



Description

For the electronic measurement of currents: DC, AC, pulsed, mixed, with a galvanic isolation between the primary circuit and the secondary circuit.

Features

- ◆ Open loop transducer for automotive
- ◆ Low voltage application
- ◆ Unipolar +5VDC power supply
- ◆ Primary current measuring range up to $\pm 200 \dots \pm 1500A$
- ◆ Operating temperature range: $-40\text{ }^{\circ}\text{C} < T_A < +125\text{ }^{\circ}\text{C}$
- ◆ Output voltage: fully ratio-metric(gain and offset)



I_{PN} = 200~1500A

Advantages

- ◆ High accuracy
- ◆ Excellent linearity
- ◆ Low temperature drift
- ◆ Hermetic package

Automotive applications

- ◆ Standard battery monitoring
- ◆ Hybrid and EV battery pack current sensing
- ◆ Fuel cell current control
- ◆ DC/DC converters and AC/DC inverters
- ◆ Hybrid and EV motor inverter drive
- ◆ EPS and X-by-wire applications
- ◆ Electric compressors for air conditioning



TYPES OF PRODUCTS		
Type	Primary nominal current r. m. s I _{PN} (A)	Primary current measuring range I _P (A)
BSX1-200IOV1HC	200	± 200
BSX1-400IOV1HA	400	± 400
BSX1-500IOV1HA	500	± 500
BSX1-600IOV1HA	600	± 600
BSX1-800IOV1HA	800	± 800
BSX1-900IOV1HA	900	± 900
BSX1-1000IOV1HA	1000	± 1000
BSX1-1200IOV1HA	1200	± 1200
BSX1-1500IOV1HA	1500	± 1500



