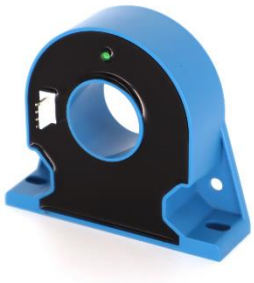
# Flux Gate Current Sensor DXE300-25GJ/51 $I_{PN}$ = 300 A

The DXE300-25GJ/51 is a advanced flux gate current sensor that use high technology to bring the best combination of performance and reliability. It is rated for a primary current measurement range of ±300A dc. It is calibrated and temperature compensated for improved accuracy using multi-point temperature characterization.



## DIFFERENTIATION

● Accuracy: Multi-point temperature characterization and calibration for improved accuracy over temperature range.

● Magnetic immunity: Flux gate configuration and optimized magnetic circuit allow for excellent performance in diverse magnetic environments.

● Flexible: Customizable on-board firmware to meet specific application requirements.

## Features

● Excellent accuracy

● Very good linearity

● Low temperature drift

● Wide frequency bandwidth

● Digital communication-High speed CAN2.0 interface

● Optimized response time

## Application Domain

● Metrological verification and calibration

● Laboratory current measurement

● Instrumentation (e.g. power analyzer)

● Battery pack detection

● Power control

## Electrical data

| Parameter | specifications | | | Condition |
|---|---|---|---|---|
| | Minimum value | Standard value | Maximum value | |
| Rated input current $I_{PN=}$ | | ±300 Adc | | / |
| Measure range $I_{PM=}$ | | | ±360 Adc | 1Min/Hour |
| Power supply voltage $V_C$ | ±11 Vdc | | ±16 Vdc | Full range |
| Current consumption $I_C$ | ±30 mA | ±180 mA | ±210 mA | $I_{PM}$ range |
| Current change $K_N$ | 2000:1 | | | Input : Output |
| Rated output current $I_{SN}$ | | 150 mA | | Rated input current |
| Measuring resistance $R_M$ | | 10Ω | 20Ω | |

## Accuracy- Dynamic Parameter

| Project | Symbol | Test conditions | Numerical value | | | Unit |
|---|---|---|---|---|---|---|
| | | | minimum | standard | maximum | |
| Accuracy | $X_e$ | @0%~40%$I_{PN}$ | -- | -- | 0.012 | A |
| | | @40%$I_{PN}$~$I_{PM}$ | -- | -- | 0.01 | %RD |
| Ratio error | $X_{Ge}$ | @0%~40%$I_{PN}$ | -- | -- | 0.012 | A |
| | | @40%$I_{PN}$~$I_{PM}$ | -- | -- | 0.01 | %RD |
| Angle error | $X_{Pe}$ | | -- | -- | 0.01 | crad |
| Linearity | $\varepsilon_L$ | -- | -- | -- | 50 | ppm |
| Temperature drift coefficient | TCI | -- | -- | -- | 2 | ppm/K |
| Time drift coefficient | TT | -- | -- | -- | 2 | ppm/month |
| Power supply anti-interference | TV | -- | -- | -- | 5 | ppm/V |
| Zero offset current | $I_o$ | 25±10℃ | -- | -- | ±0.006 | mA |
| Zero offset current | $I_{oT}$ | Within the full operating temperature range | -- | -- | ±0.015 | mA |
| Ripple current | $I_n$ | DC-10Hz | -- | -- | 2 | ppm |
| Dynamic response time | $T_r$ | di/dt=100A/us<br>rise to 90% IPN | -- | -- | 1 | us |
| Current following speed | di/dt | -- | 100 | -- | -- | A/us |
| Bandwidth(- 3 dB) | F | -- | 0 | -- | 100 | kHz |

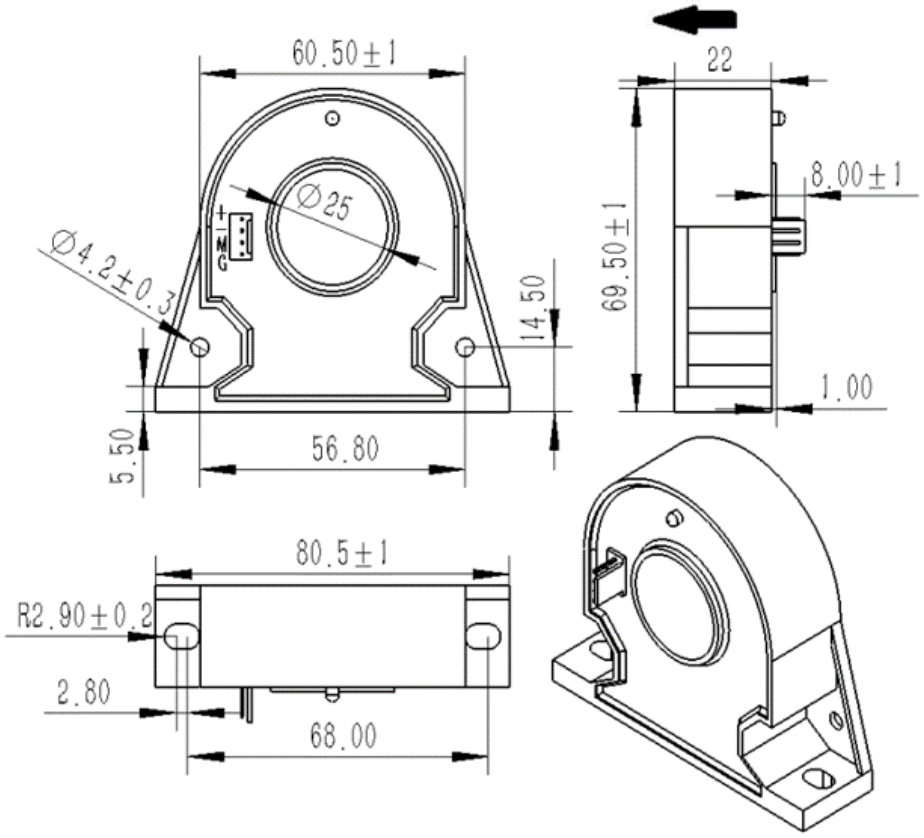
## General characteristics

| Project | Symbol | Test conditions | Numerical value | | | Unit |
|---|---|---|---|---|---|---|
| | | | minimum | standard | maximum | |
| Operating temperature range | $T_A$ | -- | -40 | -- | 85 | ℃ |
| Storage Temperature Range | $T_S$ | -- | -45 | -- | 85 | ℃ |
| Weight | m | | 135g±15g | | | g |

## Safety characteristics

| Project | | Symbol | Test conditions | Numerical value | | | Unit |
|---|---|---|---|---|---|---|---|
| | | | | minimum | standard | maximum | |
| Withstand voltage | Between primary and secondary edges | $V_d$ | 50Hz,1min | | 3 | | KV |
| Transient isolation withstand voltage | Between primary and secondary edges | $V_w$ | 50us | | 5 | | KV |

## Mechanical dimension （mm）



## Mechanical characteristics

● General tolerance: ± 0.7mm

● Connector: HX2510-4P(spacing 2.54MM)

## NOTE

● When the direction of the input current IP is consistent with the direction indicated by the arrow in the outline drawing, the output current IS is in the forward direction.

● Please try to locate the primary conductor at the center of the probe aperture as much as possible.

● The through-hole is made of metal material, so the through-hole wire cannot be an exposed cable. The through-hole wire must be insulated.

● This module is a standard sensor, please contact us for special applications.

● We reserve the right to modify this sensor manual without prior notice.