

NACL500B2-S5/SP2 Current Transducer

Applications

For the electronic measurement of currents: AC, DC IMPL.,etc.,with galvanic isolation between the primary (high power) and the secondary (electronic) circuits.



Advantages	Applications	Standards
Excellent accuracy	Variable speed drives	EN50178
Low temperature of offset	Battery supplied applications	EN50155
Small size	Uninterruptible Power Supplies	

Main electrical data (At Ta=+25℃)			
Primary nominal current rms I_{PN}		500A	
Primary current measuring range $I_P(@\pm 24V)$		0~±1300A	
Supply voltage V_C		±15V~±24V×(1±5%)	
Turns ratio K		1:5000	
Secondary nominal current rms $I_{SN}(@I_P=\pm I_{pn})$		100mA	
R_L (℃)	Load resister	70℃	85℃
(@ ±15V, ±500A)		0Ω ~60Ω	0Ω ~57Ω
(@ ±15V, ±800A)		0Ω ~13Ω	0Ω ~10Ω
(@ ±24V, ±500A)		0Ω ~148Ω	0Ω ~145Ω
(@ ±24V, ±1000A)		0Ω ~41Ω	0Ω ~37Ω
(@ ±24V, ±1300A)		0Ω ~14Ω	0Ω ~11Ω
Current consumption I_C		17mA(@ ±15V) + I_{SN}	
		21mA(@ ±24V) + I_{SN}	

Accuracy - Dynamic performance data

Overall Accuracy δ_i @Ta=+25℃, $I_p=I_{PN}$	$\leq \pm 0.6\%$
Linearity error δ_L @Ta=+25℃, $I_p=I_{PN}$	$\leq 0.1\%$
offset current δ_z @Ta=+25℃	$\leq \pm 0.4\text{mA}$
Thermal drift δ_{zt} @ Ta=-40℃~+85℃	$\pm 0.40\text{mA}$ (-40℃~+70℃)
	$\pm 0.80\text{mA}$ (-40℃~+85℃)
Step response time t_r @di/dt=100A/us ,90% I_{PN}	$\leq 1\mu\text{s}$
Frequency bandwidth (-1dB) BW (-3dB)	DC~100 kHz

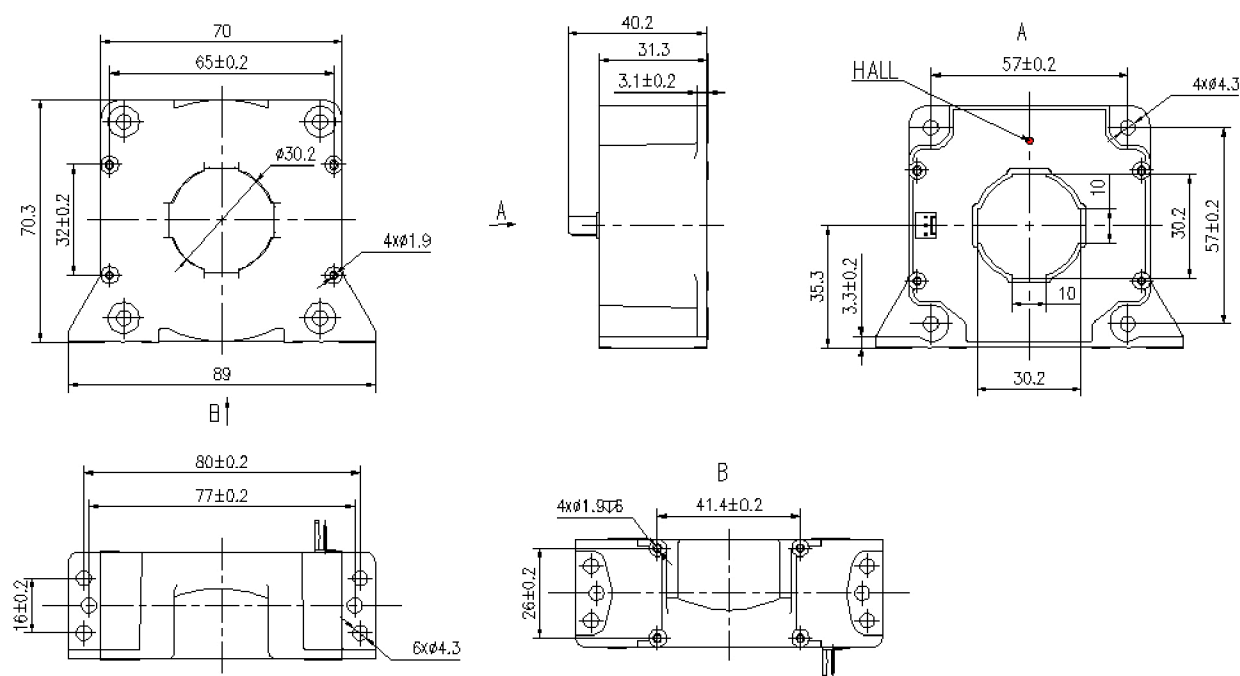
General data

Ambient operating temperature Ta	-40℃~+85℃
Ambient storage temperature Ts	-45℃~+90℃
Mass	$\leq 270\text{g}$
Secondary coil resistance @ 85C(Ohm)	71Ω

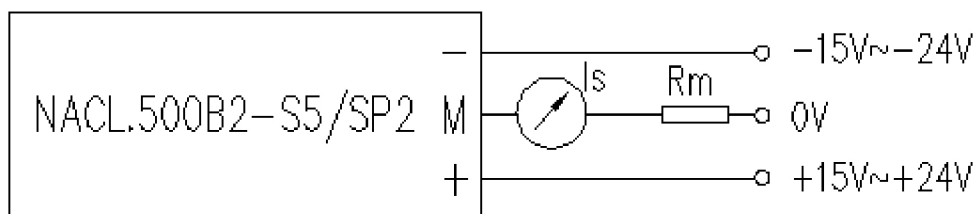
Insulation data

Rms voltage for AC insulation test U_d @50Hz,1min	6 KV
Isolation resistance R_{IS} @2500V	$\geq 500\text{ M}\Omega$

Dimensions NACL.500B2-S5/SP2 Series (in mm)



Connection



Mechanical characteristics

Remark

General tolerance $\pm 1 \text{ mm}$

Transducer fastening
(Recommended) 4 hole $\varnothing 4.2 \text{ mm}$
4 M4 steel screws

Transducer fastening
(Recommended) 2 hole $\varnothing 5.2 \text{ mm}$
2 M5 steel screws

Recommended fastening torque 2.5 N • m

Bus bar (Recommended) $\varnothing 35 \text{ mm}$

Connection of secondary Molex 6410

- When measuring the current direction of arrow mark on direction and sensor; the sensor output I_{SN} is positive.
- Product secondary side connecting line optimization shielding wire, cable shielding layer close to the product end can connect chassis, negative power or power 0 v.
- Power sensor mounting screw hole of the vertical degree requirements: requirements in the national standard grade 8 or above (or below 0.06).
- Sensor mounting surface flatness requirements:
(a). Planeness national standard installation grade 11 or above (or surface fluctuation is less than 0.25 mm);
(b). When mounting surface with a small round convex platform design flatness requirement of national standard grade 12 or more (or less than 0.5 mm) in plane ups and downs;
- Did not note the tolerance $+ / - 1 \text{ mm}$;