BYD Microelectronics Co., Ltd.

BSL-IOV2L

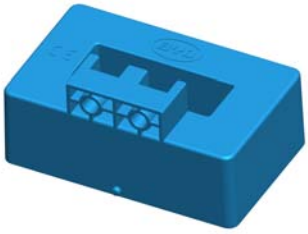
Current Sensors

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
- Extended measuring range
  Isolation voltage 3000 V
- Galvanic isolation between primary and secondary circuit



I_{PN} = 200…2000A
V_{OUT} = ± 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 application

TYPES OF PRODUCTS

Type	Primary nominal current r. m. s I_{PN} (A)	Primary current measuring range I_P (A)
BSL-200IOV2L	200	±400
BSL-400IOV2L	400	±800
BSL-600IOV2L	600	±1200
BSL-800IOV2L	800	±1600
BSL-1000IOV2L	1000	±2000
BSL-2000IOV2L	2000	±3000

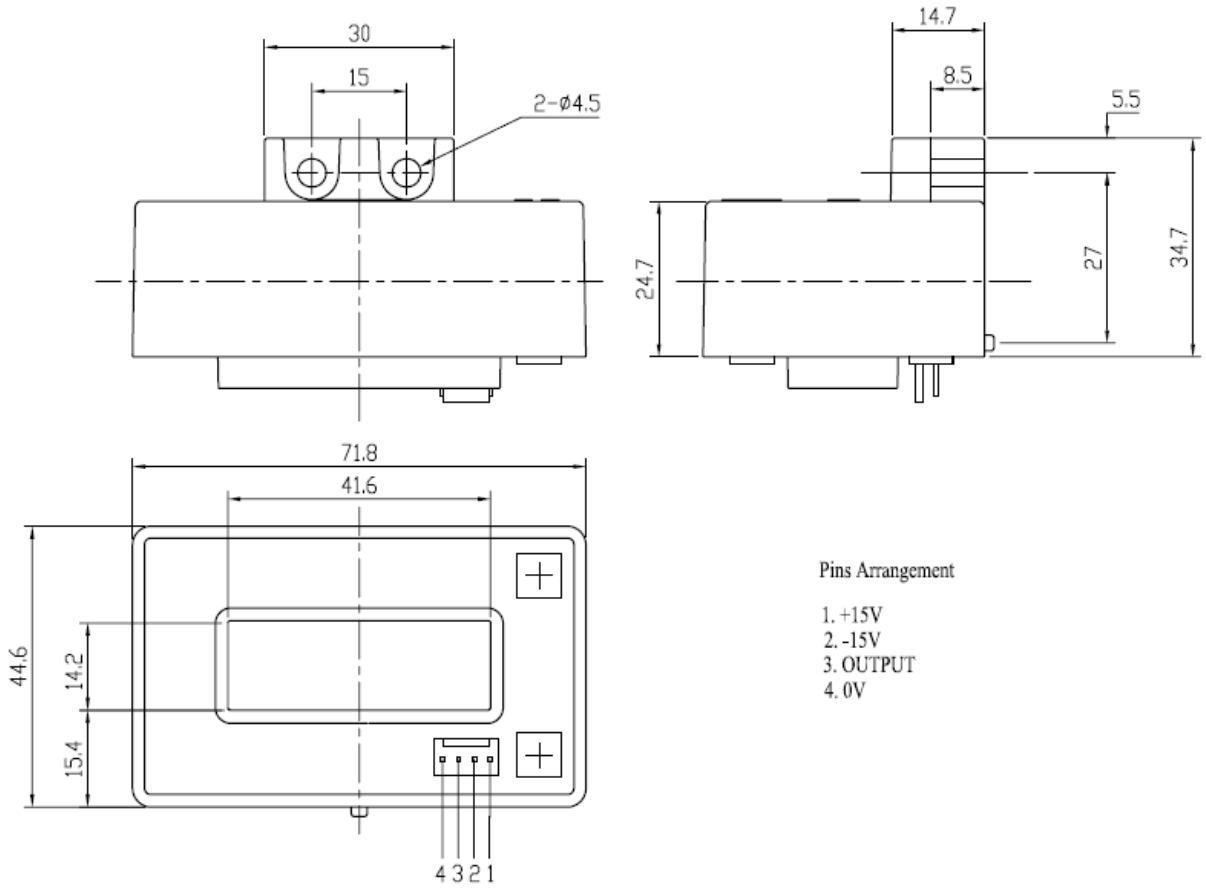
Parameters Table

PARAMETERS	SYMBOL	UNIT	VALUE	CONDITIONS
Electrical Data				
Supply voltage(±5%)(1)	V_C	V	±15	
Current consumption	I_C	mA	±15	
Output voltage	V_{OUT}	V	±4	@ ± I_{PN}, R_L = 10 kΩ, T_A = 25°C
Isolation resistance	R_{IS}	MΩ	>1000	@ 500 VDC
Output internal resistance	R_{OUT}	Ω	100	
Load resistance(2)	R_L	KΩ	>10	
Accuracy - Dynamic performance data				
Linearity(3) (0…±I_{PN})	ε_L	% of I_{PN}	<±1	@ I_{PN}, T_A = 25°C
Accuracy	X	% of I_{PN}	<±1	@ I_{PN}, T_A = 25°C (excluding offset)
Electrical offset voltage	V_{OE}	mV	<±20	@T_A = 25°C
Hysteresis offset voltage	V_{OH}	mV	<±10	@ I_P= 0
Temperature coefficient of V_{OE}	TCV_{OE}	mV/K	<±1	
Temperature coefficient of V_{OUT}	TCV_{OUT}	%/K	<±0.1	
Response time	t_r	μS	<5	@ 90% of I_{PN}
Frequency bandwidth (4)	BW	kHz	DC~25	@-3dB
General data				
Ambient operating temperature	T_A	℃	-20….+85	
Ambient storage temperature	T_S	℃	-40….+105	
Mass	m	g	300	
Isolation characteristics				
Rated isolation voltage rms	Vb	V	1000	
Rms voltage for AC isolation test	Vd	kV	3	@50 Hz, 1 min

Notes:

（1）Operating at ±12V ≤V_C<±15V will reduce the measuring range.
（2）If the customer uses 10KΩ 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 BSL-IOV2L (in mm. 1 mm = 0.0394 inch)



◆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.

RESTRICTIONS ON PRODUCT USE

- The information contained herein is subject to change without notice.

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