

Hall Effect Voltage Sensor CYHVS5000LV

CYHVS5000LV is a Hall Effect Voltage sensor, which is based on closed loop and magnetic compensation principle. This sensor can be used for measuring DC and AC voltage with different wave forms. It has high electric isolation.

Features

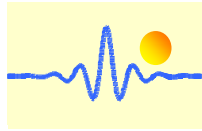
- High electrical isolation
- High reliability
- Good overload capability
- Small sizes
- Insulated plastic case recognized according to UL94-V0
- Very good property-price ratio

Applications

- Battery supplied applications
- Uninterruptible power supplies (UPS)
- Variable speed drives
- Welding machine
- Electric power network monitoring
- AC frequency conversion servo-motors
- Electrochemical applications

Technical Data

| Parameters | CYHCS-100LV | CYHCS-300LV | CYHCS-500LV | CYHCS-1000LV | CYHCS-2000LV | CYHCS-3000LV | CYHCS-4000LV | CYHCS-5000LV | Unit |
|---------------------------------------|--|--------------|-------------|--------------|--------------|--------------|--------------|--------------|---------------|
| Rated input Voltage (V_N) | 100 | 300 | 500 | 1000 | 2000 | 3000 | 4000 | 5000 | V |
| Measuring range(V_P) | 200 | 600 | 1000 | 2000 | 4000 | 6000 | 6000 | 7500 | V |
| Total input power consumption | 1 | 1.5 | 3.125 | 2.5 | 5 | 5.625 | 10 | 8 | W |
| Rated Input current (I_p) | 10 | 5 | 6.25 | 2.5 | 2.5 | 1.875 | 2.5 | 1.6 | mA |
| Turns ratio (N_p/N_s) | 5000 : 1000 | 10000 : 1000 | 8000 : 1000 | 20000 : 1000 | 20000 : 1000 | 26666 : 1000 | 20000 : 1000 | 30000 : 960 | T |
| Secondary coil resistance (R_s) | @ $T_a=85^\circ\text{C}$, 55 | | | | | | | | Ω |
| Rated output current I_s | @ $V_p=\pm V_N$, $\pm 50 \pm 0.5\%$ | | | | | | | | mA |
| Measuring resistance (R_M) | @ $\pm 15V V_{PN}$ 50(min), 200(max) | | | | | | | | Ω |
| | @ $\pm 15V 2 \times V_{PN}$ 50(min), 100(max) | | | | | | | | Ω |
| | @ $\pm 24V V_{PN}$ 100(min), 330(max) | | | | | | | | Ω |
| | @ $\pm 24V 2 \times V_{PN}$ 100(min), 200(max) | | | | | | | | Ω |
| Power supply (V_c) | $\pm 15 \sim \pm 24$ | | | | | | | | V |
| Current consumption (I_c) | 20+ I_s | | | | | | | | mA |
| Galvanic isolation voltage | @ 50Hz,AC,1min, between primary and secondary + shield: 12.0 | | | | | | | | kV |
| | @ 50Hz,AC,1min Between secondary and shield : 2.0 | | | | | | | | |
| Measuring accuracy (X_G) | $\pm 0.5\%$ FS (Full Scale) | | | | | | | | |
| Linearity (ϵ_L) | @ $V_p = 0 \sim \pm V_{pn}$ ≤ 0.1 | | | | | | | | % FS |
| Offset current (I_o) | @ $V_p = 0$, $\leq \pm 0.2$ | | | | | | | | mA |
| Thermal drift of offset current I_o | @ $-40^\circ\text{C} \sim +85^\circ\text{C}$ $\leq \pm 0.6$ | | | | | | | | mA |
| Response time (t_r) | ≤ 200 | | | | | | | | μs |

