



### Description

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

### Features

- ◆ Hall effect measuring principle
- ◆ Low power consumption
- ◆ Isolation voltage 3000 V
- ◆ Extended measuring range (3 \*I<sub>PN</sub>)
- ◆ Galvanic isolation between primary and secondary circuit
- ◆ Insulated plastic case recognized according to UL 94-V0



**I<sub>PN</sub> = 500...1500A**

**V<sub>OUT</sub> = ±4 V**

### Advantages

- ◆ Easy installation
- ◆ Small size and space saving
- ◆ Only one design for wide current ratings range
- ◆ High immunity to external interference

### Industrial applications

- ◆ DC motor drives
- ◆ Switched Mode Power Supplies(SMPS)
- ◆ AC variable speed drives
- ◆ Uninterruptible Power Supplies(UPS)
- ◆ Battery supplied applications
- ◆ Power supplies for welding applications

TYPES OF PRODUCTS		
Type	Primary nominal current r. m. s I <sub>PN</sub> (A)	Primary current measuring range I <sub>p</sub> (A)
BSY3 - 500/4IOV2	500	±1500
BSY3 - 600/4IOV2	600	±1800
BSY3 - 800/4IOV2	800	±2400
BSY3-1000/4IOV2	1000	±2500
BSY3-1200/4IOV2	1200	±2500
BSY3-1500/4IOV2	1500	±2500

**Parameters Table**

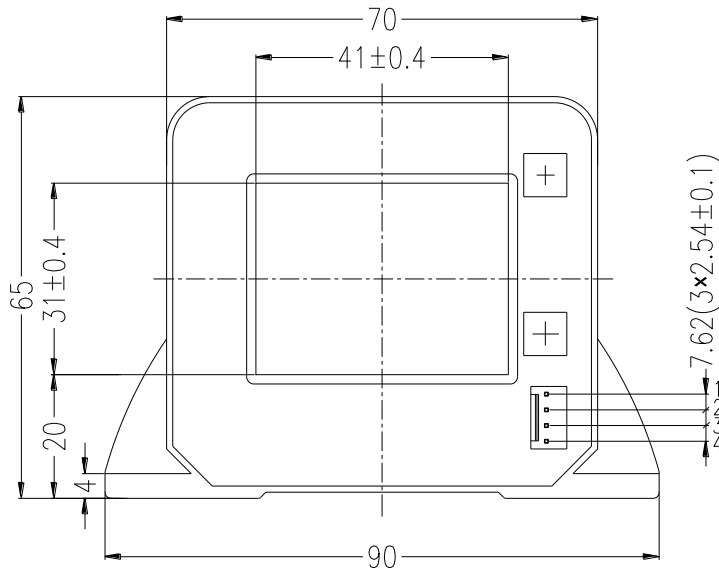
PARAMETERS	SYMBOL	UNIT	VALUE	CONDITIONS
<b>Electrical data</b>				
Supply voltage( $\pm 5\%$ ) <sup>(1)</sup>	$V_C$	V	$\pm 15$	
Current consumption	$I_C$	mA	$\pm 15$	
Output voltage	$V_{OUT}$	V	$\pm 4$	@ $\pm I_{PN}$ , $R_L = 10\text{ k}\Omega$ , $T_A = 25\text{ }^\circ\text{C}$
Isolation resistance	$R_{IS}$	$M\Omega$	$>1000$	@ 500 VDC
Output internal resistance	$R_{OUT}$	$\Omega$	100	
Load resistance <sup>(2)</sup>	$R_L$	$K\Omega$	$>10$	
<b>Accuracy - Dynamic performance data</b>				
Linearity <sup>(3)</sup> ( $0 \dots \pm I_{PN}$ )	$\epsilon_L$	% of $I_{PN}$	$< \pm 1$	
Accuracy	X	% of $I_{PN}$	$< \pm 1$	@ $I_{PN}$ , $T_A = 25\text{ }^\circ\text{C}$ (excluding offset)
Electrical offset voltage	$V_{OE}$	mV	$< \pm 20$	@ $T_A = 25\text{ }^\circ\text{C}$
Hysteresis offset voltage	$V_{OH}$	mV	$< \pm 10$	@ $I_P = 0$
Temperature coefficient of $V_{OE}$	$TCV_{OE}$	mV/K	$< \pm 1$	
Temperature coefficient of $V_{OUT}$	$TCV_{OUT}$	%/K	$< \pm 0.1$	
Response time	$t_r$	$\mu\text{s}$	$< 5$	@ 90% of $I_{PN}$
Frequency bandwidth(-3dB) <sup>(4)</sup>	BW	kHz	DC...25	-3dB
<b>General data</b>				
Ambient operating temperature	$T_A$	$^\circ\text{C}$	-40...+85	
Ambient storage temperature	$T_S$	$^\circ\text{C}$	-40...+105	
Mass	m	g	300	
<b>Isolation characteristics</b>				
Rated isolation voltage r. m. s	$V_b$	V	1000	
R. m. s voltage for AC isolation test	$V_d$	kV	3	50 Hz, 1 min
Creepage distance	d $C_P$	mm	$> 11$	
Clearance distance	d $C_I$	mm	$> 11$	
Comparative Tracking Index	CTI		275	Group IIIa

