



- High Accuracy
- Broad Bandwidth
- Low Zero-drift

Shenzhen Aerospace Precision Electronics Co., Ltd.

DIT Series

High-precision digital current transducer

User manual

V1.5



Founded in 2017, Shenzhen Aerospace Precision Electronics Co., Ltd. is a technology-leading enterprise dedicated to the development, production, sales and customization of high-precision current transducers and measuring instruments. We will strive to build a well-known brand of precision current transducers and precision instruments in the DC field, and become a leading international leader in precision electronics in the field of DC systems.

Based on multi-faceted technology integration and innovation, Shenzhen Aerospace Precision Electronics Co., Ltd. has developed the industry's first high-precision digital current transducer and an analog current transducer featuring high precision, low costs, low zero drift and low temperature drift. This series of products reduces industry costs, improves industry efficiency, enhances user experience, and creates value for customers. The company's products have won many achievements in the national innovation and entrepreneurial competition, and won wide attention and support from all walks of life.

As a company with strong sense of responsibility and mission, we adhere to multi-point zero-flux technology-led approach, with client-oriented service and customized products, and improve the operating quality by successfully capital financing. We are making our efforts to build an innovative sharing enterprise.



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2 Summary

2.1 Product summary

As a new generation digital transducer, the products use a brand-new software and hardware design, which can simultaneously measure single-phase AC and DC current, frequency and so on. The products can be widely used in metrology institutes, government inspection agencies and other metering areas.

The multi-point zero-flux technology system combines closed-loop excitation flux control technology, self-excited flux gate technology, and multiple closed loop control technology. The combination of technologies enables zero-flux closed-loop control of excitation flux, DC flux and AC flux, and can detect high-frequency ripple by constructing a high-frequency ripple sensing channel, so that the transducer can achieve high gains and measuring accuracy over the full bandwidth.

2.2 Key technologies

- Self-excited fluxgate technology
- Excitation closed-loop control technology
- Self-exciting demagnetization technology
- Multi-point zero-flux technology
- Temperature control compensation technology
- Multi-range automatic switching technology

2.3 Features

- Advanced zero-flux closed-loop transducer
- Insulation measurement at primary and secondary side
- Excellent linearity and accuracy
- Extremely low temperature drift
- Extremely low zero drift
- Broad band and low response time
- Strong anti-electromagnetic interference

2.4 Application Domain

- Industry Control
- Medical Equipment
- Railway
- Power and power grid
- Test instrumentation
- New Energy



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3 Product selection guide and technical parameters

3.1 Product selection

DIT series product selection				
	AC current	DC current	AC accuracy	DC accuracy
DIT1SG	707mA	±1A	0.05%	0.02%
DIT1SI			0.05%	0.05%
DIT5SG	3.5A	±5A	0.05%	0.02%
DIT5SI			0.05%	0.05%
DIT60SG	42A	±60A	0.05%	0.02%
DIT60SI			0.05%	0.05%
DIT200SG	141A	±200A	0.05%	0.02%
DIT200SI			0.05%	0.05%
DIT300SG	212A	±300A	0.05%	0.02%
DIT300SI			0.05%	0.05%
DIT400SG	282A	±400A	0.05%	0.02%
DIT400SI			0.05%	0.05%
DIT600SG	424A	±600A	0.05%	0.02%
DIT600SI			0.05%	0.05%
DIT1000SG	707A	±1000A	0.05%	0.02%
DIT1000SI			0.05%	0.05%

3.2 Technical parameters (RG-Measuring range)

DIT series product technical parameters									
		DIT1	DIT5	DIT60	DIT200	DIT300	DIT400	DIT600	DIT1000
AC current measurement	Measuring limit	707mA	3.5A	42A	141A	212A	282A	424A	707A
	Measuring range	(0~110%)RG							
	Accuracy	±0.05%RG							
	Resolution	0.01%RG							
DC current	Measuring limit	±1A	±5A	±60A	±200A	±300A	±400A	±600A	±1000A



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measur ement	Measuring range	(0~110%)RG
	Accuracy	±0.02%RG(SG model)) ±0.05%RG(SI model))
	Resolution	0.005%RG
Frequen cy measur ement	Measuring range	40Hz~70Hz
	Accuracy	±0.01Hz
	Resolution	0.001Hz
Other paramet ers	Working power voltage range	±15VDC
	Working temperatur e	10°C~35°C
	Relative humidity	≤85%, Non-corrosive gas