Flux Gate Current Sensor DXE100-R7/51 I_{PN} = 100 A

The DXE100-R7/51 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 ± 100A 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, such as magnetic resonance imaging（MRI）

● Battery pack detection

● Power control

Electrical data

Parameter	specifications			Condition
	Minimum value	Standard value	Maximum value	
Rated input current $I_{PN=}$		±100 Adc		/
Measure range $I_{PM=}$			±120 Adc	1Min/Hour
Power supply voltage V_C	±11 Vdc		±16 Vdc	Full range
Current consumption I_C	±30 mA	±80 mA	±90 mA	I_{PM} range
Current change K_N	2000:1			Input : Output
Rated output current I_{SN}		50 mA		Rated input current
Measuring resistance R_M		40Ω	60Ω	

Accuracy- Dynamic Parameter

Project	Symbol	Test conditions	Numerical value			Unit
			minimum	standard	maximum	
Accuracy	X_e	@0%~100%I_{PN}	--	--	0.01	A
		@100%I_{PN}~I_{PM}	--	--	0.01	%RD
Ratio error	X_{Ge}	@0%~100%I_{PN}	--	--	0.01	A
		@100%I_{PN}~I_{PM}	--	--	0.01	%RD
angle error	X_{Pe}		--	--	0.01	crad
Linearity	ε_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℃	--	--	±0.005	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 rise to 90% I_{PN}	--	--	1	us
Current following speed	di/dt	--	100	--	--	A/us
Bandwidth(- 3 dB)	F	--	0	--	100	kHz

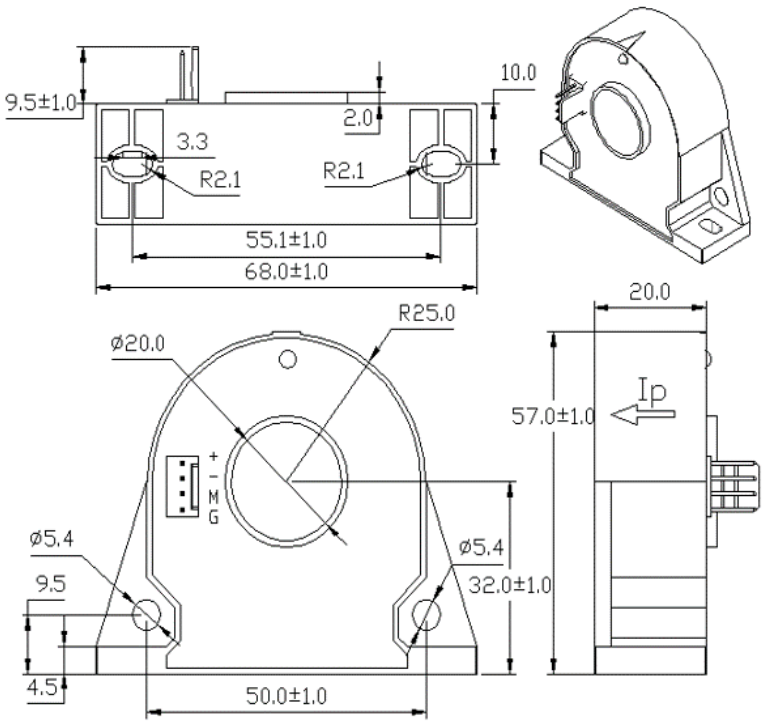
General characteristics

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			100g±10g		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.