

UL Listed R-Coil / High Frequency R-Coil



Taehwatrans Flexible Rogowski coils, TFR series, provide best-in-class accuracy for metering and monitoring purpose. They are designed in a way that their output is hardly influenced by the position of the conductor within the loop and that cross talk, interference from external magnetic fields caused by nearby conductors, is very low. They show accuracy class 0.5 compliant to IEC61869-10 and less than $\pm 0.5\%$ (max 1%) positioning error around 360 degree of coil loop. They are also UL listed with XOMA/7 UL 2808 & CSA61010-02. They are IP67 protection rating and UV protective so that they show excellent performance in outdoor applications.

They have wide dynamic range where the same coil can be used to measure currents from mA to hundreds of kA. Also they have excellent linearity less than 0.5%. By sophisticated engineering of coil winding and design process, the frequency bandwidth for -3dB ranges from hundreds of kHz and to Mhz. The coreless structure enables Rogowski coils to be used in limited space. Compared with the traditional current transformers, they do not require the power consumption along with an extremely light weight. In the safety aspect, the safe secondary circuit block is not necessary to prevent the damage from the high instantaneous surge current due to an air core usage. In regards to applications, they have the AC accurate measurement, what is more, including the measurement of AC components, ripple current, and DC components.

They are available in different sizes and can be engineered according to customers' requests, therefore they can be used in all those applications where traditional transducers are not fitting due to its size and/ or weight. TFR series are designed to have strong tolerance against the influence of external magnetic fields, therefore it is capable of an excellent measurement from low currents to hundreds of kA. The Rogowski coils must be connected to an electronic integrator for 90° phase shift compensation and frequency equalization. Integrators sold separately.

Application

- Revenue-Grade distribution transformer monitoring
- Energy sub-meters
- Pole-top transformer monitoring
- Power quality monitoring
- Condition monitoring
- Distributed measurement systems

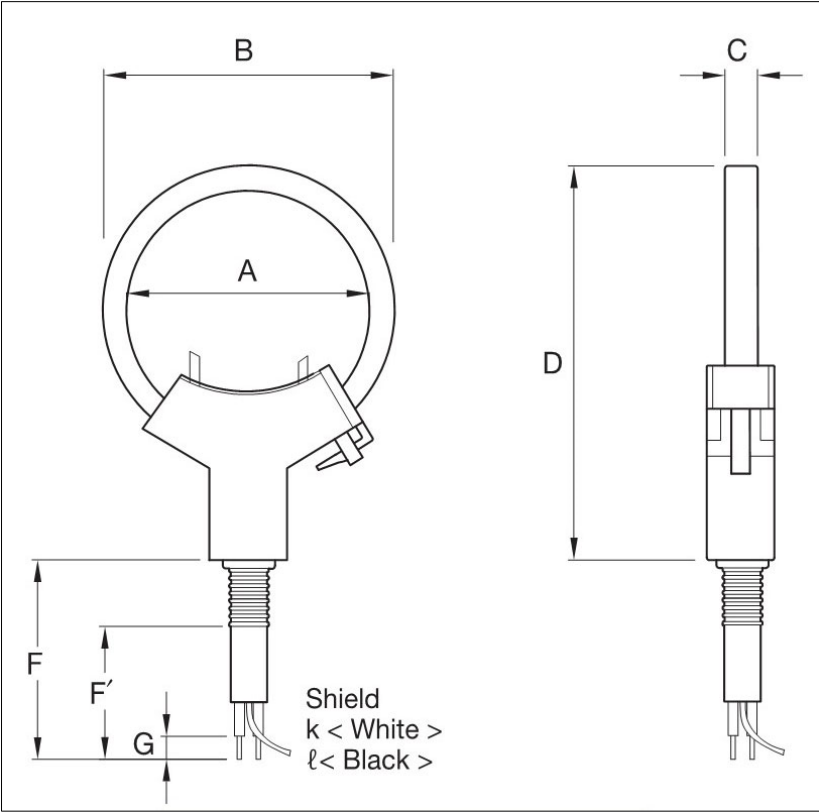
Features

- Accuracy class 0.5 by IEC61869-10
- XOB A7 UL 2808 & CSA 61010-02 (Insulation CAT III 1000V, IV 600V)
- Protection Degree IP67 & UV Protective
- Very low positioning errors & excellent orthogonality
- Easy & quick installation in uninterruptible power line
- Adaptable for a large range of coil diameter

