

 $I_{PN} = 300A$ 

Representative image only

## Features

- Plastic outer case compliant to UL 94-V0

## Advantage

- Very good linearity
- Excellent accuracy
- Low temperature drift
- Wide frequency bandwidth
- Optimized response time
- High immunity to external interference
- No insertion losses
- Current overload capability

## Applications

- AC variable speed drives and servo motor drives
- Static converters for DC motor drives
- Battery supplied applications
- Uninterruptible power supplies (UPS)
- Switched mode power supplies (SMPS)
- Power suppliers for welding applications

## Application domain

- Industrial

## Standards

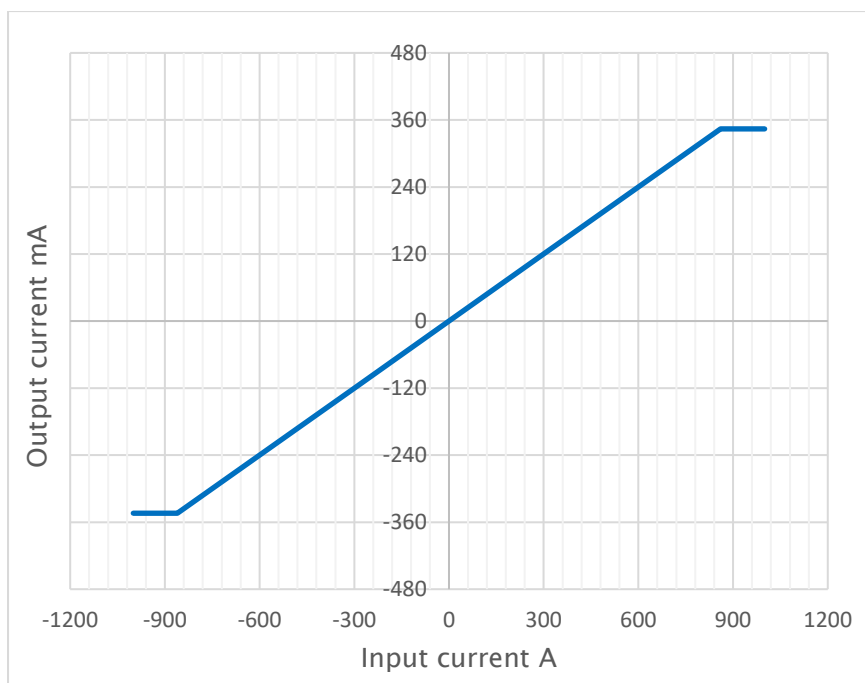
- UL508\*
- EN 50178 (IEC 62477)

