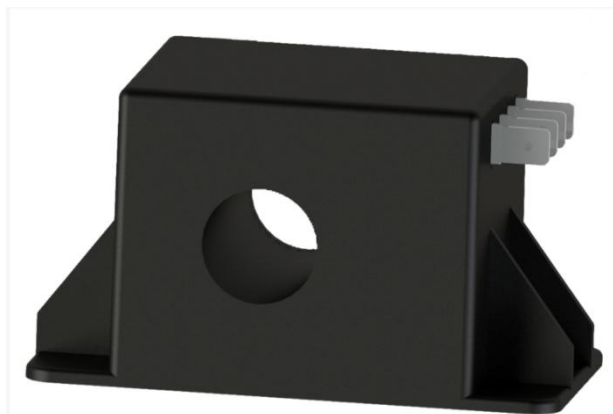


PTCHB300U24SCAN

For the electronic measurement of currents: DC, with galvanic separation between the primary circuit and the secondary circuit.



Advantages

- High overall accuracy:
- Error is 0.3% at room temperature
- Error is 0.5% under overtemperature environment
- Full range current isolation

Feature

- High precision, low temperature drift, to help customers accurately calculate the battery SOC- Current output
- Excellent anti-interference ability, suitable for small space, save installation cost.
- Wide working voltage range, and strong self-recovery ability, ensure CAN communication is stable and reliable.
- Installation and software interface compatible with many products on the market, easy to replace.
- Multiple output options, convenient for different applications.

Standards

- | | |
|----------------------|-------------|
| - EN 50155: 2017 | - ISO16750 |
| - EN 50121-3-2: 2016 | - GB/T28046 |
| - IEC60068 | |

Applications

- Hybrid and electric battery packs
- Traditional lead-acid batteries
- Battery management applications for precise current measurement (SOC, SOH, SOF)

Application Domains

- Railway (fixed installations and onboard).

Electrical data

(Ta=25°C, Vc= ±24VDC)

Parameter	Ref	Symbol	PTCHB300U24SCAN	Unit
Primary current measurement range		I_{PN}	-400~+400	A
Turns ratio		N_p/N_s	1: 2000	T
Zero current		I_o	@Ip=0 ≤±0.2	A
Supply voltage		U_c	10 ~ 32	V
Over voltage		U_c	32	V
Over voltage		U_c	36	V
Reverse voltage		U_c	-50	V
Minimum power supply voltage		U_c	10	V
Maximum power supply voltage		U_c	32	V
CAN work low voltage alarm, non -measurement		U_c	16.6~17 @CAN continuous	V
CAN work high voltage alarm, non - measurement		U_c	31.8~32.2 @CAN continuous	V
Maximum voltage hysteresis	U_{UP}		32 @When UC rises	V
			31.8 @When UC decreases	
Minimum voltage hysteresis	U_{LOW}		17 @When UC rises	
			16.8 @When UC decreases	
Total accuracy		X_G	0.5 @T=-40 to 85°C; ± 3 sigma	%
Linearity error		$\mathcal{E}_L$	0.1 @Room temperature	%
Zero error @Ip=0A		X_o	0.2 @T=-40 to 85°C; ±3sigma	A

Electrical data

(Ta=25°C, Vc= ±24VDC)

Parameter	Ref	Symbol	PTCHB300U24SCAN	Unit
Current consumption @Ip=0A		I_c	≤ 30 VC=24V, T=25°C	mA
Insulation AC test voltage		V_d	RMS voltage for AC insulation test, 50 Hz, 1 min, 4KV	KV

