

#Netrol-NACF.XXXC1-S5/VN Current Transducer

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

The #Netrol-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

- GB/T 28046.3-2011
- GB/T 17626.2-2018
- GB/T 17626.6-2017



RoHS

CE

cULus

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	
Maximum supply voltage	$U_{C\ max}$	V			6.5	
Ambient storage temperature	T_S	°C	-40		105	
Ambient operating temperature	T_A	°C	-40		105	
Electrostatic discharge voltage	V_{ESD}	kV			2	

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
Clearance distance	d_{Cl}	mm	4.2			Shortest distance through air
Creepage distance	d_{CP}	mm	6.7			Shortest path along device body
Case material	-	-	V0			According to UL 94-V0

Electrical parameters

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

At $T_A = 25^{\circ}C$, $U_C = +5\ V$, $R_L = 10k\Omega$, unless otherwise noted.

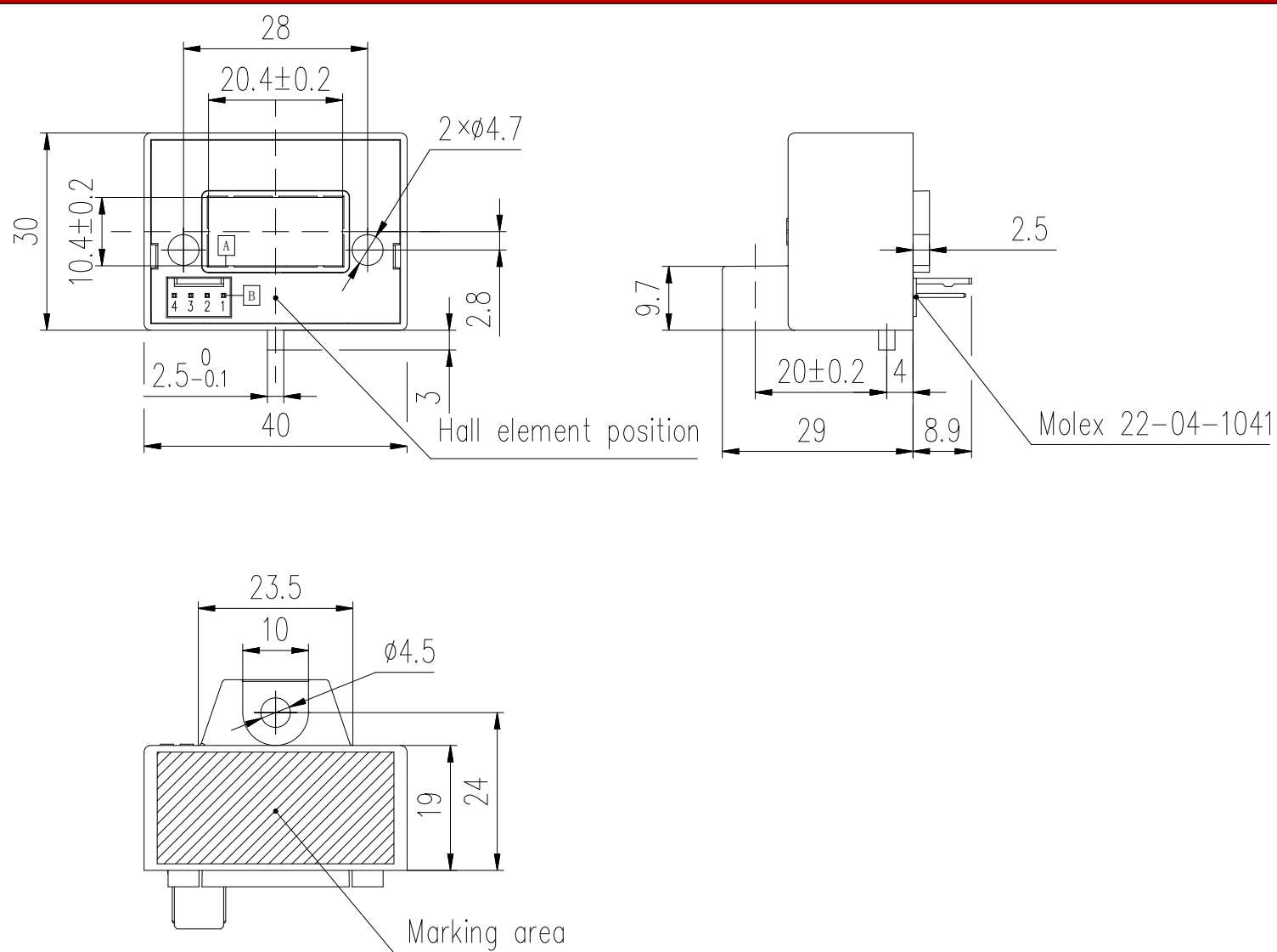
Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Supply voltage	V_C	V	+4.75	5	+5.25	

Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Output voltage (Analog) @ $\pm I_{PN}$	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	$V_{out}-V_{ref}$ @ $I_p=0$
Temperature coefficient of V_{OE}	TCV_{OE}	mV/°C	-0.1		0.1	@-40°C~+105°C
Accuracy (excluding offset) @25°C	X	% of I_{PN}	-1		+1	0~ I_{PN}
Accuracy (excluding offset) @-40°C~105°C	X	% of I_{PN}	-3		+3	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	$di/dt \geq 50 A/\mu s$
Frequency bandwidth ¹⁾	BW	kHz		120		-3 dB
Load resistance	R_L	k Ω	10			

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)



Mechanical characteristics

- Mass: ≤55g
- General tolerance: ±0.5mm
- Transducer fastening: 1 hole $\phi 4.5$ mm, 1 M4 steel screw
- Recommended fastening torque: 1.5 N·m
- Primary through-hole: 20.4×10.4mm

Connection

NACF. XXXC1-S5/VN 1 2 3 4 Vref Vout 0V VCC					

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.
- Product updates will not notified separately.The final version of the datasheet shall be confirmed through specific communication between both parties.