## Insulation Characteristics

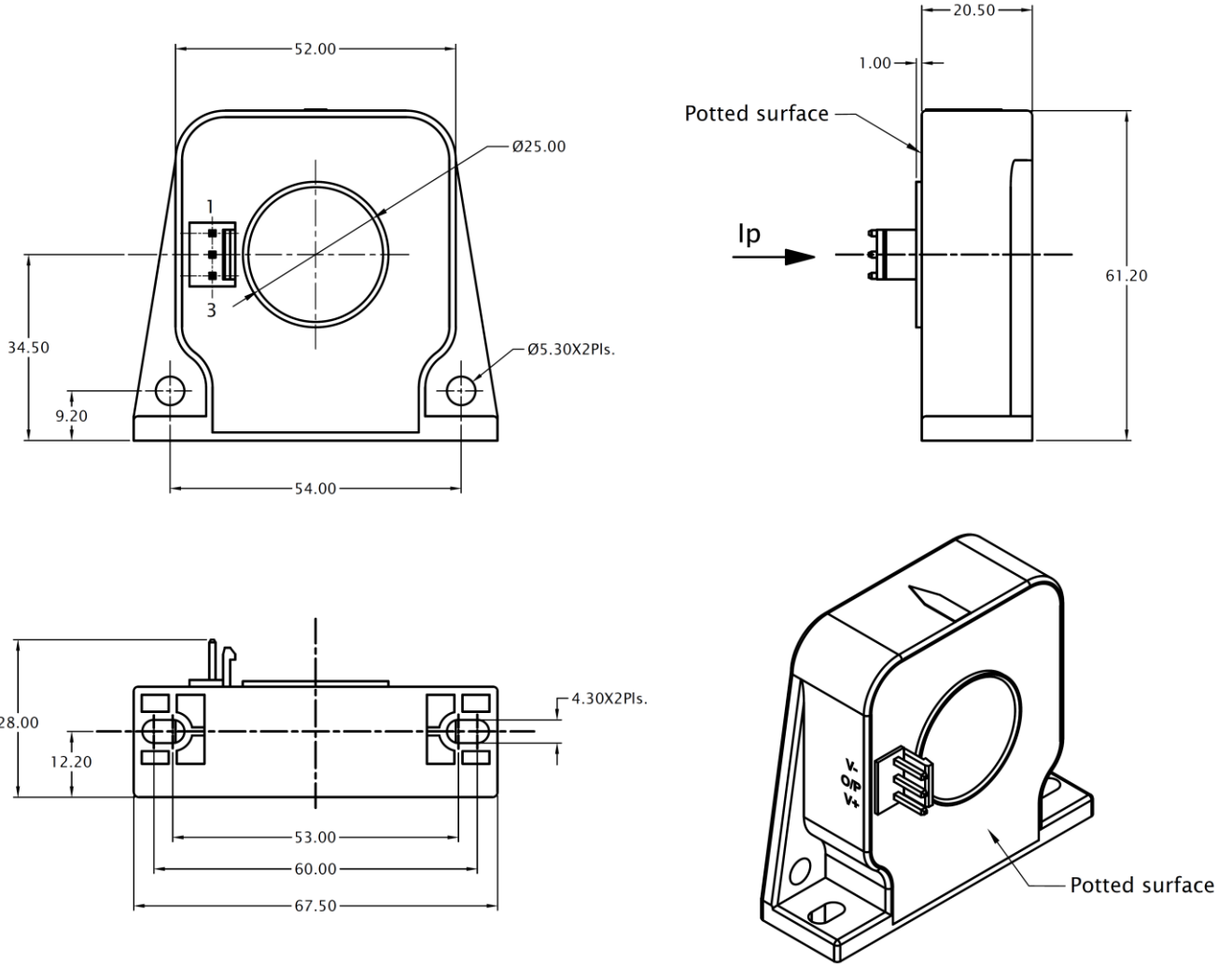
Parameters	Symbol	Value	Units
Dielectric strength between primary and secondary terminals, 50Hz, 60 seconds	$V_d$	3.0	kVrms
Partial discharge extinction voltage @10pC		2	kV
Impulse withstand voltage 1.2 / 50 $\mu$ s		6	kV
Comparative tracking index	CTI	>250	V
Insulation resistance at 500 VDC	$R_{is}$	>100	M $\Omega$
Creepage distance		6.80	mm
Clearance distance		6.80	mm

**Specifications (Unless otherwise specified temperature is 25°C)**

Parameters	Symbol	Condition	Min	Typ	Max	Units
Input current nominal	$I_{pn}$			300		Arms
Input current measuring range	$I_p$		-860		+860	A
Burden resistance	$R_b$	with $\pm 24V$ at $\pm 300A$	9		125	$\Omega$
		with $\pm 24V$ at $\pm 860A$	9		15	$\Omega$
Resistance of secondary winding	$R_s$	at $+70^\circ C$		44		$\Omega$
Output current at $I_{pn}$	$I_{out}$			120		mA
Number of secondary turns	$N_s$			2500		- - -
Theoretical sensitivity	$G_{th}$			0.4		mA/A
Supply voltage	$V_s$	$\pm 5\%$		$\pm 24$		V
Current consumption	$I_c$	$V_s = \pm 24 V$		$30 + I_{out}$		mA
Offset current	$I_{off}$		-0.17		+0.17	mA
Variation of $I_{off}$ wrt temperature	$I_{OT}$	-10 to $+70^\circ C$	-0.25		+0.25	mA
Magnetic offset current at $I_p = 0$ and specified $R_b$ after an overload of $3 \times I_{pn}$			-0.15		+0.15	mA
Linearity error	$\Sigma_L$		-0.1		+0.1	% of $I_{pn}$
Overall accuracy at $I_{pn}$	$X_G$		-0.47		+0.47	% of $I_{pn}$
Response time at 90% of $I_{pn}$	$t_{ra}$	$di/dt$ of 100 A/ $\mu s$		<1.0		$\mu s$
Frequency bandwidth	BW	-3dB small signal bw	0		100	kHz
$di/dt$ accurately followed	$di/dt$			>100		A/ $\mu s$
Ambient operating temperature	$T_A$		-10		+70	$^\circ C$
Ambient storage temperature	$T_S$		-25		+85	$^\circ C$
Mass	m			125		g

