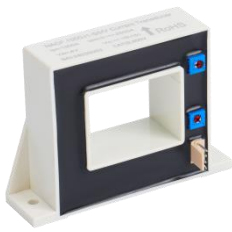
*t*Netrol-NACF.XXXJ1-S5/SP3VN Current Transducer

I_{PN} = 500,600,800,1000,1200,1500A



RoHS

*t*Netrol-NACF.XXXJ1-S5/SP3VN 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

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

Standards

- EN 50178: 1997
- IEC 60950-1:2001

Typical application

- Solar inverter
- Frequency inverter
- Motor driver
- Auto-control

Absolute rating

Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Ambient storage temperature	T_S	°C	-45		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			5	RMS voltage for AC test 50Hz, 1min
Insulation resistance	R_{INS}	MΩ	1000			500V
Clearance distance	d_{Cl}	mm	9.9			Shortest distance through air
Creepage distance	d_{CP}	mm	9.9			Shortest path along device body

Electrical parameters

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

Parameter	Symbol	Unit	Specification						Conditions
Primary current, nominal range	I_{PN}	A	500	600	800	1000	1200	1500	RMS current
Primary current measuring range	I_{PM}	A	±1500	±1800	±2400	±2500	±2500	±2500	Peak current

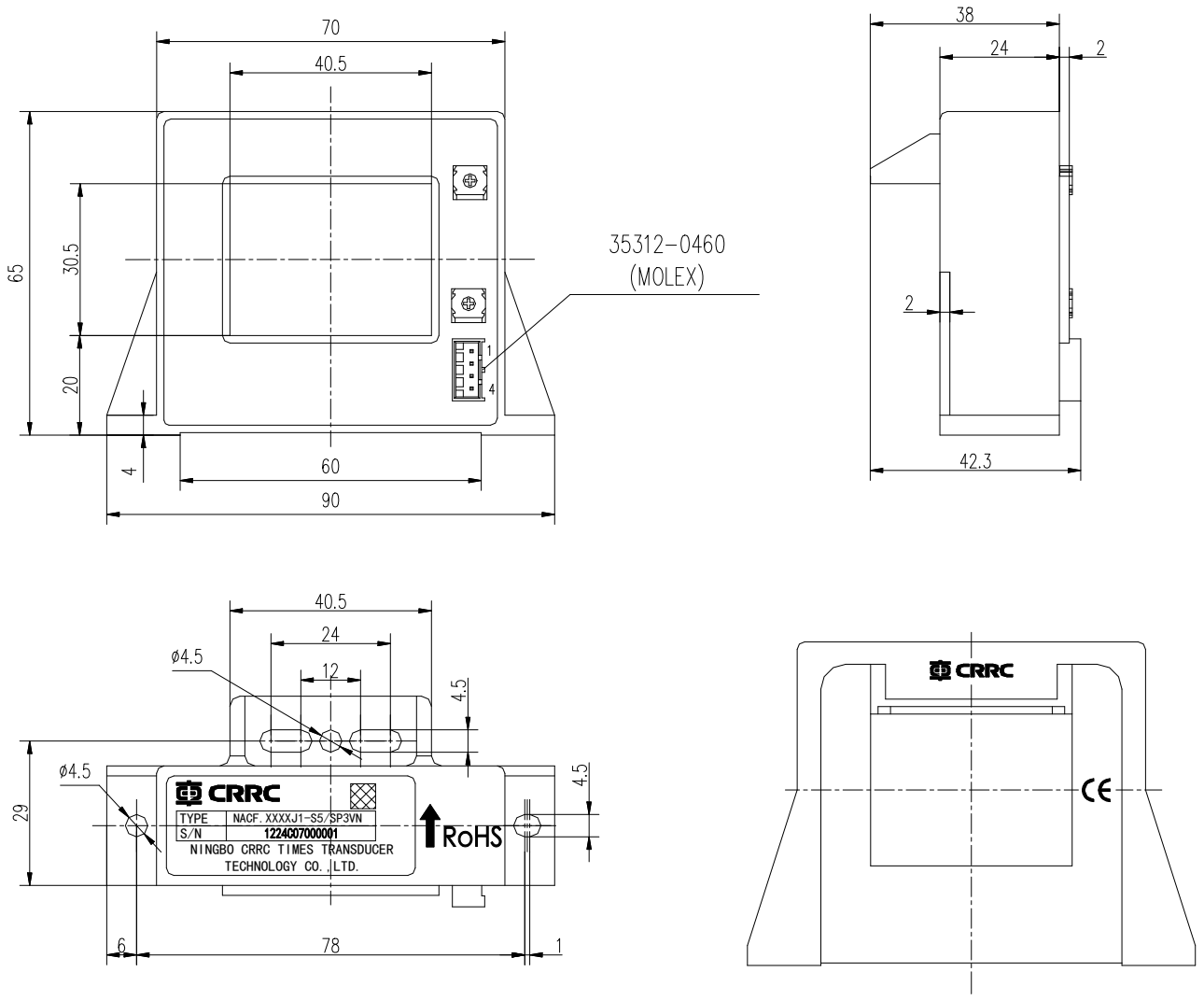
Parameter	Symbol	Unit	Specification			Conditions
			Min	Typical	Max	
Supply voltage	U_C	V	±14.25	±15	±15.75	DC
Current consumption	I_C	mA			$25+V_{out}/R_L$	
Output voltage @I_{PN}	V_{out}	V		4		
Accuracy(excluding offset) @I_{PN}	δi	% of I_{PN}	-1		1	0～I_{PN}
Linearity error	δ_L	% of I_{PN}	-1		1	0～I_{PN}
Step response time to 90 % I_{PN}	t_r	μs			5	di/dt ⩾ 50 A/μs
Frequency bandwidth[1)]	BW	kHz		DC……25		-3 dB
Electrical offset voltage	δ_Z	mV	-20		20	I_P=0A
Hysteresis offset voltage	V_{OH}	mV	-30		30	I_P=0A, after an excursion of 1×I_{PN}
Temperature coefficient of δ_Z	δ_{Zt}	mV/°C	-1		1	T_A = -40°C~+105°C

