# DATA SHEET
# Hall Effect Current Sensor

**PN : BJHCS-LTR** | **IPN = 50A - 100A - 200A - 300A**

## Features

- **Closed loop**
- **High accuracy**
- **Supply voltage : ±12 to ±18V DC**
- **Current output**
- **Through hole primary**
- **Can be customized**
- Good linearity
- Fast response time
- Low temperature drift
- High anti-jamming capability
- Strong current overload
- Connection by 4 wire cable

## Applications

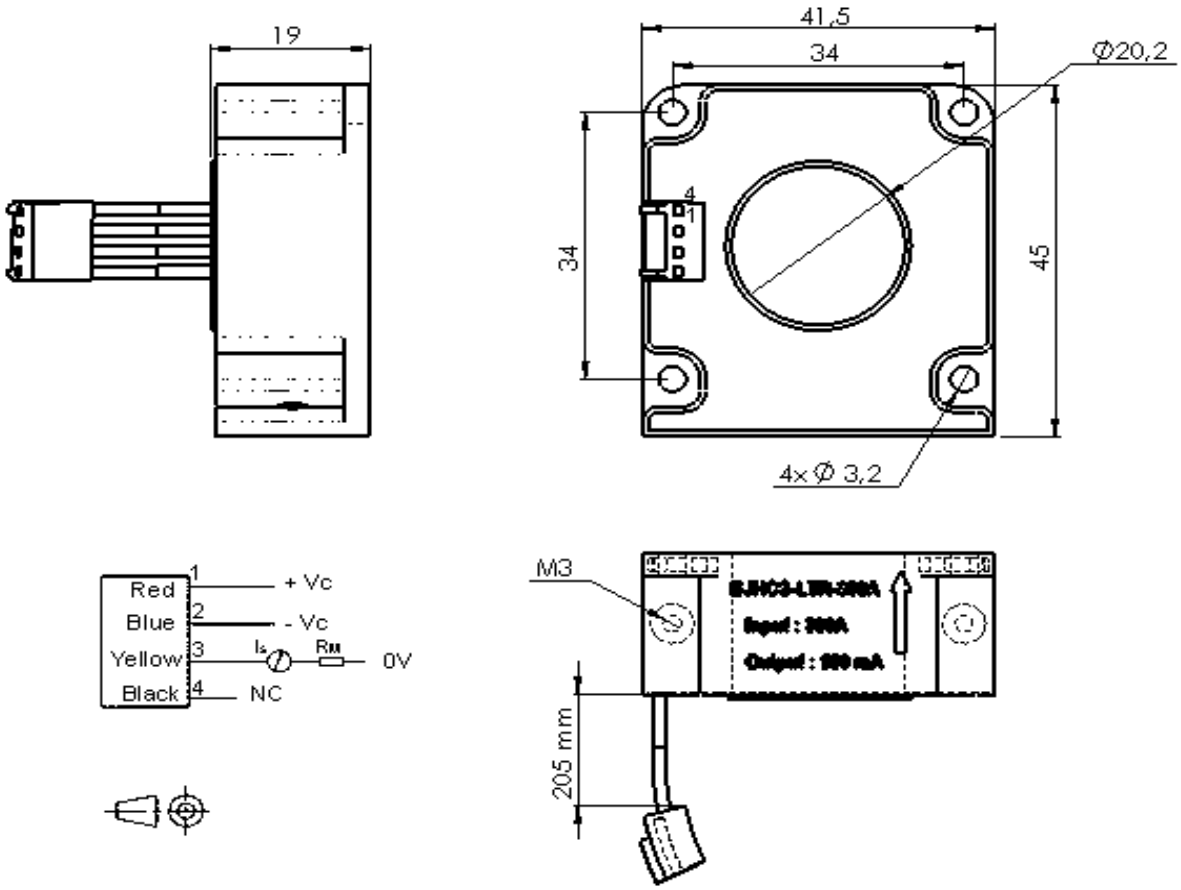
- AC/DC variable speed motor driver
- Battery applications
- Uninterruptible power supplies (UPS)
- Power supplies for welding applications

