

# E83-2050

## AC current transducer



### Benefits

- **7 selectable input ranges.**
- **LED indication for power supply.**
- **Analogue output.** For easy interface to PLC.
- **Small size.** To fit panels without having to redesign them.

### Description

E83-2050 is a small size AC current transducer with built-in current transformer and 4-20 mA DC analogue output.

12 mm hole for insulated current wire to easily insert the metered cable (multiple times if needed).

For mounting on DIN-rail or back panel.

### Applications

E83-2050 is used in a wide range of applications for HVAC, smart building, machine tools and material handling markets, where a dedicated supervisory control unit manages the system. It allows to transmit motor current for PLC analysis.

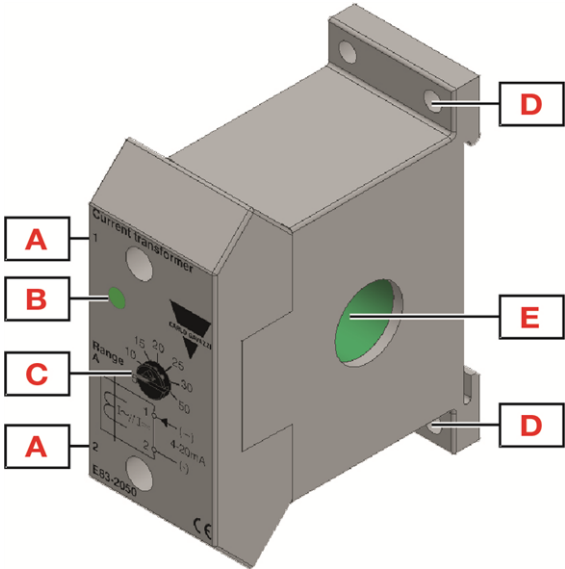
### Main features

- Input range up to 50 A.
- 4-20 mA DC output.
- Powered by loop voltage.

Order code

Input current	Output current	Switch position	Component name/part number
0 - 5 A AC	4 - 20 mA DC	5	E83-2050
0 - 10 A AC		10	
0 - 15 A AC		15	
0 - 20 A AC		20	
0 - 25 A AC		25	
0 - 30 A AC		30	
0 - 50 A AC		50	

Structure



Element	Component	Function
A	Terminals	Analogue output: 1, 2
B	Information LED	Green for device ON
C	Front dial	Input range selection
D	Wall fixing holes	Wall mounting
E	Hole	For current insulated wire

## Features

### Inputs

Current ranges	Input current	Switch position
	0 - 5 A AC	5
	0 - 10 A AC	10
	0 - 15 A AC	15
	0 - 20 A AC	20
	0 - 25 A AC	25
	0 - 30 A AC	30
	0 - 50 A AC	50
<b>Current measuring</b>		Direct through built-in current transformer
<b>Maximum current (continuous)</b>		100 A
<b>Maximum overload current (t = 30 s)</b>		300 A
<b>Overvoltage category</b>		III (IEC 60664)
<b>Frequency range</b>		40 Hz - 1 kHz

**Note:** it is possible to measure currents below the nominal range by drawing the conductor through the hole several times. If the conductor is drawn through the central hole e.g. 5 times, the transformer will measure 5 A AC when the current in the conductor is 1 A AC.

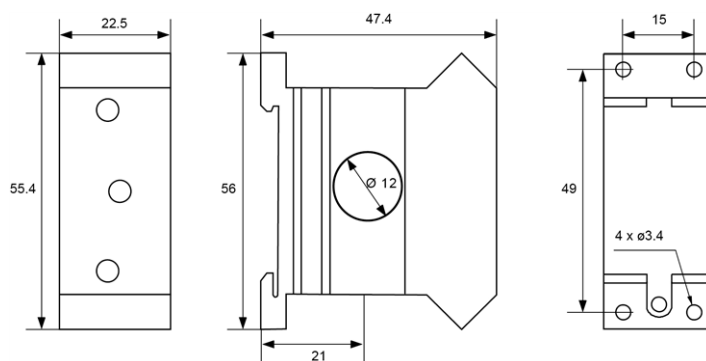
### Outputs

<b>Output current (sink)</b>	4-20 mA DC
<b>Maximum output current</b>	30 mA DC
<b>Tolerance of output current</b>	± 2% on full scale @ 50 Hz
<b>Temperature variation</b>	± 400 ppm/°C
<b>Frequency variation</b>	10 ppm/Hz
<b>Power supply (loop voltage)</b>	10 - 40 V DC
<b>Consumption</b>	< 1 W

### General

<b>Material</b>	Polycarbonate or Polycarbonate/ABS Alloy
	Flammability rating: HB according to UL 94
<b>Colour</b>	RAL 7035 (light grey)
<b>Dimensions (W x H x D)</b>	22.5 x 55.4 x 47.4 mm (0.89 x 2.18 x 1.87 in)