Parameters Table

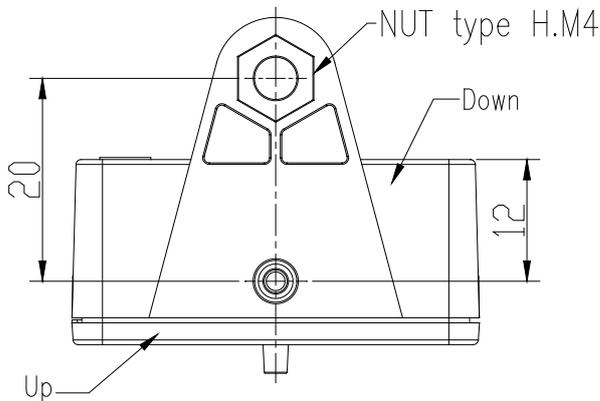
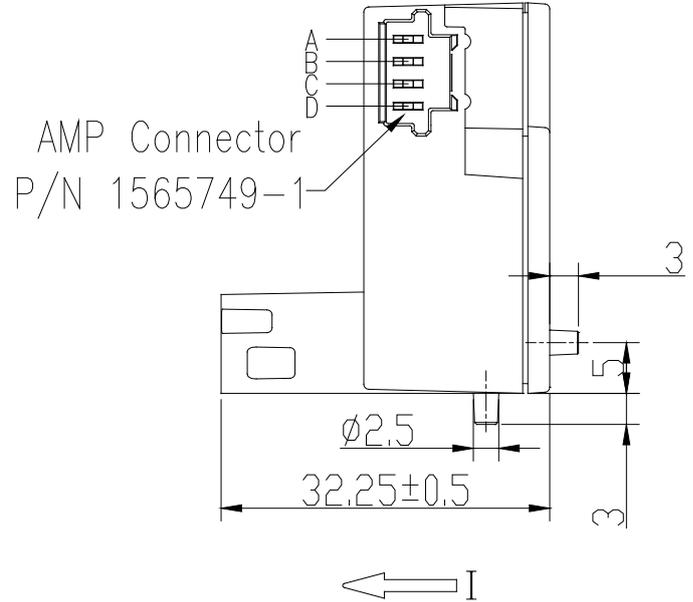
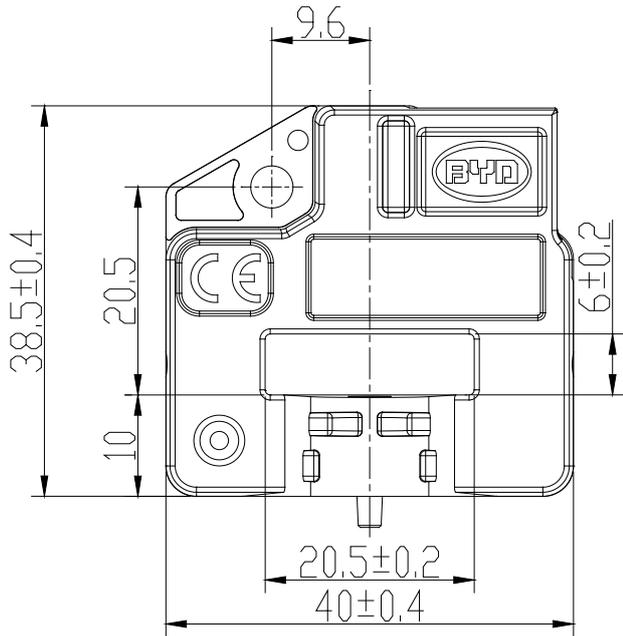
PARAMETERS	SYMBOL	UNIT	VALUE			CONDITIONS
			Min.	Typ.	Max.	
Electrical data						
Supply voltage	V _{CC}	V	4.5	5	5.5	
Current consumption	I _{CC}	mA	-	9.2	12	@T _A = 25°C
Output Load Resistance	R _L	kΩ	4.7	-	-	@V _{OUT} to V _{CC}
	R _L	kΩ	4.7	-	-	@V _{OUT} to GND
Output Load Capacitance	C _L	nF	-	-	10	@V _{OUT} to GND
Performance data						
Output voltage	V _{OUT}	V	V _{CC} / 5 × (2.5 + 2 / I _{PN} × I _p)			@T _A = 25°C
Output Linearity	ε _L	%	-1%	-	+1%	@T _A = 25°C I _p ≤ ± 900
			-2%	-	+2%	@T _A = 25°C I _p ≤ ± 1500
Accuracy	X	%	-1%	-	+1%	@T _A = 25°C I _p ≤ ± 900
			-2%	-	+2%	@T _A = 25°C I _p ≤ ± 1500
Quiescent Output Voltage ⁽¹⁾	V _{OUTQ}	V	2.5 ± 20mV			@T _A = 25°C B=0
Magnetic Sensitivity	S _{SENS}	mV/G	-	1.3	-	@T _A = 25°C
Sensitivity Temperature Coefficient	TCS _{SENS}	%/°C	-0.025	0	0.025	
Output Resistance	R _{OUT}	Ω	-	<1	-	
Output Bandwidth	BW	kHz	-	-	50	@-3dB
Response time	t _r	μS	-	5	8	
Rms voltage isolation test	V _d	kV	-	-	3	@AC 50Hz 1Min
General data						
Ambient operating temperature	T _A	°C	-40 ~ +125			
Ambient storage temperature	T _S	°C	-40 ~ +150			
Environmental test specifications	Damp heat, steady state		85°C — 85%/1000h			
	ASL (above sea level)		≤ 5500m			

Notes:

(1) The indicated offset voltage is the one after the core hysteresis is removed.



Dimensions BSX1-IOV1HA (in mm. 1 mm = 0.0394 inch)



Pins Arrangement :

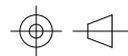
A: Not Connected

B: Vcc(5V)

C: Ground

D: Vout

General Tolerance: ±0.5mm



◆ Instructions of use

1. When the test current passes through the sensors, you can get the size of the output voltage. (Warning: wrong connection may lead to sensors damage.)
2. Based on user needs, the output range of the sensors can be appropriately regulated.
3. According to user needs, different rated input currents and output voltages of the sensors can be customized.



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