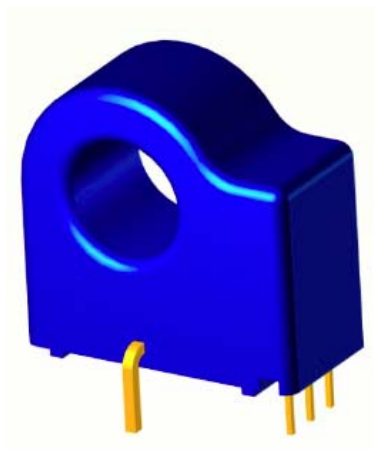




**$I_{PN} = 10...30A$**

### Features

- ◆ Open loop transducer using the Hall effect
- ◆ Low voltage application
- ◆ Unipolar +5V<sub>DC</sub> power supply
- ◆ Primary current measuring range up to  $\pm 10.. \pm 30A$
- ◆ Operating temperature range:  $-40^{\circ}C < T_A < +85^{\circ}C$
- ◆ Output voltage: fully ratio-metric(gain and offset)

### Advantages

- ◆ High accuracy
- ◆ Excellent linearity
- ◆ Low temperature drift
- ◆ Hermetic package

### 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<br>r. m. s $I_{PN}$ (A) | Primary current measuring range<br>$I_P$ (A) |
|-----------|-------------------------------------------------|----------------------------------------------|
| SIOPS10V1 | 10                                              | $\pm 10$                                     |
| SIOPS15V1 | 15                                              | $\pm 15$                                     |
| SIOPS20V1 | 20                                              | $\pm 20$                                     |
| SIOPS25V1 | 25                                              | $\pm 25$                                     |
| SIOPS30V1 | 30                                              | $\pm 30$                                     |

### General Description

For the electronic measurement of currents: DC, AC, pulsed.

