



### 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 using the Hall effect
- ◆ Low voltage application
- ◆ Unipolar +5VDC power supply
- ◆ Primary current measuring range up to  $\pm 400 \dots \pm 900A$
- ◆ Operating temperature range:  $-40^{\circ}C < T_A < +125^{\circ}C$
- ◆ Output voltage: fully ratio-metric(gain and offset)



### Advantages

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

**$I_{PN} = 400 \dots 900A$**

### Industrial applications

- ◆ Standard battery monitoring
- ◆ Hybrid and EVbattery 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 $I_{PN}$ (A)	Primary current measuring range $I_p$ (A)
BSX1-400IOV1MA	400	$\pm 400$
BSX1-500IOV1MA	500	$\pm 500$
BSX1-600IOV1MA	600	$\pm 600$
BSX1-700IOV1MA	700	$\pm 700$
BSX1-800IOV1MA	800	$\pm 800$
BSX1-900IOV1MA	900	$\pm 900$



## Parameters Table

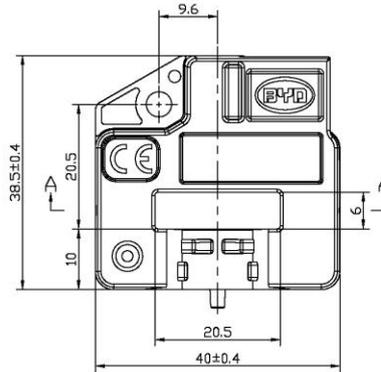
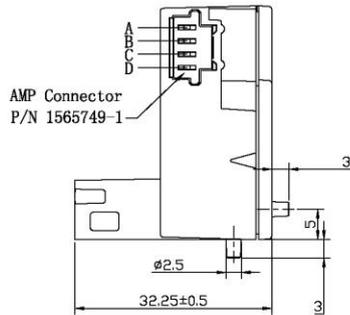
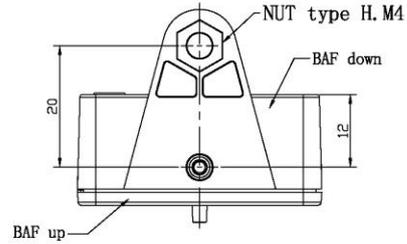
PARAMETERS	SYMBOL	UNIT	VALUE			CONDITIONS
			Min.	Typ.	Max.	
<b>Electrical data</b>						
Supply voltage	V <sub>CC</sub>	V	-	5	-	
Current consumption	I <sub>CC</sub>	mA	-	9.2	12	@T <sub>A</sub> = 25°C
Output Load Resistance	R <sub>L</sub>	kΩ	4.7	-	-	@V <sub>OUT</sub> to V <sub>CC</sub>
	R <sub>L</sub>	kΩ	4.7	-	-	@V <sub>OUT</sub> to GND
Output Load Capacitance	C <sub>L</sub>	nF	-	-	10	@V <sub>OUT</sub> to GND
<b>Performance data</b>						
Output voltage	V <sub>OUT</sub>	V	V <sub>c</sub> / 5 × (2.5 + 2/I <sub>pn</sub> × I <sub>p</sub> )			@T <sub>A</sub> = 25°C
Output Linearity	ε <sub>L</sub>	%	-1%	-	+1%	@T <sub>A</sub> = 25°C
Accuracy	X	%	-2%	-	+2%	@T <sub>A</sub> = 25°C
Quiescent Output Voltage <sup>(1)</sup>	V <sub>OUTQ</sub>	V	2.5 ± 20mV			@T <sub>A</sub> = 25°C B=0
Sensitivity Temperature Coefficient	TCS <sub>ENS</sub>	%/°C	-0.025	0	0.025	
Output Resistance	R <sub>OUT</sub>	Ω	-	<1	-	
Output Bandwidth	BW	kHz	-	-	50	@-3dB
Response time	t <sub>r</sub>	μs	-	5	8	
Rms voltage isolation test	V <sub>d</sub>	kV	-	-	2	@AC 50Hz 1Min
<b>General data</b>						
Ambient operating temperature	T <sub>A</sub>	°C	-40~+125			
Ambient storage temperature	T <sub>S</sub>	°C	-40~+125			

**Notes:**

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

**Dimensions BSX1-IOV1MA** (in mm. 1 mm = 0.0394 inch)

Pin Out	
A	Not Connected
B	Vcc(5V)
C	Ground
D	Vout



**◆ 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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