Flexible Rogowski Coils

> UL2808 & CSA61010-02 600V CAT IV Pol.Degree III

Drawing



Part Number & Dimension

unit : mm/inch

Item	TFR210LU	TFR320LU	TFR400LU	TFR500LU	TFR620LU
Loop Length	210	320	420	500	620
	8.3"	12.6"	16.5"	19.7"	24.4"
A Window	53	80	105	130	160
	2.1"	3.2"	4.1"	5.1"	6.3"
B Outer Diameter	73	100	125	150	180
	2.9"	3.9"	4.9"	5.9"	7.1"

1. Metering Flexible Rogowski Coils

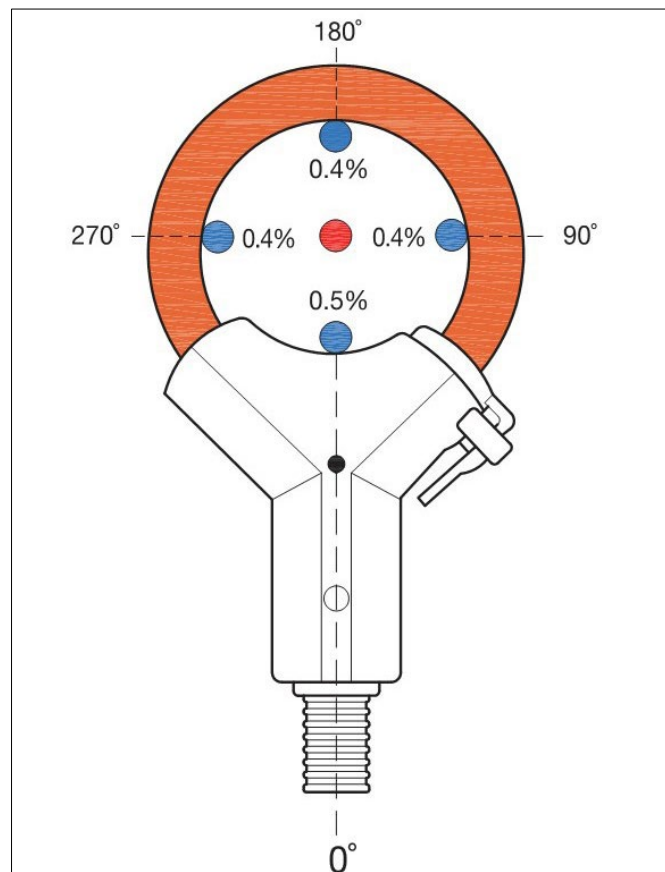
> UL2808 & CSA61010-02 600V CAT IV Pol.Degree III

Electrical Property

Electrical Property

Accuracy Class (IEC61869-10)	Class 0.5	Operating Frequency	20Hz~20KHz
Output Voltage @1000A,60Hz	120mV	Nominal Measurement Current	5A to 6000A
Output Voltage @1000A,50Hz	100mV	IP Rating & UV Resistance	IP67 & UV Resistive
Phase Displacement	< 0.5°	Hi-Potential Voltage per min.	a.c. 7400V
Reading Error (20% Rating)	≤ 0.75%	Full Scale Error (Whole Range)	≤ 0.5%
Max Position Error (0° ~ 360°)	Avr.± 0.5%(max 1%)	Temperature Drift	±0.15% per 10°C (-40°C ~ +70°C)
Max External Stray Mutual Inductance Error (1000A, AC0.5mT)	< 0.1%		
Ambient Operating Temp.	-40°C ~ +70°C	Storage Temperature	-40°C ~ +80°C

