Close Loop Hall Current Sensor: ATC-500

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 ±12~18 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.

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

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	Primary Nominal Current	Pimary Current Measuring Range
ATC-500	**500A**	**±700 A**

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SPECIFICATIONS:

T_A = +25°C , V_{CC} = ± 15V , R_L = 10 KΩ , unless otherwise noted

Parameter	Symbol	Condition	Min	Typ	Max	Unit
ELECTRICAL DATA						
Primary nominal r.m.s Current	I_{PN}		-	500	-	A
Primary Current measuring range	I_{PM}		-700	-	+700	A
Turns ratio Np/NS (T)				1:2000		
Output Current RMS Is (mA)	I_{OUT}	±250 * Ip/IPN	-	250	-	mA
Supply Voltage	V_{CC}	±5%	-	±12…±18	-	V
Secondary coil resistance	R_S			33		Ω
Inside resistance	R_M	[(VC-0.5V)/(IS*0.001)]-RS				Ω
Offset Current	I_{OE}	@IPN=0, TA=25℃		<±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/℃
Thermal drift of V_{OUT}	$TC_{\varepsilon G}$			<±0.05		%/℃
Power consumption	I_C			25 + Is		mA
Isolation voltage	Vd	@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	T_A		- 40	-	+ 85	°C
Storage temperature	T_S		- 55	-	+125	°C
Mass	M			130		g
Plastic material	PBT G30/G15, UL94- V0;					

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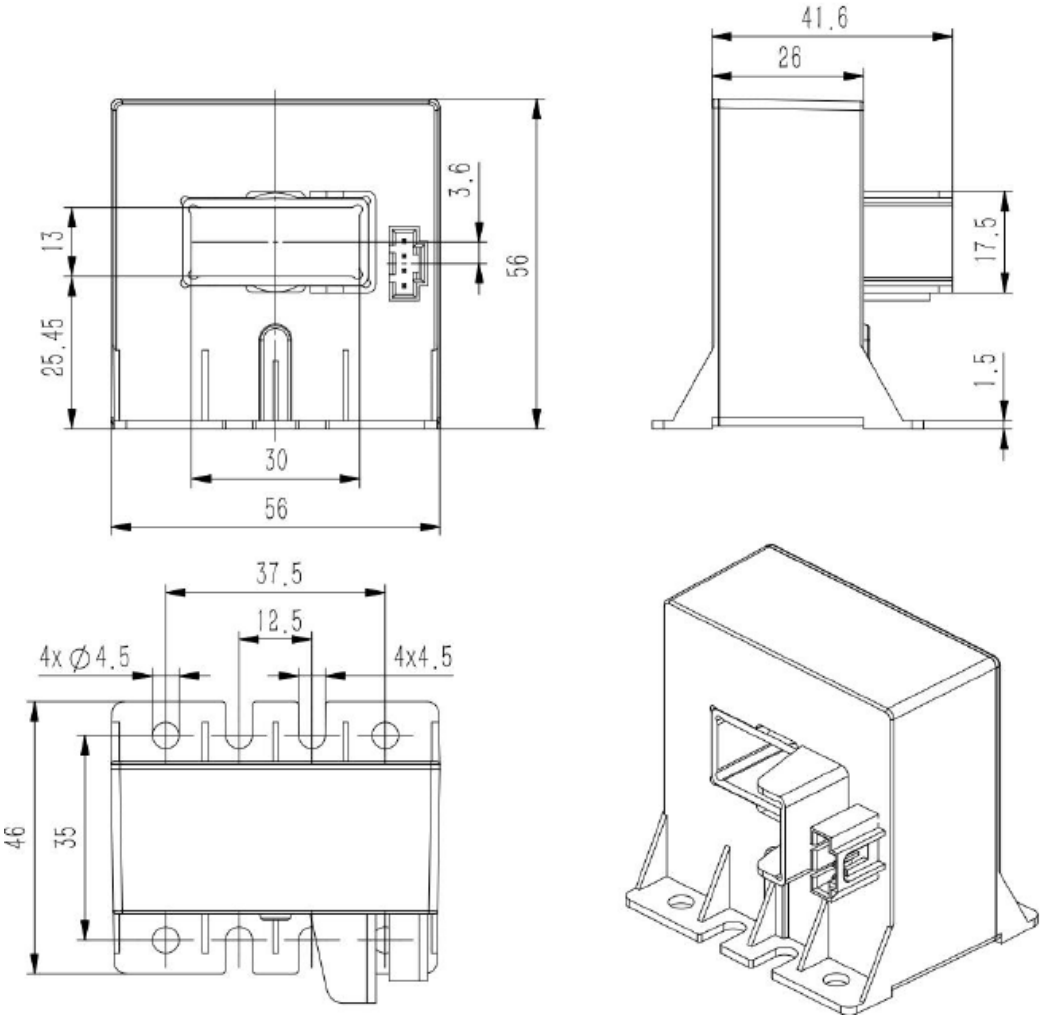
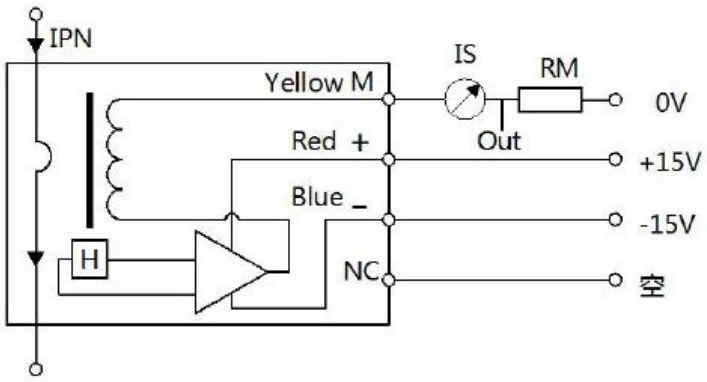
DIMENSION



- ***General tolerance:< ±0.5mm***
-
- ***Primary through-hole ：13*30±0.15mm***
- ***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 if fully filled with.
- The primary conductor should be <100° C.

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