

Rogowski ™

# LIYOU/里欧

**Smart Grid / Energy Management / Smart Firefighting  
Wind Energy / Photovoltaic Energy / Energy Storage Equipment**

Wuxi Liou Electronics Co Ltd

**Professional current transformers & sensors manufacturer**

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## Safety



Caution

If the device is used in a way that is not specified by the manufacturer, the protection provided by the device may be compromised

Always inspect the current sensor unit and connecting cable before using this product and do not use it if damaged (for example if the contrasting color of the flexible rope is visible).

Mounting assembly shall guarantee the maximum primary busbar temperature, fulfil clearance and creepage distance, minimize electric and magnetic coupling, and unless otherwise specified can be mounted in any orientation.



Caution, risk of electrical shock

This current sensor must be used in electric/electronic equipment with respect to applicable standards and safety requirements in accordance with the manufacturer's operating specifications.

This current sensor is intended for use in an electrical installation with restricted access. Therefore, in normal operation, it is not accessible. For installation or in maintenance phases, it is accessible only to qualified person.

It is intended to be connected onto SELV equipment input, of up to 30 V RMS

When operating, certain parts of the current sensor can carry hazardous voltages (e.g. primary busbar, power supply)

De-energize all circuits and hazardous live parts before installing the product.

All installations, maintenance, servicing operations and use must be carried out by trained and qualified personnel practicing application safety precautions



Risk of electrical shock

Do not apply around or remove from uninsulated hazardous live conductors which may result in electric shock, electric burn or arc flash.



Equipment protected throughout by double insulation or reinforced insulation.



ESD susceptibility

The product is susceptible to be damaged from an ESD event and the person should be grounded when handling it

## *LO-CTLS Flexible Rogowski coil*

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## SERIES: LO-CTL5

### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

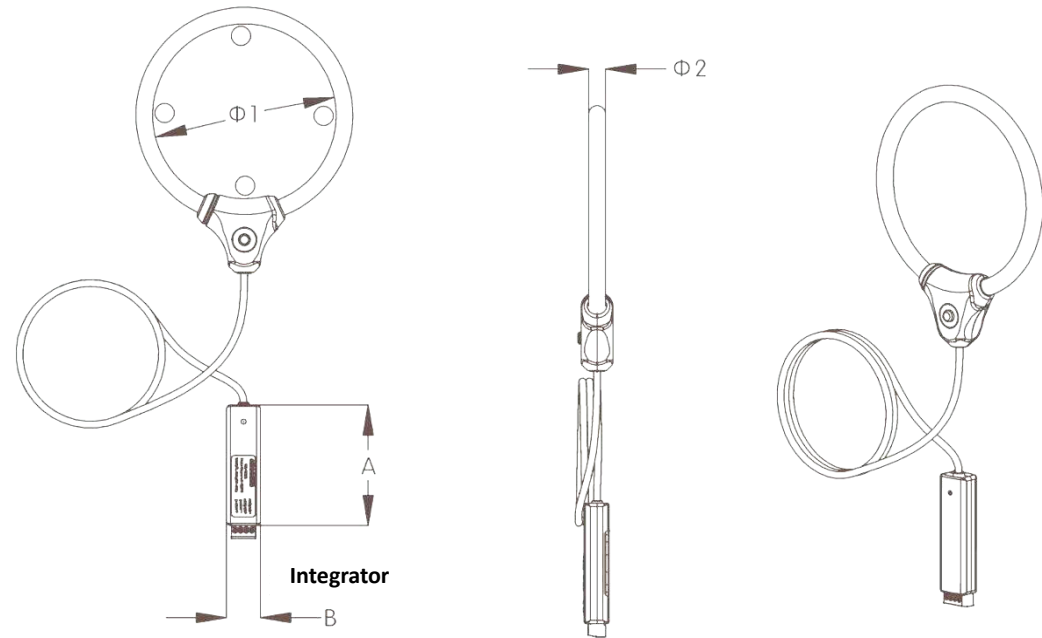


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Phase error	$W \pm 1^\circ$ (45-65HZ) $W \pm 10^\circ$ (20KHZ)
10%-100% Linearity	0.50%
Integrator power supply	15-30VDC
Response bandwidth	1HZ-1MHZ
Coil section diameter	W8、W10、W12mm
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Coil material	Silicon rubber
Secondary cable type	Shielded wire or customized
Dielectric strength	2KVAC/Min
Insulation resistance	DC500V/100M $\Omega$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)			
				$\Phi 1$	$\Phi 2$	A	B
LO-CTL5	0-300KA	100mV	1.0	80	8	72	20
		50mV		100			
		4-20mADC	5.0	150			
		0-5V		200			
		0-1A	300				
		Customized	400				

#### >Dimensions:



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## LO-CTLS1 Flexible Rogowski coil

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## SERIES: LO-CTLS1

### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

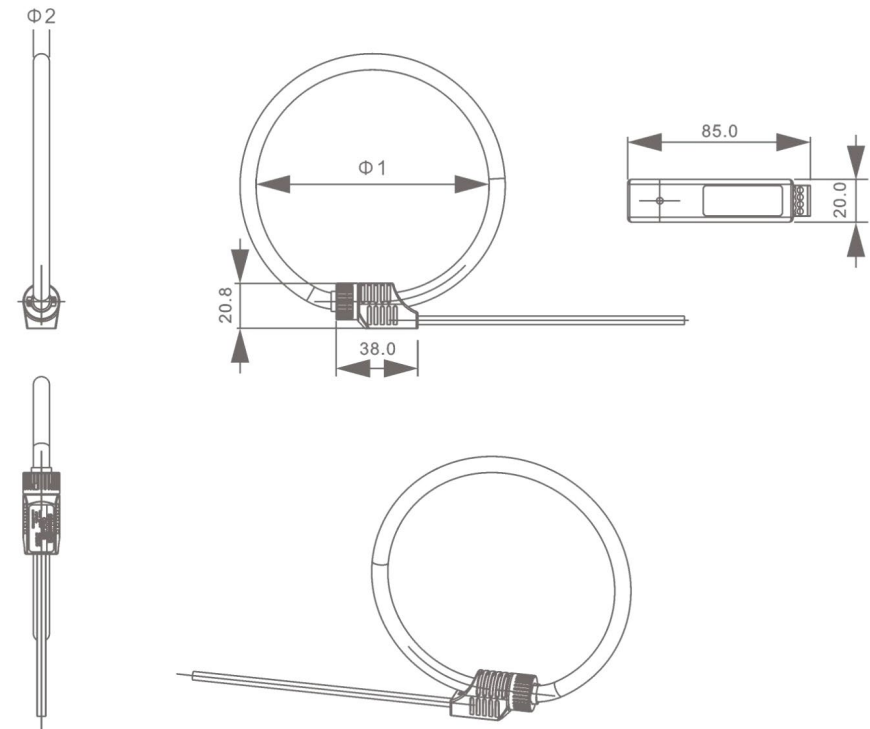


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Phase error	$W \pm 1^\circ$ (45-65HZ) $W \pm 10^\circ$ (20KHZ)
10%-100% Linearity	0.50%
Integrator power supply	15-30VDC
Response bandwidth	1HZ-1MHZ
Coil section diameter	W7.5、W10、W12mm
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Coil material	Silicon rubber
Secondary cable type	Shielded wire or customized
Dielectric strength	2KVAC/Min
Insulation resistance	DC500V/100M $\Omega$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)			
				$\Phi 1$	$\Phi 2$	A	B
LO-CTLS1	0-300KA	100mV	1.0 5.0	80	7.5 10 12	85	20
		50mV		100			
		4-20mADC		150			
		0-5V		200			
		0-1A		300			
		Customized		400			

#### >Dimensions:



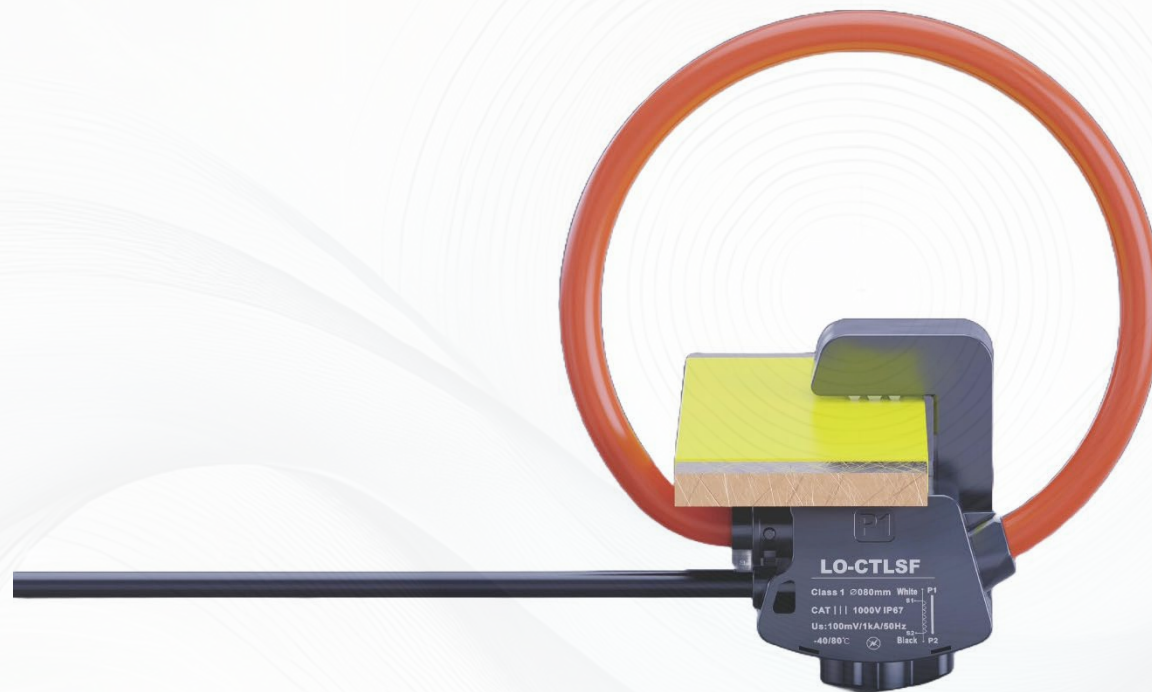
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## **LO-CTLSF Busbar puncturing Rogowski coil**

