

Monitoring of HV Apparatus Insulation

Leakage current sensors

YUANXING ALS series leakage current sensors are based on zero flux principle, applied special deep negative feedback technique and special shielding treatment. The products have higher accuracy, wide linearity range and strong anti-EMI ability, suitable for substation on-line monitoring devices for high voltage electrical equipment insulation, and used for detecting the μA grade and mA grade insulation leakage current of equipment accurately.

Yuanxing can design and produce various leakage current sensors according to customer's special demands, the sensors showed on the right side are just several representative ones.



Features

- Cross core design, convenient installation, safe and reliable
- High sensitivity design, high accuracy, good linearity, suitable for Double insulation design, strong anti-interference capability
- Aviation plug output
- Metal case water proofing treatment, anti-lightning protection design, suitable for indoor and outdoor environment.

Specification

- Working frequency: 50(400Hz)
- Measuring range: 0.01 ~ 10mA , 0.01 ~ 50mA , 0.01 ~ 100mA , 0.01 ~ 650mA
- Output signal: 0 ~ 10Vac (peak value)
- Accuracy class: Class 0.01, 0.02, 0.05
- Storage temperature: -40 °C ~ +85 °C
- Window diameter (mm): $\Phi 8, 12, 20, 25, 30, 40, 50, 65, 70, 90, 100$

Application

- Zinc-Oxide arrester insulation on line monitoring device
- High voltage bushing insulation on line monitoring device
- Current transformer, voltage transformer and capacitor on line monitoring device
- Power transformer iron core earthing on line monitoring device

Representative Specification

Performance parameter

AC leakage current sensor: Rated current 50mA(AC), isolation measuring AC current, output AC voltage signal.

	Model No.	ALS12B-50mA/3.53V
IN	Rated input(AC)	50mA
Ip	Measuring range(AC)	0.01-100mA
RM	Measuring resistance	>100K Ω
VM	Rated output (AC)	3.53V
KN	Turn ratio	----
X	($T_a=+25^\circ\text{C}$) Accuracy	IN 的 $\pm 0.3\%$ $\pm 0.3\%$ of IN
Vc	Power supply voltage	$\pm 12\text{VDC}/\pm 15\text{VDC}$
Vi	Isolation voltage	Between the primary and secondary circuit: 2.5KV rms/50HZ/1 min
Voff	Offset Voltage ($T_a=+25^\circ\text{C}$)	<1mV for primary current IN=0
Td	Temperature drift ($T_a=-40^\circ\text{C} \sim +85^\circ\text{C}$)	0.05%/°C of VM
L	Linearity	<0.3%
	di/dt	----
f	Frequency range	50HZ(400HZ)
Ta	Operating temperature	-40°C ~ +85°C
Ts	Storage temperature	-40°C ~ +100°C
Ic	Consumption	10mA
Rs	Secondary internal resistance ($T_a=+25^\circ\text{C}$)	----
	Primary internal resistance ($T_a=+25^\circ\text{C}$)	----
W	Weight	450g

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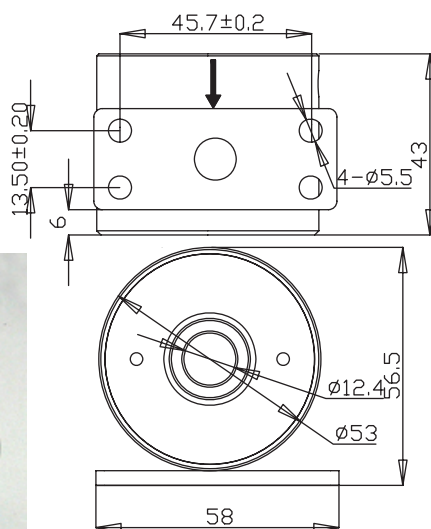
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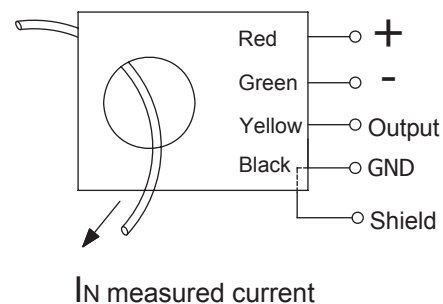
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Outline Dimension (mm)



