

# BSENS Bushing Sensor for Improved Transformer Reliability to Avoid Bushing Failure



**Bushing failures can be caused by transient overvoltage's, temperature fluctuations, as well as by the ingress of moisture, which can quickly lead to failure of bushing insulation or even to a major transformer failure.**

Our BSENS continually perform online condition monitoring of transformer bushings through regular time-based diagnostics. Bushing adaptors are installed at the bushing test tap or voltage tap. Being a function of phase ground voltage and impedance of the bushing insulation, leakage current passes through the tap adaptors flowing to ground through capacitance, any imbalance in the impedance of the insulation will lead to variation in leakage current.

The measured leakage current from BSENS provides following outputs:

- Capacitance
- Tan  $\delta$  or Dissipation Factor
- Partial Discharge Signals

Bushing Sensors for Tan  $\delta$  and Capacitance monitoring are based on measuring Leakage Current in the range of 1mA to 200mA which also additionally provides HF signals between 100 kHz – 25 MHz for PD monitoring.

We at Rugged Monitoring have 45+ different bushing tap adaptors designed to cover most of the bushings aiding in faster system commissioning. Our standard sensors are designed for bushings with rated voltage of upto 1500 kV.

## Benefits

- Easy installation and commissioning
- Flexible configuration options to meet customer expectations
- Generates highly accurate data
- Early incipient fault detection ensures reliable operation and reduces supply outages

## Applications



Condensing/ capacitive type bushings



Transformer Bushings



Breaker Bushings



## Features

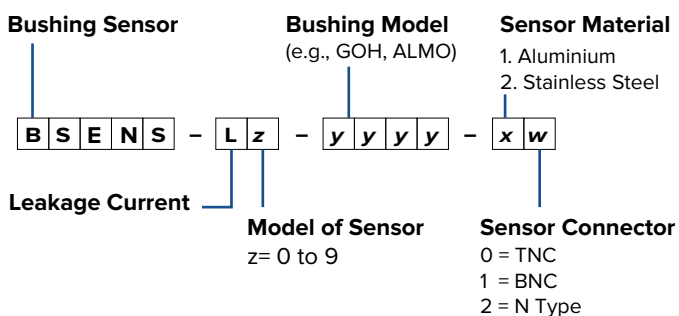
- Reliable and robust product
- Measures leakage currents of fundamental harmonics
- Variants are available for monitoring up to 6 bushings on three phase transformers
- It measures High Frequency PD signals
- Based on industry standard method
- Most accurate condition analysis
- Custom designed for various bushing taps

## Technical Specifications

<b>ELECTRICAL SPECIFICATIONS</b>	Transient Voltage Protection	Up to 1500 KV Bushings
	Bushing Tap Earthing Protection	Double Protection against any loss to grounding connection
	Sensor Output	Leakage Current = 1mA to 200mA Partial Discharge: 100 kHz to 25 MHz
	Recommended Cable	RG213 or RG58
	Measured Parameters	Leakage Current and Partial Discharge
<b>MECHANICAL SPECIFICATIONS</b>	Custom designed for various bushing taps	
<b>ENVIRONMENTAL SPECIFICATIONS</b>	Operating Temperature	-60°C to +95°C
	Storage Temperature	-40°C to +85°C
	Humidity	95% Relative Humidity
	IP rating	IP 66 (Protection against moisture ingress)

## Ordering Code

### • BUSHING SENSOR- LEAKAGE CURRENT



### • BUSHING SENSOR- PARTIAL DISCHARGE

