

CSNK500M

5000 Turn 500Arms Current Sensor

1. DEFINITION.

The CSNK500M is a current transducer based on the principle of magnetic compensation. It provides electronic measurement of DC, AC or pulsed currents, and their combinations, with galvanic isolation between the primary (high current) and secondary circuits.

2. ELECTRICAL DATA.

Nominal current (I_n)	: 500 A.t rms
Measuring range (Continuous)	: 0 to ± 1200 A.t
Measuring range (AC peak)	: 0 to ± 1275 A.t
Measuring resistance (at $+70^\circ\text{C}$) ^[1]	: R_m min R_m max
with $\pm 15\text{V}$ at ± 500 A.t max.	: 0 ohm 75 ohm
at ± 1000 A.t max.	: 0 ohm 10 ohm
with $\pm 18\text{V}$ at ± 500 A.t max.	: 0 ohm 100 ohm
at ± 1275 A.t (AC peak)	: 0 ohm 5 ohm
Nominal analogue output current at 500A	: 100 mA
Turns ratio	: 1 / 5000
Accuracy at $+25^\circ\text{C}$	: maximum $\pm 0.5\%$ of I_n
Supply voltage	: ± 15 to ± 18 Vdc ($\pm 5\%$)
Galvanic isolation	: 6 kV rms / 50 Hz / 1 minute

3. ACCURACY - DYNAMIC PERFORMANCE.

Zero offset current at $+25^\circ\text{C}$	: better than ± 0.2 mA
Thermal drift of offset current 0°C to 70°C	: better than ± 0.3 mA
Linearity	: better than $\pm 0.1\%$
Response time	: better than $1\mu\text{s}$
Bandwidth	: DC to 100 kHz
dI/dt	: better than $50\text{A}/\mu\text{s}$

4. GENERAL DATA.

Operating temperature	: -40°C to $+85^\circ\text{C}$
Storage temperature	: -40°C to $+90^\circ\text{C}$
Current consumption	: 20 mA plus output current
Secondary internal resistance (at $+70^\circ\text{C}$)	: 50 ohm
Sensor housing	: Insulated plastic case
Connection	: Molex connector

Notes.

1. Values to be confirmed at temperature
2. All specifications are at $+25^\circ\text{C}$ and $\pm 18\text{V}$ supply unless otherwise stated.