General data

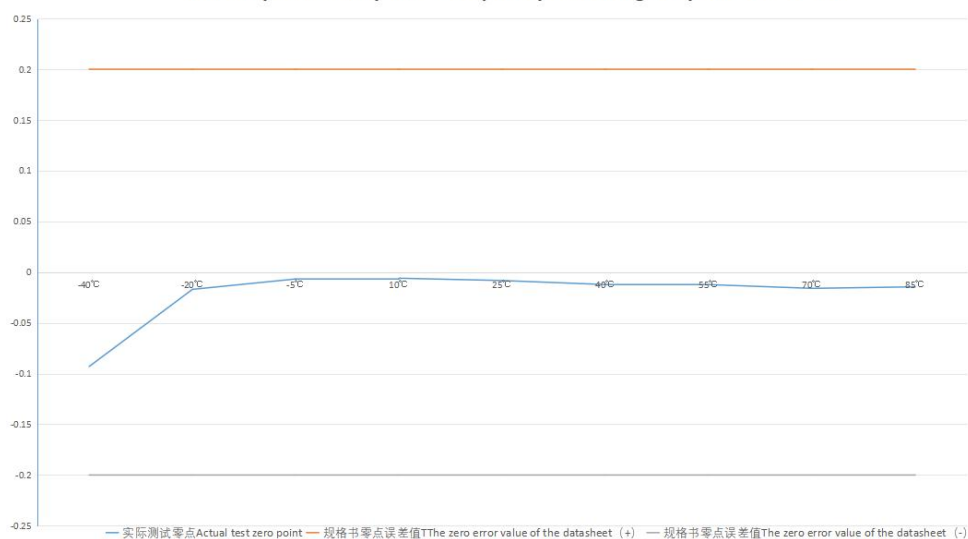
Parameter	Symbol	Value	Unit
Operating temperature	T_A	-40 ~ +85 Temperature range to ensure accuracy Guaranteed ± 3 sigma	°C
Storage temperature	T_S	-55~ +125	°C
Mass	M		g
Carton Dimensions	L×W×H		mm
Plastic material		PBT G30/G15, UL94- V0	
Standards		ISO16750	
		GB/T28046	
		IEC60068	

Part Numbers List

No.	P/N	Nominal current(A)	CAN ID	CAN_speed (Kb/s)	Frame interval (ms)
1	PTCHB300U24SCAN-F1	300	0x18FF6160	250	100
2	PTCHB300U24SCAN-F2	300	0x18FF6261	250	100
3	PTCHB300U24SCAN-F3	300	0x18FF6362	250	100

Typical performance characteristics

全温@ (-40°C~85°C) 零点变化
Full temperature @ (-40°C~85°C) zero point change @I_p=0A (unit: A)



To ensure product accuracy, the safety distance between sensors, relays, and copper bars needs to be confirmed in practice.

CAN output specifications:

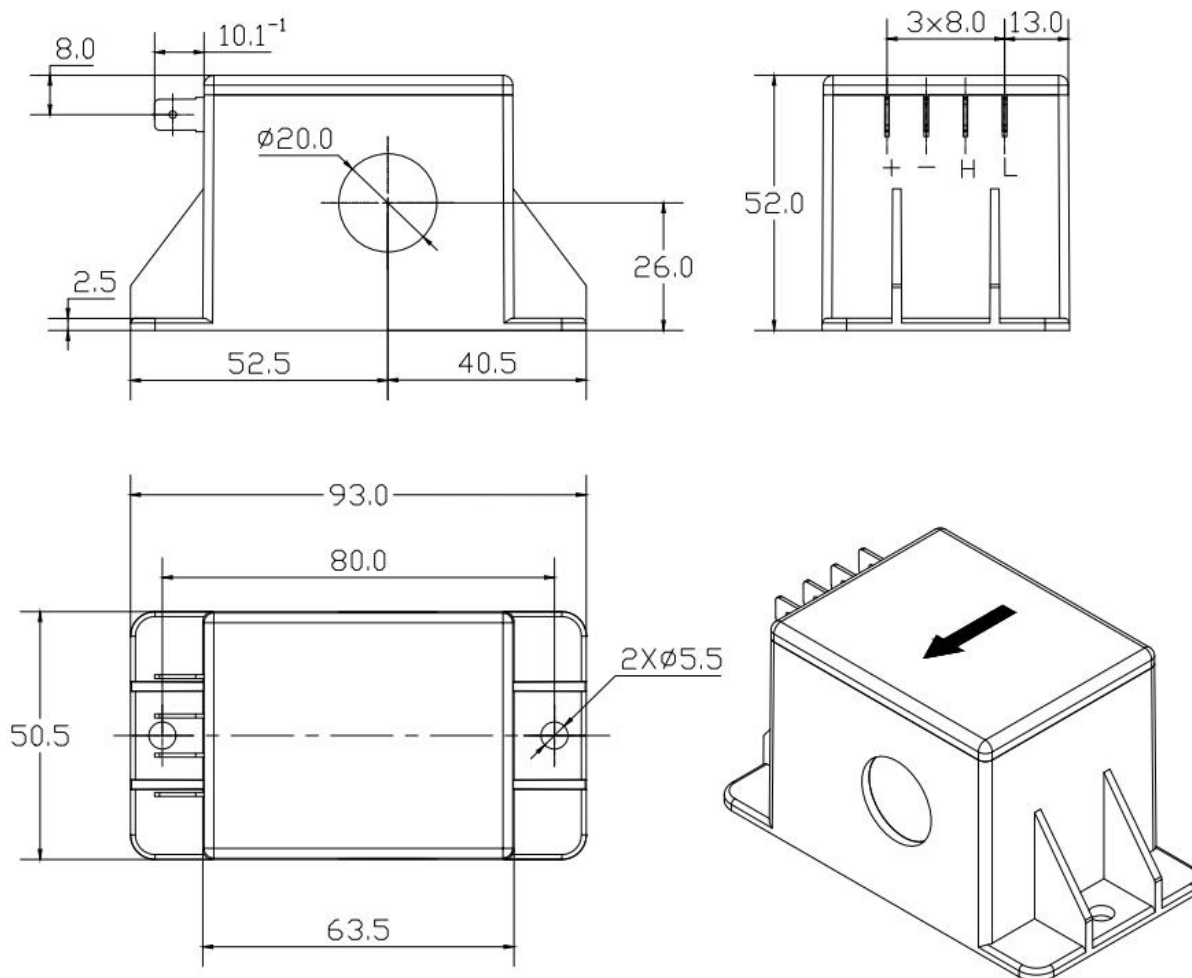
- CAN bus protocol: 2.0A/B
- CAN oscillation error: 0.3125%
- Byte order: big end ian (Motorola)
- No sleep mode function
- External 120 ohm terminal resistor added, internal CAN impedance=2.4Kohm