<b>Weight</b>	70 g (2.47 oz)
<b>Terminals</b>	Cable size from 1 to 1.5 mm <sup>2</sup> (AWG18 to AWG16), stranded or solid
<b>Tightening torque</b>	Max. 0.5 Nm (4.425 lbin)
<b>Terminal type</b>	Screw terminals



### Environmental

<b>Operating temperature</b>	-20 to 50 °C (-4 to 122 °F)
<b>Storage temperature</b>	-30 to 70 °C (-22 to 158 °F)
<b>Relative humidity</b>	5 - 95% non condensing
<b>Protection degree</b>	IP20
<b>Pollution degree</b>	3
<b>Operating max altitude</b>	2000 m amsl (6560 ft)
<b>Salinity</b>	Non saline environment

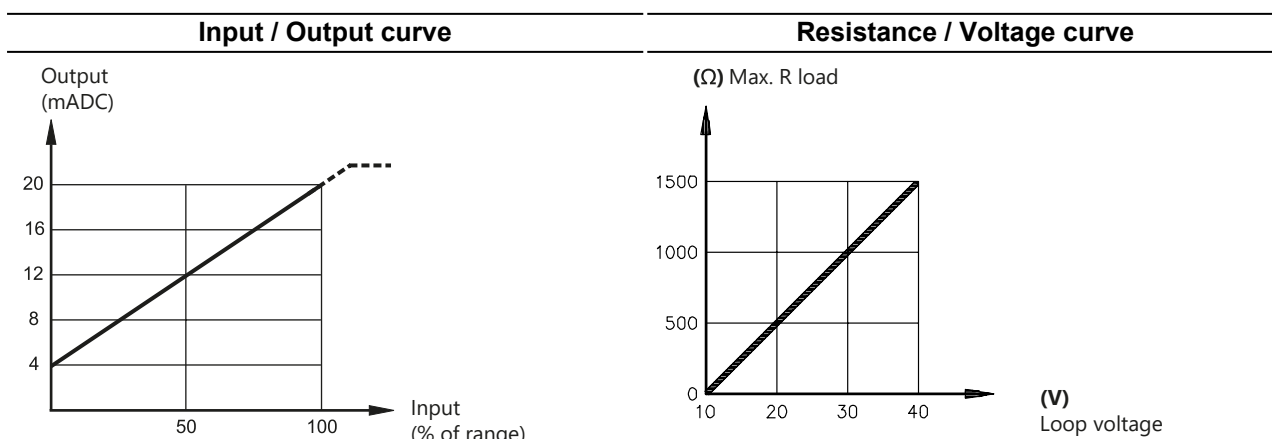
### Compatibility and conformity

<b>Marking</b>	 
<b>Directives</b>	2014/35/EU (LVD - Low voltage) 2014/30/EU (EMC - Electromagnetic compatibility) 2011/65/EU, 2015/863/EU (RoHS)
<b>Standards</b>	Insulation coordination: EN 60664-1 Immunity: EN 61000-6-2 Emission: EN 61000-6-3 EN 63000: 2018
<b>Approvals</b>	 

## Operating description

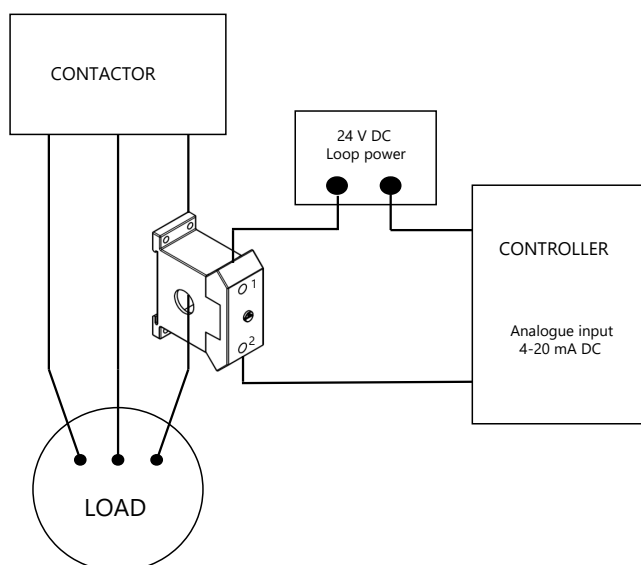
### Device configuration

The standardized 4-20 mA DC output makes E83-2050 very useful as an AC current interface to a PLC with 4-20 mA DC input. Used with relays DIB01, PIB01, DIC01 or PIC01, one or more setpoints can monitor the current and signal alarm. In the 5 A range the E83-2050 is often used as a 4-20 mA DC signal converter for larger standard AC current transformers with 5 A AC secondary output.



**Fig. 1** Max. load resistance versus loop voltage

## Connection diagram



## References

### Further reading

Information	Document	Where to find it
Installation manual	E83-2050	<a href="https://gavazziautomation.com/images//PIM/MANUALS/ENG/A82-E83-MI-MP_IM.pdf">https://gavazziautomation.com/images//PIM/MANUALS/ENG/A82-E83-MI-MP_IM.pdf</a>



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