

Technical Specification

Close Loop Hall Current Sensor: ATC-50

Features :

- High accuracy
- Very good linearity
- Easy installation
- Can be customized
- Low temperature drift
- Optimized response time
- High immunity to external interference

This closed-loop (compensated) current transducer is designed for precise measurement of currents ranging from 50A to 500A. It operates with a supply voltage of DC $\pm 12 \sim 18$ V and is capable of accurately measuring DC, AC, and pulse currents. The transducer ensures galvanic isolation between the primary and secondary circuits, providing reliable and safe operation in various high-power applications.



Standards :

- IEC60950-1:2001
- EN50178:1998

Applications:

- The application of induction cooker
- AC/DC variable-speed drive
- Uninterruptible Power Supplies (UPS)
- Switched Mode Power Supplies (SMPS)
- Inverter applications
- Power Suppliers for welding applications.

Application Domaine:

- Industrial

Part Number	Connector
VPS-XXXM3	Molex 22272041
VPS-XXXS3	JST BH3P-VH-1
VPS-XXXH3	Phoenix Contact 3Pts
VPS-XXXK3	Cable 2 m
VPS-XXXJ3	Molex minifit Jr5566

Part Number	Primary Nominal Current	Primary Current Measuring Range
ATC-50	50A	± 150 A

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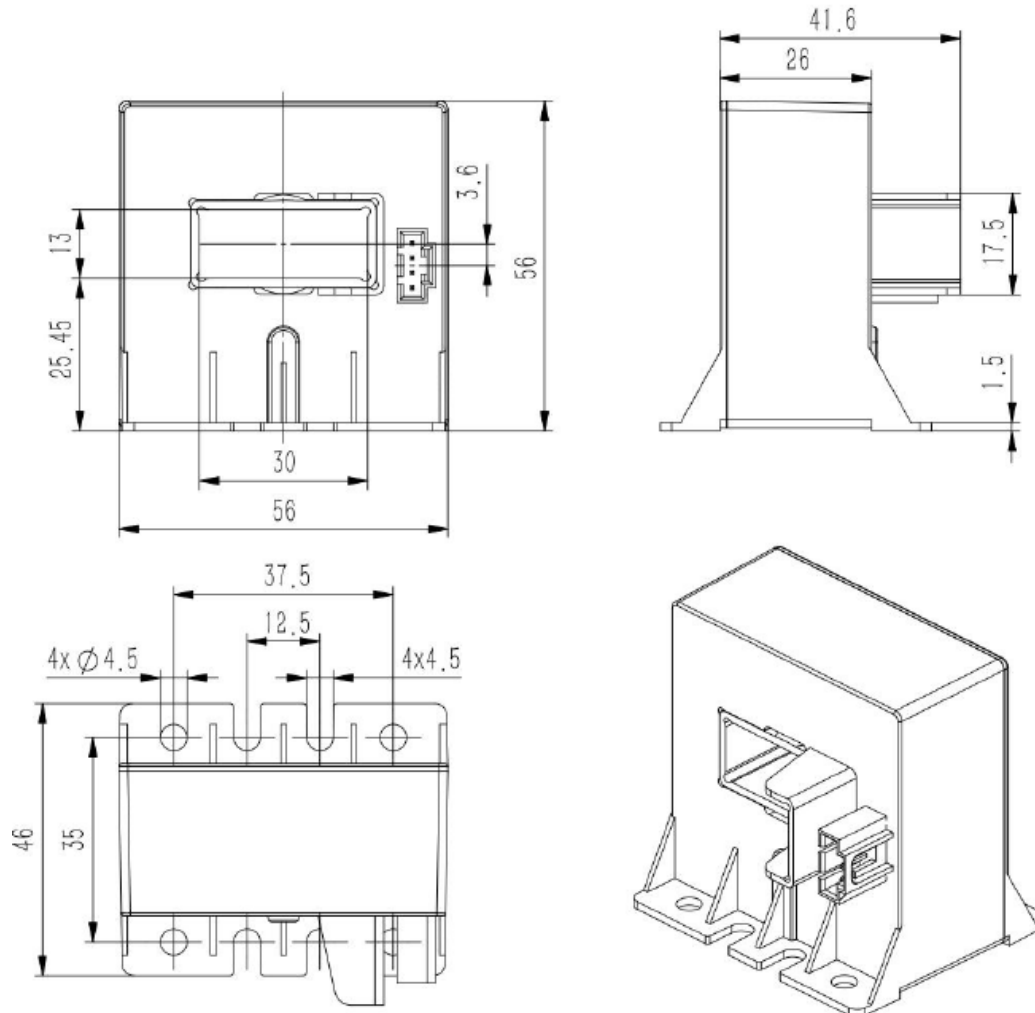
SPECIFICATIONS:

