



Overview

Our advanced Rogowski coil integrator transforms derivative signals into precise, proportional current measurements.

Designed for exceptional linearity, minimal phase shift, and wide bandwidth, it ensures reliable performance in demanding power monitoring and control applications.

Benefits:

- Cost effective design
- Optimized for YAGEO Pulse Current Sensors
- Designed in Austria, Made in the Czech Republic

Features:

- Fully encapsulated
- Accuracy Class 0.5 (with suitable Rogowski-Coil, EN/IEC 61869-2)
- terminal block
- three different input voltages (5V, 12V, 24V)
- -20°C to +80°C operating temperature
- Manufacturing according to ISO 9001

Applications

- Fault Detection, Isolation & Service Restoration
- Smart Grid Monitoring
- Protection and Safety Solutions
- Transformer Condition Monitoring
- Voltage Regulation & Power Quality Management
- Substation Applications
- Transformer Installations
- Overhead Line Infrastructure

Specifications

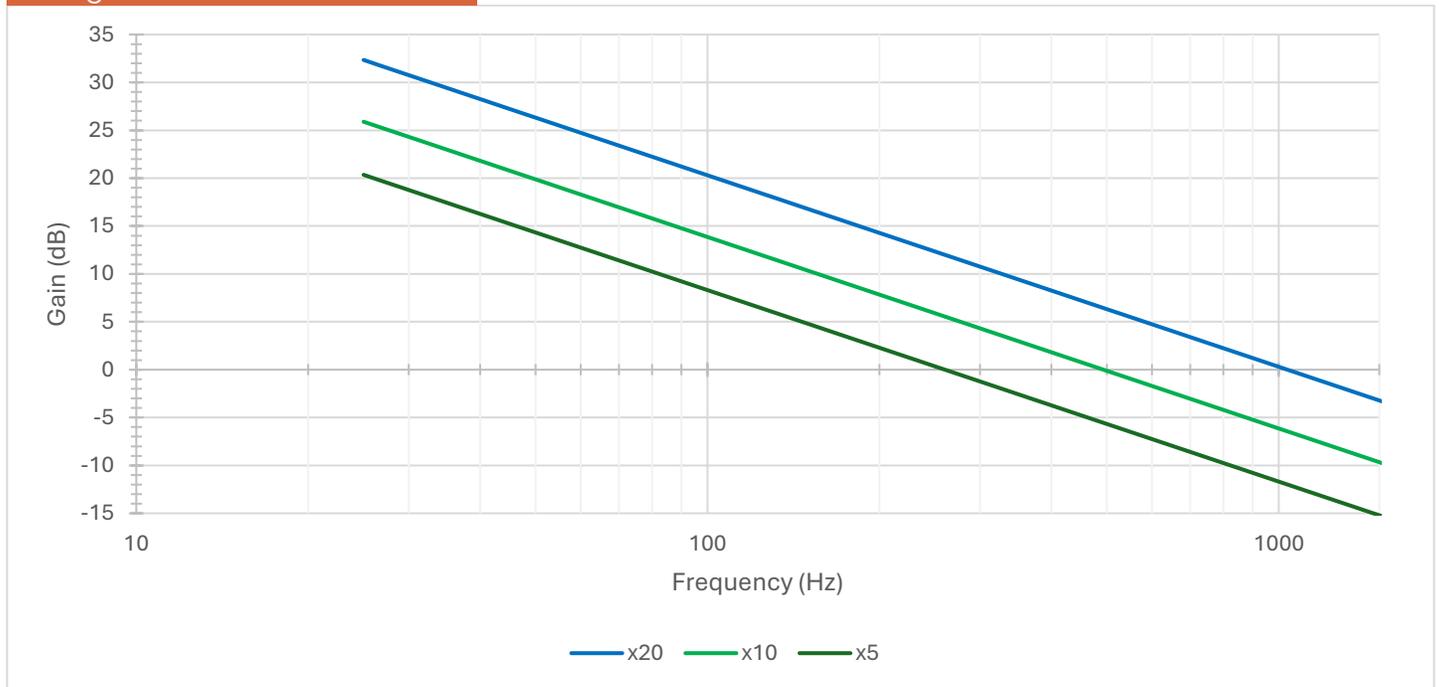
Parameter	Symbol	Min	Typ.	Max.	Unit	Text Cond.
Accuracy Class			0,5			with suitable coil
Input Current			7,8	15	mA	680 Ω output load
Input Voltage		4,5	5	5,5	V	5V Version
		10,8	12	13,2		12V Version
		21,6	24	26,4		24V Version
Nominal signal frequency		45		65	Hz	
Bandwidth		25		10000	Hz	<3dB
Phase accuracy	X5			89,5-90,5	°	30-1900Hz
	X10					30-1900Hz
	X20					30-715Hz
Offset Error				1	mVDC	
Output Voltage			2250	2500	mVRMS	
Output Current				5	mA	
Operating Temperature		-20	20	80	°C	
Storage Temperature		-20	20	80	°C	
Humidity				95	%	Non- condensing
Atmospheric Pressure		70		106	kPa	
Cross-section of terminals	Rogowski-input	0,2		1,5	mm ²	Terminal Specification
	Output	0,2		1,5		