**Notes:**

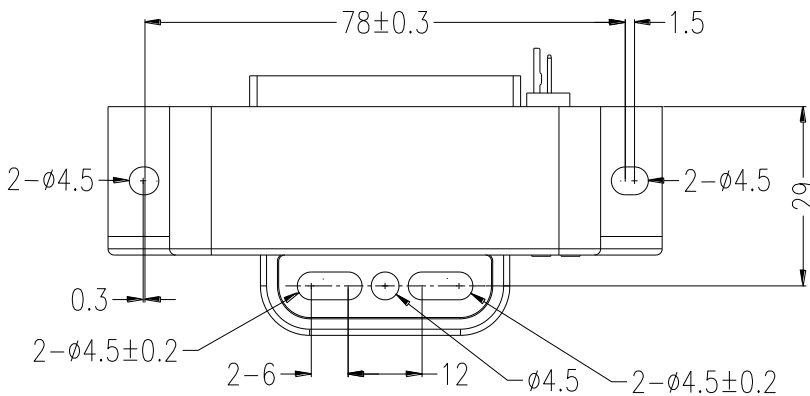
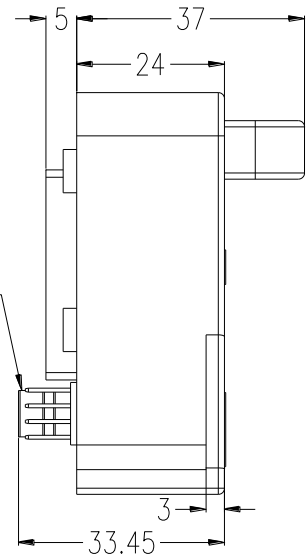
- (1) Operating at  $\pm 12\text{V} \leq V_C < \pm 15\text{V}$  will reduce the measuring range.
- (2) If the customer uses 10K $\Omega$  of the load resistor, the primary current has to be limited as the nominal.
- (3) Linearity data exclude the electrical offset.
- (4) Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.



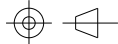
Dimensions BSY3-IOV2 (in mm. 1 mm = 0.0394 inch)



MOLEX 20111041  
Plating Thickness  
3μm



Pin Arrangement

- 1.+15V
  - 2.-15V
  - 3.OUTPUT
  - 4.0V
- 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 sensors output range 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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以下是BSY3系列产品的外观标准。

- 红色胶须将电位器旋转部分（白色）覆盖，不要露出缝隙。
- 镀金连接器的镀金厚度大于1u”（英寸）



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