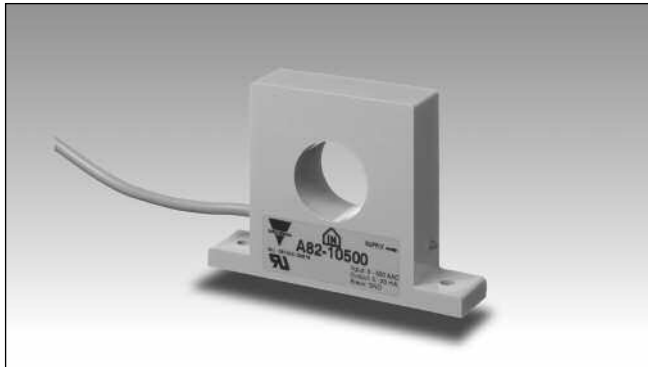# Monitoring Relays
AC Current Transformer
Types A 82-10, A 82-20

CARLO GAVAZZI

- **5 types of input:** 0 - 25 AAC
  0 - 50 AAC
  0 - 100 AAC
  0 - 250 AAC
  0 - 500 AAC
- **Output:** A 82-10: 0 - 20 mADC (source)
  A 82-20: 4 - 20 mADC (sink)
- **Easy interface to PLC or setpoint relays**

Product Description

AC current metering transformer for 25, 50, 100, 250 or 500 AAC. Output current from the transformer is 0-20 mADC or 4-20 mADC in accordance with IEC 60381-1. Can be used with relays DIB01, PIB01, DIC01, PIC01 or S183 or directly connected to a PLC. Power supply ON is indicated by a green LED on the side of the housing.

Ordering Key

A 82-10 50

Type
Output
Input current

Type Selection

Input current	Output current	Type no.
25 AAC	0 - 20 mA	**A 82-10 25**
50 AAC	0 - 20 mA	**A 82-10 50**
100 AAC	0 - 20 mA	**A 82-10 100**
250 AAC	0 - 20 mA	**A 82-10 250**
500 AAC	0 - 20 mA	**A 82-10 500**
25 AAC	4 - 20 mA	**A 82-20 25**
50 AAC	4 - 20 mA	**A 82-20 50**
100 AAC	4 - 20 mA	**A 82-20 100**
250 AAC	4 - 20 mA	**A 82-20 250**
500 AAC	4 - 20 mA	**A 82-20 500**

Input Specifications

	A 82-10/20 25	A 82-10/20 50	A 82-10/20 100	A 82-10/20 250	A 82-10/20 500
Current range	0 - 25 AAC	0 - 50 AAC	0 - 100 AAC	0 - 250 AAC	0 - 500 AAC
Max. current (continuously)	30 AAC	60 AAC	120 AAC	300 AAC	600 AAC
Max. overload current (t = 30 s)	250 AAC	300 AAC	700 AAC	1500 AAC	3000 AAC
Rated insulation voltage Input - output	1000 VAC $_{rms}$	1000 VAC $_{rms}$	1000 VAC $_{rms}$	1000 VAC $_{rms}$	1000 VAC $_{rms}$
Overvoltage category	IV (IEC 60664)	IV (IEC 60664)	IV (IEC 60664)	IV (IEC 60664)	IV (IEC 60664)
Dielectric strength Dielectric voltage Rated impulse withstand volt.	6 kVAC $_{rms}$ 12 kV (1.2/50 µs)	6 kVAC $_{rms}$ 12 kV (1.2/50 µs)	6 kVAC $_{rms}$ 12 kV (1.2/50 µs)	6 kVAC $_{rms}$ 12 kV (1.2/50 µs)	6 kVAC $_{rms}$ 12 kV (1.2/50 µs)

Output Specifications

Rated insulation voltage (cable)		250 VAC$_{rms}$
Output current	10:	0 - 20 mADC
	20:	4 - 20 mADC
Power supply (loop voltage)		10 - 40 VDC
Tolerance of output current @ 50 Hz	A 82-10	±2% ±0.08 mA
	A 82-20	± 2%
Temperature variation		±400 ppm/°C
Frequency range		40 Hz -1 kHz
Frequency variation		10 ppm/Hz
Maximum output current		35 mADC

General Specifications

Power ON delay		< 1 s
Reaction time		τ < 100 ms worst case reaction time may be up to 5 x τ
Indication for Power supply ON		LED, green
Environment Degree of protection Pollution degree Operating temperature		IP 20 3 (IEC 60664) -20° to 50°C (-4° to +122 °F)
Housing Dimensions Material		95 x 67.5 x 20 mm ABS
Weight	A 82-10	300 g
	A 82-20	270 g
Connection cable	A 82-10	2 m, 3 x 0.25 mm^2
	A 82-20	2 m, 2 x 0.25 mm^2
Approval		UL
CE marking		Yes
EMC Immunity		Electromagnetic Compatibility Acc. to EN 61000-6-1 (tolerance of output current: ± 2%) Acc. to EN 61000-6-2 (tolerance of output current: ± 5%)
Emission		Acc. to EN 61000-6-3