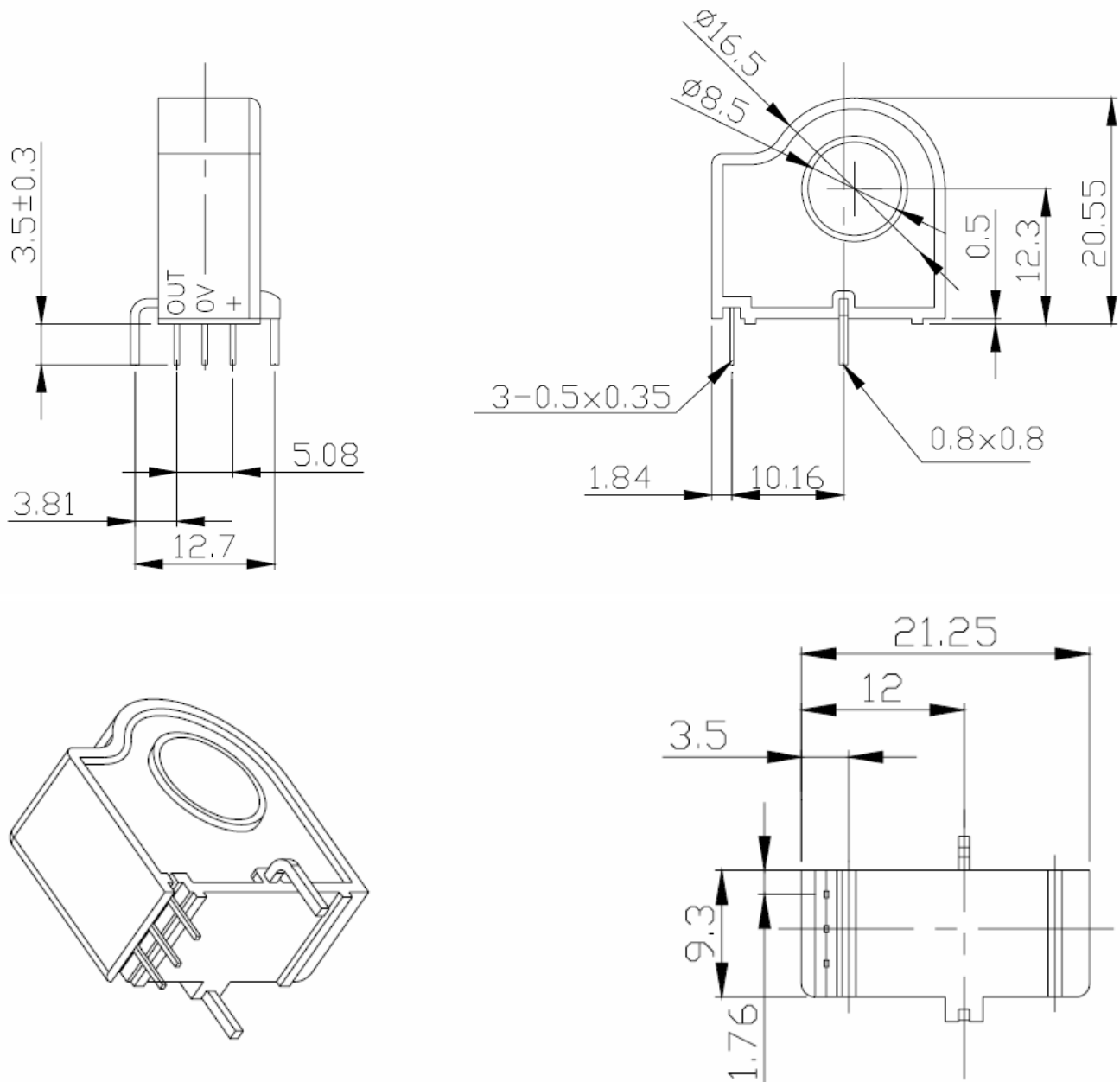
**Parameters Table**

| PARAMETERS                              | SYMBOL             | UNIT                 | VALUE                                              |            |      | CONDITIONS                                     |
|-----------------------------------------|--------------------|----------------------|----------------------------------------------------|------------|------|------------------------------------------------|
|                                         |                    |                      | Min.                                               | Typ.       | Max. |                                                |
| Electrical data                         |                    |                      |                                                    |            |      |                                                |
| Supply voltage(±5%)                     | V <sub>C</sub>     | V                    | 4.5                                                | 5          | 5.5  |                                                |
| Current consumption                     | I <sub>C</sub>     | mA                   | -                                                  | 9.2        | 12   | @ T <sub>A</sub> = 25°C                        |
| Isolation resistance                    | R <sub>IS</sub>    | MΩ                   | 4.7                                                | -          | -    | @ 500 VDC                                      |
| Output Load Resistance                  | R <sub>L</sub>     | KΩ                   | 4.7                                                | -          | -    | @V <sub>OUT</sub> to V <sub>CC</sub>           |
|                                         | R <sub>L</sub>     | KΩ                   | 4.7                                                | -          | -    | @V <sub>OUT</sub> to GND                       |
| Output Load Capacitance                 | C <sub>L</sub>     | nF                   | -                                                  | -          | 10   | @V <sub>OUT</sub> to GND                       |
| Output voltage                          | V <sub>out</sub>   | V                    | V <sub>c</sub> /5 (2.5+0.2×I <sub>p</sub> )@10A    |            |      | @T <sub>A</sub> = 25° C<br>V <sub>cc</sub> =5V |
|                                         |                    |                      | V <sub>c</sub> /5 (2.5+0.1333×I <sub>p</sub> )@15A |            |      |                                                |
|                                         |                    |                      | V <sub>c</sub> /5 (2.5+0.1×I <sub>p</sub> )@20A    |            |      |                                                |
|                                         |                    |                      | V <sub>c</sub> /5 (2.5+0.08×I <sub>p</sub> )@25A   |            |      |                                                |
|                                         |                    |                      | V <sub>c</sub> /5 (2.5+0.0666×I <sub>p</sub> )@30A |            |      |                                                |
| Accuracy - Dynamic performance data     |                    |                      |                                                    |            |      |                                                |
| Linearity                               | ε <sub>L</sub>     | % of I <sub>PN</sub> |                                                    | <±1        |      | @T <sub>A</sub> = 25°C                         |
| Accuracy (I <sub>PN</sub> = 10...15A)   | X                  | % of I <sub>PN</sub> |                                                    | <±2        |      | @T <sub>A</sub> = 25°C                         |
| Accuracy (I <sub>PN</sub> = 20...30A)   | X                  | % of I <sub>PN</sub> |                                                    | <±1.5      |      | @T <sub>A</sub> = 25°C                         |
| Quiescent Output Voltage <sup>(1)</sup> | V <sub>OUTQ</sub>  | V                    |                                                    | 2.5±20mV   |      | @T <sub>A</sub> = 25°C<br>B=0                  |
| Sensitivity Temperature Coefficient     | TCS <sub>ENS</sub> | %/°C                 |                                                    | <±0.025    |      |                                                |
| Output Resistance                       | R <sub>OUT</sub>   | Ω                    |                                                    | <1         |      |                                                |
| Output Bandwidth                        | BW                 | kH                   |                                                    | <50        |      | @-3dB                                          |
| Response time                           | t <sub>r</sub>     | μS                   |                                                    | >5 And <8  |      | @ 90% of I <sub>PN</sub>                       |
| Rms voltage isolation test              | V <sub>d</sub>     | kV                   |                                                    | <2         |      | @AC 50Hz<br>1Min                               |
| General data                            |                    |                      |                                                    |            |      |                                                |
| Ambient operating temperature           | T <sub>A</sub>     | °C                   |                                                    | -40 ~ +85  |      |                                                |
| Ambient storage temperature             | T <sub>S</sub>     | °C                   |                                                    | -40 ~ +105 |      |                                                |
| Mass                                    | m                  | g                    |                                                    | 300        |      |                                                |

**Notes:**

- 1) The indicated offset voltage is the one after the core hysteresis is removed.

### Dimensions SIOPSV1 (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**

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