Message Description	CAN ID	Data length	Message Launch type	Period of transmission	Signal description	Signal name	Start bit	End bit
Primary current IP (mA)	0x18FF6160	8 bytes	Extended Frame	100ms Circular transmission	IP value:	IP_VALUE	0	31
					80000000 h=0mA			
					7FFFFFFFh=-1mA			
					80000001h=1mA			
					Fault identification bit (0=normal, 1=fault)	ERROR_INDICATION	32	32
					Fault information (when the fault identification bit is 0, it is 0X00)	ERROR_INFORMATIN	33	39
					Fixed as 0X48 0X11	SENSEOR_NAME	40	55
					Software version	SW_Revision	56	63

Fault diagnosis code (fault information)

Failure mode	IP value	Error indication	Error information
CRC verification error fault	0x80000000	1	0x02
AFE overrange fault	0x80000000	1	0x09
AFE error fault	0x80000000	1	0x03
Internal LUT error fault	0x80000000	1	0x04
Power undervoltage fault	0x80000000	1	0x0D
Power overvoltage fault	0x80000000	1	0x0F

Dimension(in mm)



Safety



If the device is used in a way that is not specified by the manufacturer, the protection provided by the device may be compromised. Always inspect the electronics unit and connecting cable before using this product and do not use it if damaged. Mounting assembly shall guarantee the maximum primary conductor temperature, fulfill clearance and creepage distance, minimize electric and magnetic coupling, and unless otherwise specified can be mounted in any orientation.



Caution, risk of electrical shock.

This transducer must be used in limited-energy secondary circuits SELV according to IEC 61010-1, in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating specifications. Use caution during installation and use of this product; certain parts of the module can carry hazardous voltages and high currents (e.g. power supply, primary conductor). Ignoring this warning can lead to injury and or/or cause serious damage. This transducer is a build-in device, whose hazardous live parts must be inaccessible after installation. This transducer must be mounted in a suitable end-enclosure. Besides make sure to have a distance of minimum 30 mm between the primary terminals of the transducer and other neighboring components. This transducer is a built-in device, not intended to be cleaned with any product. Nevertheless if the user must implement cleaning or washing process, validation of the cleaning program has to be done by himself.