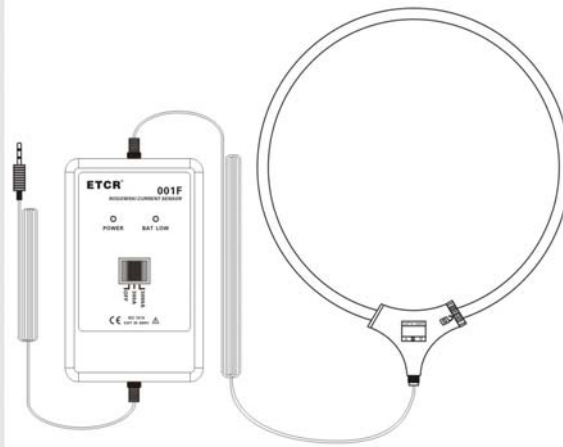


ETCR[®] ROGOWSKI CURRENT SENSOR

ETCR 001F

<http://www.etcrc.com>



MANUAL

ETCR Electronic Technology Company

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Warning



Thanks for your purchase of ETCR001F Flexible coil current sensor (Integrator). For better use of the product, please make sure:

---to read this user manual in details.

---to abide by the safety regulations and precautions strictly.

- ◆ In any case, use this sensor should pay special attention to safety.
- ◆ Pay attention to words and symbols stick on the panel.
- ◆ Keep the pliers clean, maintenance regularly.
- ◆ Stop using the sensor when there is a rupture or break.
- ◆ The operator must get strict training and the relevant certification.
- ◆ Please don't keep or store the sensor in the spot with high-temperature and moisture, or condensation, and under direct daylight radiation for a long time.
- ◆ For the sensors that need battery power supply, please remove the battery if you expect not to use the sensor for a long time, and take note of the polarity when replace the battery.
- ◆ Replace battery in time when the battery voltage is low.
- ◆ In case of explosion, please don't remove or replace the battery in dangerous places.
- ◆ For the sensors that need external power supply, please first confirm the polarity of power supply.
- ◆ This sensor is only to be used, disassembled, and repaired by qualified personnel with authorization.
- ◆ When it may cause hazard by continuous use for the reason of the sensor itself, it shall immediately stop using it and deposit it at once, leaving it for disposal by authorized agency.
- ◆ “” in the manual is the safety warning sign, the contents of this manual must be followed for safe operation.
- ◆ “” and other safety signs, the contents of this manual must be followed for safe operation.







I Introduction

ETCR001F Flexible coil current sensor (Integrator), Rockwell coil Current Sensor, using advanced Roche technology, is a non-ferromagnetic material in the uniform winding of the coil, no hysteresis effect, almost zero phase error, non-magnetic saturation phenomenon, high linearity. The flexible coil is the derivative of the current to time. The integrator integrates the output voltage signal (0 ~ 1V), realizes the measured current and outputs the complete signal waveform. The measuring current range from 0.1A to tens of thousands amperes. Mainly used for current, high harmonic current (up to 400 times), complex waveform current, transient impact current, phase, power, power, power factor detection. Equipped with integrator can be more easily integrated into other test equipment, such as power quality analyzer, harmonic analyzer, power parameter recorder, phase detection analyzer, industrial control devices, oscilloscopes, high-precision digital multimeter, transient Impact recorder, distributed measurement system, protection system.

ETCR001F Flexible coil current sensor (Integrator), Coil part without any exposed metal conductor, non-contact measurement, safe and reliable; Its small size, light weight, beautiful appearance, soft and flexible, suitable for narrow environments and cable-intensive places; Wide measurement range, high accuracy, high reliability, response frequency bandwidth (0.1Hz-1MHz), the user can customize the length of the coil. Widely used in electricity, communications, meteorology, railways, oil fields, construction, measurement, scientific research and teaching units, industrial and mining enterprises and other fields. Particularly suitable for relay protection, SCR rectifier, frequency control, semiconductor switches, power electronic conversion equipment,

welding and other serious signal distortion of the industrial environment.

II Electrical symbol

	Extremely dangerous! Operators shall strictly observe safety rules; otherwise there would be dangers of electric shock to cause personal injuries or casualties.
	Dangerous! Operators shall strictly observe safety rules; otherwise there would be dangers of electric shock to cause personal injuries or casualties.
	Warning! Operators shall strictly observe safety rules; otherwise personal injuries or equipment damages might be caused.
	Double insulation
	AC
	DC

III Range

Range (AC)	Output Voltage	Coil size
0~300A/3000A	1V/300A, 1V/3000A	φ100mm
0~6000A	1V/6000A	φ200mm
0~10000A	1V/10000A	φ300mm