Circuit connection diagram



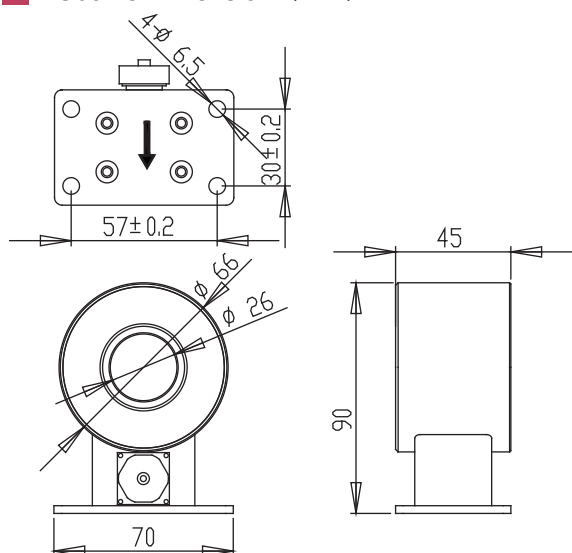
Representative Specification

Performance parameter

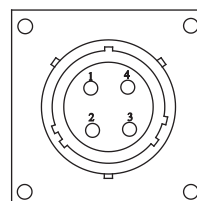
AC leakage current sensor: Rated current 50mA(AC), isolation measuring AC current, output AC voltage signal

	Model No.	ALS25-50mA/3.53V
IN	Rated input (AC)	50mA
Ip	Measuring range(AC)	0.01-100mA
RM	Measuring resistance	>100KΩ
VM	Rated output(AC)	3.53V
KN	Turn ratio	----
X	Accuracy (Ta=+25℃)	IN 的±0.3% ±0.3% of IN
Vc	power supply voltage	±12VDC/ ±15VDC
Vi	Isolation voltage	Between the primary and secondary circuit: 2.5KV rms/50HZ/1 min
Voff	Offset voltage (Ta=+25℃)	<1mV for primary current IN=0
Td	Temperature drift (Ta=-40℃~+85℃)	0.05%/℃ of VM
L	Linearity	<0.3%
	di/dt	----
f	Frequency range	50HZ(400HZ)
Ta	Operating temperature	-40℃~+85℃
Ts	Storage temperature	-40℃~+100℃
Ic	Consumption	10mA
Rs	Secondary internal resistance (Ta=+25℃)	----
	Primary internal resistance (Ta=+25℃)	----
W	Weight	760g

Outline Dimension (mm)



Circuit connection diagram



pinhole explanation:

- 1: +
- 2: -
- 3: GND
- 4: M



Representative Specification

Performance parameter

AC leakage current sensor: Rated current 50mA(AC), isolation measuring AC current, output AC voltage signal