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## SERIES: LO-CTLSF



### Busbar puncturing Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit. It can be equipped with puncture device, temperature sensor device. Suitable for all kinds of busbar installation.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

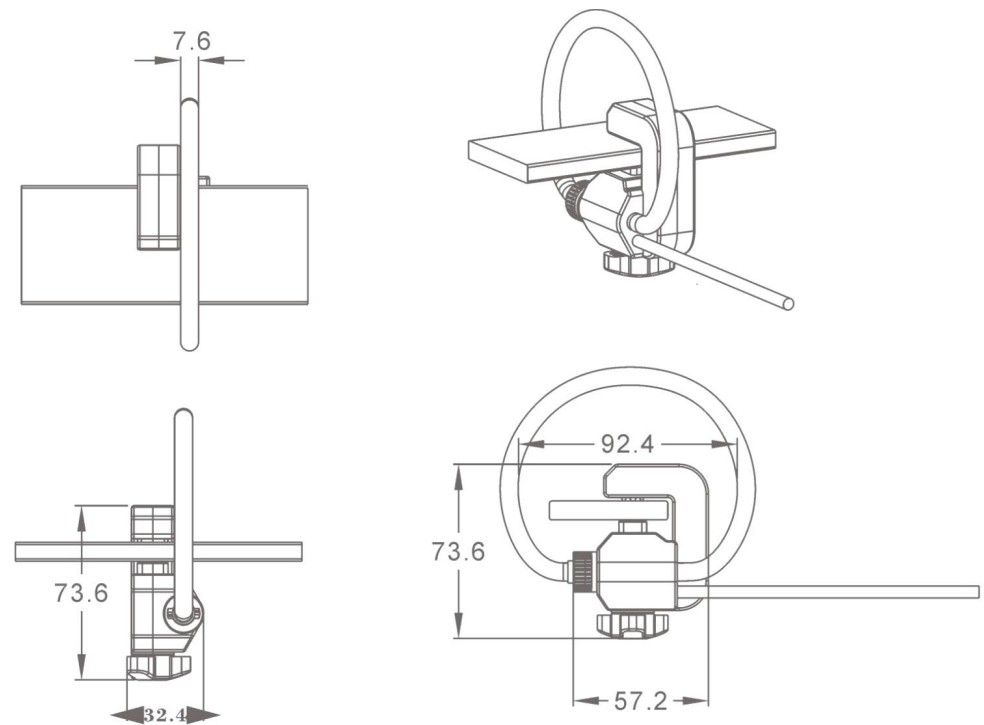


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Phase error	$W \pm 1^\circ$ (45-65HZ) $W \pm 10^\circ$ (20KHZ)
10%-100% Linearity	0.50%
Integrator power supply	15-30VDC
Response bandwidth	1HZ-1MHZ
Coil section diameter	W7.6、W10、W12mm
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Voltage measurement range by puncturing	10V-380V
Temperature sensor range	10K-100K
Dielectric strength	2KVAC/Min
Insulation resistance	DC500V/100M $\Omega$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)	
				$\Phi 1$	$\Phi 2$
LO-CTLSF	0-300KA	100mV	1.0 5.0	92.4	7.6 10 12
		50mV		100	
		4-20mADC		150	
		0-5V		200	
		0-1A		400	
	Customized				

#### >Dimensions:



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## ***LO-CTLSY Cable type puncturing Rogowski coil***

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## SERIES: LO-CTLSY



### Cable type puncturing Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit. It can be equipped with puncture device, temperature sensor device. Suitable for all kinds of cable installation.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

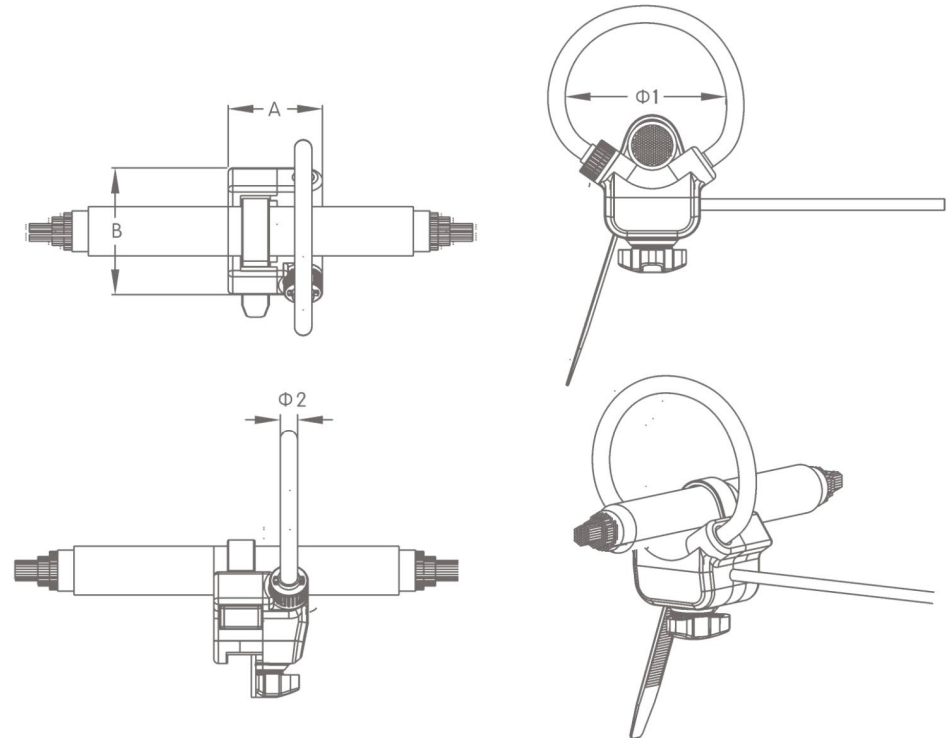


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Phase error	$W \pm 1^\circ$ (45-65HZ) $W \pm 10^\circ$ (20KHZ)
10%-100% Linearity	0.50%
Integrator power supply	15-30VDC
Response bandwidth	1HZ-1MHZ
Coil section diameter	W7.5、W10、W12mm
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Voltage measurement range by puncturing	10V-380V
Temperature sensor range	10K-100K
Dielectric strength	2KVAC/Min
Insulation resistance	DC500V/100M $\Omega$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)			
				$\Phi 1$	$\Phi 2$	A	B
LO-CTLSY	0-300KA	100mV	1.0 5.0	80	7.5 10 12	41.5	55.7
		50mV		100			
		4-20mADC		150			
		0-5V		200			
		0-1A		300			
		Customized		400			