Ordering information

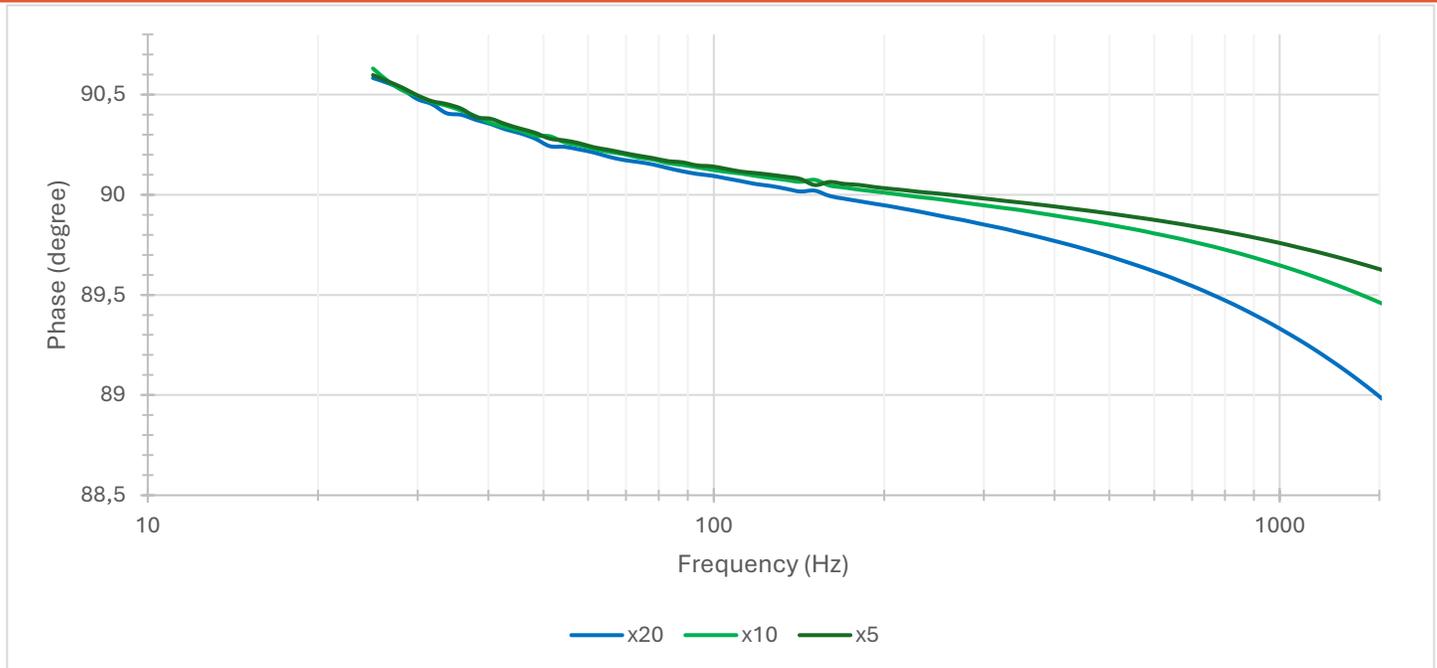
Part number	Voltage gain @ 50Hz mV/mV	Input Voltage V
003980372 NIhCR-10X-5V	10	5
003980376 NIhCR-10X-12V	10	12
003980377 NIhCR-10X-24V	10	24

