NCA1C-XXXA/SP10 电流传感器 Current Transducer

I_{PN} = 50, 100, 200, 300, 400, 500, 600A

The NCA1C-XXXA/SP10 Current Transducer is suitable for the electronic measurement of DC, AC or pulsed currents, with galvanic separation between the primary circuit and the secondary circuit.

Features

- Open loop multi-range current transducer
- Voltage output
- Bipolar supply voltage.

Standards

- EN 50178: 1997
- IEC 61010-1:2010
- UL 508: 2010

Typical application

- DC motor drives
- Uninterruptible Power Supplies (UPS)
- Switched model power supplies (SMPS)
- AC variable speed drives
- Battery supplied application
- Power supplies for welding applications.

Absolute rating

Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Ambient storage temperature	T_S	°C	-40		105	
Ambient operating temperature	T_A	°C	-40		105	

Insulation coordination

Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Dielectric withstand voltage	V_D	kV			3	RMS voltage for AC test 50Hz, 1min
Insulation resistance	R_{INS}	MΩ	1000			2500V
Clearance distance	d_{CI}	mm	7.08			Shortest distance through air
Creepage distance	d_{CP}	mm	6.23			Shortest path along device body
Case material	-	-		V0		According to UL 94

Electrical parameters

At T_A = 25°C, U_C = ±15 V, R_L = 10 kΩ.

Parameter	Symbol	Unit	Specification							Conditions
Primary current, nominal range	I_{PN}	A	50	100	200	300	400	500	600	RMS current
Primary current measuring range	I_{PM}	A	±150	±300	±600	±900	±900	±900	±900	

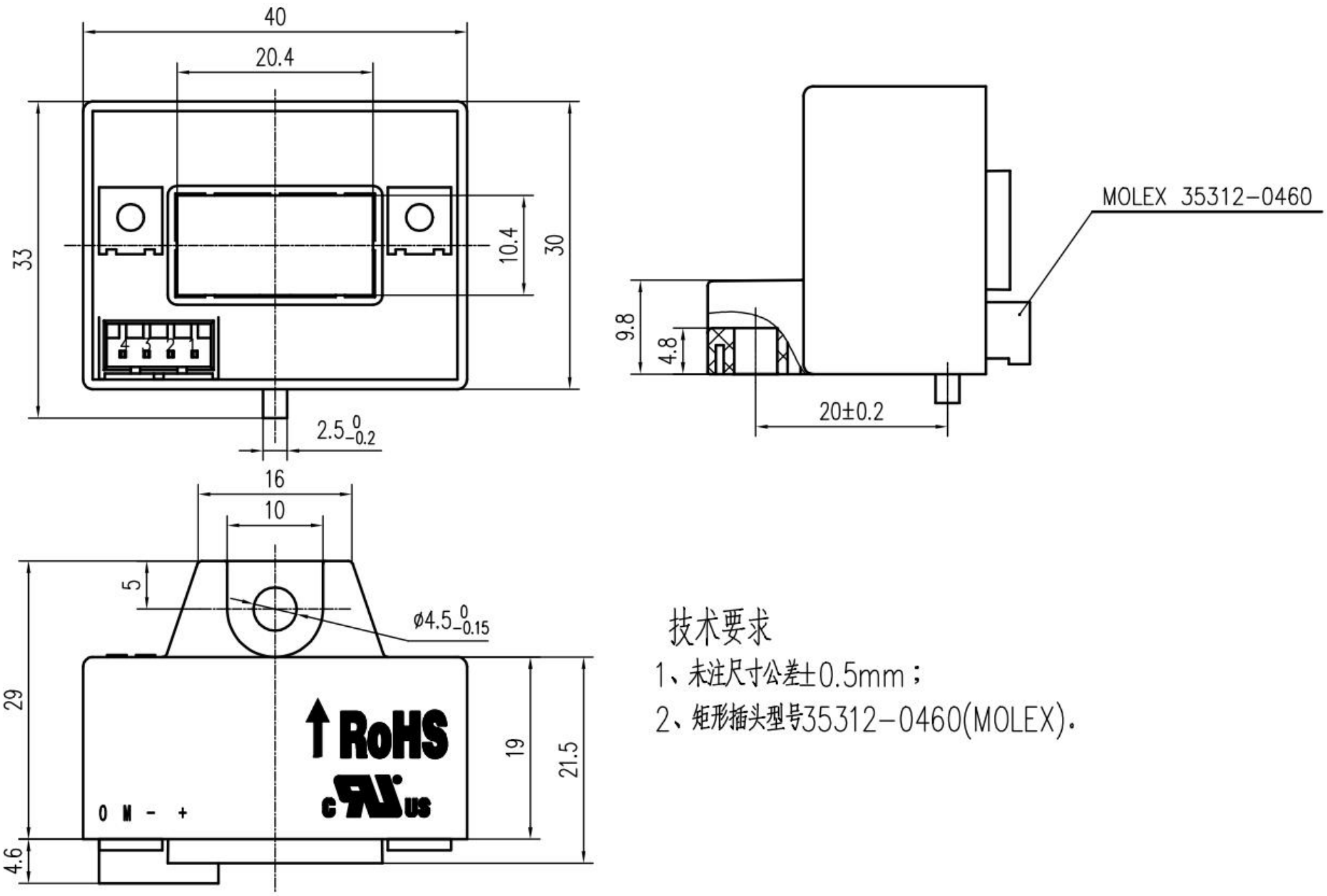
Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Supply voltage	U_C	V	±14.25	±15	±15.75	
Current consumption	I_C	mA	-30		30	
Output voltage @I_{PN}	V_{SN}	V		4		
Offset voltage @I_P = 0A	V_{OE}	mV	-40		40	
Temperature coefficient of V_{OE}	TCV_{OE}	mV/℃	-1		1	
Temperature coefficient of V_{SN}	TCV_S	%/℃	-0.1		0.1	@ -40°C~+105°C
Accuracy(excluding offset)	X	% of I_{PN}	-1		1	@ -40°C~+105°C
Linearity error	ε_L	% of I_{PN}	-1		1	
Step response time to 90 % I_{PN}	t_r	μs			3	di/dt > 50 A/μs
Frequency bandwidth[1)]	BW	kHz		25		-3 dB
Load resistance	R_L	kΩ	10			
Output internal resistance	R_{OUT}	Ω		100		

