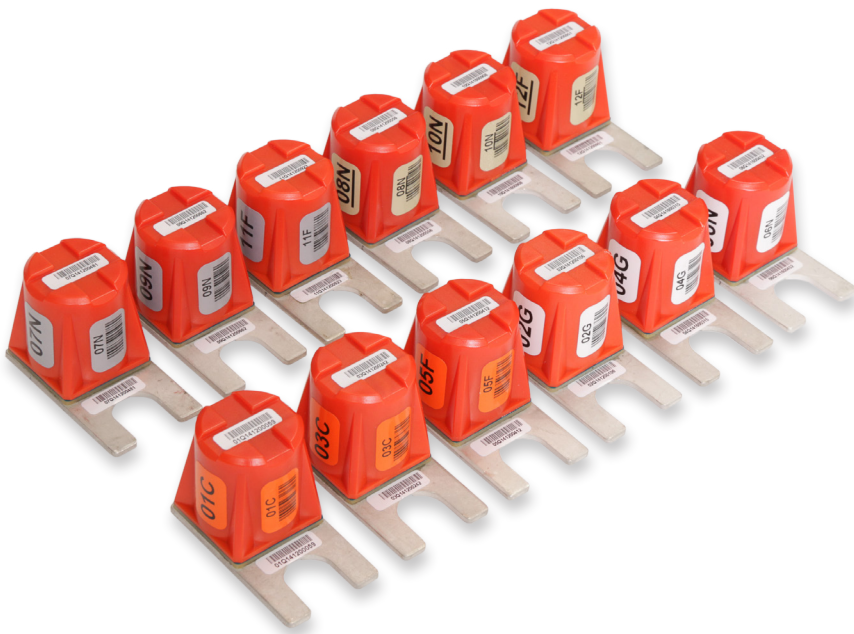


# CRITICAL ASSET MONITORING

## TEMPERATURE SENSORS



### FEATURES

- **100% passive.**  
No power source required
- Designed for electrical power critical asset environments
- 20+ year operational expectancy
- Small, simple to fit existing asset structures
- Type tested for low and medium voltage applications

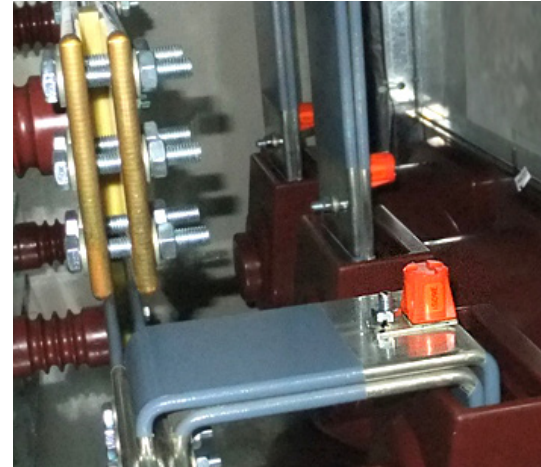
## Ideal for Critical Assets

The IntelliSAW temperature sensors are the ideal method for real-time, continuous monitoring of low and medium voltage critical asset hot-spots such as bus bars, breaker contacts, and cables.

Surface acoustic wave (SAW) technology enables a 100% wireless, passive (no power required) continuous temperature monitoring sensor. The SAW sensors were specifically designed for electrical power assets with basic insulation levels (BIL) up to 185kV.

# SAW SENSORS: INTEGRATED ANTENNA (IS)

The Integrated Antenna SAW Sensors are the most reliable method of thermal monitoring in a wide range of electrical power critical asset applications including switchgear, bus ties, bus ducts, transformers, and generator circuit breakers. The sensors seamlessly interface to all IntelliSAW Critical Asset Monitoring systems and provide up to twelve measurement locations per asset.



## SPECIFICATIONS

### TEMPERATURE MEASUREMENTS

Range	-25°C to +125°C
Resolution	± 0.2°C
Accuracy	
Standard Range (0 to 80°C)	± 2°C
Full Range	± 4°C
Number of Sensor Channels	12 (non-overlapping channels)
Sensor Frequencies	Between 425 MHz to 442 MHz

### PHYSICAL

Base Plate Material	260 Brass, Tin Plated
Cover Material	Polycarbonate, UL94-HB
International Protection (IEC 60529)	IP 30
Cover Dielectric Strength	15 kV
Dimensions	30.5 W × 53.5 L × 35.5 mm H