Transfer-function

Magnitude



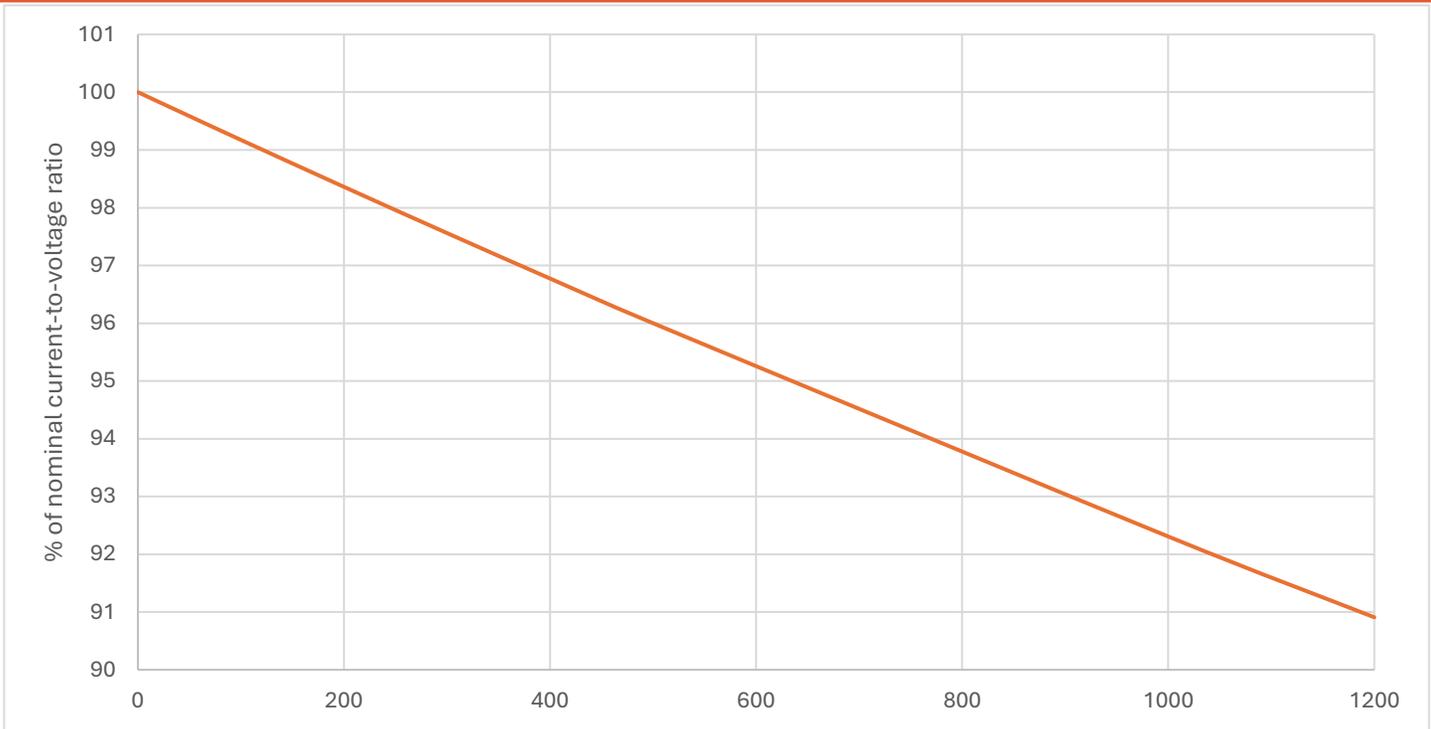
Phase



Sensitivity versus Rogowski-Coil internal resistance

Rogowski-Coil internal resistance

Due to the input current into the circuit and the resulting voltage drop across the internal resistance of the Rogowski-Coil, there will be a change of the current to voltage ratio with different Rogowski-Coil internal resistances. See typical current to voltage ratio change in figure below.



$$ratio(\%) = \frac{12e3}{12e3 + Ri} * 100$$

R_i : internal resistance of Rogowski coil

Example:

