RIT2 Residual Current Transducer

RIT2 has a high gain and measurement accuracy in the full bandwidth range, due to the application of the multi-point zero-flux technology system and high-frequency ripple sensing channel on top of currently existing DC sensor technology.

The multi-point zero-flux technology system secures the high accuracy by utilizing the technology combination of exciting magnetic flux closed-loop control, self-excited magnetic flux gate and multi-closed-loop control that realizes the closed-loop control between excitation magnetic flux and AC/DC magnetic flux generated by primary current, while the high-frequency ripple sensing channel allows the sensor to have the high performance over the full bandwidth range.

Product photo

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Key Technologies

- ◇ Excitation closed-loop control technology
- ◇ Self-excitation demagnetization technology
- ◇ Multi-point zero-flux technology
- ◇ Temperature control compensation technology
- ◇ Multi-range automatic switching technology

Features

- ◇ Insulated measurement between 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

Application Domain

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

Electrical Performance

Parameter	Symbol	Measuring Conditions	Min	Typ	Max	Unit
Primary nominal current	I_{PN}	—	0	2.0	—	A
Primary overload current	I_P	—	—	200% I_{PN}	—	A
Operating voltage	V_C	—	±14.2	±15	±15.8	V
Power consumption current	I_{PWR}	—	±30			mA
Output voltage	V_{SN}		0	±2	—	V

Accuracy Measurement

Parameter	Symbol	Measuring Conditions	Min	Typ	Max	Unit
Accuracy	X_G	Input direct current，rated range	—	—	0.2	%
Linearity	ε_L	Full range	—	—	0.1	%
Zero offset voltage	I_{OT}	Full temperature range	—	—	±10	mV
Dynamic response time	t_r	Rised to 90%I_{PN}	—	—	2	ms
Frequency bandwidth (-3dB)	F	—	0	—	100	kHz

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Safety Characteristics

Parameter	Symbol	Measuring Condition	Value	Unit
Insulation voltage / Between primary and secondary sides	Vd	50Hz,1min	5	KV
Transient isolation withstand voltage / Between primary and secondary sides	Vw	50us	10	KV
Creepage distance / Between the primary and the outer shell	dCp	—	11	mm
Clearance distance / Between the primary and the outer shell	dCi	—	11	mm
Comparative tracking index	CTI	IEC-60112	275	V

General Characteristics

Parameter	Symbol	Measuring Condition	Min	Typ	Max	Unit
Ambient operating temperature	T_A	—	-40	—	+85	ºC
Ambient storage temperature	T_S	—	-55	—	+95	ºC
Relative humidity	RH	—	20	—	80	%
Mass	M	—	—	370±50	—	g

Operating Status Instructions

◇ Normal status：

The green light indicator is on when the device is running normally:
After the device is powered on, the green indicator is on when the device is running normally. When the green light is off, you should check whether the power supply of the transducer is normal as the first step.

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◇ Fault status:

The green light is blinking when the current overloads.

Trouble-shooting:

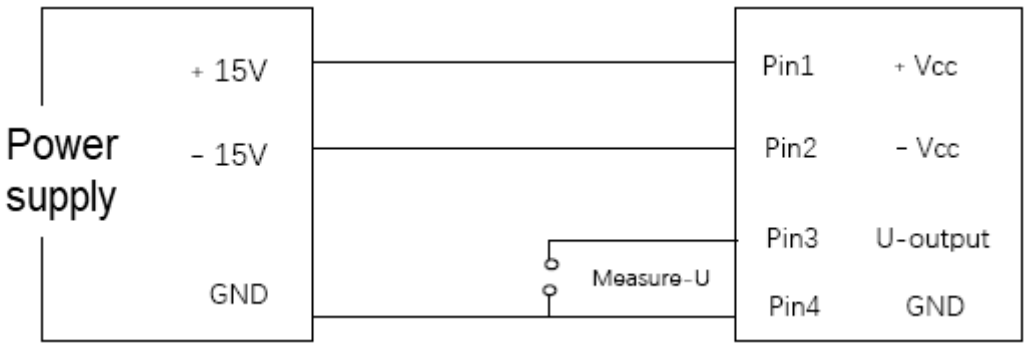
If the power supply is normal, the green light indicator keeps on blinking, then the primary current is over the specified measurement range and the transducer will be in overload mode. In this mode, the transducer will be working in non-zeroflux mode, the secondary and primary currents are not in proportion. When the current recovers to the specified measurement current range, the current transducer returns to normal, green light indicator will be on.

