



## Flux Gate Current Sensor DXE2000-R3/51

$I_{PN} = 2000\text{ A}$

The DXE2000-R3/51 is an advanced flux gate current sensor that uses high technology to bring the best combination of performance and reliability. It is rated for a primary current measurement range of  $\pm 2000\text{ A}$  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
- Optimized response time

### Application Domain

- Metrological verification and calibration
- Laboratory current measurement
- Instrumentation (e.g. power analyzer)
- Medical equipment (e.g. MRI)
- Battery pack detection
- Power control



Electrical data

Parameter	specifications			Condition
	Minimum value	Standard value	Maximum value	
Rated input current $I_{PN}$		$\pm 2000$ Adc		/
Measure range $I_{PM}$			$\pm 2200$ Adc	1Min/Hour
Power supply voltage $V_c$	$\pm 14.5$ Vdc	$\pm 24$ Vdc	$\pm 26.4$ Vdc	Full range
Current consumption $I_c$	$\pm 40$ mA	$\pm 840$ mA	$\pm 920$ mA	$I_{PM}$ range
Current change $K_N$	2500:1			Input : Output
Rated output current $I_{SN}$		800 mA		Rated input current
Measuring resistance $R_M$		4 $\Omega$	8 $\Omega$	

Accuracy- Dynamic Parameter

Project	Symbol	Test conditions	Numerical value			Unit
			minimum	standard	maximum	
Accuracy	$X_e$	@0%~5% $I_{PN}$	--	--	0.01	A
		@5% $I_{PN}$ ~ $I_{PM}$	--	--	0.01	%RD
Ratio error	$X_{Ge}$	@0%~5% $I_{PN}$	--	--	0.01	A
		@5% $I_{PN}$ ~ $I_{PM}$	--	--	0.01	%RD
Angle error	$X_{Pe}$		--	--	0.01	crad
Linearity	$\epsilon_L$	--	--	--	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 $\pm$ 10 $^{\circ}$ C	--	--	$\pm 0.0066$	mA
Zero offset current	$I_{oT}$	Within the full operating temperature range	--	--	$\pm 0.01$	mA
Ripple current	$I_n$	DC-10Hz	--	--	2	ppm
Dynamic response time	$T_r$	di/dt=100A/us	--	--	1	us
		rise to 90% $I_{PN}$				
Current following speed	di/dt	--	100	--	--	A/us
Bandwidth(- 3 dB)	F	--	0	--	100	kHz



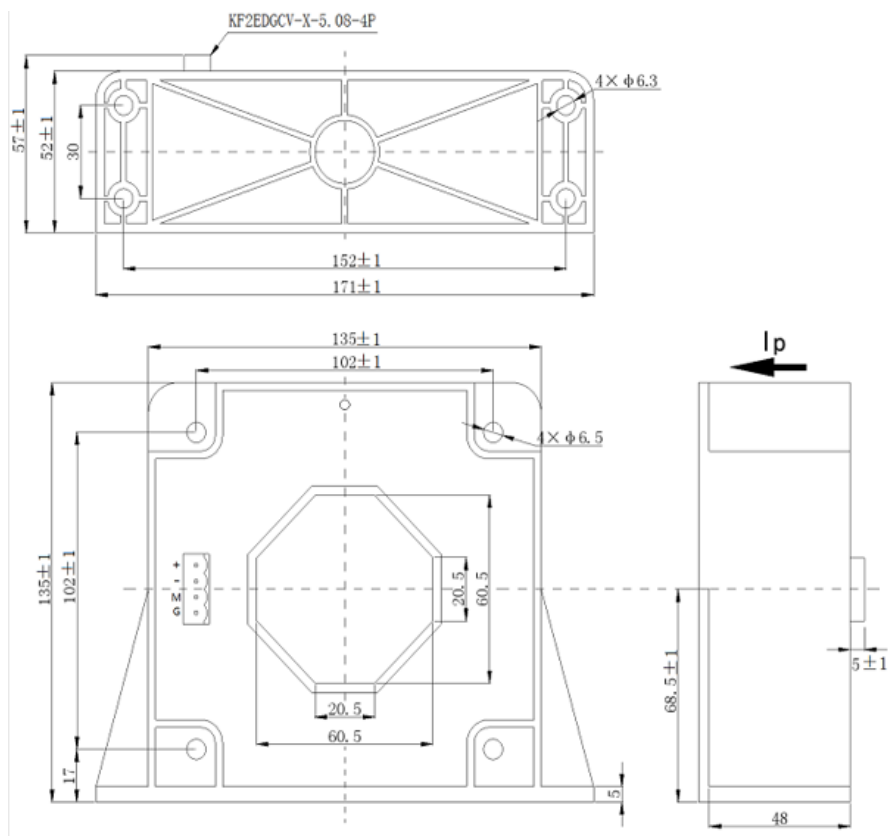
### General characteristics

Project	Symbol	Test conditions	Numerical value			Unit
			minimum	standard	maximum	
Operating temperature range	T <sub>A</sub>	--	-40	--	85	°C
Storage Temperature Range	T <sub>S</sub>	--	-45	--	85	°C
Weight	m		140g±400g			g

### Safety characteristics

Project	Symbol	Test conditions	Numerical value			Unit
			minimum	standard	maximum	
Withstand voltage	Between primary and secondary edges	V <sub>d</sub>	50Hz,1min	5		KV
Transient isolation withstand voltage	Between primary and secondary edges	V <sub>w</sub>	50us	10		KV

### Mechanical dimension (mm)





## Mechanical characteristics

- General tolerance:  $\pm 0.8$  mm
- Connector: KF2EDGCV-X-5.08-4P(spacing 5.08MM)

## 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.