#### >Dimensions:



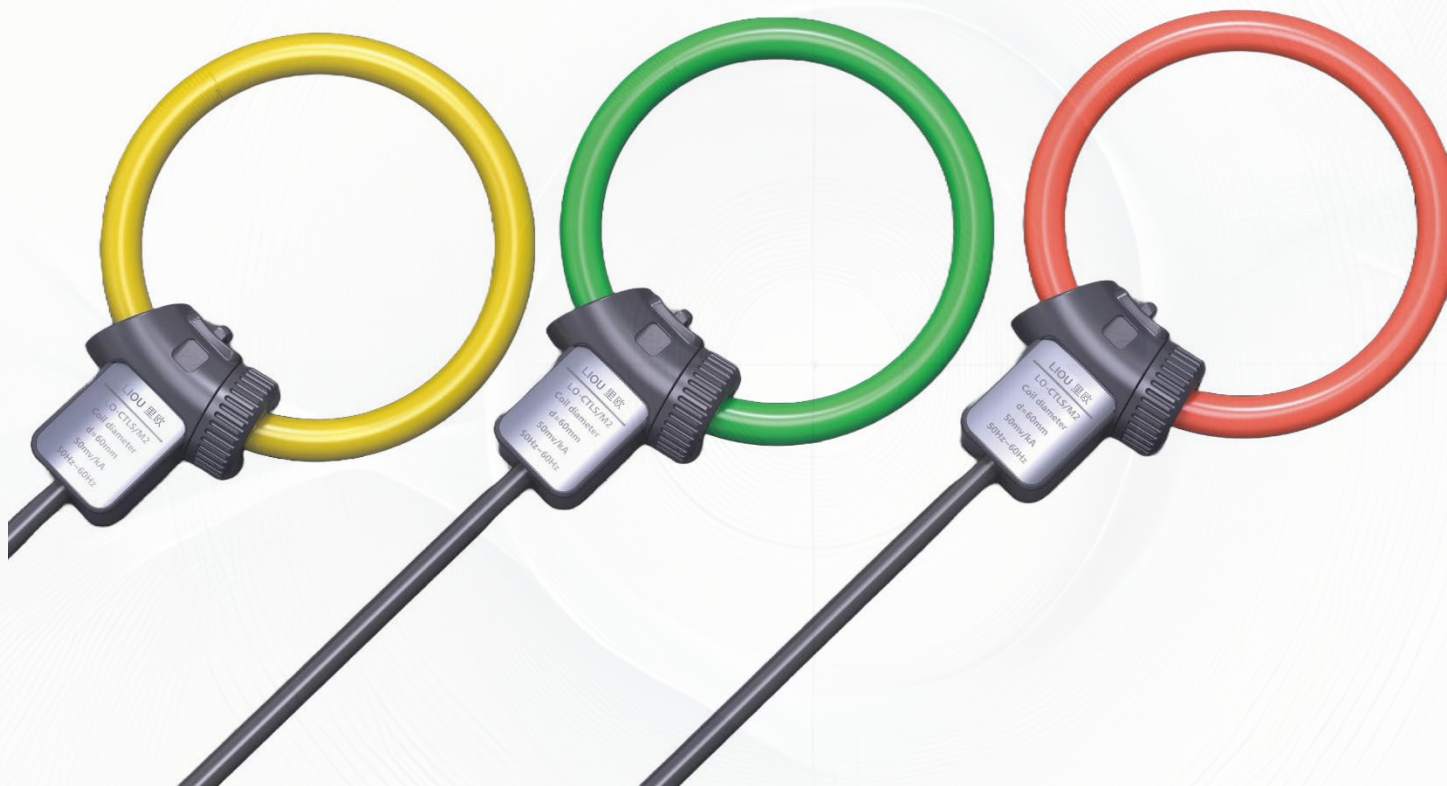
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## LO-CTLS2 Flexible Rogowski coil

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## SERIES: LO-CTLS2

### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

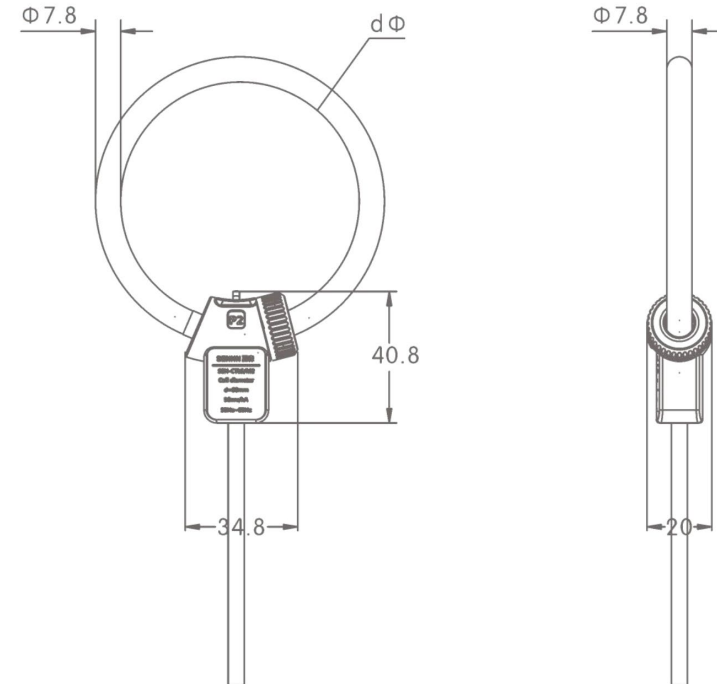


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Phase error	$W \pm 1^\circ$ (45-65HZ) $W \pm 10^\circ$ (20KHZ)
10%-100% Linearity	0.50%
Integrator power supply	15-30VDC
Response bandwidth	1HZ-1MHZ
Coil section diameter	W7.8mm
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Coil material	Silicon rubber
Secondary cable type	Shielded wire or customized
Dielectric strength	2KVAC/Min
Insulation resistance	DC500V/100M $\Omega$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)	
				$\Phi 1$	$\Phi 2$
LO-CTLS2	0-300KA	100mV	1.0	80	7.8
		50mV		100	
		4-20mADC	5.0	150	
		0-5V		200	
		0-1A		300	
		Customized		400	

#### >Dimensions:



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## *LO-CTLS3 Flexible Rogowski coil*

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## SERIES: LO-CTLS3



### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

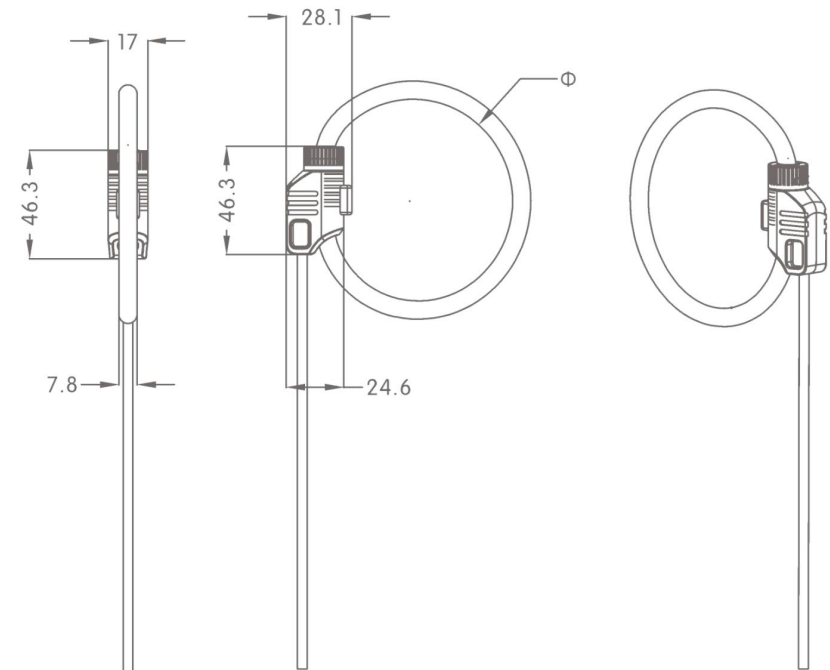


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Phase error	$W \pm 1^\circ$ (45-65HZ) $W \pm 10^\circ$ (20KHZ)
10%-100% Linearity	0.50%
Integrator power supply	15-30VDC
Response bandwidth	1HZ-1MHZ
Coil section diameter	$W7.8\text{mm}$
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Coil material	Silicon rubber
Secondary cable type	Shielded wire or customized
Dielectric strength	2KVAC/Min
Insulation resistance	DC500V/100M $\Omega$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)	
				$\Phi 1$	$\Phi 2$
LO-CTLS3	0-300KA	100mV	1.0	80	7.8
		50mV		100	
		4-20mADC	5.0	150	
		0-5V		200	
		0-1A		300	
		Customized		400	

