



# Measuring transducers

## Indicators and transducers



Power transducer, current



Current transducer

### Function

SOCOMECC transducers convert an electrical parameter (A, W) into a DC signal. They come in a protruding case (CS range).

### Characteristics

- Dielectric quality:
  - 2.5 kV (50 Hz - 1 mm) between input and output,
  - 2.5 kV (50 Hz - 1 mm) between power supply and other terminals,
  - 4 kV (50 Hz - 1 mm) between earth and other terminals.
- Accuracy class: 0.5 or 0.2 depending on the model.
- Response time < 200 ms (0 - 90% of the output signal).
- Overloads:
  - Circuit I: 1.2 I<sub>n</sub> permanent; 20 I<sub>n</sub>/3 s, - 40 I<sub>n</sub>/1 s,
  - Circuit U: 1.2 U<sub>n</sub> permanent; 2 U<sub>n</sub>/10 s.
- Max. load resistance:
  - Current output: R<sub>0</sub> (Ω) = 12 V/I<sub>0</sub> (mA),
  - Voltage output: R<sub>0</sub> (Ω) = V<sub>0</sub>/I<sub>0</sub> mA.
- Consumption:
  - Self-powered: 1.5 VA,
  - Current input: 0.2 VA,
  - Voltage input: (U<sub>n</sub> x 1 mA) VA.
- Operating temperature: -10 °C to +60°C.
- Residual ripple rate: 0.3%.
- Operating frequency: 50/60 Hz.

### References

#### Current transducer with auxiliary power supply

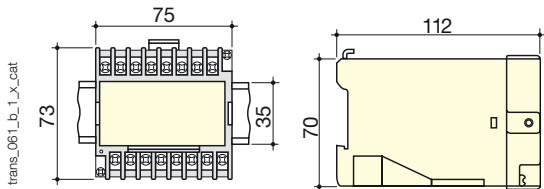
Input	Output	Auxiliary power supply	Frequency	CSA-A4
				Reference
5 A	4 - 20 mA	230 VAC	50 Hz	192Y 1104
1 A	4 - 20 mA	230 VAC	50 Hz	192Y 1106

#### Active power transducer with auxiliary power supply

Input	Connection	Output	Auxiliary power supply	CSA-P3FE Three-phase	CSA-P3FNE Three-phase	CSA-P4FNE Three-phase
				Reference	Reference	Reference
400 VAC	5 A CT	4 - 20 mA	230 VAC	192Y 3132	192Y 3332	192Y 3432
400 VAC	5 A CT	4 - 20 mA	24 VDC	179Y 3133	-	-
400 VAC	5 A CT	4 - 20 mA	24 VDC	-	179Y 3333	-

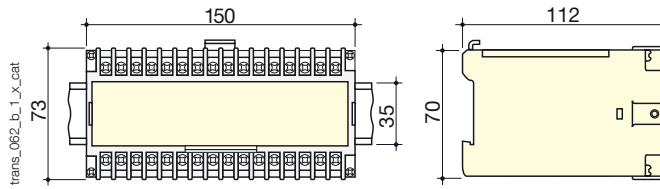
### Cases

Case A



IP20 for the case - IP10 for the terminal

Case B



IP20 for the case - IP10 for the terminal

### Characteristics

#### Current transducer

Model	Measurement	Input	Output	Auxiliary power supply $U_s$	Number of CTs	Connection diagram	Case
CSA-A	RMS <sup>(1)</sup>	1 - 5 A	1 - 5 - 10 - 20 mA	No	1	SC 1	A
CSA-A4	RMS <sup>(1)</sup>	1 - 5 A	4 - 20 mA / 0 - 10 V	Yes	1	SC 2	A

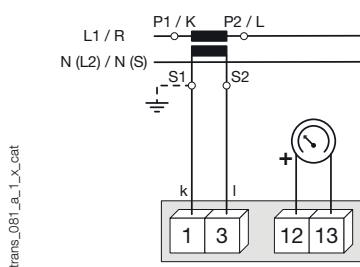
(1) RMS: sine wave.

#### Active power transducer

Model	Network type	Input	Output	Auxiliary power supply $U_s$	Number of CTs	Connection diagram	Case
CSA-P3FE	Balanced 3-wire 3-phase	100 - 115 - 230 - 400 V 1 - 5 A	1 - 5 - 10 - 20 mA 4 - 20 mA / 0 - 10 V	Yes	1	SC 16	B
CSA-P3FNE	Non-balanced 3-wire 3-phase	100 - 115 - 230 - 400 V 1 - 5 A	1 - 5 - 10 - 20 mA 4 - 20 mA / 0 - 10 V	Yes	2	SC 18	B
CSA-P4FNE	Non-balanced 4-wire 3-phase	100 - 115 - 230 - 400 V 1 - 5 A	1 - 5 - 10 - 20 mA 4 - 20 mA / 0 - 10 V	Yes	3	SC 20	B

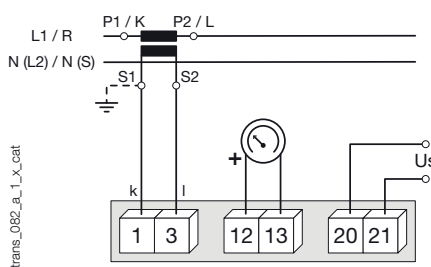
### Connections

SC 1: Self-powered current transducer (CSA-A)



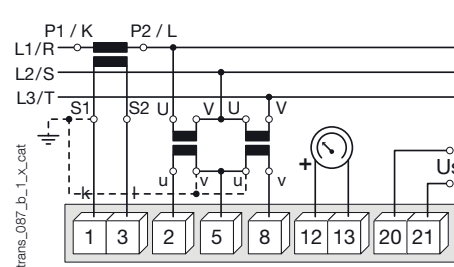
Connections with 1 CT without  $U_s$

SC 2: Current transducer with auxiliary power supply (CSA-A4)



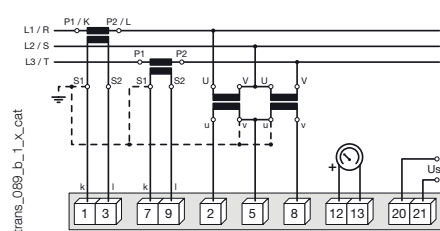
Connections with 1 CT and  $U_s$

SC 16: Power transducer (CSA-P3FE)



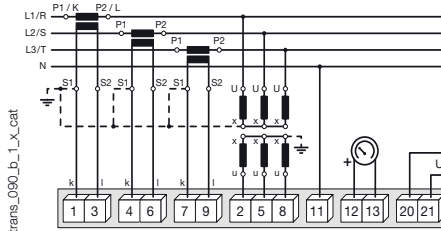
Connections with 1 CT 2 VTs and  $U_s$

SC 18: Power transducer (CSA-P3FNE)



Connections with 2 CT 2 VTs and  $U_s$

SC 20: Power transducer (CSA-P4FNE)



Connections with 3 CT 3 VTs and  $U_s$