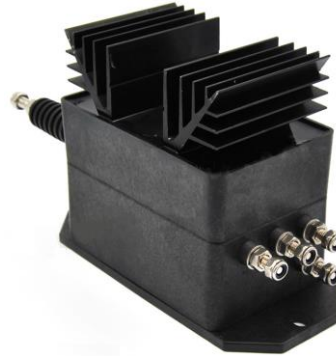


General Data

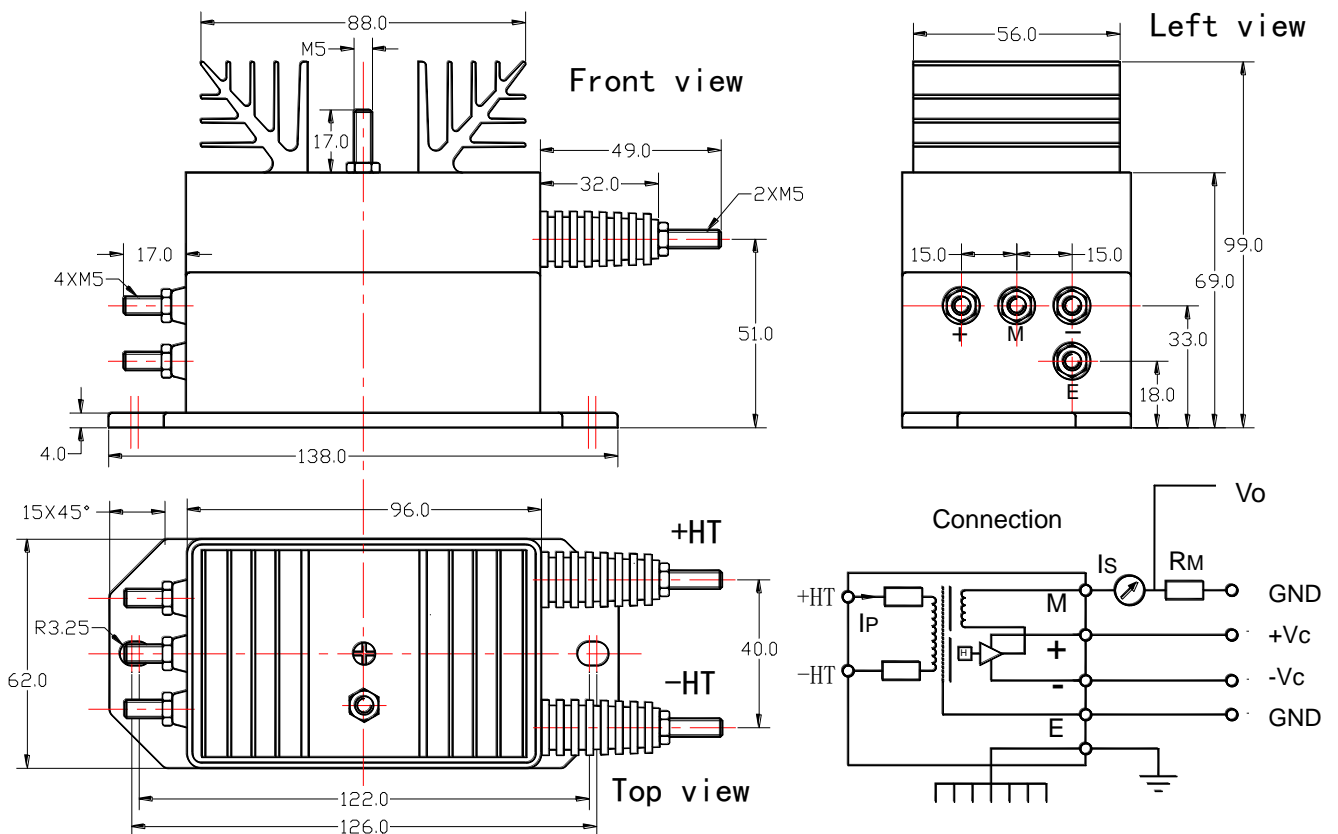
| | | |
|---|-------------|----|
| Ambient operating temperature (T_A) | -40 ~ +85 | °C |
| Ambient storage temperature (T_S) | - 40 ~ +125 | °C |
| Unit weight | 850 | g |

Standards used for this sensor:

- UL94-V0.
- EN60947-1:2004
- IEC60950-1:2001
- EN50178:1998
- SJ 20790-2000



Case Style and Connection (all dimensions are in mm)



The output current I_S is positive when the I_p is applied to the terminal +HT. Temperature of the primary conductor should not exceed 100°C.