

# AIR INTERFACES

Critical Asset  
Monitoring

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**ALTANOVA**  
GROUP  
Advanced testing and monitoring solutions

## AIR INTERFACES Critical Asset Monitoring

IntelliSAW Air Interfaces provide optimal signal performance for measuring passive SAW temperature sensors and detecting Partial Discharge (PD) while maintaining the distances required to meet electrical asset basic insulation levels (BIL) up to 185kV.

A combination of air interfaces can be used with the IntelliSAW Critical Asset Monitoring (CAM™) platform units and temperature sensors to complete continuous monitoring system for an electrical power critical asset.

- Low profile to meet asset BIL requirements
- Impedance matched for IntelliSAW systems
- Air interface for Partial Discharge detection (UHF)
- Reliable mounting options

### TMP Air Interface (Temperature only)

The TMP Air Interface is an optimized antenna used for the interrogation of IntelliSAW wireless, passive SAW temperature sensors. The low profile and multiple mounting methods makes the TMP ideal for many electrical asset types.

### Specifications



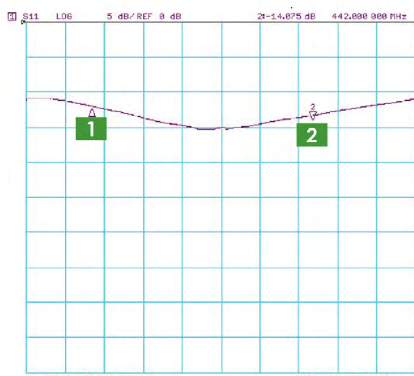
#### TMP - TEMPERATURE ONLY

Span	425 MHz – 442 MHz
Return Loss	details on p.3
Gain	+3.0 dBi, typical
Impedance	50 $\Omega$ , nominal
Dimensions	118.5 W × 134.5 L × 33 mm H (4.7 x 5.3 x 1.3 in.)
Material	Lexan 943, UL 94 V-0, Orange
Weight	0.2 kg (0.45 lb)
Mounting	Magnetic: 4 magnets, 32.6 kg (72 lb) pull force Bolt mount: 4 x 4.8 mm eyelets
Interface Connector	SMA
International Protection (IEC 60529)	IP 40
Operating Condition	-20°C to +70°C, 10 - 95% RH non-condensing
Recommended Applications	SAW temperature sensor interrogation

#### TYPE TESTING

IEC 62271-1	MV Switchgear, Voltage withstand: 95 kV/1m, 185 kV pulse
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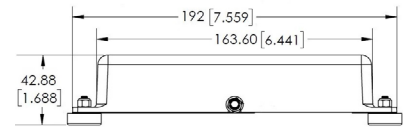
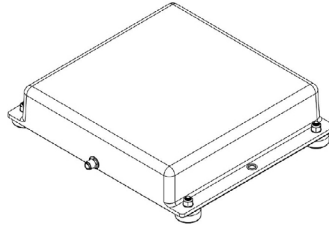
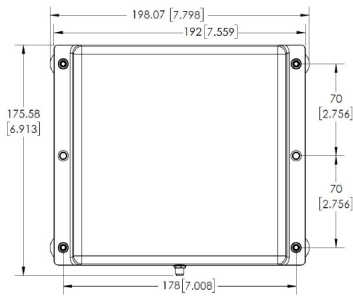
### Return Loss



Location	Frequency	Return Loss
1	425 MHz	- 12 dB
2	442 MHz	- 14 dB

*Typical data. Individual units may vary.*

## Mechanical



## TMP Air Interface (Partial Discharge and Temperature)

The TPD Air Interface combines temperature sensing and Partial Discharge detection. This broad band antenna is optimized for UHF radio detection methods for three distinct bands with center frequencies of 300 MHz, 600 MHz, and 1200 MHz while still providing capabilities for SAW sensor detection.

