

NACF.XXXC1-S5/VN 系列电流传感器 Current Transducer

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

The NACF.XXXC1-S5/VN series current transducer is for the electronic measurement of DC, AC or pulsed currents, with galvanic separation between the primary circuit and the secondary circuit.

Features

- Hall effect measuring principle
- Voltage output
- Single power supply +5V.

Standards

- EN 50178: 2017

Typical application

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

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	
Electrostatic discharge voltage	V _{ESD}	kV			2	HBM

Insulation coordination

Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Dielectric withstand voltage	V _D	kV			3.3	RMS voltage for AC test 50Hz, 1min
Insulation resistance	R _{INS}	MΩ	500			500V
Case material	-	-	PC white			According to UL 94-V0

Electrical parameters

Type	Primary nominal RMS current I_{PN} (A)	Primary current measuring range I_{PM} (A)
NACF.50C1-S5/VN	50	±150
NACF.100C1-S5/VN	100	±300
NACF.200C1-S5/VN	200	±600
NACF.300C1-S5/VN	300	±900
NACF.400C1-S5/VN	400	±1100
NACF.500C1-S5/VN	500	±1100
NACF.600C1-S5/VN	600	±1100

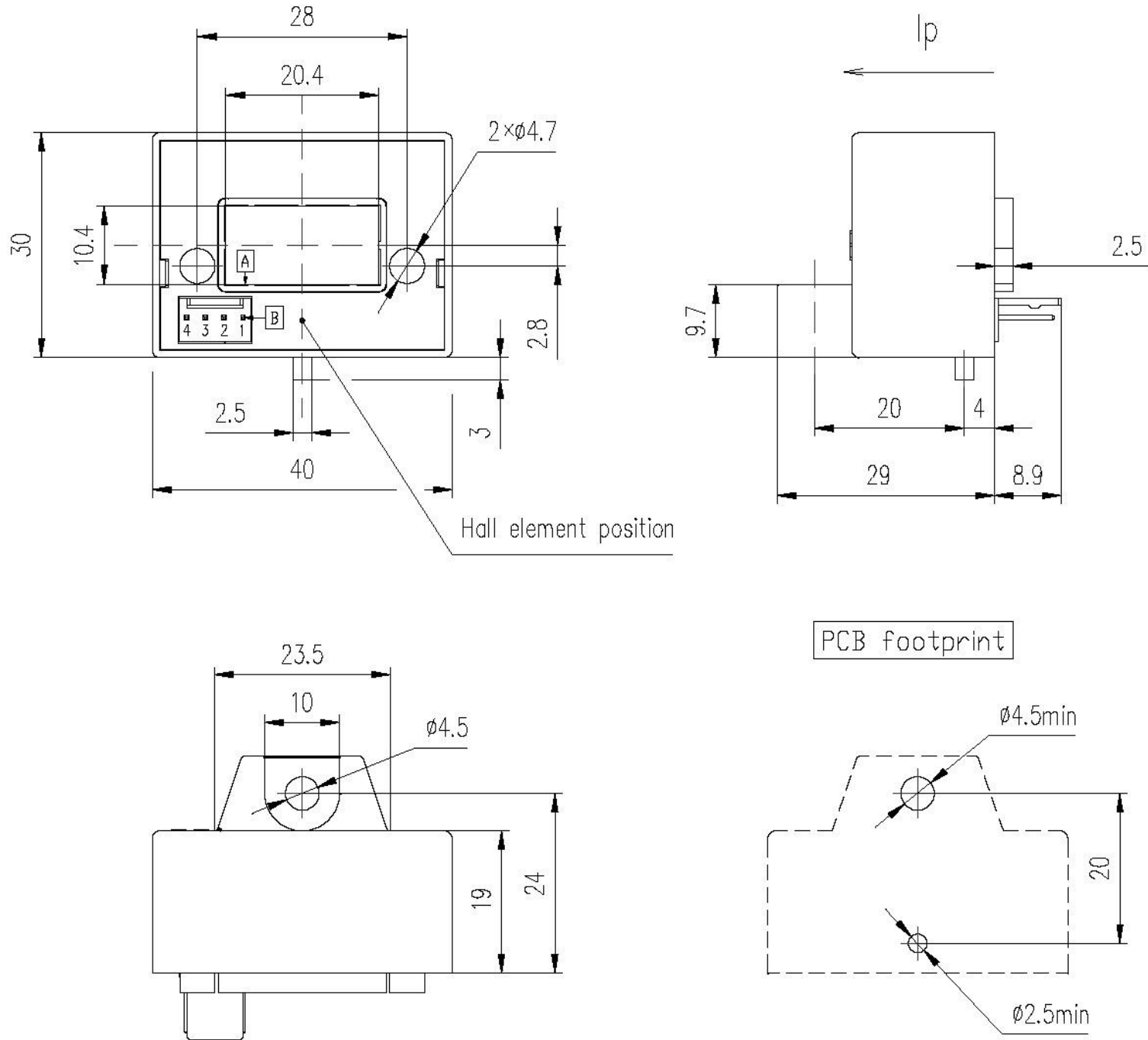
At T_A = 25°C, U_C = +5 V, R_L = 10kΩ, internal reference unless otherwise noted.

Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Supply voltage	V _C	V	+4.75	5	+5.25	
Output voltage (Analog) @±I _{PN}	V _{PN}	mV		625		V _{out} -V _{ref} @I _{PN}
Current consumption	I _C	mA		+19	+24	
Reference voltage @I _P = 0A	V _{REF}	V	2.48	2.5	2.52	Internal reference
Electrical offset voltage @I _P = 0A	V _{OE}	mV	-10		+10	V _{out} -V _{ref} @I _P =0
Accuracy (excluding offset)	X	% of I _{PN}	-1		+1	0~I _{PN}
Linearity error	ε _L	% of I _{PN}	-0.5		+0.5	0~I _{PN}
Delay time to 90 % of I _{PN}	t _D	μs			4	di/dt ≥ 50 A/μs
Load resistance	R _L	kΩ	10	10		
Frequency bandwidth ¹⁾	BW	kHz		120k		-3 dB

Notes:

- The frequency bandwidth test is for small signal.
- 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)



Mechanical characteristics

- Mass: ≤65g
- General tolerance: ±0.5mm
- Transducer fastening: 1 hole ø4.5mm, 1 M4 steel screw
- Recommended fastening torque: 1.5 N·m
- Primary through-hole: 20.4×10.4mm

Connection

NACF. XXXC1-S5/VN	1	Vref	Pin Name	Function
	2	Vout	Vref	Reference voltage
	3	0V	Vout	Vout output voltage
	4	VCC	0V	Ground connection
			VCC	Power supply +5V

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.