## ELECTRICAL DATA

| BJHCS-LTR-… | | | 50A | 100A | 200A | 300A1 | 300A2 |
|---|---|---|---|---|---|---|---|
| Nominal rms current $I_{PN}$ (A) | | | 50 | 100 | 200 | 300 | 300 |
| Sensed current range $I_{PM}$ (A) with $V_C$=±18V | | | ±150 | ±300 | ±600 | ±600 | ±900 |
| *and $R_M$ (Ω) =* | | | *100* | *90* | *35* | *35* | *20* |
| Measuring resistance with $V_C$= | ± 12 V | *@ ± $I_P$ (A)* | *50* | *100* | *200* | *300* | *300* |
| | | $R_M$ max(Ω) = | 200 | 200 | 90 | 53 | 75 |
| | | *@ ± $I_P$ (A)* | *100* | *200* | *500* | *500* | *600* |
| | | $R_M$ max(Ω) = | 100 | 90 | 24 | 24 | 20 |
| | ± 15 V | *@ ± $I_P$ (A)* | *50* | *100* | *200* | *300* | *300* |
| | | $R_M$ max(Ω) = | 250 | 250 | 120 | 72 | 100 |
| | | *@ ± $I_P$ (A)* | *100* | *200* | *500* | *500* | *600* |
| | | $R_M$ max(Ω) = | 130 | 120 | 35 | 36 | 36 |
| Coil turns ratio K ($P^{ry}$:$S^{ry}$) | | | 1:1000 | 1:2000 | 1:2000 | 1:2000 | 1:3000 |
| Secondary coil resistance Ω | | | 10 | 20 | 20 | 20 | 34 |
| Rated output current $I_{SN}$ (mA) | | | 50 | 50 | 100 | 150 | 100 |
| Supply voltage $V_C$ (Vdc) | | | ± 12 ±5% to ± 18 ±5% | | | | |
| Static current consuption $I_{C0}$ (mA) | | | ≤ 20 | | | | |
| Current consuption $I_C$ (mA) | | | 20 + $I_S$ | | | | |

| ACCURACY DYNAMIC PERFORMANCE | | | GENERAL CHARACTERISTICS | | |
|---|---|---|---|---|---|
| Accuracy $X_G$ @ $I_{PN}$, T=25℃ | ± 0,5 | % | Operating temperature | -40 to +85 | ℃ |
| Zero offset Current $I_O$ @ $I_P$=0, T=25℃ | ± 0,2 | mA | Storage temperature | -40 to +125 | ℃ |
| Current offset drift $I_O$ @ -40℃ to 85℃ | ≤ ± 0,5 | mA | Weight | 70 | g |
| Linearity error $\varepsilon_L$ | ≤ 0,1 | % FS | Insulation voltage (50Hz, 1mn) | 6 | KV |
| di/dt accurately followed | > 200 | A/µs | Lead length | 205 | mm |
| Response time tr | < 1 | µs | | | |
| Bandwidth (-3db) | DC to100 | kHz | | | |

## DIMENSIONS




## MECHANICAL CHARACTERISTICS

| | |
|---|---|
| General tolerance | ± 0,5 mm |
| Through hole dimension | ∅ 20,2 mm |
| Transducer fastening | M1,5 or 4 holes ∅ ??? mm |
| Recommended fastening torque | < ??? Nm |
| Terminal connection | |

**Cautions :**

- $I_S$ is positive when $I_P$ flows in accordance whith the arrow direction (see the top fo the sensor);
- Primary conductor temperature should not exceed 100 ℃;
- Best dynamic performances (di/dt and response time) are achieved with a single electrical conductor completely filling the through hole;
- To achieve the best magnetic coupling, the primary winding must be wound around the top edge of the sensor.

**WARNING : Incorrect wiring may cause damage to the sensor.**