



## Closed Loop Hall Current Sensor CYHCS-AP

This Hall Effect current sensor is based on closed loop compensating principle and designed with a high galvanic isolation between primary and secondary circuits. It can be used for measurement of DC and AC current, pulse currents etc. The output of the transducer reflects the real wave of the current carrying conductor.

| Product Characteristics                                                                                                                                                                                          | Applications                                                                                                                                                                                                                                     |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <ul style="list-style-type: none"><li>• Excellent accuracy</li><li>• Very good linearity</li><li>• Less power consumption</li><li>• Current overload capability</li><li>• Goods temperature properties</li></ul> | <ul style="list-style-type: none"><li>• General Purpose Inverters</li><li>• AC/DC Variable Speed Drivers</li><li>• Battery Supplied Applications</li><li>• Uninterruptible Power Supplies (UPS)</li><li>• Switched Mode Power Supplies</li></ul> |

### ELECTRICAL CHARACTERISTICS

| Part number                   | CYHCS-AP50A                               | CYHCS-AP100A                             |          |
|-------------------------------|-------------------------------------------|------------------------------------------|----------|
| Rated current                 | 50                                        | 100A                                     | A        |
| Measuring range               | $\pm 150$<br>( $\pm 18V$ , 100 $\Omega$ ) | $\pm 300$<br>( $\pm 18V$ , 68 $\Omega$ ) | A        |
| Turns ratio                   | 1:1000                                    | 1:2000                                   |          |
| Secondary Internal Resistance | 30                                        | 45                                       | $\Omega$ |
| Rated output current          | 50 $\pm 0.5\%$                            | 50 $\pm 0.5\%$                           | mA       |
| Measuring resistance          | 50 $\Omega$ ~ 100                         | 10 ~ 100                                 | $\Omega$ |
| Supply voltage                | $\pm 12V$ ~ $\pm 18VDC$                   |                                          |          |
| Galvanic isolation            | 3kV RMS/50Hz/1min,                        |                                          |          |
| Current consumption           | 20mA + output current                     |                                          |          |

### ACCURACY DYNAMIC PERFORMANCE

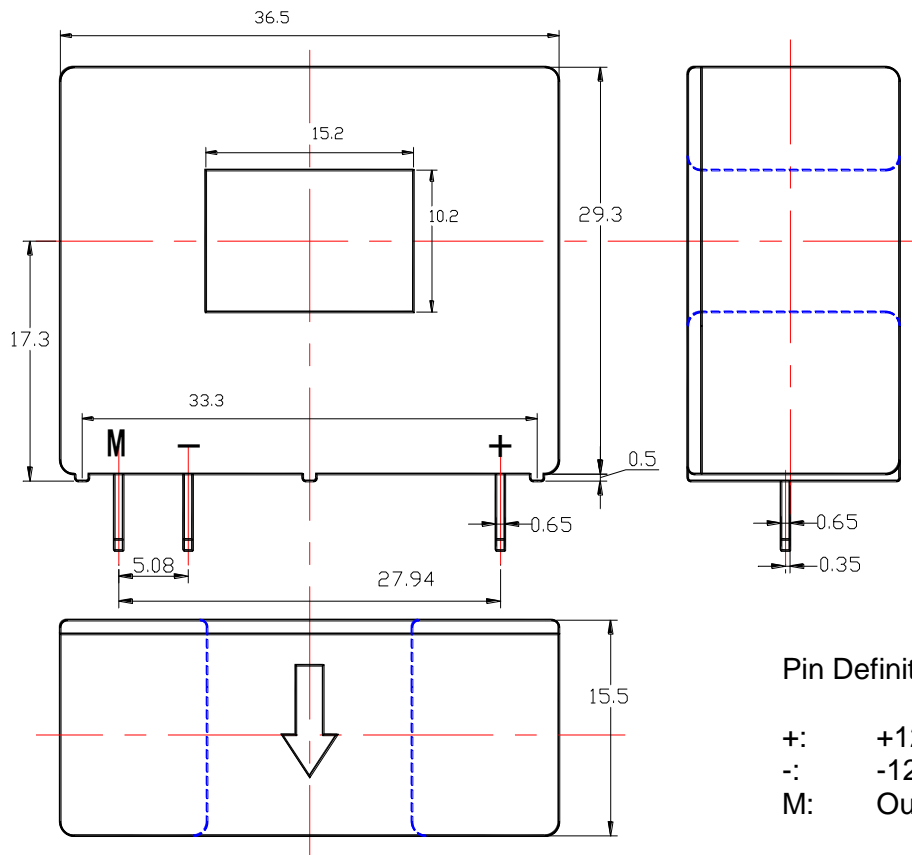
|                                 |                                                              |
|---------------------------------|--------------------------------------------------------------|
| Zero offset current             | $\pm 0.2mA$                                                  |
| Thermal drift of offset current | $\pm 0.005mA/^{\circ}C$ (-40 $^{\circ}C$ ~ +85 $^{\circ}C$ ) |
| Response time                   | <1.0 $\mu s$                                                 |
| Accuracy                        | $\pm 0.5\%$                                                  |
| Linearity                       | $\leq 0.1\%$ FS                                              |
| di/dt following accuracy        | 200A/ $\mu s$                                                |
| Bandwidth(-3dB)                 | DC ~ 200kHz                                                  |

### GENERAL CHARACTERISTIC

|                       |                                    |
|-----------------------|------------------------------------|
| Operating temperature | -40 $^{\circ}C$ ~ +85 $^{\circ}C$  |
| Storage temperature   | -40 $^{\circ}C$ ~ +125 $^{\circ}C$ |

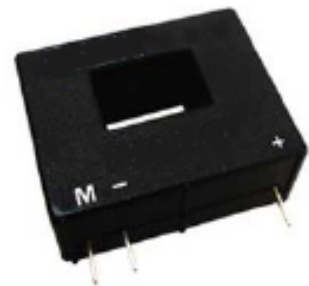
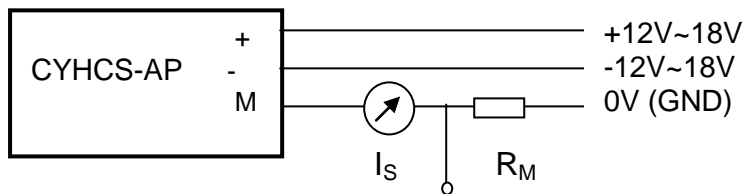


## Dimensions (mm)



### Pin Definition

+: +12V~+15V  
-: -12V~-15V  
M: Output



### Notes:

1. Connect the terminals of power source, outputs respectively and correctly, never make wrong connection.
2. Two potentiometers can be adjusted, only if necessary, by turning slowly to the required accuracy with a small screwdriver.
3. The best accuracy can be achieved when the window is fully filled with bus-bar (current carrying conductor).
4. The in-phase output can be obtained when the direction of current of current carrying conductor is the same as the direction of arrow marked on the transducer