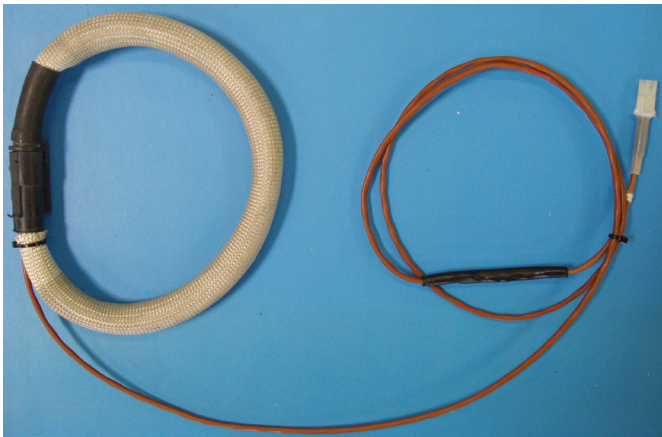
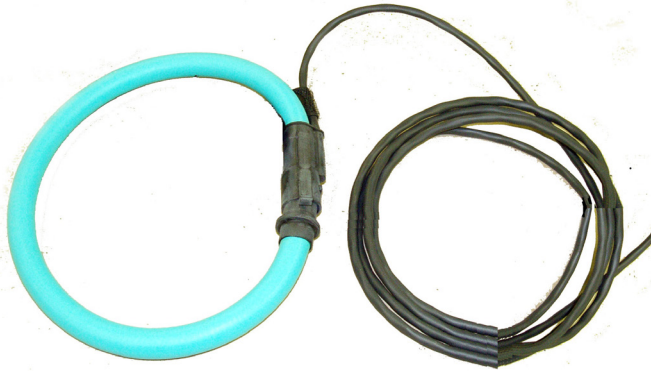




DynAmp

RS Transducers

Flexible Rogowski Coil Current Transducer



Description

The RS series are AC current transducers utilizing the Rogowski principle. This allows non-contact measurement of current from low frequencies to 100 kHz. The RS series is available in both standard and 'calibrated to standard circuit' forms.

The RS5 version is the same as the RS2 except the RS5 head is covered with silicone resin impregnated fiberglass sleeving and the output cable is Teflon jacketed. This provides additional abrasion resistance and minimizes possible transducer damage resulting from continuous contact with hot and/or vibrating surfaces.

Application

After appropriate signal conditioning, RS transducers provide effective, non-contact current measurement signals for instrumentation such as Digital Multimeters, Dataloggers, Oscilloscopes as well as a wide variety of Electrical Control and Protection Systems.

Key Features

- Frequency response to 100kHz
- Extremely lightweight, opening measurement head
- Flexible 'cable' sensor for easy installation
- Two physical versions : Standard (RS2) & Rugged (RS5)
- Two electrical versions : Uncalibrated & Calibrated
- A variety of standard as well as custom head sizes are available to fit most any application

Specifications

Input -> Output

Typical Voltage Output (instantaneous)
 $E_{out} = - (3.078 \times 10^{-7}) \times di / dt$

Typical Voltage Output (sinusoidal)
 $E_{out\ RMS} = - (1.934 \times 10^{-6}) \times I_{RMS} \times \text{Frequency}$
 $E_{out\ RMS} @ 1\text{kA RMS } 60\text{Hz} = 116\text{ mV}$
 $E_{out\ RMS} @ 1\text{kA RMS } 50\text{Hz} = 96.7\text{ mV}$

Performance

Output Sensitivity Tolerance at 25°C
Uncalibrated $\pm 10\%$ max of reading
Calibrated $\pm 0.25\%$ of reading

Calibrated transducer interchangeability
0.5% of reading

Linearity (10% to 100% of range)
0.2% of reading

Internal Resistance per mm of Transducer cable length
5.9 ohms/100 mm $\pm 10\%$

Temperature Coefficient
 $\pm 0.05\%$ max of reading per °C

Position Sensitivity (with conductor >25 mm from coupling)
 $\pm 2\%$ of range

External Influence (with conductor >200 mm from head)
 $\pm 1\%$ of range

Safety

IEC 1010-1, IEC 1010-2-031, IEC 1010-2-032
Max. Working V on uninsulated conductor, no air gap
600 V_{RMS} <1 kHz
Double Insulated, Installation Category III
Pollution Degree 2

General Characteristics

Transducer and Output Cable Materials
TPE rubber, double insulated UL94 V-0
(RS5 adds silicone resin impregnated fiberglass cover to Transducer & FEP Teflon jacket to Output cable)

Coupling Max. Diameter 22.2 mm (0.875")
Polypropylene, UL94 V-0, Color Black

Standard Transducer Heads (open & closed dia.)
508 mm (20") Dia. 147 mm (5.8")
610 mm (24") Dia. 170 mm (6.7")
915 mm (36") Dia. 275 mm (10.8")
1220 mm (48") Dia. 370 mm (14.5")

Transducer Min. Bend Radius 38.1 mm (1.5")
Transducer Cable Diameter 14.3 mm (0.56")

Output Cable with shield plus 2 signal wires
(calibrated version has in-line PCB)
Output Cable Diameter 5.8 mm (0.625")

Temperature Ranges
Operating : -20 to +90°C (-4 to +194°F)
Storage : -40 to +105°C (-40 to 221°F)

Humidity Operating 15% to 85% (non-condensing)

Protection IP41

Weight 30g per 100 mm length

NOTE : Specifications subject to change without notice