## Specifications



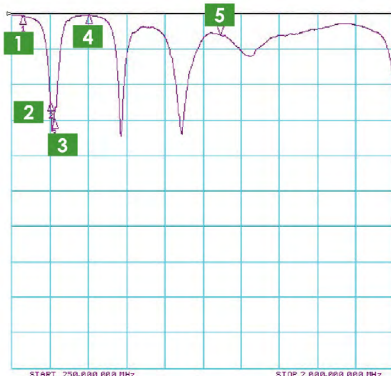
### TDP - (TEMPERATURE and PARTIAL DISCHARGE)

Span	450 MHz – 2 GHz
Return Loss	details on p.5
Gain	+3.5 dBi, typical
Impedance	50 $\Omega$ , nominal
Dimensions	198 W x 174 L x 43 mm H
Material	Lexan 943, UL 94 V-0, black
Weight	0.57 kg (1.25 lb)
Mounting	Magnetic: 4 magnets, 50.8 kg (112 lb) pull force Bolt mount: 6 x 4.8 mm eyelets (magnets must be removed)
Interface Connector	SMA
International Protection (IEC 60529)	IP 40
Operating Condition	-20°C to +70°C, 10 - 95% RH non-condensing
Recommended Applications	Partial Discharge Detection, SAW temperature sensing

### TYPE TESTING

IEC 62271-1	MV Switchgear, Voltage withstand: 95 kV/1m, 185 kV pulse
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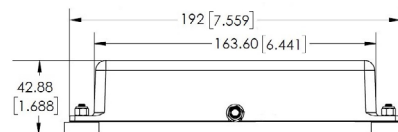
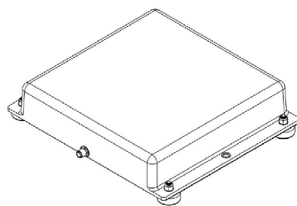
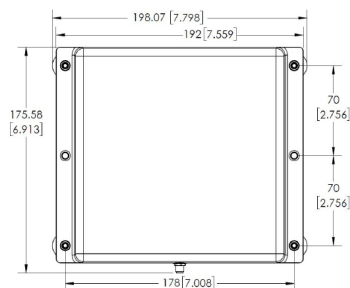
## Return Loss



Location	Frequency	Return Loss
1	300 MHz	- 0.3 dB
2	425 MHz	- 12.6 dB
3	442 MHz	- 15.0 dB
4	600 MHz	- 0.3 dB
5	1200 MHz	- 3.1 dB

*Typical data. Individual units may vary.*

## Mechanical



## Cables

IntelliSAW uses the highest quality double-shielded coaxial cables to ensure no signal degradation during data acquisition. The cables are assembled with the required SMA connectors to interface from an air interface to IntelliSAW Critical Asset Monitoring (CAM) units and Readers.

## Safety

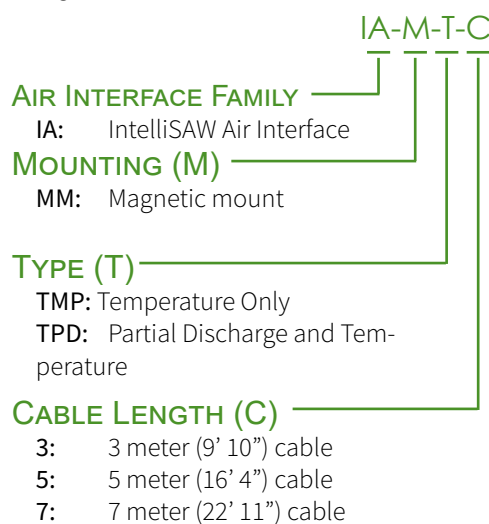
IntelliSAW systems are installed in close proximity to medium and high voltage electric power equipment. Qualified personnel need to observe industry standard safety practices that will protect the systems and operators from harm due to induced voltages. Proper antenna installation and system safety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



*Read range decreases with cable length*

**ALTANOVA**  
GROUP  
[www.altanova-group.com](http://www.altanova-group.com)

**TECHIMP**

TECHIMP - ALTANOVA GROUP

Via Toscana 11,  
40069 Zola Predosa (Bo) - ITALY  
Phone +39 051 199 86 050  
Email [sales@altanova-group.com](mailto:sales@altanova-group.com)

**isa**

ISA - ALTANOVA GROUP

Via Prati Bassi 22,  
21020 Taino (Va) - ITALY  
Phone +39 0331 95 60 81  
Email [isa@altanova-group.com](mailto:isa@altanova-group.com)

**@IntelliSAW**

IntelliSAW - ALTANOVA GROUP

100 Burtt Rd  
Andover, MA 01810 (USA)  
Phone +1 978-409-1534  
Email [contact@intellisaw.com](mailto:contact@intellisaw.com)