Connection system

1. Phoenix terminal pin function definition

Pin No.	1	2	3	4
Definition	**+15V Supply**	**-15V Supply**	**U_Output**	**GND**

LIT Transducer



Test instruction:

After the current flows through the primary hole of the transducer, a voltage is directly outputted from the interface. The primary current I_P can be obtained by measuring the output voltage U_{OUTPUT}:

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$$I_P = K_N * U_{OUTPUT}$$

Dimensions

Unit：mm

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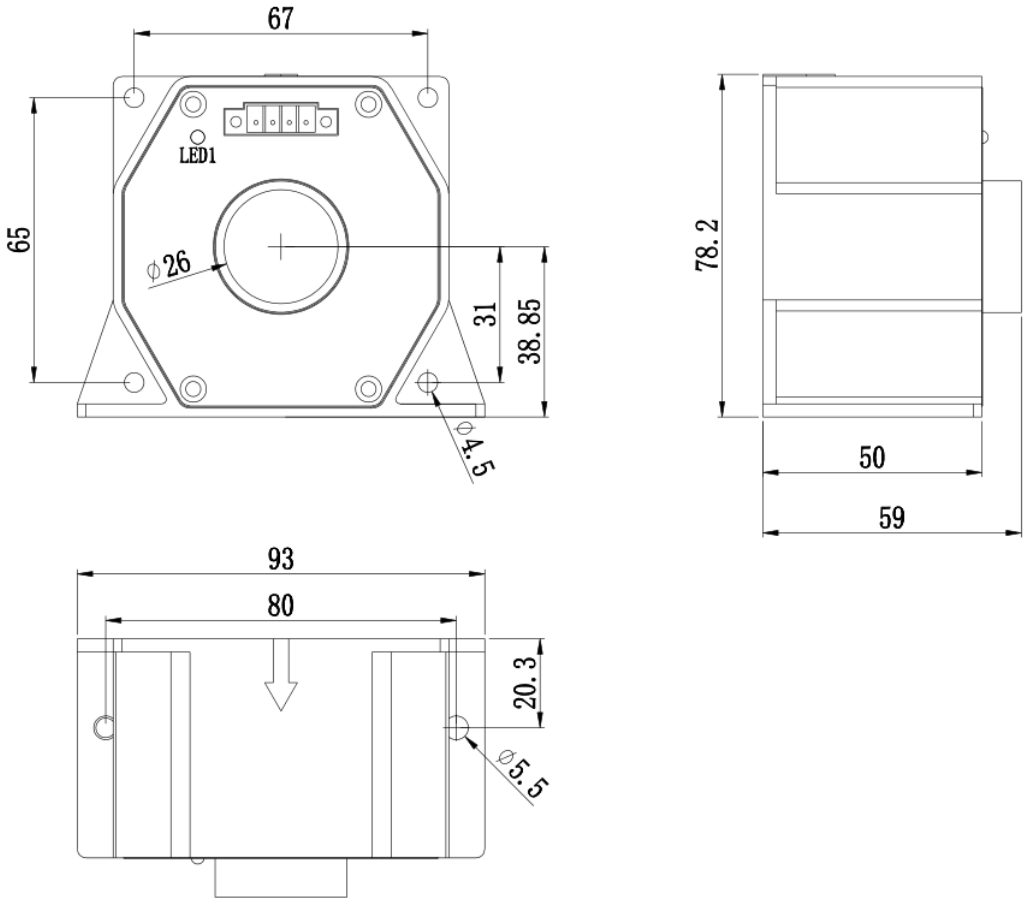

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