**Input & Output Characteristics**

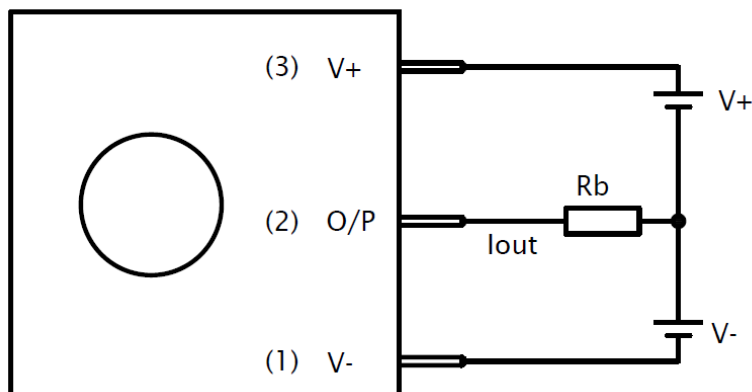
Mechanical dimensions



Tolerance unless otherwise specified

0.5 up to 3 in mm	>3 up to 6 in mm	>6 up to 30 in mm	>30 up to 120 in mm	>120 up to 400 in mm	>400 up to 1000 in mm	ALL DIMENSIONS ARE IN 'mm'	
± 0.20	± 0.30	± 0.50	± 0.80	± 1.20	± 2.0	SCALE -NTS	

Connection Diagram



## General information

- Connector on the product: Connector header, part no- B3P-VH(LF)(SN), JST Mfg.Co.Ltd.
- Suggested mating connector: Connector housing, part no- VHR-3N, & corresponding pin part no: SVH-21T-P1.1, JST Mfg.Co.Ltd.
- Sensor mounting: Base mounting, 2 holes X  $\varnothing$  4.30mm, M4 steel screws, recommended fastening torque 3 N-m  
Vertical mounting, 2 holes X 5.30mm, M5 steel screws, recommended fastening torque 3.5 N-m
- It is recommended to centrally locate the current carrying conductor or completely fill the central opening for optimum performance
- Output is positive when current ( $I_p$ ) flows in the direction of arrow
- Ensure proper connection of Power supply to avoid damage to the Sensor
- Electrohms reserves the right to make modifications on products for improvements without prior notice.
- \* Designed to meet UL508

## Safety



- This Sensor must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating instructions.



- Caution, risk of electrical shock
- When operating the Sensor, certain parts of the module can carry hazardous voltage (eg. primary busbar, power supply).
- Ignoring this warning can lead to injury and/or cause serious damage.
- A protective housing or additional shield could be used.
- Over currents ( $\gg I_{PN}$ ) can cause an additional offset due to magnetic remanence.
- The temperature of the primary conductor shall not exceed 100 °C.
- This Sensors must be used in electrical or electronic systems as per the applicable standards.
- Protect non-isolated high-voltage current carrying parts against direct contact (e.g. with a protective housing)
- When installing the sensor, ensure that the safe separation (between primary circuit and secondary circuit) is maintained over the whole circuits and their connections.