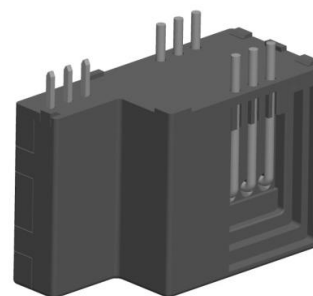


## SCMFA25 CURRENT SENSOR

### Description

For the electronic measurement of currents : DC, AC, pulsed, mixed, with a galvanic isolation between the primary circuit and the secondary circuit.



$I_{PN} = 25A$

### Features

- ◆ Closed loop (compensation) Current Sensor with magnetic field probe
- ◆ Galvanic isolation between primary and secondary circuit
- ◆ Compact design for PCB mounting
- ◆ Low power consumption
- ◆ Insulated plastic case recognized according to UL 94-V0

### Advantages

- ◆ Easy installation
- ◆ Excellent accuracy
- ◆ No insertion losses
- ◆ Excellent performance and price
- ◆ Only one design for wide current ratings range
- ◆ High immunity against external Interference

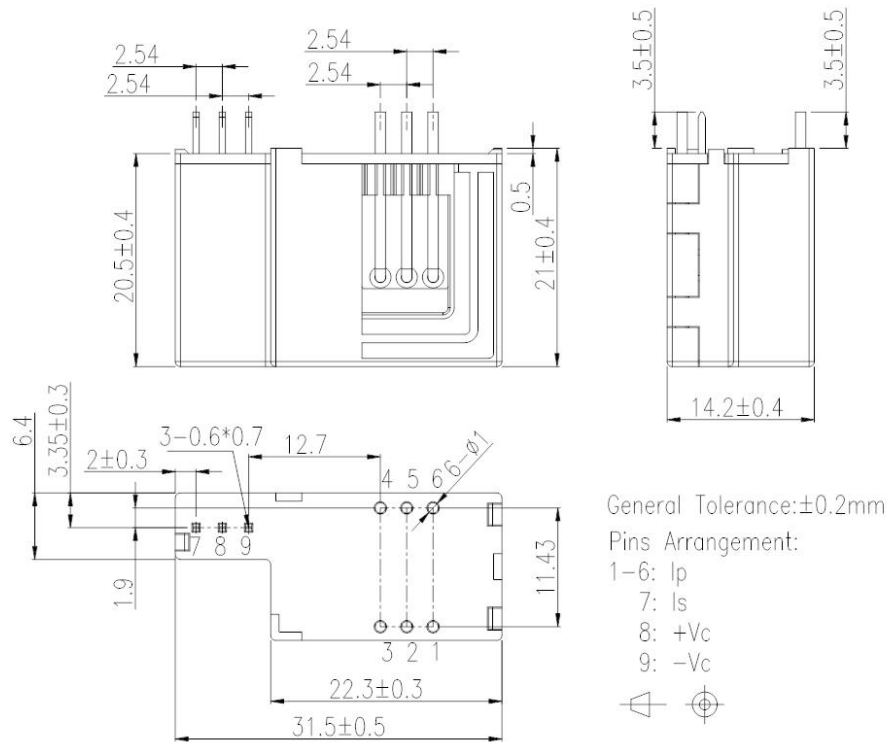
### Applications

- ◆ AC variable speed drives
- ◆ Battery supplied applications
- ◆ Uninterruptible Power Supplies (UPS)
- ◆ Power supplies for welding applications
- ◆ Static converters for DC motor drives
- ◆ Switched-Mode Power Supplies (SMPS)

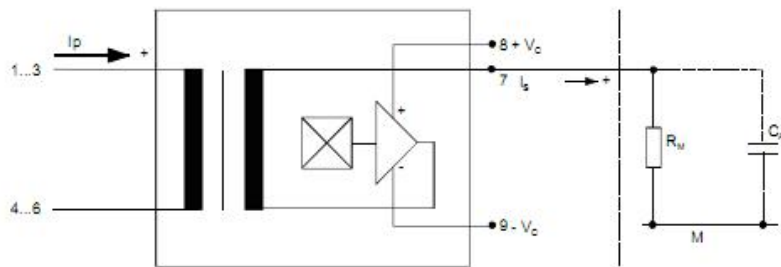
## Parameters Table

Parameters	Symbol	Unit	value	Conditions
Electrical data				
Supply voltage(±5%) <sup>(1)</sup>	V <sub>C</sub>	V	±12...±15	
Current consumption	I <sub>C</sub>	mA	18.5	
Secondary nominal current    r.m.s	I <sub>SN</sub>	mA	25	
Conversion ratio	K <sub>N</sub>		1...3:1000	
Measuring resistance	R <sub>M</sub>	Ω	10 ... 200	@V <sub>C</sub> =±12V
			22 ... 400	@V <sub>C</sub> =±15V
Max. measuring range	I <sub>P</sub> max	A	±112	@ VC = ±12V, RM = 10Ω (tmax = 10sec)
			±128	@ VC = ±15V, RM = 22Ω (tmax = 10sec)
Accuracy - Dynamic performance data				
Linearity	ε <sub>L</sub>	%	<±0.1	
Accuracy	X <sub>G</sub>	%	<±0.5	@I <sub>PN</sub> , T <sub>A</sub> = 25°C
Offset current	I <sub>O</sub>	mA	<±0.1	@IP = 0,T <sub>A</sub> = 25°C
Thermal drift of Io	I <sub>OT</sub>	mA	<±0.05	@I <sub>P</sub> = 0, −40°C~+85°C
Response time	t <sub>r</sub>	μS	<0.5	@90% of I <sub>PN</sub> step
d <sub>i</sub> /d <sub>t</sub> accurately followed	d <sub>i</sub> /d <sub>t</sub>	A/μS	>100	
Frequency bandwidth <sup>(1)</sup>	f	kHz	DC~200	@-1dB
General data				
Ambient operating temperature	T <sub>A</sub>	°C	-40....+85	
Ambient storage temperature	T <sub>S</sub>	°C	-40....+90	
Mass	m	g	10.5	
Secondary coil resistance	R <sub>s</sub>	Ω	88	@ T <sub>A</sub> = 70°C
R. m. s voltage for AC isolation test	V <sub>d</sub>	KV	3	@50Hz, 1 min

Dimensions (in mm)



Schematic diagram



Possibilities of wiring

primary windings $N_P$	primary current RMS $I_P$ [A]	primary current maximal $\hat{I}_{P,max}$ [A]	output current RMS $I_S(I_P)$ [mA]	turns ratio $K_N$	primary resistance $R_P$ [mΩ]	wiring
1	50	128	50	1:1000	0,12	
2	20	64	40	2:1000	0,54	
3	15	43	45	3:1000	1,1	