

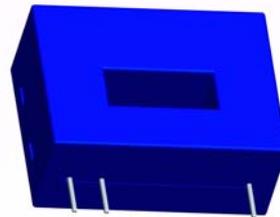


Description

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

Features

- ◆ Hall effect measuring principle
- ◆ Galvanic isolation between primary and secondary circuit
- ◆ Low power consumption
- ◆ Extended measuring range
- ◆ Insulated plastic case recognized according to UL 94-V0



$$I_{PN} = 50A$$

Advantages

- ◆ Very good linearity
- ◆ Excellent accuracy
- ◆ Low temperature drift
- ◆ Wide frequency bandwidth
- ◆ Optimized response time
- ◆ No insertion losses
- ◆ High immunity against external Interference
- ◆ Excellent performance and price

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_P (A)	Measuring resistance (@70°C) R_M (Ω)
BSD-50ICV6M	50	0~±70	10~100 with±12V@±50Amax
			10 ~ 50 with±12V@±70Amax
			50~160 with±15V@±50Amax
			50 ~ 90 with±15V@±70Amax



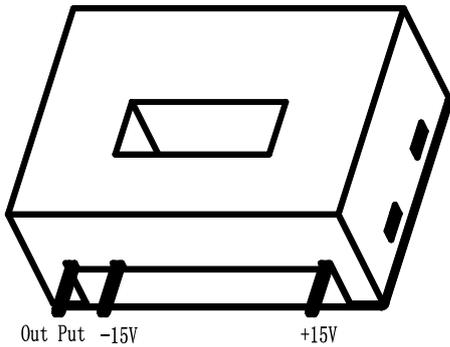
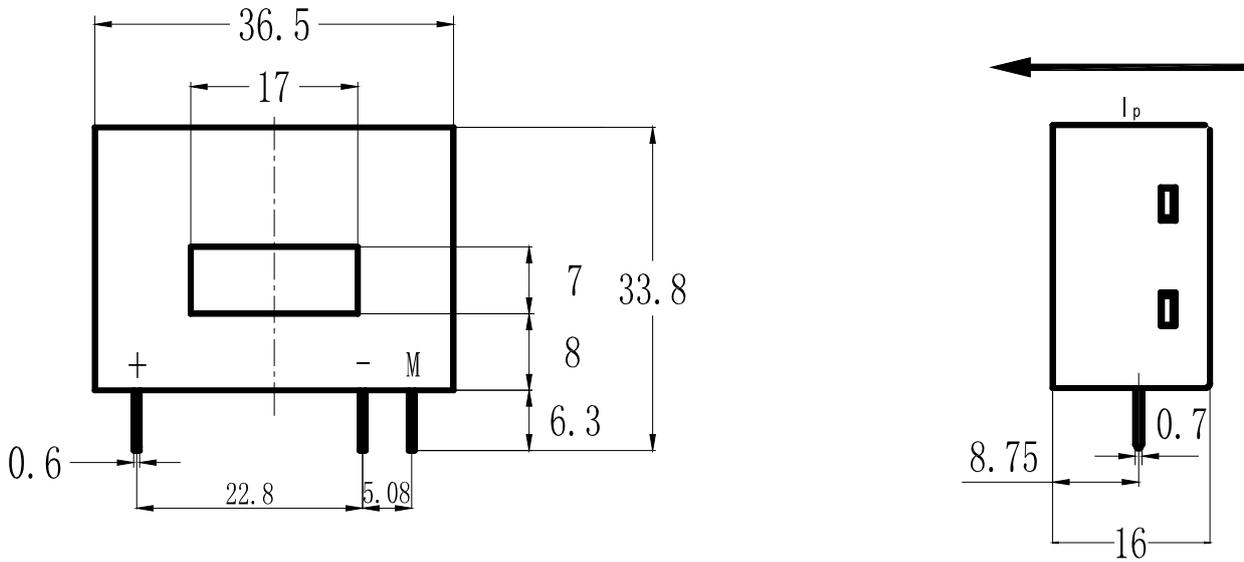
Parameters Table

PARAMETERS	SYMBOL	UNIT	VALUE	CONDITIONS	
Electrical data					
Supply voltage($\pm 5\%$)	V_C	V	$\pm 12 \dots 15$		
Current consumption	I_C	mA	$10(@\pm 15)+I_s$		
Secondary nominal r.m.s. current	I_{SN}	mA	50	@ I_{PN}	
Conversion ratio	K_N		1:1000		
Accuracy - Dynamic performance data					
Linearity	ε_L	%	$< \pm 0.15$		
Accuracy	X_G	%	$< \pm 0.65$	@ I_{PN} , $V_C = \pm 15V$, $T_A = 25^\circ C$	
			$< \pm 0.90$	@ I_{PN} , $V_C = \pm 12 \dots 15V$, $T_A = 25^\circ C$	
Offset current	I_O	mA	$< \pm 0.20$	@ $I_P = 0, T_A = 25^\circ C$	
Thermal drift of I_O	I_{OT}	mA	Typ	Max	
			± 0.1	± 0.6	@ $I_P = 0, -25^\circ C \sim +85^\circ C$
			± 0.2	± 1.0	@ $I_P = 0, -40^\circ C \sim -25^\circ C$
Response time	t_r	μS	< 1	@ 90% of I_{PN} step	
d_i/d_t accurately followed	d_i/d_t	A/ μS	> 200		
Frequency bandwidth ⁽¹⁾	BW	kHz	DC~200	@-1dB	
General data					
Ambient operating temperature	T_A	$^\circ C$	-40 ~ +85		
Ambient storage temperature	T_S	$^\circ C$	-40 ~ +90		
Secondary coil resistance	R_s	Ω	80	@ $T_A = 70^\circ C$	
Isolation characteristics					
R. m. s voltage for AC isolation test	V_d	KV	2.5	@50Hz, 1 min	
Impulse withstand voltage 1.2/50us	V_w	KV	5.7		
Creepage distance	dCp	mm	5		
Clearance distance	dCI	mm	5		
Comparative Tracking Index	CTI		175	Group IIIa	

Notes:

- (1) Please refer to derating curves in the technical file to avoid excessive core heating at high frequency.

Dimensions BSD-50ICV6M (in mm. 1 mm = 0.0394 inch)



◆ Instructions of use

1. When the test current passes through the sensor, you can get the size of the output current. (Warning: wrong connection may lead to sensors damage.)
2. I_s is positive when I_p flows in the direction of the arrow.
3. In order to achieve the best magnetic coupling, the primary windings have to be wound over the top edge of the device.
4. According to user needs, different rated input currents and output currents of the sensors can be customized.



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