#### >Dimensions:



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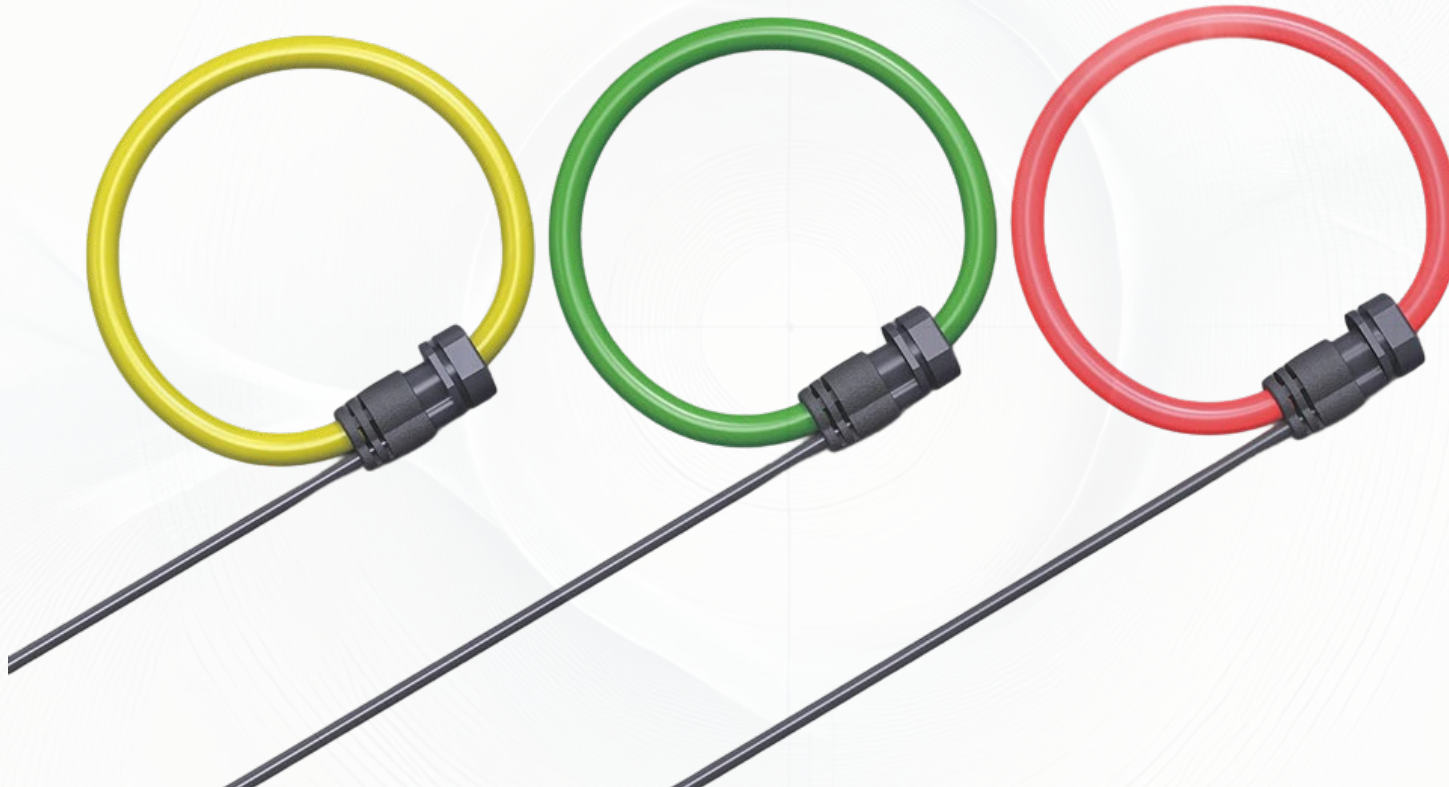
[www.ctsensorducer.com](http://www.ctsensorducer.com)

## *LO-CTLS4 Flexible Rogowski coil*

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## SERIES: LO-CTLS4



### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

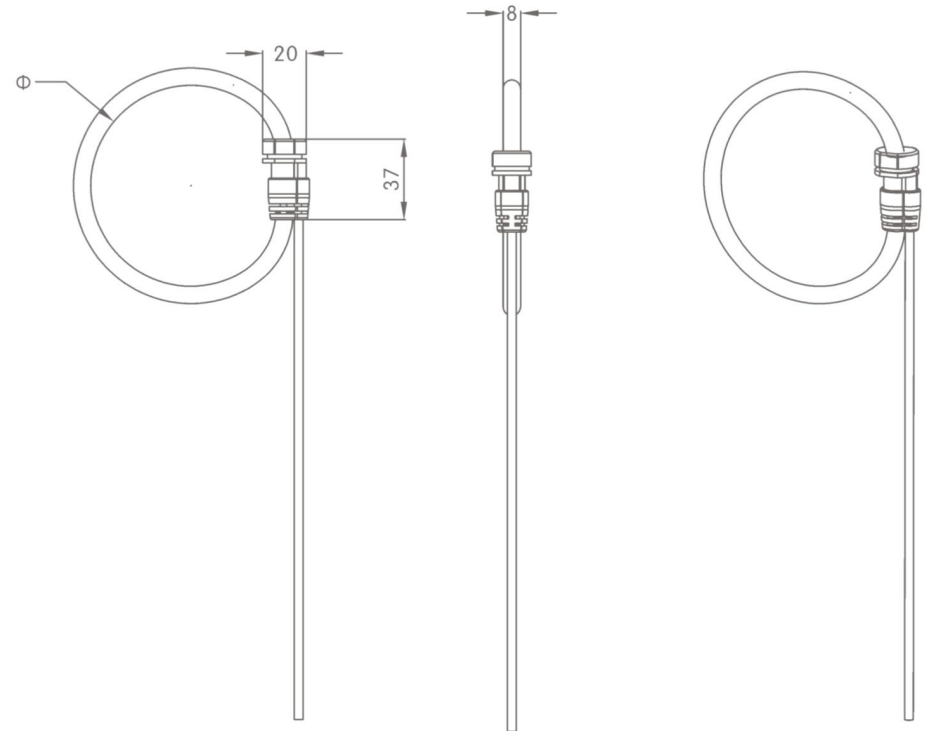


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Phase error	$W \pm 1^\circ$ (45-65HZ) $W \pm 10^\circ$ (20KHZ)
10%-100% Linearity	0.50%
Integrator power supply	15-30VDC
Response bandwidth	1HZ-1MHZ
Coil section diameter	W8.0mm
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Coil material	Silicon rubber
Secondary cable type	Shielded wire or customized
Dielectric strength	2KVAC/Min
Insulation resistance	DC500V/100M $\Omega$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)	
				$\Phi 1$	$\Phi 2$
LO-CTLS4	0-300KA	100mV	1.0	80	7.8
		50mV		100	
		4-20mADC	5.0	150	
		0-5V		200	
		0-1A	300		
		Customized	400		

#### >Dimensions:



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## ***LO-LSPD1 High-precision Flexible Rogowski coil***

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## SERIES: LO-LSPD1

### High-precision Flexible Rogowski coil current sensor

#### >Product overview

The flexible Rogowski coil is used for alternating current electronic measurement. It significantly reduces errors caused by the position of the measured conductor within the aperture and errors caused by proximity to external conductors, through the use of magnetic shielding technology.

#### >Product features

The most accurate coil on the market, with a precision of Class 0.5 (IEC 61869-10).

Low positioning error.

Minimal influence from external electric fields.

Low sensitivity: 22.5 mV/kA, 50 mV/kA, 100mV/kA, suitable for indoor applications.

Electrostatic shielding, including improved common-mode suppression integrators.

Protection ratings: IP67/IP65.

Customizable sensor aperture size



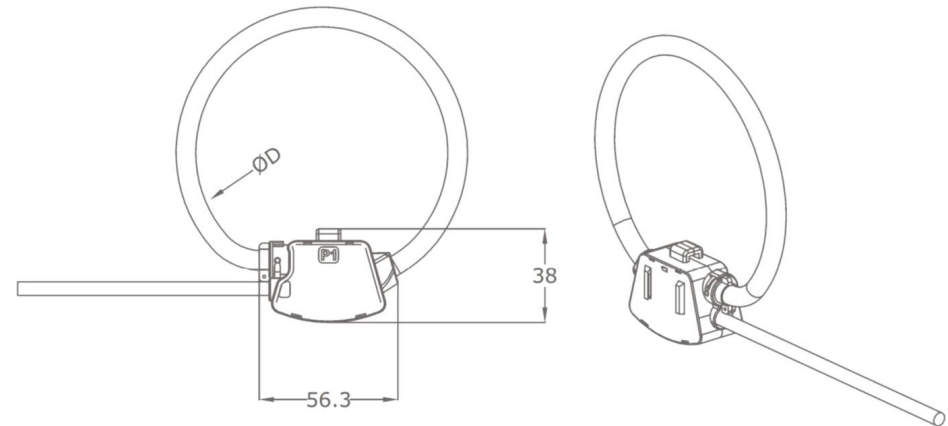
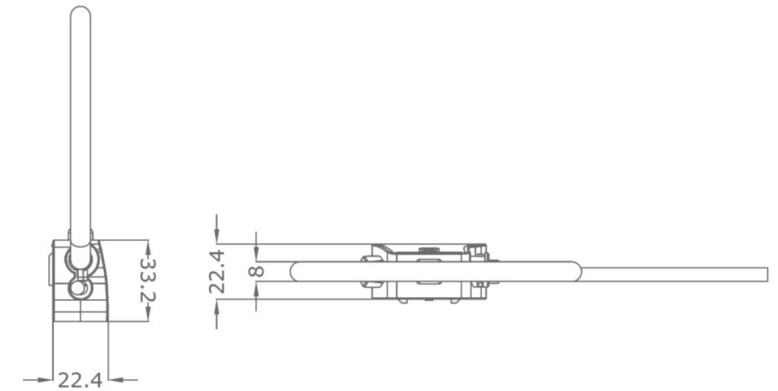
#### >Special features

- Cable ends can be equipped with SMA male connector
- 3 meters of cable length

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

#### >Dimensions



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## **LO-LSPD2 High-precision Flexible Rogowski coil**

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## SERIES: LO-LSPD2

### High-precision Flexible Rogowski coil current sensor

#### >Product overview

The flexible Rogowski coil is used for alternating current electronic measurement. It significantly reduces errors caused by the position of the measured conductor within the aperture and errors caused by proximity to external conductors, through the use of magnetic shielding technology.

