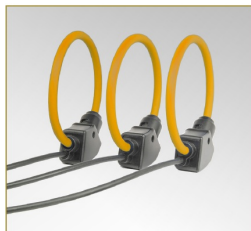


# Flexible current sensors

## RC150 / RC160 / RC190 Series

Non-intrusive AC measurement for retrofits, energy monitoring and hard-to-reach conductors



**RC150**



**RC160 - UL 2808**



**RC190**

| INSTALLATION                     | MEASUREMENT                  | SAFETY                      | SELECTION                    |
|----------------------------------|------------------------------|-----------------------------|------------------------------|
| Bayonet closure<br>Flexible coil | Class 0.5-A1<br>IEC 61869-10 | No open-secondary<br>hazard | 100 / 120 / 333<br>mV per kA |

## One range for three measurement profiles

Rogowski coils detect alternating current without a magnetic core: they are lightweight, do not saturate and do not require the primary circuit to be opened. The induced voltage must be processed by a compatible input or integrator. Coil and cable shielding limits the influence of external fields, while the flexible geometry allows the coil to encircle busbars, multiple cables and irregularly shaped conductors.

| RC150                         | RC160                                   | RC190                        |
|-------------------------------|-----------------------------------------|------------------------------|
| Versatility and high currents | UL 2808 / Service Entrance applications | Higher sensitivity           |
| 100 mV/kA @ 50 Hz             | 120 mV/kA @ 60 Hz                       | 333 mV/kA @ 50 Hz            |
| Coil cross-section Ø 8.3 mm   | Coil cross-section Ø 8.3 mm             | Coil cross-section Ø 12.4 mm |
| Up to 100 kA                  | 2 or 5 kA depending on length           | Up to 65 kA                  |

Typical applications: energy audits, panel retrofits, load supervision, harmonic and transient analysis, measurements on machinery and installations with high currents.

## Series technical specifications

| Parameter                   | RC150                              | RC160                                                   | RC190                              |
|-----------------------------|------------------------------------|---------------------------------------------------------|------------------------------------|
| Type                        | Passive coil, without integrator   | Passive coil, without integrator                        | Passive coil, without integrator   |
| Coil length                 | 25...300 cm                        | 30...300 cm*                                            | 30...300 cm                        |
| Internal diameter           | 5...94 cm                          | 7...94 cm                                               | 8.3...94.2 cm                      |
| Coil cross-section diameter | 8.3 ±0.2 mm                        | 8.3 ±0.2 mm                                             | 12.4 ±0.2 mm                       |
| Coil material               | UL94-V0 thermoplastic polyurethane | Polyphenylene and thermoplastic elastomer               | UL94-V0 thermoplastic polyurethane |
| Closure                     | Bayonet                            | Bayonet                                                 | Bayonet                            |
| Rated RMS output            | 100 mV/kA @ 50 Hz                  | 120 mV/kA @ 60 Hz; 100 mV/kA @ 50 Hz                    | 333 mV/kA @ 50 Hz                  |
| Maximum current             | 100 kA                             | 2 kA (L 30...42 cm); 5 kA (L 43...300 cm)               | 65 kA                              |
| Coil resistance             | 70...900 ohm                       | 70...900 ohm                                            | 300...2,000 ohm                    |
| Accuracy                    | Class 0.5-A1 IEC 61869-10          | Class 0.5-A1 IEC 61869-10                               | Class 0.5-A1 IEC 61869-10          |
| Rated frequency             | 50/60 Hz                           | 50/60 Hz                                                | 50/60 Hz                           |
| Category / voltage          | 1,000 V CAT III; 600 V CAT IV      | 600 V CAT IV, Service Entrance                          | 1,000 V CAT III; 600 V CAT IV      |
| Pollution degree            | 2                                  | 2, controlled environment                               | 2                                  |
| Test voltage                | 7,400 V RMS / 5 s                  | 7,400 V RMS / 5 s                                       | 7,400 V RMS / 5 s                  |
| Cable                       | 3 x 24 AWG shielded                | 3 x 24 AWG shielded                                     | 3 x 22 AWG shielded**              |
| Protection                  | IP67 or IP68 depending on model    | IP65, indoor use                                        | IP67 or IP68 depending on model    |
| Operating temperature       | -30...+80 °C                       | -35...+75 °C up to 2 kA;<br>-35...+60 °C from 2 to 5 kA | -30...+80 °C                       |
| Storage                     | -40...+80 °C                       | -40...+90 °C                                            | -40...+80 °C                       |
| Altitude                    | Up to 2,000 m                      | Up to 2,000 m                                           | Up to 2,000 m                      |