### MOUNTING

Bolt (Max)	13 mm or ANSI ½ in.
Mounting Torque (Max)	102 N-m (75 lb-ft) Use asset manufacturer's recommended bolt torque at all times. A high strength flat washer between the nut and sensor must be used.
Alternative Solutions	<b>Cable Tie:</b> 5.5 W × 1.65 mm Thick (Max) Non-conducting ETFE, 150°C operating temperature (McMaster-Carr 70215K93) <b>Bonding Tape</b> 3M VHB 4646 Bonding Tape (150°C operating temperature)

### TYPE TESTING

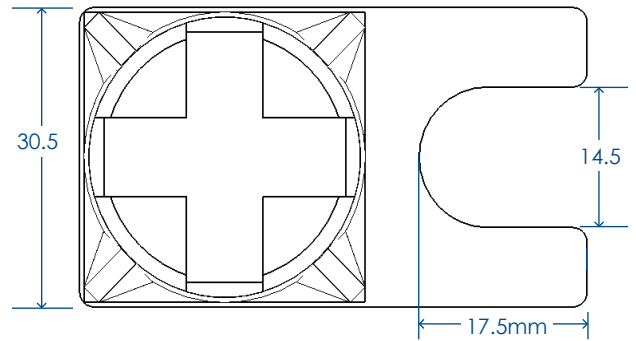
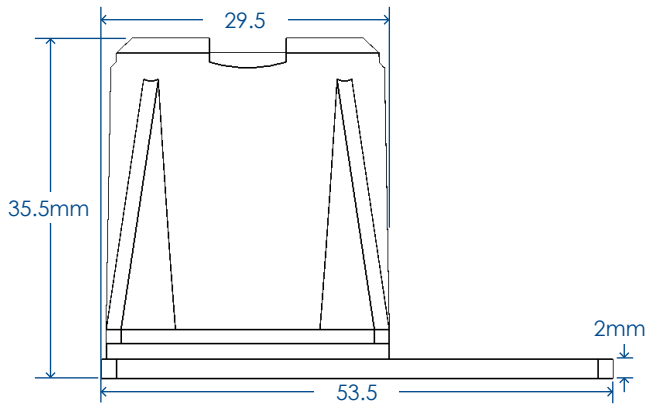
IEC 62271-100	MV Switchgear, Voltage withstand: 95 kV/1m, 185 kV pulse
IEC 62271-200	MV Switchgear, Short circuit withstand: (63 kA/3s, 171 kA peak)



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# MECHANICAL



## SENSOR GROUPINGS

Sensors are grouped with unique color codes to support easy installation and visualization in electrical power assets.

When commissioning a system, care must be taken not to duplicate same sensor frequency bands within a given asset. IntelliSAW recommends selecting sensors based on their groupings for optimal performance. Please contact sales for more details.

COLOR	SENSOR BANDS
Orange	01, 03, 05
White	02, 04, 06
Gray	07, 09, 11
Tan	08, 10, 12



# SAW SENSORS: CAPACITIVE COUPLED (CC)

The IntelliSAW capacitive coupled sensors offer innovative advancements in continuous temperature monitoring of compact switchboards while simplifying EMC considerations. Designed for installation in Low Voltage (LV) systems such as motor control center (MCC), LV distribution boards (LVDB), and other related applications, the sensors are easily mounted and measured through capacitive isolation over an IEC standard air gap.



## SPECIFICATIONS

### TEMPERATURE MEASUREMENTS

Range	-25°C to +125°C
Resolution	± 0.2°C
Accuracy	
Standard Range (0 to 80°C)	± 2°C
Full Range	± 4°C
Number of Sensor Channels	12 (non-overlapping channels)
Sensor Frequencies	Between 425 MHz to 442 MHz

### PHYSICAL

Base Plate Material	260 Brass, Nickel Plated
Cover Material	UL94V0 FR4 printed circuit board
Cover Dielectric Strength	N/A, conductive to base
Dimensions	19 W × 30 L × 5.5 mm H

### MOUNTING

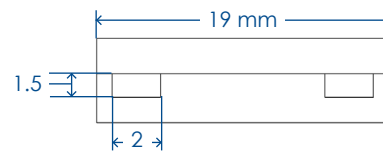
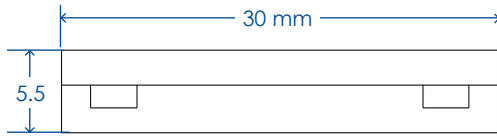
Clip or Tie Wraps	1 × 2 mm cross section
Shrink wrap	Non-conductive polymer



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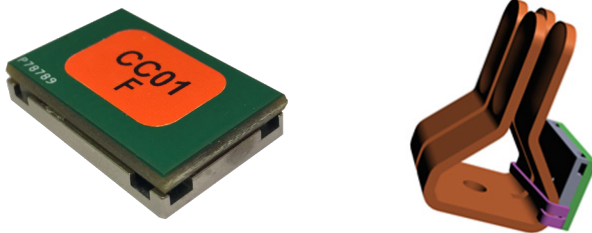


## MECHANICAL



## MOUNTING

Custom mounting clips or tie wraps can be used to mount the CC sensors. Please request more information on how to design mounting clips.