Positioning Error Diagram



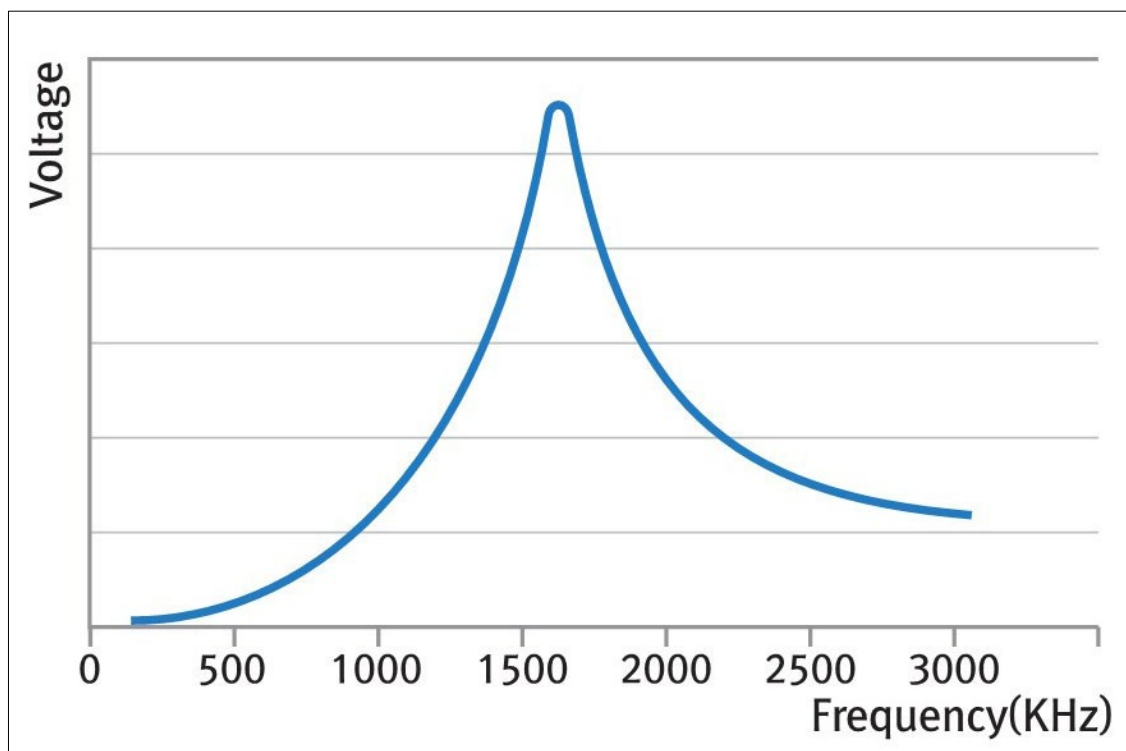
2. High Frequency Monitoring Rogowski Coils

Electrical Properties : Model : TFR210LUH

Electrical Property

Application	Arc Detection	Operating Frequency	60KHz - 400KHz
Output Voltage @1A, 400KHz	50mV	Hi-Potential Voltage per min	a.c.7400V
Max positioning error (0°~360°)	Avg.±2%	Connected Cable	AWG24 600V
Phase Displacement Error	< 0.5	IP Rating & UV Resistance	IP67 & UV Resistive
Ambient Operating Temp.	-40°C ~ +70°C	Storage Temperature	-40°C ~ +80°C

Frequency Vs Typical Output Gain Diagram



TFR210LUH Frequency Response



ASRAS CO.,LTD
1694, 1694/1 Prachasongkhro Road Dingdaeng,
Dindaeng, Bangkok 10400 Tel.
02-277-9969, Fax 02-277-0995

E-mail : sales@asras.co.th
Website : www.asras.co.th

Distribution in Thailand by ASRAS Co.,Ltd.