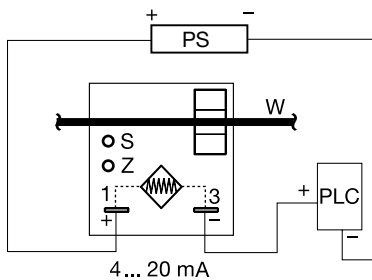


TCSA SERIES

Current Transducers



Wiring Diagram



PS = Power Supply
Z = Zero Adjust
S = Span Adjust
W = Insulated Wire Carrying
Monitored Current
PLC = PLC Analog Input
or Meter Input

Ordering Information

MODEL	CURRENT RANGE
TCSA5	0-5A
TCSA10	0-10A
TCSA20	0-20A
TCSA50	0-50A

If you don't find the part you need, call us for a custom product 800-843-8848

Description

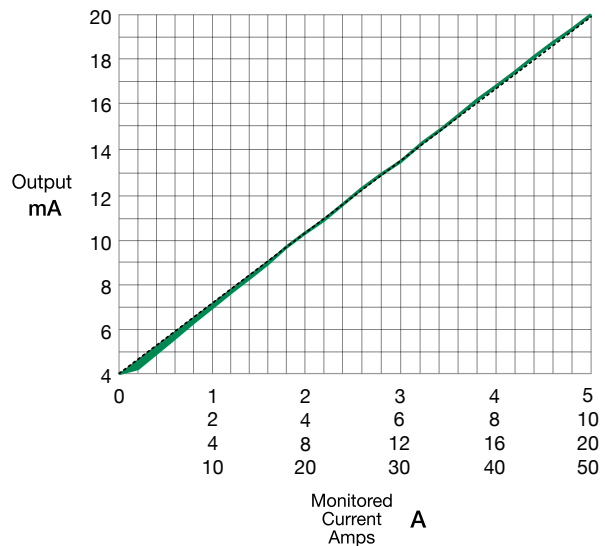
The TCSA Series is a loop-powered, linear output current transducer that provides an output that is directly proportional to the RMS AC current passing through the onboard toroid. The TCSA provides a 4 - 20mA output over a power supply range of 10 - 30VDC. Each unit is factory calibrated for monitoring in one of four ranges; 0-5, 0-10, 0-20, or 0-50A. The 0 - 5A range allows the use of external current transformers so loads up to 1200AC amps can be monitored.

Operation

The TCSA varies the effective resistance of its output in direct proportion to the current flowing in the monitored conductor. The unit is factory calibrated so that 0 amps provides a 4mA output and full span provides a 20mA output. Zero and span adjustments are provided for minor calibration adjustments in the field (if required).

Using an External Current Transformer (CT)

Select a 2VA, 0 to 5A output CT, rated for the current to be monitored. Select TCSA5. Pass one of the CT's secondary wire leads through the TCSA's toroid. Connect the CT's secondary leads together.



Features

- Monitors 0 - 50A in 4 ranges
- Loop powered from 10 to 30VDC
- Linear output from 4 - 20mA
- Zero & span adjustments
- Complete isolation between sensed current & control circuit

TCSA SERIES

Accessories



P1023-6 Mounting bracket

The 90° orientation of mounting slots makes installation/removal of modules quick and easy.



P1015-64 (AWG 14/16) Female Quick Connect

These 0.25 in. (6.35 mm) female terminals are constructed with an insulator barrel to provide strain relief.



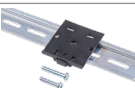
P1015-18 Quick Connect to Screw Adapter

Screw adapter terminal designed for use with all modules with 0.25 in. (6.35 mm) male quick connect terminals.



C103PM (AL) DIN Rail

35 mm aluminum DIN rail available in a 36 in. (91.4 cm) length.



P1023-20 DIN Rail Adapter

Allows module to be mounted on a 35 mm DIN type rail with two #10 screws.

Specifications

Sensor

Type

Toroid, through hole wiring, alternating current, monitored conductor must be properly insulated
0 - 50A

Monitored AC Current

Ranges

4 Factory Calibrated Ranges

0 - 5A, 0 - 10A, 0 - 20A, or 0 - 50A

Factory Calibration

≤±2% of full scale

Maximum Allowable Current

Steady - 50A turns; Inrush - 300A turns for 10s

Repeat Accuracy

≤±0.25% of full scale under fixed conditions

Response Time

≅ 300ms

Burden

≤ 0.5VA

AC Line Frequency

0 - 20A / 21 - 50A

20 - 100Hz / 30 - 100Hz

Temperature Coefficient

±0.05%/°C

Output

Type: Series Connection

Current directly proportional to monitored current

Range

4 - 20mA

Sensor Supply Voltage*

10 to 30VDC

Momentary Voltage

40VDC for 1m

Zero Adjust

≅ 3.75 - 4.25mA

Span Adjust

18mA - 22mA

Adjustment

Mini-screw, 25-turn potentiometer

Protection

Dielectric Breakdown

≥ 2000V RMS terminals to mounting surface

Insulation Resistance

≥ 100 MΩ

Polarity

Units are reverse polarity protected

Mechanical

Mounting

Surface mount with one #10 (M5 x 0.8) screw

Dimensions

H 50.8 mm (2.0"); **W** 50.8 mm (2.0");

D 44.5 mm (1.75")

Termination

0.25 in. (6.35 mm) male quick connect terminals

Sensor Hole

0.36 in. (9.14 mm) for up to #4 AWG (21.1 mm²)

THHN wire

Environmental

Operating/Storage

Temperature

-30° to 60°C/-40° to 85°C

Humidity

95% relative, non-condensing

Weight

≅ 2.4 oz (68 g)

*Minimum loop-power supply voltage equals the minimum sensor voltage 10VDC plus the voltage drop developed across all the other loop devices at 20mA.

Mouser Electronics

Authorized Distributor

Click to View Pricing, Inventory, Delivery & Lifecycle Information:

[Littelfuse:](#)

[TCSA5](#) [TCSA50](#) [TCSA10](#) [TCSA20](#)