

Wireless Passive SAW Temperature Sensors for electric equipment monitoring – TSA EV01 & TSA EV11

These sensors are used in Energy S2 systems for circuit breaker and switchgear monitoring. They provide surface temperature and are optimized for robust interrogation inside metallic cavities like the switchgear cubicle and operation under high current and voltage.

TSA EV01 & TSA EV11 sensors have been designed specifically for electric equipment monitoring, like air-insulated medium-voltage switchgears, and feature strong dielectric robustness. They have been designed such as to not impact the electric performance of the equipment and to preserve its dielectric robustness.

They are available in 2 models with different fixation mode – TSA EV01 is available with Velcro strip or tie wraps on plastic ring. TSA EV11 features a screw hole in the basis to be mounted with a M5 screw.

They are certified according to IEC 62271 for their dielectric robustness and operation free of partial discharge inside the cubicle.

15 compatible references of these sensors are available, for multipoint sensing in the same equipment.

Specifications – TSA EV01 01 to 15 & TSA EV11 01 to 15	
Frequency band over temperature range	[430,60MHz – 449,00MHz] ⁽¹⁾
Operating temperature range	-30°C, 160°C
Measuring temperature range	-25°C, 150°C
Dielectric robustness	As per IEC 62271
MV/HV operation	Withstand 545 kV/5 kA Withstand dielectric, short-circuit, lightning tests
Diameter (typical) (Metallic circular basis)	34 mm
Height (typical) (Basis & radome)	21 mm
Weight (typical)	44 g
Fixation TSA EV01	Plastic ring with tie wraps Or Plastic ring with Velcro strip (option) Compatible diameter from 20 mm up to 130 mm
Fixation TSA EV11	M5 screw (screw length for sensor basis fixation = 4 mm)

(1) For 15 sensors. Each sensor operates in a sub-band of this range.

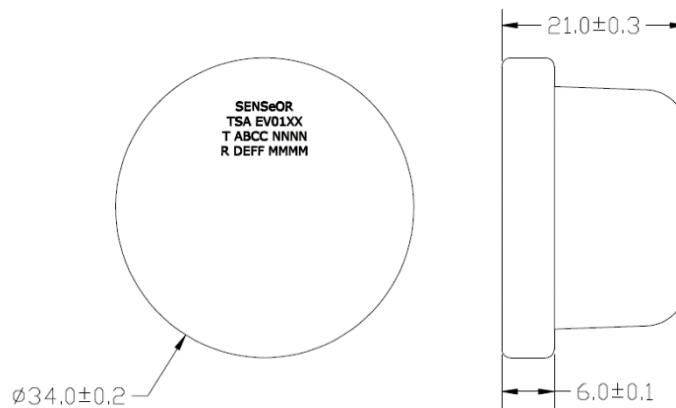
Sensor antenna specifications (integrated)	
Recommended environment	Metallic ground plane
Polarization	Vertical
Radiation pattern	Omnidirectional
Protection	Silicon potting



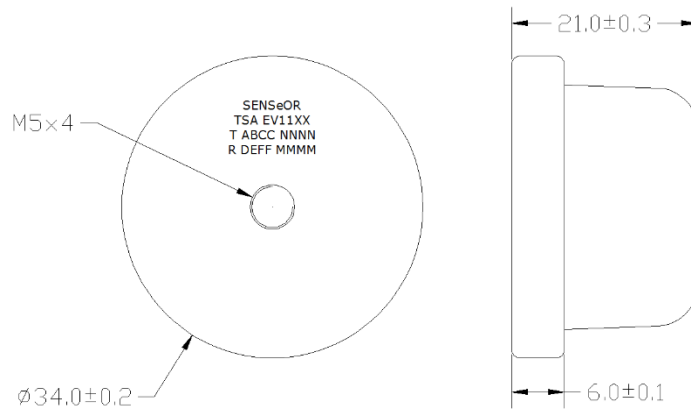
TSA EV01/TSA EV11 – 15 compatible references



TSA EV01/TSA EV11



TSA EV01 - Bottom & side views (dimensions in mm)



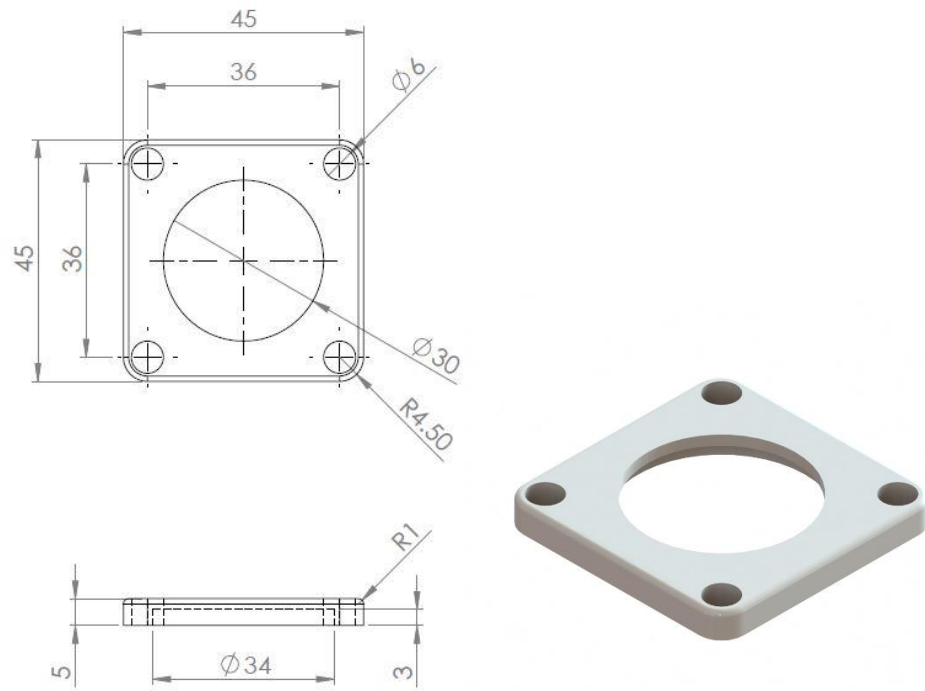
TSA EV11 - Bottom & side views (dimensions in mm)



Sensor Fixation for TSA EV01
Tie wrap on plastic ring (standard)



Sensor Fixation for TSA EV01
Velcro strip on plastic ring (option)



Fixation ring for TSA EV01 - Bottom & side views (dimensions in mm)