Mode of Operation

A 82-10, A 82-20 are current metering transformers with standard source/sink output 0 - 20 mA/4 - 20 mA. This makes it very useful as an AC current interface to a PLC with mADC input.
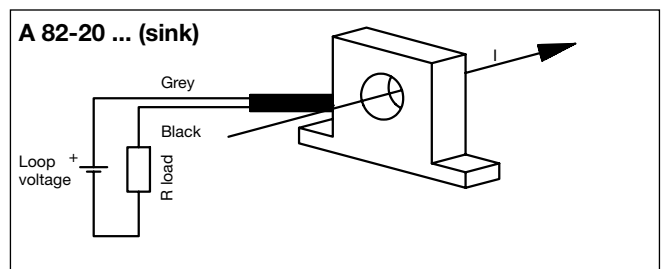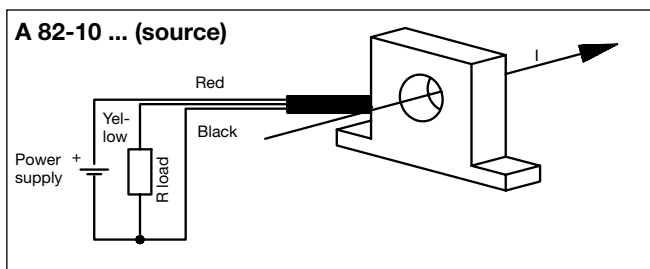Used with relays DIB01, PIB01, DIC01, PIC01 or S183 one or more setpoints can monitor the current and signal alarm. S 183 also provides the DC voltage supply for the A 82-10, A 82-20.
The metered conductor is drawn through the central hole of the current metering transformer. It is possible to meter 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 register 50 A when the current in the conductor is 10 A.
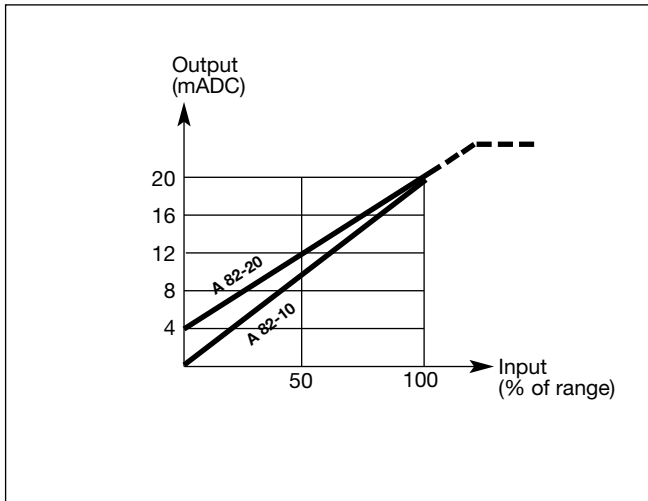
A 82-10 has factory-set gain (span) adjustment, whereas A 82-20 has zero as well as gain (span) adjustment, both factory-set.
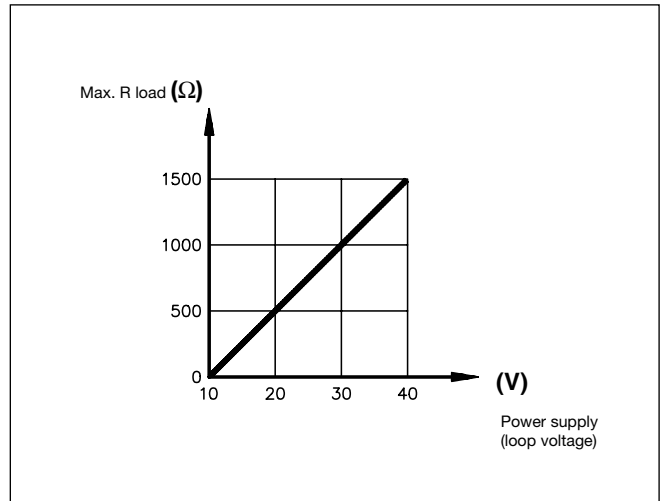
Note: Do not change the set values.

Wiring Diagrams

A 82-10 ... (source)

A 82-20 ... (sink)

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Input/Output Curve

Output
(mADC)

20
16
12
8
4

A 82-20
A 82-10

50   100   Input
(% of range)

Resistance/Voltage Curve

Max. R load (Ω)

1500

1000

500

0
10   20   30   40   (V)

Power supply
(loop voltage)

Max. load resistance versus Power supply (loop voltage)

Dimensions

61.5
Ø27
30.5
67.5
1000
20.6
18
IN
7
95
2 x Ø5   2.5
Ø4.5   3
14   13   20
78