Notes:

1) The frequency bandwidth test is for small signal.

2) Please contact CRRC if current transducer is applied in some extreme cases, for example: high frequency ripple, high temperature, larger operating frequency……

Dimensions (in mm)



技术要求

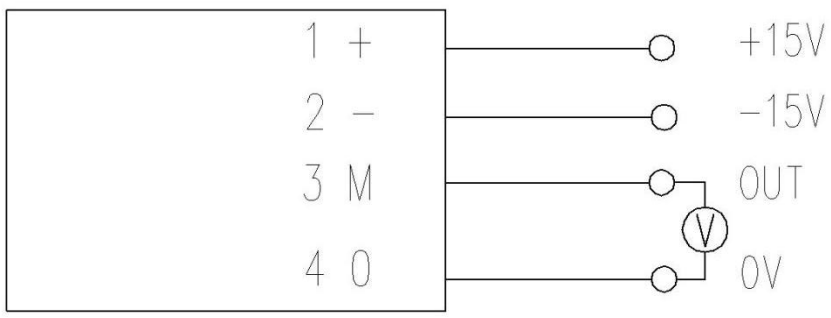
1、未注尺寸公差±0.5mm；

2、矩形插头型号35312-0460(MOLEX).

Mechanical characteristics

- Mass: 65g
- General tolerance: ±0.5mm
- Transducer fastening: 1 hole ø4.5mm, 1 M4 steel screws
- Recommended fastening torque: 2.5 N·m
- Primary through-hole: 20.4×10.4mm
- Connection of secondary: MOLEX 35312-0460

Connection



PIN NO.	PIN NAME	Function
1	+	Positive supply voltage
2	-	Negative supply voltage
3	M	Vout output voltage
4	0	Ground connection

Remarks

- It is advised to use a primary conductor (busbar) that fills transducer through-hole.
- Be aware of the influence of the external field if nearby transducers are too close (relay, capacitor, choke...).

Comments:

- Items with “*” in this datasheet are recommended value for reference only. The final value must be determined by customer.
- CRRC reserves the right to carry out modifications on its transducers, in order to improve them.