

Netrol - NACF.XXXC-S5/V Current Transducer

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

Netrol-NACF.XXXC-S5/V series Current Transducer, based on Hall with open-loop design, is suitable for the electronic measurement of DC, AC or pulsed currents, with galvanic separation between the primary circuit and the secondary circuit.



Features

- Hall effect, open-loop design
- 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 _{Cl}	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	

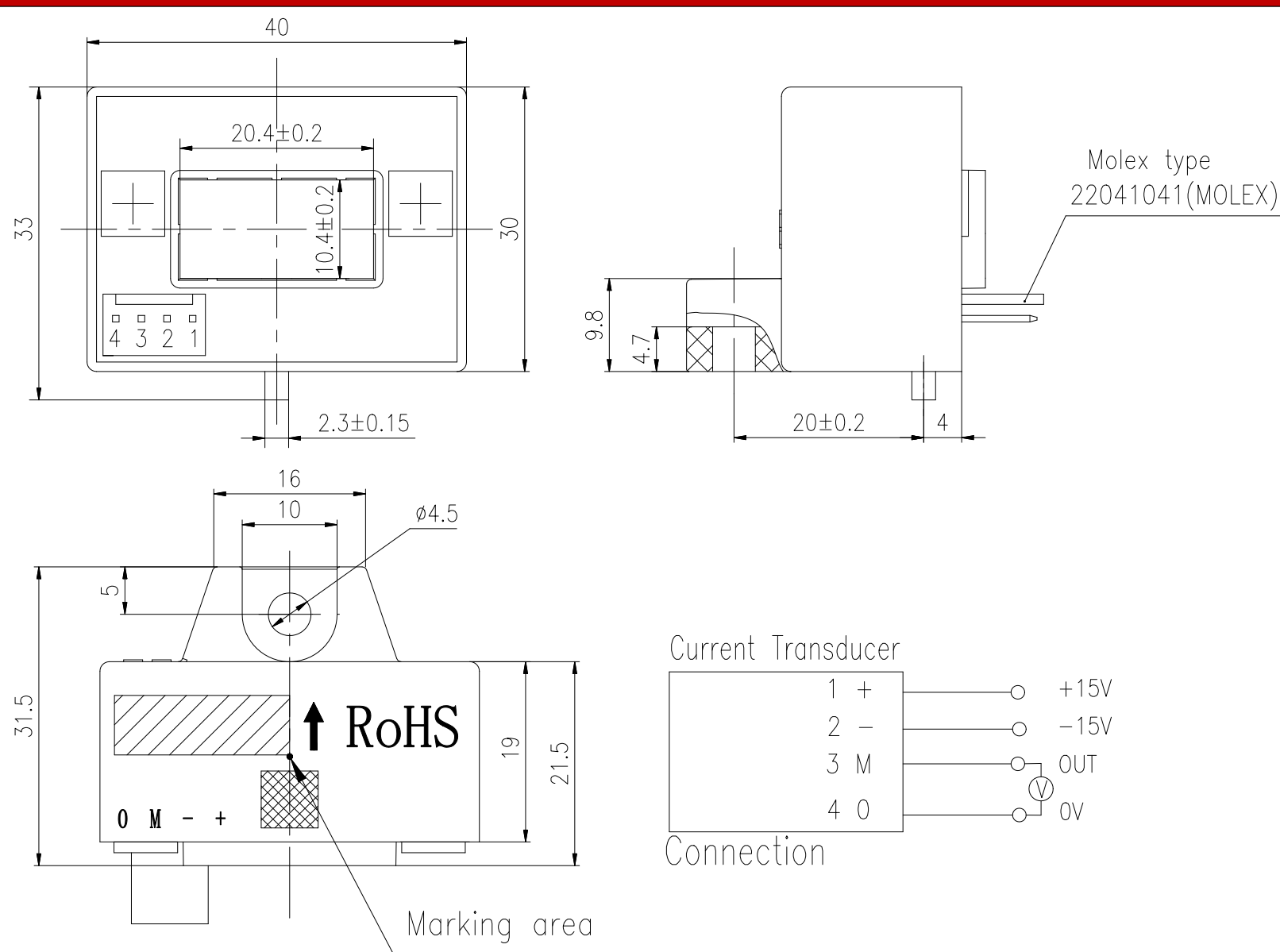
Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Supply voltage	U _C	V	±14.25	±15	±15.75	
Current consumption	I _C	mA	-30		30	
Output voltage @I _{PN}	V _{SN}	V		4		
Offset voltage @I _p = 0A	V _{OE}	mV	-40		40	
Temperature coefficient of V _{OE}	TCV _{OE}	mV/°C	-1		1	@ -40°C~+105°C
Temperature coefficient of V _S	TCV _S	%/°C	-0.1		0.1	@ -40°C~+105°C
Accuracy(excluding offset)	X	% of I _{PN}	-1		1	
Linearity error	ε _L	% of I _{PN}	-1		1	

Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Step response time to 90 % I_{PN}	t_r	μs			3	$di/dt > 50 A/\mu s$
Frequency bandwidth ¹⁾	BW	kHz		25		-3 dB
Load resistance	R_L	$k\Omega$	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)

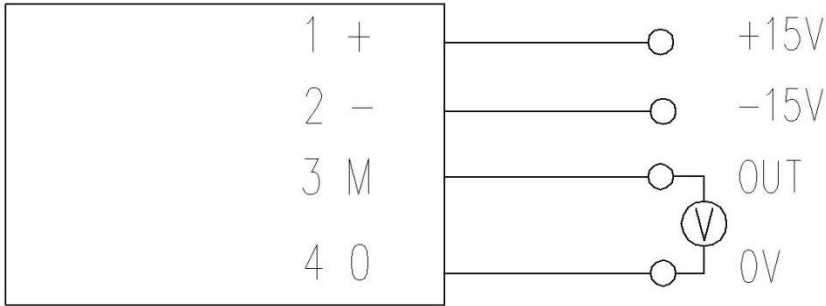


Mechanical characteristics

- Mass: 65g
- General tolerance: $\pm 0.5mm$
- Transducer fastening: 1 hole $\varnothing 4.5mm$, 1 M4 steel screws
- Recommended fastening torque: 2.5 N·m
- Primary through-hole: 20.4 × 10.4mm
- Connection of secondary: MOLEX 22-04-1041

Connection

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