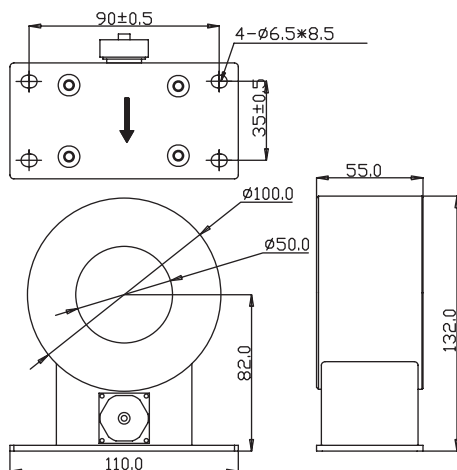
	Model No.	ALS50-50mA/3.53V
IN	Rated input(AC)	50mA
I _p	Measuring range(AC)	0.01-100mA
R _M	Measuring resistance	>100K Ω
V _M	Rated output(AC)	3.53V
K _N	Turn ratio	----
X	Accuracy (Ta=+25℃)	IN 的±0.3% ±0.3% of IN
V _c	power supply voltage	±12VDC/ ±15VDC
V _i	Isolation voltage	Between the primary and secondary circuit: 2.5KV rms/50HZ/1 min
V _{off}	Offset voltage (Ta=+25℃)	<1mV for primary current I _N =0
T _d	Temperature drift (Ta=-40℃~+85℃)	0.05%/℃ of V _M
L	Linearity	<0.3%
	di/dt	----
f	Frequency range	50HZ(400HZ)
T _a	Operating temperature	-40℃~+85℃
T _s	Storage temperature	-40℃~+100℃
I _c	Consumption	10mA
R _s	Secondary internal resistance (Ta=+25℃)	----
	Primary internal resistance (Ta=+25℃)	----
W	Weight	2200g



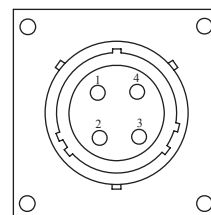
元星电子
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Leakage current sensors

Outline Dimension (mm)



Circuit connection diagram



pinhole explanation:

- 1: +
- 2: -
- 3: GND
- 4: M

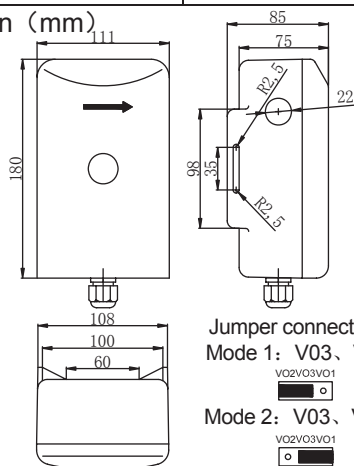
Representative Specification

Performance parameter

AC leakage current sensor: Multi-switch selective rated current, isolation measuring AC current, output AC voltage signal.

	Model No.	ALS20K- (2.5~800mA) /6.72V									
IN	Rated input (AC)/mA	Switch	S1	S2	S3	S4	S5	S6	S7	S8	S9
		Mode 1	2.5	5	10	15	20	25	30	35	40
		Mode 2	50	100	200	300	400	500	600	700	800
RM	Measuring resistance	>100K Ω									
VM	Rated output(AC)	6.72V									
X	Accuracy	IN 的 $\pm 0.3\%$ (@Ta=+25℃) $\pm 0.5\%$ of IN (@Ta=+25℃)									
Vc	power supply voltage	$\pm 12\text{VDC}$ / $\pm 15\text{VDC}$ / 85V~220VAC									
Vi	Isolation voltage	Between the primary and secondary circuit: 2.5KV rms/50HZ/1 min									
Voff	Offset voltage	<1mV (@Ta=+25℃) for primary current IN=0									
Td	Temperature drift	0.05%/℃ of VM (@Ta=-40℃~+85℃)									
L	Linearity	<0.3%									
f	Frequency range	50HZ(400HZ)									
Ta	Operating temperature	-40℃~+85℃									
Ts	Storage temperature	-40℃~+100℃									
Ic	Consumption	10mA									
Rs	Secondary internal resistance	---- (@Ta=+25℃)									
W	Weight	1650g									

Outline Dimension (mm)



Jumper connection mode:

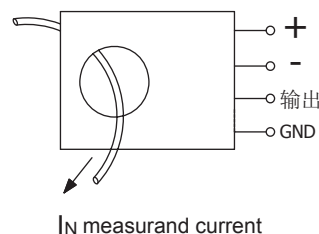
Mode 1: V03、VO2 connection, connect with 20 times amplification.



Mode 2: V03、VO1 connection, without 20 times amplification



Circuit connection diagram



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