

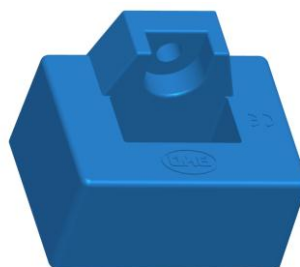


## Description

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
- ◆ Galvanic isolation between primary and secondary circuit
- ◆ Compact design for PCB mounting
- ◆ Low power consumption
- ◆ Extended measuring range ( $3 \cdot I_{PN}$ )
- ◆ Insulated plastic case recognized according to UL 94-V0



$$I_{PN} = 50 \dots 600A$$

$$V_{OUT} = \pm 4 V$$

## Advantages

- ◆ Easy installation
- ◆ Excellent accuracy
- ◆ No insertion losses
- ◆ Excellent performance and price
- ◆ Only one design for wide current ratings range
- ◆ High immunity against external Interference

## Industrial applications

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

TYPES OF PRODUCTS		
Type	Primary nominal current r. m. s $I_{PN}$ (A)	Primary current measuring range $I_{PM}$ (A)
BSY2 -50/4IOV2	50	$\pm 150$
BSY2 -75/4IOV2	75	$\pm 225$
BSY2-100/4IOV2	100	$\pm 300$
BSY2-150/4IOV2	150	$\pm 450$
BSY2-200/4IOV2	200	$\pm 600$
BSY2-300/4IOV2	300	$\pm 900$
BSY2-400/4IOV2	400	$\pm 900$
BSY2-500/4IOV2	500	$\pm 900$
BSY2-600/4IOV2	600	$\pm 900$