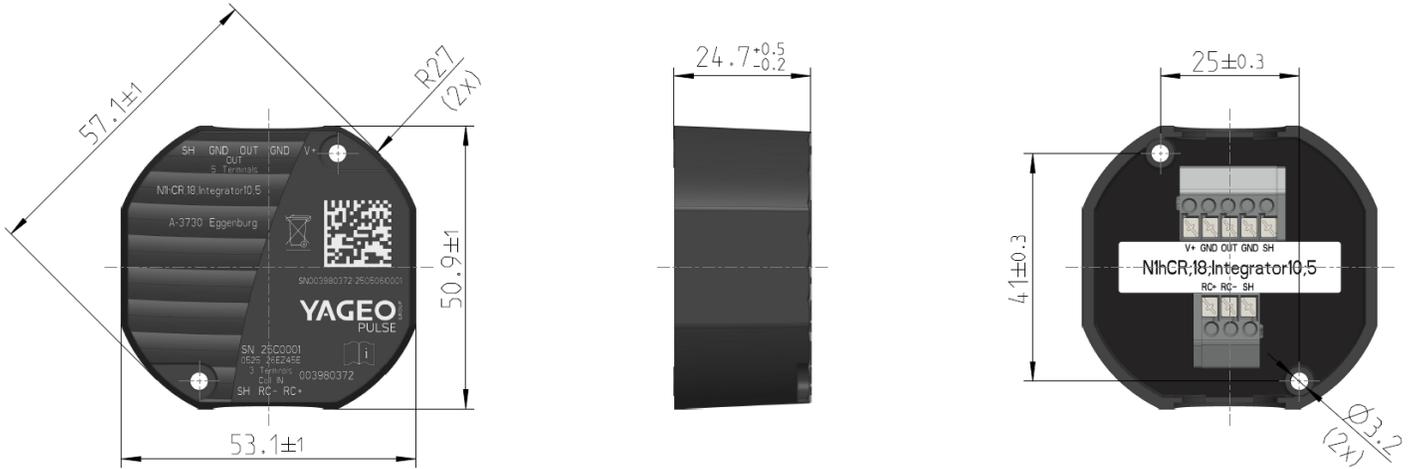
Rogowski-Coil with sensitivity of 300 mV/kA and internal resistance of 200 Ω.

$$300\text{mV/kA} * 10 * 98,35\% = 2950,5\text{mV/kA}$$

The sensitivity of the system would be 2950,5mV/kA.

Mechanicals

Dimensions in mm



Marking plate symbol explanation

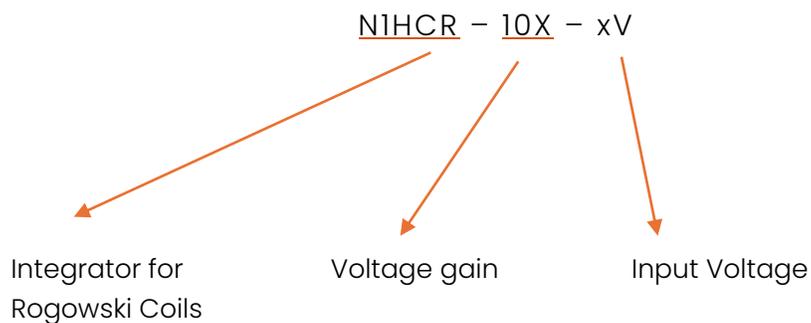
<p>RoHS conform</p> 	<p>The electronic module has to be disposed appropriately according the local regulations for Waste Electrical and Electronic Equipment.</p>
	<p>Read instruction manual.</p>

Installation

	<p>Maximum mounting screw torque M=30Ncm Recommended screws: Slotted pan head screw ISO 1580 max. M3 Alternative: Phillips pan head screw ISO 7045 max. M3 Alternative: fillister socket head screw low design ISO 7984 max. M3 Alternative: fillister socket head screw ISO 4762 max. M3</p>
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Legend

Codification



Customizable on request:

- output signal
- connectors
- certifications according to specific standards
- supply voltage
- temperature compensation
- accuracy

Also in our production scope:

- Rogowski coils
- Flexible Rogowski coils
- Matched set coil & integrator

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