Temperature coefficient of V_{out}	δ_{FSt}	mV/°C	-1		1	T_A = -40°C~+85°C
			-1.5		1.5	T_A = +85°C~+105°C
Load resistance	R_L	kΩ	10			
Output internal resistance	R_{OUT}	Ω		102		

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……

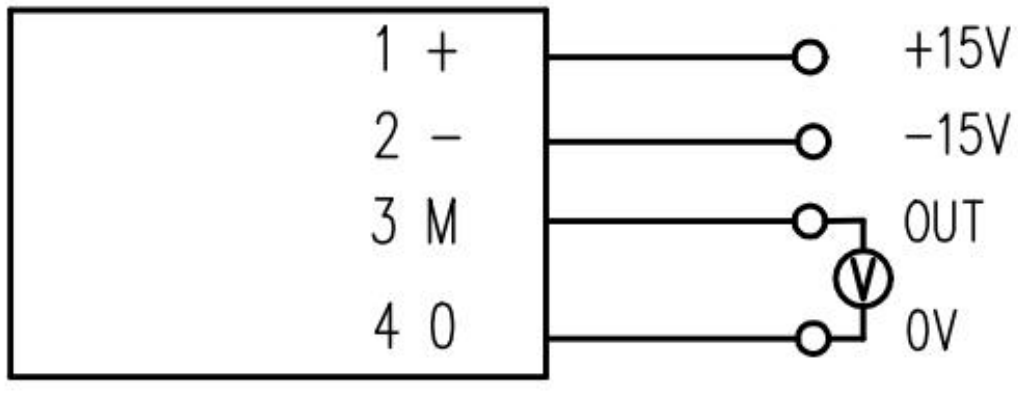
Dimensions (in mm)



Mechanical characteristics

- Mass: 300g
- General tolerance: ±1mm
- Transducer fastening: 1 hole and 1 notch ø4.5mm, 2 M4 steel screws
- Transducer fastening: 1 hole and 2 notches ø4.5mm, 3 M4 steel screws
- Recommended fastening torque: 2.5 N·m
- Primary through-hole: 40.5×30.5mm
- Connection of secondary: Molex 35312-0460

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...).
- U_{out} is positive when I_P flows in the direction of the arrow.
- Product secondary side connecting line optimization shielding wire, cable shielding layer close to the product end can connect chassis, negative power or power 0V.
- Verticality requirements for sensor mounting screw holes: required to be in the national standard level 8 or above (or below 0.06).
- Sensor mounting flatness requirements:

  1) The national standard for flatness of large-plane installation is 11 or above (or the plane fluctuation is less than 0.25mm);

  2) If there is a small round boss on the installation surface, the flatness of the design is required to reach the national standard level 12 or above (or the plane fluctuation is less than 0.5mm).

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.