Measuring transducers

Indicators and transducers



Power transducer, current



Current transducer

Function

SOCOMEC **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_n permanent; 20 I_n/3 s, - 40 I_n/1 s,
  - Circuit U: 1.2 U_n permanent; 2 U_n/10 s.
- Max. load resistance:
  - Current output: R0 (Ω) = 12 V/I0 (mA),
  - Voltage output: R0 (Ω) = V0/10 mA.
- Consumption:
  - Self-powered: 1.5 VA,
  - Current input: 0.2 VA,
  - Voltage input: (U_n x 1 mA) VA.
- Operating temperature: -10 °C to +60°C.
- Residual ripple rate: 0.3%.
- Operating frequency: 50/60 Hz.

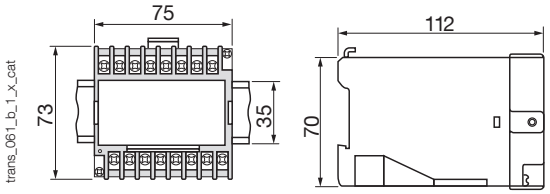
References

Current transducer with auxiliary power supply				
				CSA-A4
Input	**Output**	**Auxiliary power supply**	**Frequency**	**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						
				CSA-P3FE Three-phase	**CSA-P3FNE Three-phase**	**CSA-P4FNE Three-phase**
Input	**Connection**	**Output**	**Auxiliary power supply**	**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**	-

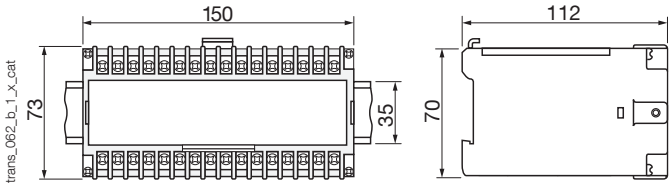
Cases

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(1)	1 - 5 A	1 - 5 - 10 - 20 mA	No	1	SC 1	A
CSA-A4	RMS(1)	1 - 5 A	4 - 20 mA	Yes	1	SC 2	A

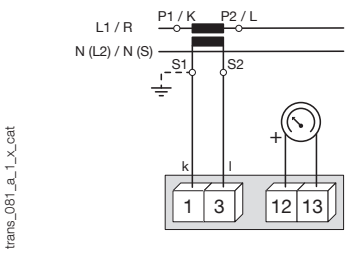
(1) RMS: sine wave.

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	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	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	Yes	3	SC 20	B

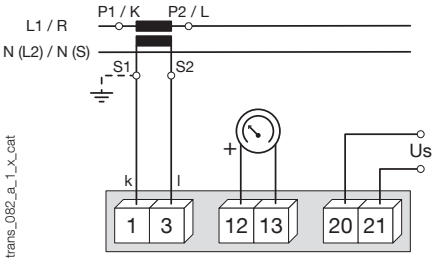
Connections

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



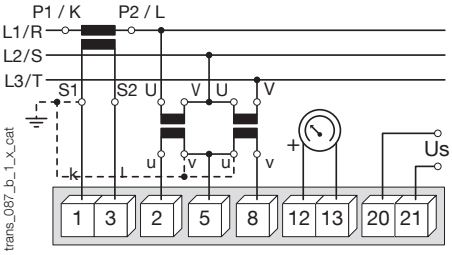
Connections with 1 CT without U_s

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



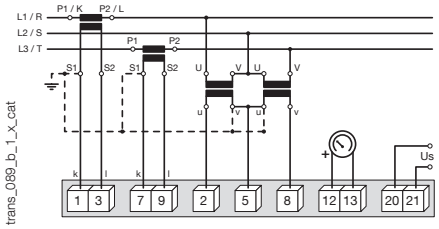
Connections with 1 CT and U_s

SC 16: Power transducer (CSA-P3FE)



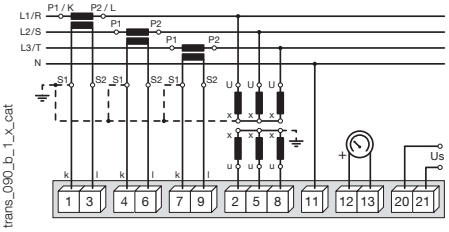
Connections with 1 CT 2 VTs and U_s

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