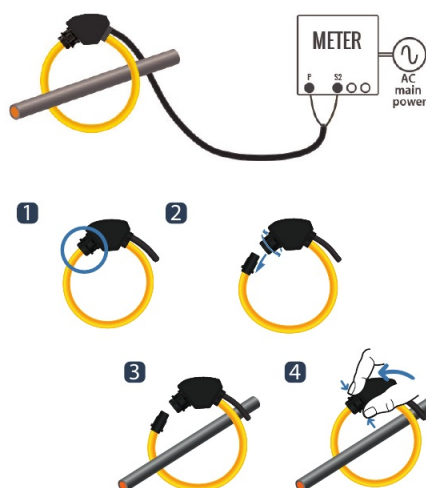
## Series selection and installation

| Requirement                                     | Recommended series | Criterion                                                 |
|-------------------------------------------------|--------------------|-----------------------------------------------------------|
| Wide range and very high currents               | RC150              | Up to 100 kA, 100 mV/kA output @ 50 Hz                    |
| North American installations / Service Entrance | RC160              | UL 2808; 120 mV/kA output @ 60 Hz                         |
| Higher signal at the same current               | RC190              | 333 mV/kA output @ 50 Hz and Ø 12.4 mm coil cross-section |

- 1 Open**  
Release the bayonet closure without pulling on the cable.
- 2 Position**  
Wrap around a single conductor and observe the indicated direction.
- 3 Close**  
Fully insert the bayonet closure until it locks.
- 4 Connect**  
Use a Rogowski input or an integrator compatible with the ratio and frequency.
- 5 Check**  
Check the scale, phase, fastening and clearance from power circuits.

## Essential warnings

The sensors measure alternating current, not direct current. Do not exceed the specified voltages, categories, temperatures or environmental conditions. Installation must be carried out by qualified personnel, with the circuit made safe and in compliance with applicable clearances and standards. For RC160, the current rating depends on coil length.



## Application example

### Current monitoring in an existing panel

The coil is opened, positioned around a single conductor and closed again without disconnecting the line. The shielded cable carries the signal to a compatible analyser or integrator. This solution is suitable for retrofits, load supervision and energy monitoring.

### Disclaimer

The information, images and diagrams are for descriptive purposes. Product specifications, availability and appearance may change without notice. Before design or installation, consult the latest documentation for the ordered product code. Installation is restricted to qualified personnel in compliance with applicable standards and safety conditions.

## Active order codes

| Code             | Series | Coil L (cm) | Internal Ø (cm) | Cable (m) | Rated output      |
|------------------|--------|-------------|-----------------|-----------|-------------------|
| RC150-025-100-10 | RC150  | 25          | 8               | 10        | 100 mV/kA @ 50 Hz |
| RC150-025-100-3M | RC150  | 25          | 8               | 3         | 100 mV/kA @ 50 Hz |
| RC150-025-100-5M | RC150  | 25          | 8               | 5         | 100 mV/kA @ 50 Hz |
| RC150-035-100-10 | RC150  | 35          | 11              | 10        | 100 mV/kA @ 50 Hz |
| RC150-035-100-3M | RC150  | 35          | 11              | 3         | 100 mV/kA @ 50 Hz |
| RC150-035-100-5M | RC150  | 35          | 11              | 5         | 100 mV/kA @ 50 Hz |
| RC150-040-100-10 | RC150  | 40          | 12              | 10        | 100 mV/kA @ 50 Hz |
| RC150-040-100-3M | RC150  | 40          | 12              | 3         | 100 mV/kA @ 50 Hz |
| RC150-040-100-5M | RC150  | 40          | 12              | 5         | 100 mV/kA @ 50 Hz |
| RC150-060-100-10 | RC150  | 60          | 19              | 10        | 100 mV/kA @ 50 Hz |
| RC150-060-100-3M | RC150  | 60          | 19              | 3         | 100 mV/kA @ 50 Hz |
| RC150-060-100-5M | RC150  | 60          | 19              | 5         | 100 mV/kA @ 50 Hz |
| RC150-090-100-10 | RC150  | 90          | 28              | 10        | 100 mV/kA @ 50 Hz |
| RC150-090-100-3M | RC150  | 90          | 28              | 3         | 100 mV/kA @ 50 Hz |
| RC150-090-100-5M | RC150  | 90          | 28              | 5         | 100 mV/kA @ 50 Hz |
| RC150-120-100-3M | RC150  | 120         | 38              | 3         | 100 mV/kA @ 50 Hz |
| RC150-120-100-5M | RC150  | 120         | 38              | 5         | 100 mV/kA @ 50 Hz |
| RC150-180-100-3M | RC150  | 180         | 57              | 3         | 100 mV/kA @ 50 Hz |
| RC160-030-120-3M | RC160  | 30          | 7               | 3         | 120 mV/kA @ 60 Hz |
| RC160-040-120-3M | RC160  | 40          | 11              | 3         | 120 mV/kA @ 60 Hz |
| RC160-060-120-3M | RC160  | 60          | 17.5            | 3         | 120 mV/kA @ 60 Hz |
| RC190-030-333-3M | RC190  | 30          | 9               | 3         | 333 mV/kA @ 50 Hz |
| RC190-030-333-5M | RC190  | 30          | 9               | 5         | 333 mV/kA @ 50 Hz |
| RC190-035-333-3M | RC190  | 35          | 11              | 3         | 333 mV/kA @ 50 Hz |
| RC190-060-333-3M | RC190  | 60          | 19              | 3         | 333 mV/kA @ 50 Hz |
| RC190-090-333-3M | RC190  | 90          | 28              | 3         | 333 mV/kA @ 50 Hz |