#### >Product features

The most accurate coil on the market, with a precision of Class 0.5 (IEC 61869-10).

Low positioning error.

Minimal influence from external electric fields.

Low sensitivity: 22.5 mV/kA, 50 mV/kA, 100mV/kA, suitable for indoor applications.

Electrostatic shielding, including improved common-mode suppression integrators.

Protection ratings: IP67/IP65.

Customizable sensor aperture size



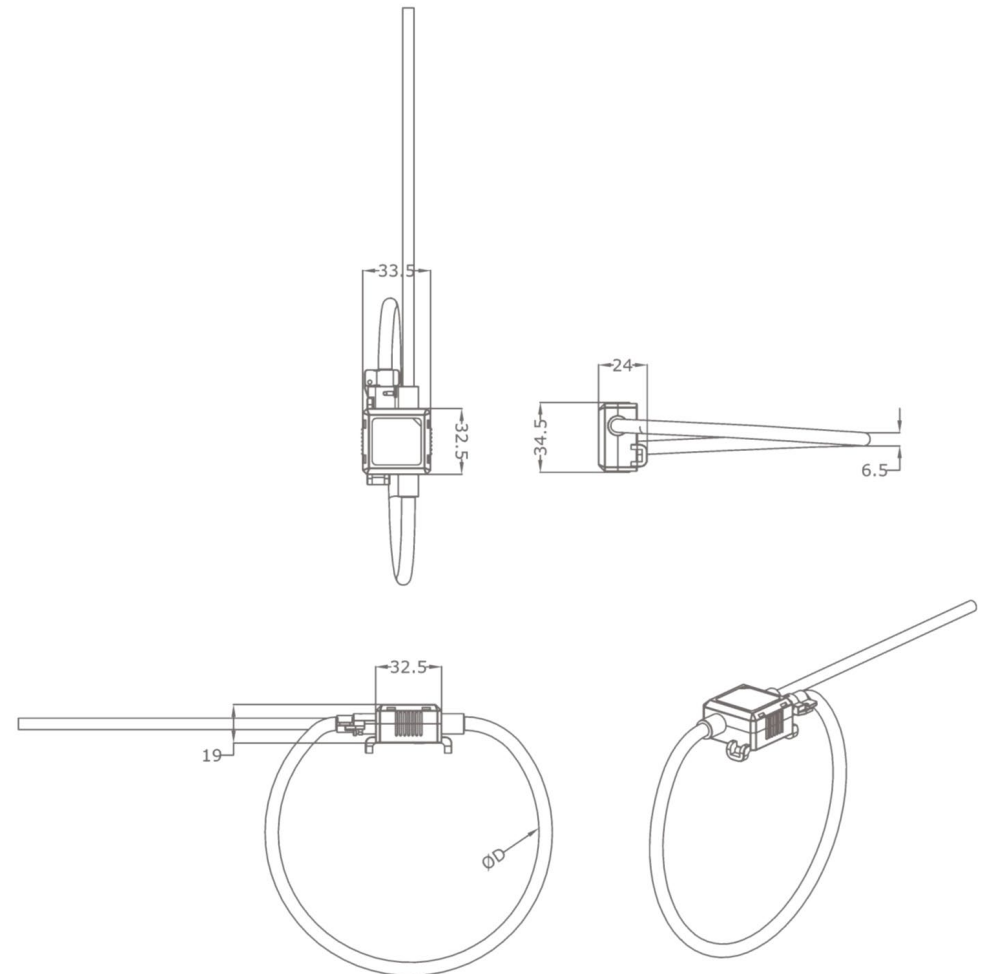
#### >Special features

- Cable ends can be equipped with SMA male connector
- 3 meters of cable length

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

#### >Dimensions



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## ***LO-LSPD3 Flexible Rogowski coil***

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## SERIES: LO-LSPD3



### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

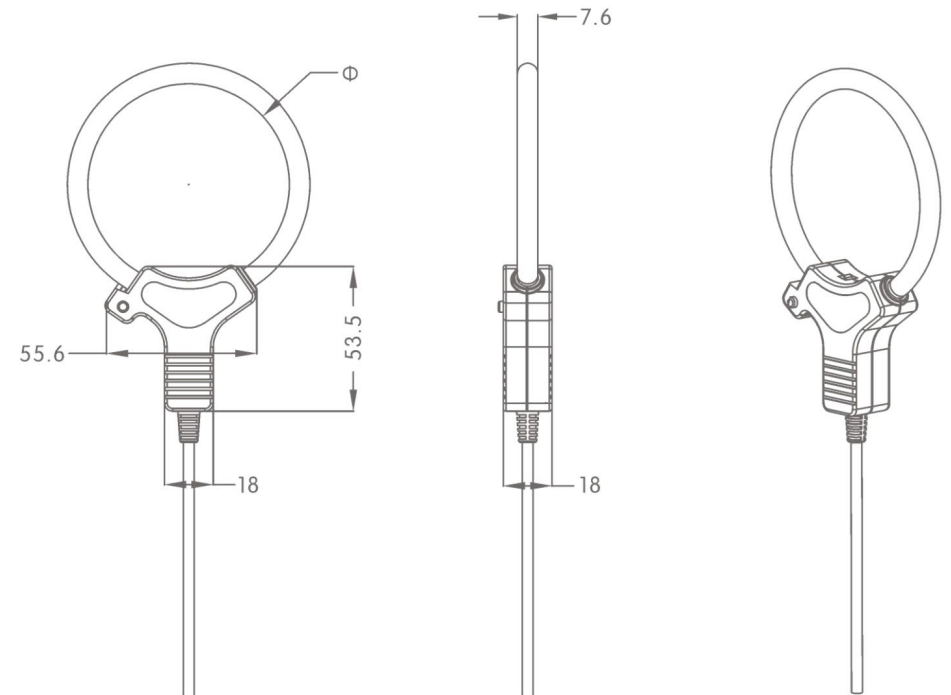


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Phase error	$W \pm 1^\circ$ (45-65HZ) $W \pm 10^\circ$ (20KHZ)
10%-100% Linearity	0.50%
Integrator power supply	15-30VDC
Response bandwidth	1HZ-1MHZ
Coil section diameter	W7.6mm
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Coil material	Silicon rubber
Secondary cable type	Shielded wire or customized
Dielectric strength	2KVAC/Min
Insulation resistance	DC500V/100M $\Omega$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)	
				$\Phi 1$	$\Phi 2$
LO-LSPD3	0-300KA	100mV	1.0	80	7.6
		50mV		100	
		4-20mADC	5.0	150	
		0-5V		200	
		0-1A	300		
		Customized	400		

#### >Dimensions:



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## ***LO-CTLSF1 Busbar puncturing Flexible Rogowski coil***

*Professional current transformers & sensors manufacturer*

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## SERIES: LO-CTLSF1

### Busbar puncturing Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit. It can be equipped with puncture device, temperature sensor device. Suitable for all kinds of busbar installation.

#### >Product features

The most accurate coil on the market, with a precision of Class 0.5 (IEC 61869-10).

Low positioning error.

Minimal influence from external electric fields.

Low sensitivity: 22.5 mV/kA, 50 mV/kA, 100mV/kA, suitable for indoor applications.

Electrostatic shielding, including improved common-mode suppression integrators.

Protection ratings: IP67/IP65.

