circuits
- 2.- Select jumpers on boards «ME», «MP» and «MS»
- 3.- Connect signal generator to signal input terminals
- 4.- Connect multimeter to signal output terminals
- 5.- Power up the instrument as indicated on the label
- 6.- Generate the low signal level and operate potentiometer P1 on «ME» until the multimeter shows the desired signal output
- 7.- Generate the high signal level and operate potentiometer P2 on «ME» until the multimeter shows the desired signal output
- 8.- Repeat steps 6 to 7 in order to correct deviations and check the adjust

### Mechanical dimensions mm (inch)

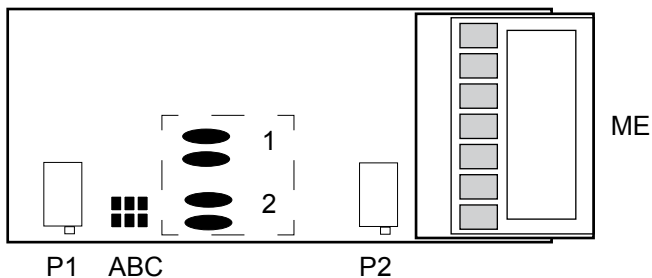


### Input signal module (ME)

Placed on the «ME» module are the potentiometers and jumpers for Zero and Gain adjustment.

- Jumper 1 .- Closed for Gross Positive Offset
- Jumper 2 .- Closed for Gross Negative Offset
- Jumper A .- Closed for Fine Negative Offset

- Jumper B .- Closed for Maximum GAIN
- Jumper C .- Closed for Middle GAIN
- Jumper B and C .- Open for Minimum GAIN



- P1 .- Zero Adjust Potentiometer
- P2 .- Gain Adjust Potentiometer

### CE Declaration of conformity

Manufacturer FEMA ELECTRÓNICA, S.A.  
 Altimira 14 - Pol. Ind. Santiga  
 E08210 - Barberà del Vallès  
 BARCELONA - SPAIN  
 www.fema.es - info@fema.es

Series CCT, models 01, 04, 06, 08, 20, 22, 23, 24, 25, 26, 27, 32, 55I, 55V, 80, 90, 95

The manufacturer declares that the instruments indicated comply with the directives and rules indicated below.

Directive of electromagnetic compatibility 2004/108/CEE  
 Directive of low voltage 73/23/CEE

Security rules 61010-1  
 Emmission rules 50081-1  
 Immunity rules 50082-1

Barberà del Vallès October 2009  
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