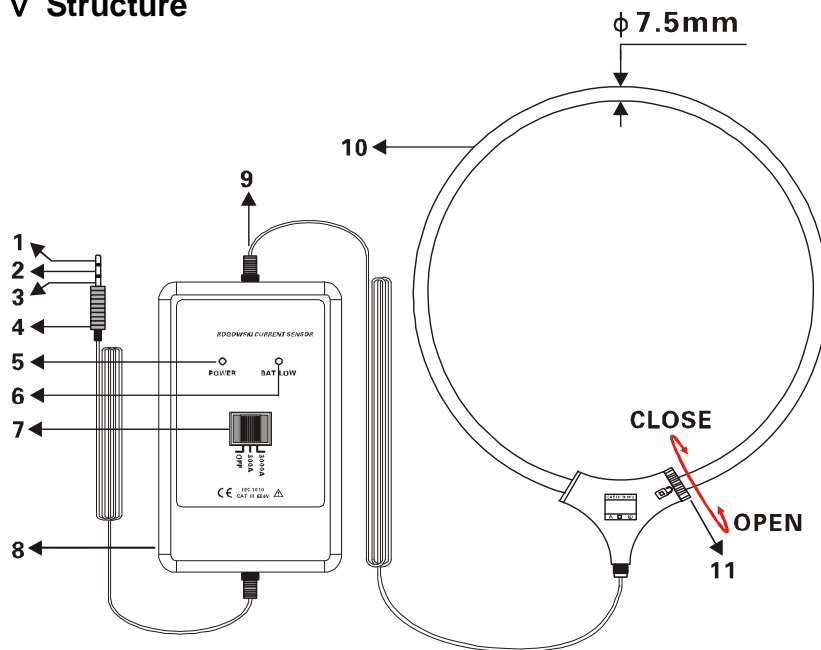
Note: Users can choose the range and coil size according to actual needs.

IV Technical specifications

Function	AC current, high harmonic current, complex waveform current, transient inrush current, starting current, phase, power, power, power factor detection
Coil thickness	φ7.5mm(Suitable for narrow environments and cable-intensive places)
power supply	6F22 9VDC Zinc-manganese dry batteries (external power supply)
Coil length	315mm /650mm/1000mm(Optional)
Coil diameter	φ100mm /φ200mm/φ300mm(Optional)
Range	AC 300A/3000A/6000A/10000A(Optional)
Signal output	AC 0~1V
Resolution	0.1A/1A/2A/3A
Accuracy	±1%FS (50Hz/60Hz;23°C±2°C,Below 70%RH, the wire is in the center of the coil)
Phase error	≤1°(50Hz/60Hz;23°C±2°C)
Output Interface	3.5mmAudio frequency plug/BNC plug (Optional)
Output cable length	2m
Electric field interference	No hysteresis effect, no external electric field interference
Cable position	The cable in the center of the coil and the position error affects ≤±0.5% FS
Current frequency	45Hz~70Hz (Measured current frequency)
Response frequency	0.1Hz~1MHz
Line voltage	Below AC 600V
Weight	315g/330g/350g(φ100mm/φ200mm/φ300mm)
Integrator size	103mm×65mm×26mm


Working temperature and humidity	-20°C~50°C; Below 80%rh
Storage temperature and humidity	-10°C~60°C; Below 70%rh
Insulation	AC 2000V/rms(both end of the unlocked coil)
Safety regulations	IEC1010-1, IEC1010-2-032, Pollution degree 2, CAT III 600V

V Structure



1. Integrator signal output
2. Integrator signal ground (shorted shielded)
3. Shielded ground
4. The integrator signal outputs (audio plug)
5. Integrator power indicator
6. Integrator battery voltage low indicator light
7. Power / gear switch
8. Integrator
9. Flexible coil interface
10. Flexible coil
11. Lock (front and rear rotation can lock or open the coil)

VI Operating Method

	Before use, carefully check whether all parts of the sensor are damaged, there is no damage to use
	Install the battery by manual

1. Plug connection

Put the Audio plug insert to the integrator's input jack.

2. Switch


Power / gear switch to the right to start the boot, turn off at OFF, after the boot device power indicator light

3. Stall selection

Optional (AC)	Switch position		
	left	intermediate	right
0~300A/3000A	OFF	1V/300A	1V/3000A
0~6000A	OFF	1V/6000A	
0~10000A	OFF	1V/10000A	

Description: If 1V / 300A is measured AC300A current corresponds to the output AC1V voltage. 6000A / 10000A only one stalls, switch to the middle or right can be

VII Battery replacement

	Warning! The battery cover is not covered when the test is forbidden, otherwise there is a danger.
	Note the polarity of the battery, otherwise damage the meter.
	Can not mix old and new batteries

1. When the battery voltage is lower than 6.8V ($\pm 0.2V$), the battery voltage indicator light is on, indicating that the battery is low, replace the battery.
2. Make sure the device is in the off state, loosen the battery cover screws, open the battery cover, replace

the battery with a new pass, pay special attention to the battery specifications polarity, cover the battery cover, tighten the two screws.

3. Dial the key to the middle or right to check whether the instrument can boot normally, if not boot, please press the second step to re-operation.

VIII Packing List

Integrator	1pcs
Flexible coil	1pcs
Box / user manual / warranty card / certificate	1set

⚠ *Manufactured by*

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