Customizable sensor aperture size



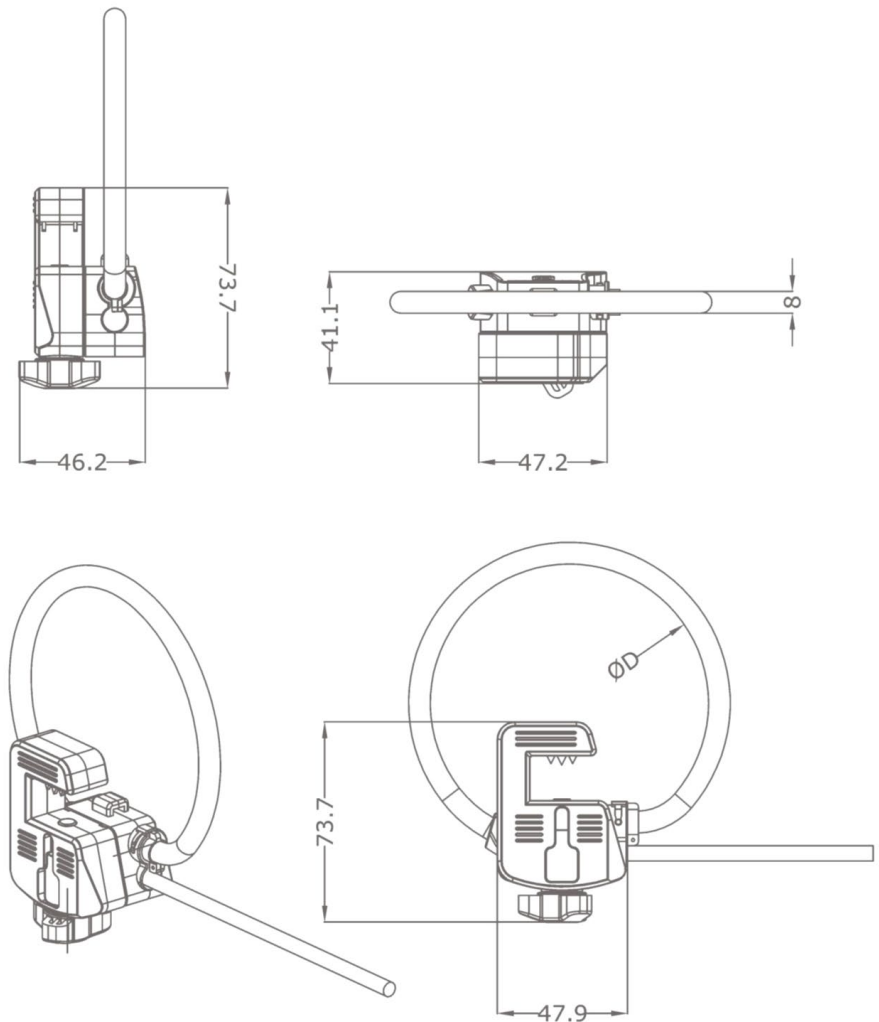
#### >Special features

- Cable ends can be equipped with SMA male connector
- 3 meters of cable length

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

#### >Dimensions



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## ***LO-CTLSY1 Cable type puncturing Flexible Rogowski coil***

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## SERIES: LO-CTLSY1

### Cable type puncturing Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit. It can be equipped with puncture device, temperature sensor device. Suitable for all kinds of busbar installation.

#### >Product features

The most accurate coil on the market, with a precision of Class 0.5 (IEC 61869-10).

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Electrostatic shielding, including improved common-mode suppression integrators.

Protection ratings: IP67/IP65.

Customizable sensor aperture size

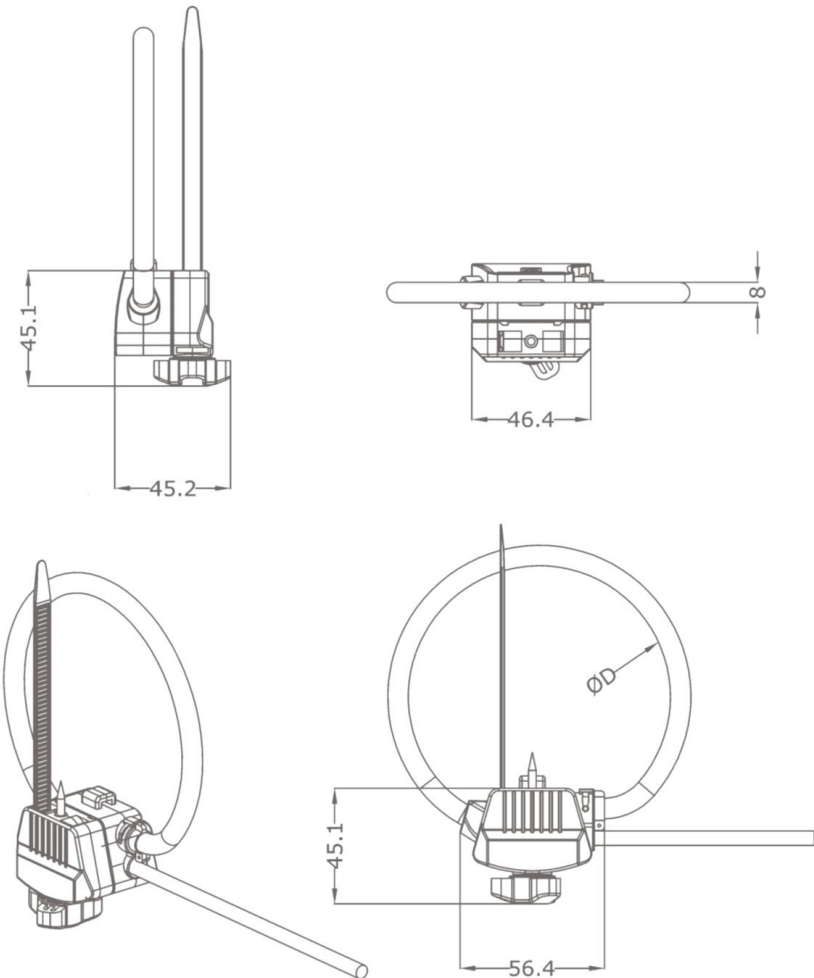
#### >Special features

- Cable ends can be equipped with SMA male connector
- 3 meters of cable length

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

#### >Dimensions



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## ***LO-LSSZ Digital type Flexible Rogowski coil***

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## SERIES: LO-LSSZ

### Digital type Rogowski coil current sensor

#### >Product overview

The LO-LSSZ digital Rogowski coil sensor is used for electronic measurement of AC current. It utilizes magnetic shielding technology to significantly reduce errors caused by the position of the measured conductor within the aperture and interference from nearby external conductors. This sensor can directly convert the AC current of the main circuit into a linearly proportional output of either DC 4-20mA or RS485 digital signal. It features fast response, compact size, low power consumption, wide frequency response, strong anti-interference capability, and protection against lightning surges and transient surges.

#### >Product features

Adopting a magnetically shielded flexible through-core structure, this device integrates the current transformer and current transmitter into a unified design.

Six Comprehensive Protection Features:

- ✓ Input overload protection
- ✓ Output overcurrent protection
- ✓ Long-term short-circuit protection
- ✓ Power supply overvoltage protection
- ✓ Power supply reverse polarity protection
- ✓ Transient surge current TVS protection

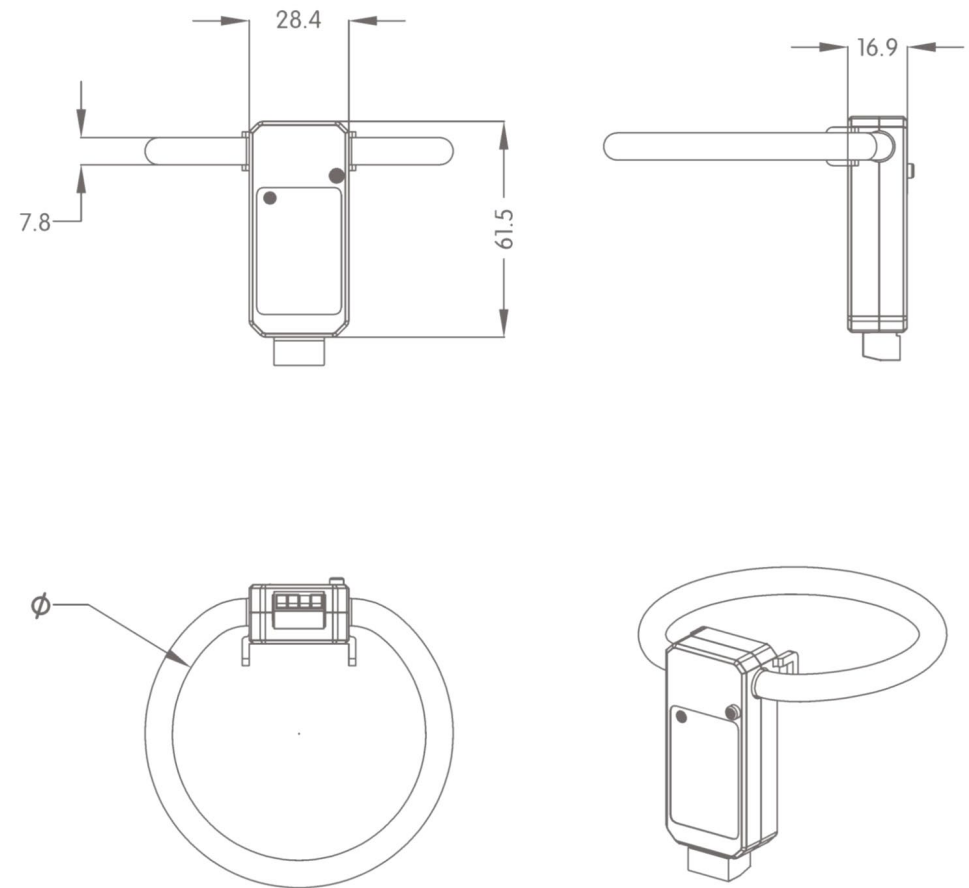
It is suitable for smart monitoring systems of load currents in generators, low-voltage distribution cabinets, air conditioners, fans, and more.

Featuring high reliability, high stability, and excellent cost-effectiveness.