$T_A = +25^{\circ}\text{C}$, $V_{CC} = \pm 15\text{V}$, $R_L = 10\text{ K}\Omega$, unless otherwise noted

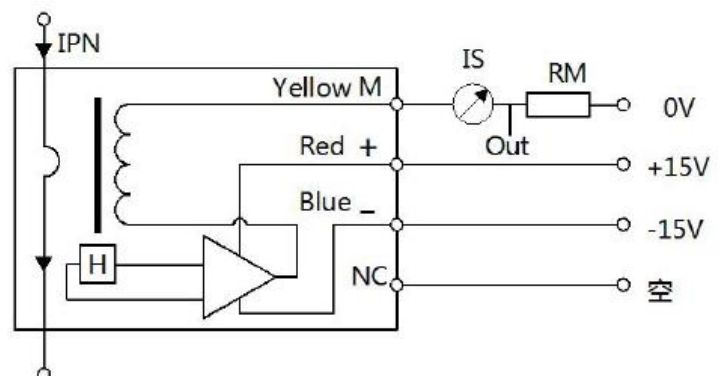
Parameter	Symbol	Condition	Min	Typ	Max	Unit
ELECTRICAL DATA						
Primary nominal r.m.s Current	I _{PN}		-	50	-	A
Primary Current measuring range	I _{PM}		-150	-	+150	A
Turns ratio Np/NS (T)			1:1000			
Output Current RMS Is (mA)	I _{OUT}	± 50 * Ip/IPN	-	150	-	mA
Supply Voltage	V _{CC}	±5%	-	±12...±18	-	V
Secondary coil resistance	Rs			15		Ω
Inside resistance	R _M	[(VC-0.5V)/(IS*0.001)]-RS				Ω
Offset Current	I _{OE}	@IPN=0, TA=25°C		<±0.2		mA
STATIC PERFORMANCE DATA						
Linearity Error	ε _L		-	<0.1%	-	IPN
Accuracy	X _G	TA = +25 °C, @IPN		<±0.5%		% IPN
di/dt accurately followed	di/dt	TA = 25°C		>100		A / μ s
Temperature variation of I _{OE} I _{OT}	I _{OT}	@IP=0,-40 ~ +85° C		<±0.5		mA/°C
Thermal drift of V _{OUT}	TCε _G			<±0.05		%/°C
Power consumption	I _c			25 + Is		mA
Isolation voltage	V _d	@50(60)HZ/1min,AC		5.5		KV
DYNAMIC PERFORMANCE DATA						
Response Time	Tr	10% to 90% of IPN		< 1.0	-	μs
Bandwidth	BW	-3 dB, IPN	DC	100	-	kHz
Operating temperature	TA		- 40	-	+ 85	°C
Storage temperature	TS		- 55	-	+125	°C
Mass	M		130			g
Plastic material	PBT G30/G15, UL94- V0;					

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DIMENSION



- **General tolerance:** $< \pm 0.5\text{mm}$
- **Primary through-hole :** $13 \times 30 \pm 0.15\text{mm}$
- **Secondary pin:** MOLEX 70543-0003



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- When the current goes through the primary pin of a sensor, the voltage will be measured at the output end.
- Custom design is available for the different rated input current and the output voltage.
- The dynamic performance is the best when the primary hole is fully filled with.
- The primary conductor should be $<100^{\circ}\text{C}$.