

DISTRIBUSENSE® SENSORS

RSS-1

Split-core submersible current sensor



The RSS-1 submersible current sensor is used for non-revenue current measurement in indoor and underground vault applications. The hermetically sealed design ensures long life in harsh, submersible environments.

Overview

The RSS-1 submersible current sensor, the first of its kind in the industry, is designed for non-revenue current measurement in indoor and underground vault applications. Unlike other current transformers and sensors on the market today, the RSS-1 offers a unique design that provides complete hermetic sealing of internal components. This ensures long life in the harshest of submersible environments, with submersion depths up to 6.5 feet (two meters).

Application

The low voltage output is proportional to the current input and, having a very low energy output, minimizes safety concerns associated with open circuited leads on an energized current transformer. The RSS-1 is suitable for continuous underwater use with no danger of water intrusion, product degradation, or failure due to moisture. Designed for integration with a variety of high impedance controllers, the RSS-1 includes a 75 ft. cable, allowing remote location of receiving devices.

The RSS-1 can also be used in indoor applications, such as switches or switchgear, and in applications that are not temperature and humidity controlled, where other indoor sensors may not be suitable. This split-core sensor can also be used in outdoor

applications such as a clamp-on capacitor bank neutral sensor. The case and cable are UV rated for outdoor use; however, it must be installed on an insulated cable in outdoor conditions.

The RSS-1 includes a voltage clipping feature that limits the output voltage to approximately 65 V, avoiding potential damage to receiving devices during fault current scenarios. With measurement output up to 4000 A before clipping the output voltage, the RSS-1 provides indication of fault conditions.

Construction features

Using distributed coil technology, the RSS-1 delivers outstanding accuracy for measurement applications while providing the benefits of a completely waterproof design.

Installation

The RSS-1 enclosure uses an intuitive tool-free locking mechanism that installation personnel can easily manage while wearing personal protective equipment. The RSS-1 is encased in a body made of an industry-proven polycarbonate and has no exposed metal components, avoiding undesirable reactions with sludge, rain, or flood water. If installed in an outdoor environment, it must be installed on an insulated cable.

Meter/controller integration

To ensure accurate measurement and proper performance, the sensor and IED must be compatible. Due to the wide variety of relays and controllers offered in the market today, contact the factory or your ABB sales representative to ensure sensor compatibility.

UL Recognized Component

The RSS-1 is a UL Recognized Component (E96461).

Product details

Style number	923A613G01
Rated voltage, Vr	0.6 kV
Rated current	600 A
Output ratio	600 A:10 V
Continuous current rating factor	2.0
Applied voltage test	4 kV
Lightning impulse withstand voltage	10 kV full wave
Rated frequency	60 Hz
Operating temperature range	-30°C to +85°C
Temperature rise	55°C max at rating factor
Current accuracy	+/- 1% maximum error in operating temperature range from 60 A to 4000 A
Cable – jacketed UL type TC	Diameter: 14 AWG; Length: 75 feet (23 meters)
Weight (per unit)	Sensor: 5.5 lb (2.5 kg); Sensor and cable (max): 10 lb (4.5 kg)
Enclosure rating	NEMA Type 6P / IP68W compliant; Submersion depth up to 6.5 feet (two meters)
Application rating	Fully compliant with NEC requirements for Class 1, Division 2 application

For additional information, refer to “Instructions for installation, use, and maintenance” (1VAP500010-MB).

Dimensions (inches [mm])