#### >Electrical specification

Electrical specifications	
Measuring range	0-400A
Accuracy	0.5%
Aperture size	50mm,80mm,120mm,220mm or customized
Output signal	DC4-20mA,DC0-10V,DC0-5V, RS485 or customized
Response time	25ms
Dielectric strength	3KV,50Hz,60s
Power supply	+12V,+24V

#### >Dimensions



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## ***LO-CFT Flexible Rogowski coil***

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## SERIES: LO-CFT



### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

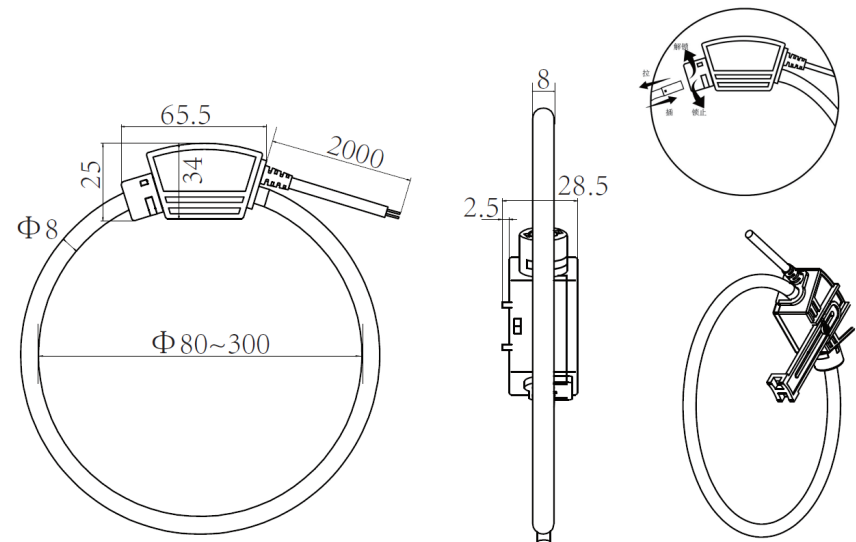


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	1% (w/o integrator) 0.5% (w/ integrator 45-65HZ)
Position error	$\pm 1.0\%$
10%-100% Linearity	$\pm 0.2\%$
Integrator power supply	+12VDC
Frequency range	10Hz-20KHz
Phase error	$\leq 0.5^\circ$
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP67
Coil material	Silicon rubber TPR UL94V-0
Secondary cable type	Shielded wire or customized
Dielectric strength	7KVAC/Min
Operating temperature	1000VRMS CAT III /600VRMS CAT IV

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)	
				$\Phi 1$	$\Phi 2$
LO-CFT	0-300KA	85mV/KA @50Hz 102mV/KA@ 60Hz 0-5A 0-1A Customized	1.0 0.5	80	8.0
				105	
				150	
				180	
				240	
				300	

#### >Dimensions:



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## *LO-RS Flexible Rogowski coil*

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## SERIES: LO-RS



### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

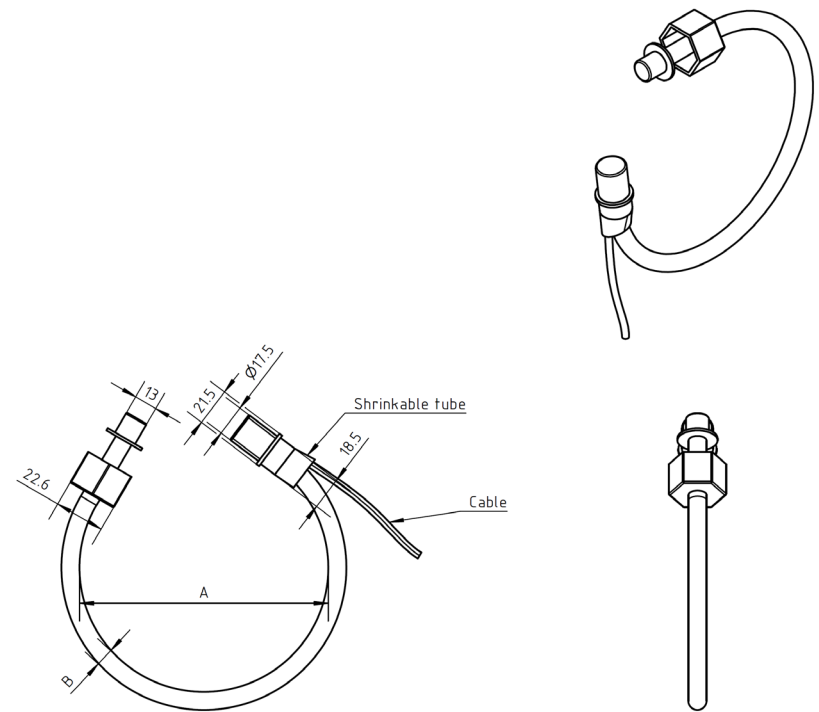


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	$\leq 3\%$ (w/o integrator)
Position error	$\pm 1.0\%$
10%-100% Linearity	$\pm 1\%$
Frequency band	10Hz-1MHz
Response time	$\leq 0.01\text{ms}$
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Coil material	Silicon rubber TPR UL94V-0
Secondary cable type	Shielded wire or customized
Dielectric strength	7KVAC/Min
Operating temperature	1000VRMS CAT III /600VRMS CAT IV

P/N	INPUT	Output	Accuracy	DIMENSIONS(mm)	
	(A)			A	B
LO-RS	$\leq 300\text{KA}$	80mV/KA 100mV/KA 333mV/KA 350mV/KA 700mV/KA Customized	$\leq 3.0$	$\leq 600$	10.0

#### >Dimensions:



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## LO-CTLSX Flexible Rogowski coil

Professional current transformers & sensors manufacturer



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## SERIES: LO-CTLSX



### Flexible Rogowski coil current sensor

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- > Secondary distribution substations
- > Distribution transformer monitoring
- > Phasor Measurement Units (PMU)
- > Commercial and industrial buildings
- > Metering and sub-metering
- > Demand response (DR)
- > Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

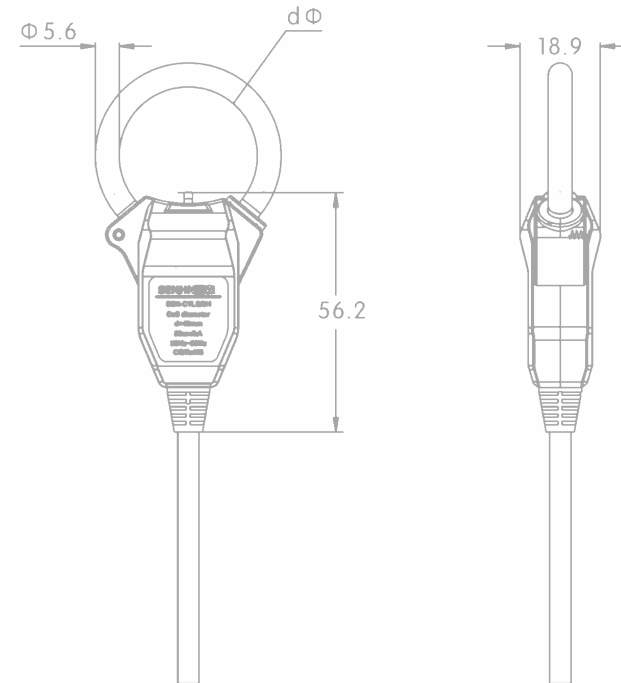


#### >Electrical specifications:

Electrical specifications	
10%-100% Accuracy	5% (w/o integrator) 1% (w/ integrator 45-65HZ)
Position error	$\pm 1.0\%$
10%-100% Linearity	$\pm 1\%$
Frequency band	10Hz-1MHz
Response time	$\leq 0.01\text{ms}$
Cable length	2 Meters or Custom made
Altitude	2000M
Protection level	IP65
Coil material	Silicon rubber TPR UL94V-0
Secondary cable type	Shielded wire or customized
Dielectric strength	7KVAC/Min
Operating temperature	1000VRMS CAT III /600VRMS CAT IV

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)	
				A	B
LO-CTLSX	$\leq 300\text{KA}$	100mV	$\leq 5\%$	40	5.6
		50mV		80	
		4-20mADC	$\leq 1\%$	100	
		0-5V		Customized	

#### >Dimensions:



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## ***LO-RS-XXX-05A Flexible Rogowski coil***

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## SERIES: LO-RS-XXX-05A



### Flexible Rogowski coil current sensor 5A Output

#### >Product overview

Flexible Rogowski coil current sensor is used to measure AC current, especially high current. Because of its flexible characteristics, it can be used to measure the conductor current with large size (such as conductor diameter  $\geq 30\text{cm}$ ) or irregular shape or narrow space between conductors (for example, when the traditional clamp current probe can't measure, the flexible Rogowski coil current sensor can be used to measure conveniently). Rogowski coils are renowned for their inherent advantages, including high linearity, wide frequency response, and immunity to magnetic saturation. Their non-intrusive design ensures ease of installation without the need for direct electrical contact or modification of the primary circuit.