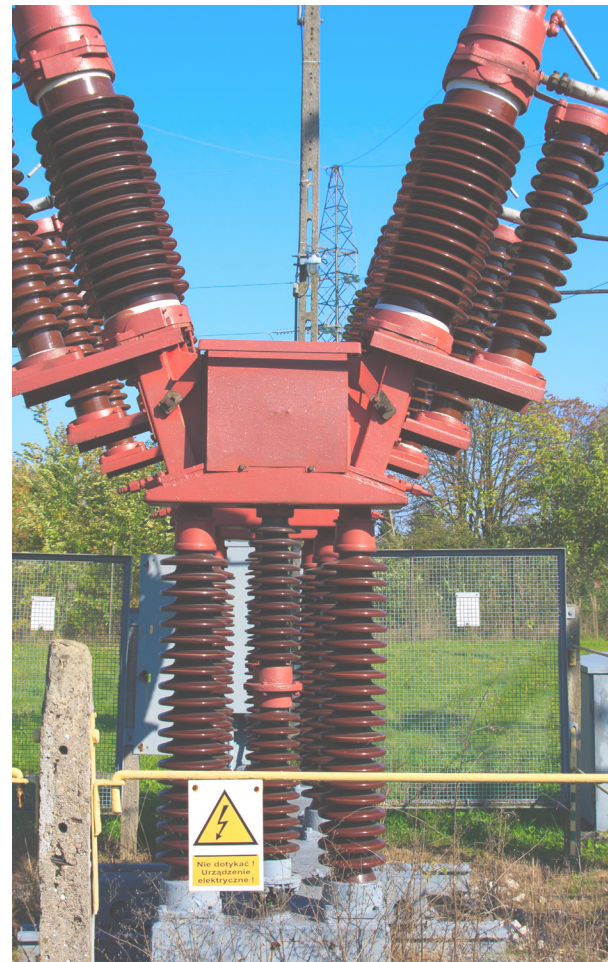


## SAFETY

IntelliSAW systems are installed in close proximity to medium and high voltage electric power equipment. Qualified personnel need to observe industry standard safety practices that will protect the systems and operators from harm due to induced voltages. Proper antenna installation and system safety grounding is crucial to operator safety and system reliability.

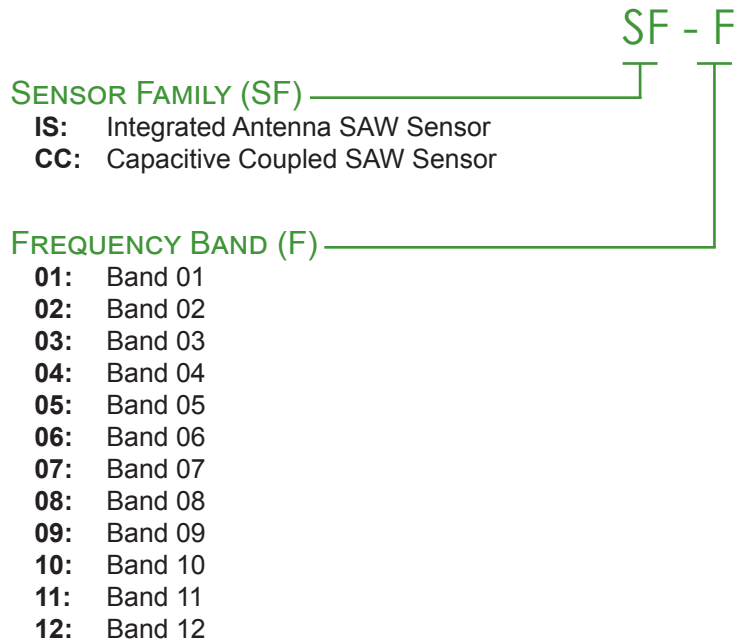
## HOMOLOGATION

System integrators and installers are responsible for adhering to all regional regulations concerning the import, installation and operation of IntelliSAW Critical Asset Monitoring systems.



# MODEL NUMBERS

Not all model combinations are stocked, please contact sales before ordering.



## CONTACT

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