



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 $\pm 900A$
- ◆ 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

$I_{PN} = 900A$

Industrial 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)
BSX1-900IOV1HA	900	± 900



Parameters Table

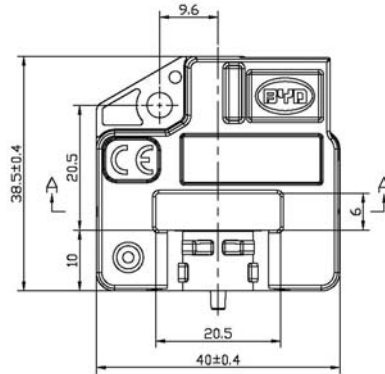
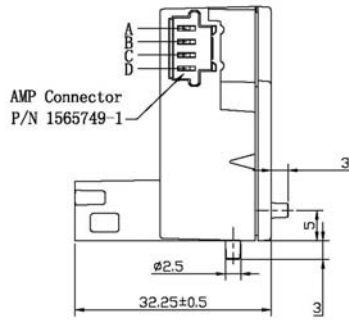
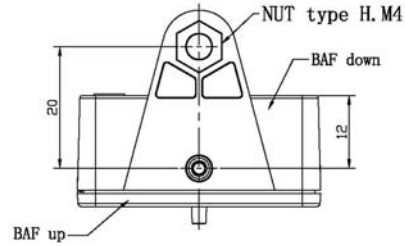
PARAMETERS	SYMBOL	UNIT	VALUE			CONDITIONS
			Min.	Typ.	Max.	
Electrical data						
Supply voltage	V _{CC}	V	4.5	5	5.5	
Current consumption	I _{CC}	mA	-	9.2	12	@T _A = 25°C
Output Load Resistance	R _L	kΩ	4.7	-	-	@V _{OUT} to V _{CC}
	R _L	kΩ	4.7	-	-	@V _{OUT} to GND
Output Load Capacitance	C _L	nF	-	-	10	@V _{OUT} to GND
Performance data						
Output voltage	V _{OUT}	V	$V_{CC} / 5 \times (2.5 + 0.00222 \times I_p)$			@T _A = 25°C
Output Linearity	ε _L	%	-1%	-	+1%	@T _A = 25°C
Accuracy	X	%	-1%	-	+1%	@T _A = 25°C
Quiescent Output Voltage ⁽¹⁾	V _{OUTQ}	V	2.5 ± 20mV			@T _A = 25°C B=0
Magnetic Sensitivity	Sens	mV/G	-	1.3	-	@T _A = 25°C
Sensitivity Temperature Coefficient	TCS _{ENS}	%/°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	-	-	2	@AC 50Hz 1Min
General data						
Ambient operating temperature	T _A	°C	-40~+125			
Ambient storage temperature	T _S	°C	-40~+150			

Notes:

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

Dimensions BSX1-900IOV1HA (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.



RESTRICTIONS ON PRODUCT USE

- The information contained herein is subject to change without notice.
- BYD Microelectronics Co., Ltd. (short for BME) exerts the greatest possible effort to ensure high quality and reliability. Nevertheless, semiconductor devices in general can malfunction or fail due to their inherent electrical sensitivity and vulnerability to physical stress. It is the responsibility of the buyer, when utilizing BME products, to comply with the standards of safety in making a safe design for the entire system, including redundancy, fire-prevention measures, and malfunction prevention, to prevent any accidents, fires, or community damage that may ensue. In developing your designs, please ensure that BME products are used within specified operating ranges as set forth in the most recent BME products specifications.
- The BME products listed in this document are intended for usage in general electronics applications (computer, personal equipment, office equipment, measuring equipment, industrial robotics, domestic appliances, etc.). These BME products are neither intended nor warranted for usage in equipment that requires extraordinarily high quality and/or reliability or a malfunction or failure of which may cause loss of human life or bodily injury (“Unintended Usage”). Unintended Usage include atomic energy control instruments, airplane or spaceship instruments, transportation instruments, traffic signal instruments, combustion control instruments, medical instruments, all types of safety devices, etc.. Unintended Usage of BME products listed in this document shall be made at the customer’s own risk.