#### >Application

- Secondary distribution substations
- Distribution transformer monitoring
- Phasor Measurement Units (PMU)
- Commercial and industrial buildings
- Metering and sub-metering
- Demand response (DR)
- Distribution system equipment

#### >Standards

- IEC 61010-1: 2010
- IEC 61010-2-32: 2012
- IEC 61869-10: 2017
- UL 61010-1: 2012

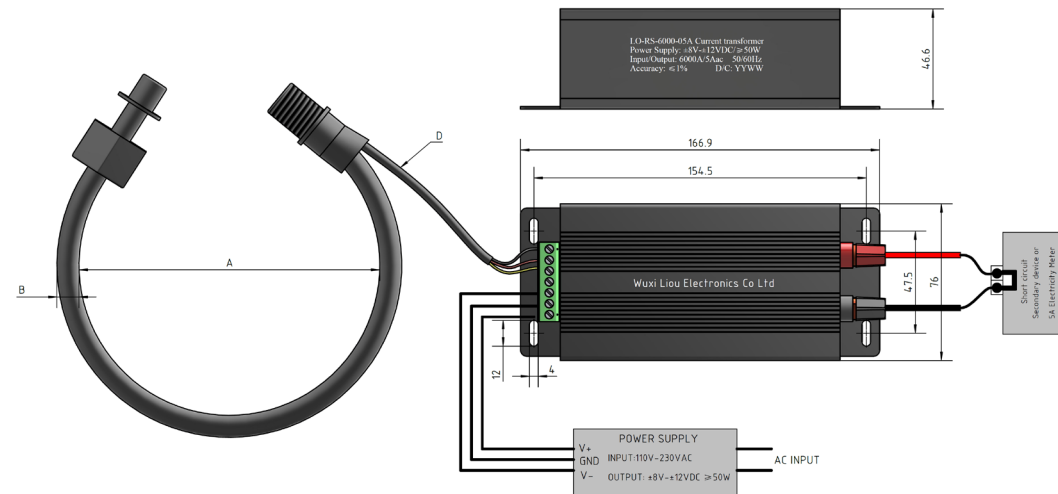


#### >Electrical specifications:

Electrical specifications	
Operating frequency	50-60HZ
Power supply	$\pm 8\text{V} \pm 12\text{VDC} \geq 50\text{W}$
Load	$< 0.1\Omega$
Frequency band	10Hz-1KHz
Phase error	$\leq 40'$
Response time	$\leq 20\text{ms}$
Linearity	$\leq 1\% \text{FS}$
Altitude	2000M
Dielectric strength	10KVAC/Min
Insulation resistance	1000M $\Omega$ @DC500V
Operating temperature	-40 to +70 $^{\circ}\text{C}$
Storage temperature	-40 to +85 $^{\circ}\text{C}$

P/N	INPUT (A)	Output	Accuracy	DIMENSIONS(mm)			
				A	B	C	D
LO-RS-1000-05A	50-1200	0-5A	1.0	$\leq 600$	10.5	A + 2*B	$\leq 50\text{Meters}$
LO-RS-2000-05A	100-2400						
LO-RS-3000-05A	150-3600						
LO-RS-4000-05A	200-4800						
LO-RS-200K-05A	10K-200K						

#### >Dimensions:



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## Installation:

### Danger

#### HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

Do not use this product for life or safety applications.

Do not install this product in hazardous or classified locations.

Mount this product inside a suitable fire and electrical enclosure.

Apply appropriate personal protective equipment (PPE) and follow safe electrical work practices. See NFPA 70E in the USA, CSA Z462 or applicable local standards.

This equipment must only be installed and serviced by qualified electrical personnel

Read, understand and follow the instructions before installing this product.

Turn off all power supplying equipment before working on or inside the equipment.

Product may use multiple voltage/power sources. Disconnect ALL sources before servicing.

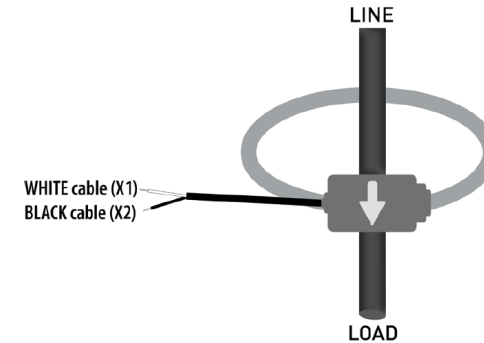
Use a properly rated voltage sensing device to confirm that power is off. Do not depend on this product for voltage indication.

Current transformer secondaries must be shorted or connected to a burden at all times.

Replace all doors, covers and protective devices before powering the equipment

Failure to follow these instructions will result in death or serious injury.

1. Turn off all power supplying this device and the equipment in which it is installed before working on the device or equipment.
2. Always use a properly rated voltage sensing device to confirm that all power is off
3. Connect the CT output leads to the meter inputs. The white wire is the x1 lead. An arrow points to the load side.



4. Release the clasp on one side of the CT and open it on the hinge
5. Fit the Rogowski coil around the conductor, bringing the coil ends together
6. Lock the coil by turning the ring clockwise as shown in the diagram below.



7. Reconnect power to the panel

### **Quality Standard and Custom Design Products**

LIOU Current Transformer has been an industry leader in design and production of current transformer products for over 20 years. Our focus is to build quality products designed to meet your needs. You may choose from any of our standard products or we can design and build a custom solution specifically for your application.

### **Designed, Manufactured and Distributed From One Location**

Every aspect of your order is handled in house allowing us the opportunity to design, manufacture and ship your current transformer product quickly. Each order is reviewed by one of our qualified engineers to make sure the product you are ordering will work for you.

### **Superior Goals and Higher Expectations**

It is the goal of LIOU Current Transformer to maintain its position as a worldwide industry leader in current transformer design and production. We will accomplish this by providing you with quality products and services that meet or exceed your current and future expectations.

### **Our Objective Is For You to Have Full Confidence in LIOU Current Transformer.**

Each employee, at every level within the company, understands your satisfaction is fundamental to our growth and long-term development. LIOU Current Transformer believes that this level of quality will be achieved by:

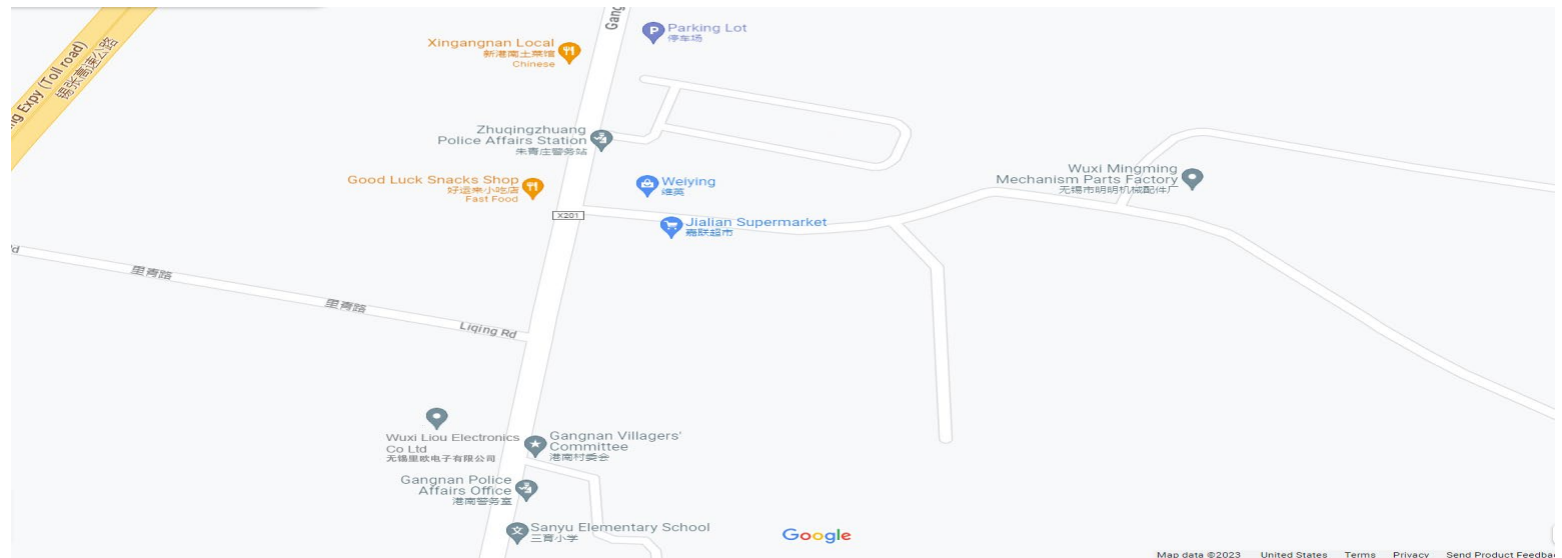
- 1.A Total Quality Management approach. Every employee, supplier and customer is regarded as an essential part of the quality achievement process.
- 2.An error-free performance standard, based on prevention and development of a "Get It Right The First Time" work environment.
- 3.Implementation and maintenance of a quality assurance process that includes a hands on inspection of all your products during the manufacturing process with a final quality inspection prior to shipping.
- 4.Adhering to safety standards.
- 5.Development of all employees through continued training.

We look forward to demonstrating to you the superior quality and customer service our customers have come to expect from LIOU Current Transformer.

## Contact us

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