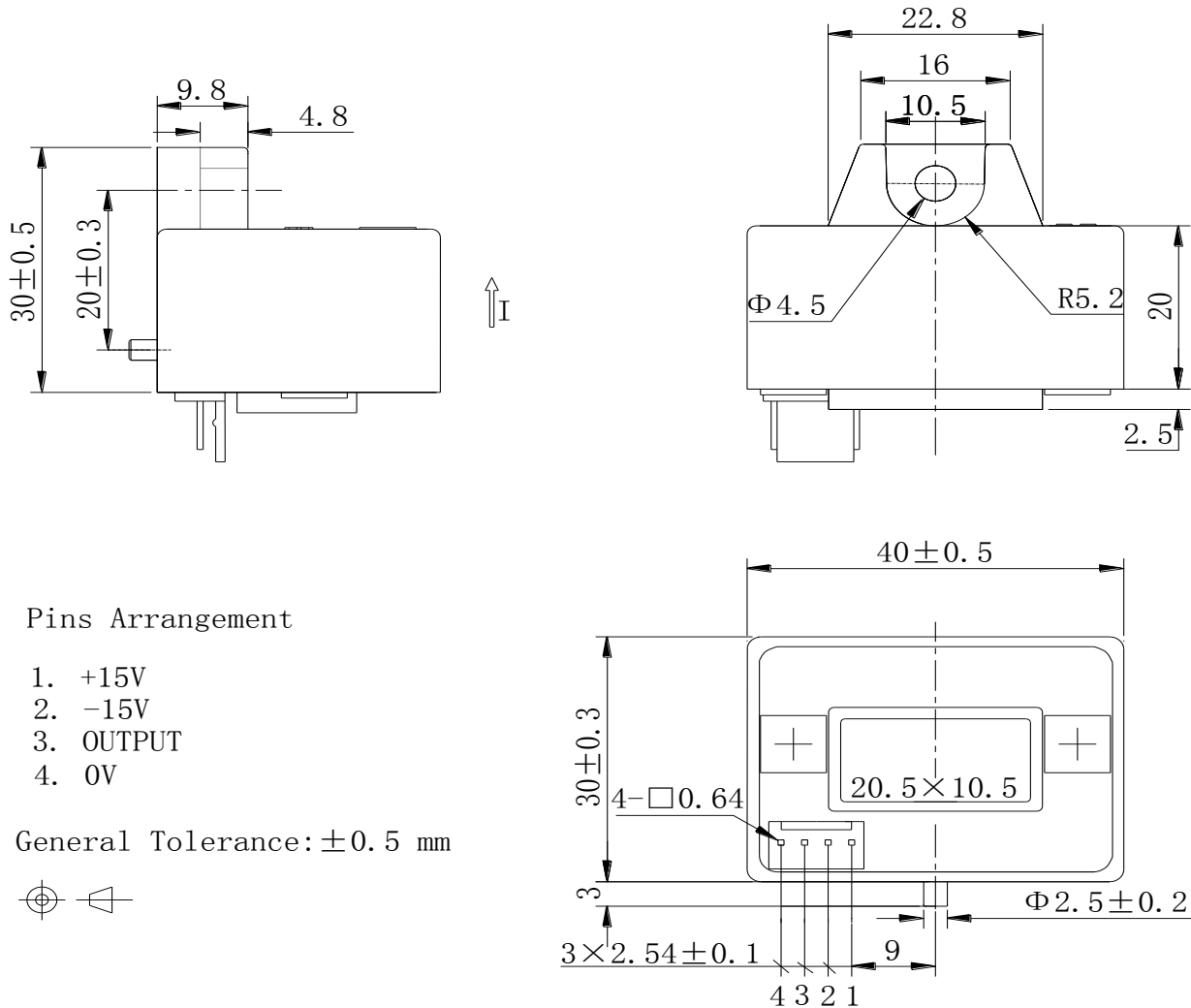
**Parameters Table**

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(Analog)	$V_{OUT}$	mV	$\pm 4V \pm 40$	@ $\pm I_{PN}$ , $R_L = 10\text{ k}\Omega$ , $T_A = 25\text{ }^\circ\text{C}$
Overload capability(1ms)	$I_{PC}$	At	$50 * I_{PN}$	
Isolation resistance	$R_{IS}$	$M\Omega$	$> 1000$	@ 500 VDC
Output internal resistance	$R_{OUT}$	$\Omega$	100	approx
Load resistance <sup>(2)</sup>	$R_L$	$K\Omega$	$> 10$	
R. m. s voltage for AC isolation test	$V_d$	KV	3	@ 50Hz, 1 min
R. m. s rated voltage、safe separation	$V_b$	V	500	
<b>Accuracy - Dynamic performance data</b>				
Linearity <sup>(3)</sup> ( $0 \dots \pm I_{PN}$ )	$\varepsilon_L$	% of $I_{PN}$	$< \pm 1$	
Accuracy	X	%	$< \pm 1$	@ $I_{PN}$ , $T_A = 25\text{ }^\circ\text{C}$ (without offset)
Electrical offset voltage	$V_{OE}$	mV	$< \pm 20$	@ $T_A = 25\text{ }^\circ\text{C}$
Hysteresis offset voltage	$V_{OH}$	mV	$< \pm 20$	@ $I_P = 0$ ; after an excursion of $1 * I_{PN}$
Temperature coefficient of $V_{OE}$	$TCV_{OE}$	mV/K	$< \pm 2$	@ BSY2 50—75/4IOV2
			$< \pm 1$	@ BSY2 100—600/4IOV2
Temperature coefficient of $V_{OUT}$	$TCV_{OUT}$	%/K	$< \pm 0.1$	@ % of reading
Response time	$t_r$	$\mu\text{s}$	$< 3$	@ 90% of $I_{PN}$ step
$d_i/d_t$ accurately followed	$d_i/d_t$	A/ $\mu\text{s}$	$> 50$	
Frequency bandwidth <sup>(4)</sup>	BW	kHz	DC~50	@ -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	approx 60	

**Notes:**

- (1) Operating at  $\pm 12V \leq V_C < \pm 15V$  will reduce the measuring range.
- (2) If the customer uses  $1\text{ K}\Omega$  of the load resistor, the primary current has to be limited as the nominal. To measure the full defined measuring range, the load resistor should be at minimum  $10\text{ K}\Omega$ .
- (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.

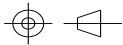
**Dimensions BSY2-IOV2** (in mm. 1 mm = 0.0394 inch)



**Pins Arrangement**

1. +15V
2. -15V
3. OUTPUT
4. 0V

General Tolerance:  $\pm 0.5$  mm



**◆ 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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