

## DESCRIPTION

The VM 3.1 Capacitive<sup>o</sup> Sensor is a flat, noncontact type sensor which generates the necessary electric field to measure the distance between its surface and a target. The measured signal is sent through a triaxial extension cable to the AGMS or the ZOOM Data Acquisition Units, the DCC-631 Signal Conditioner, or the LIN-231 Linearization Module.

Slim design and high immunity make the VM 3.1 a universal proximity sensor. Its measuring range, accuracy, and reliability is unaffected by: deposits of carbon dust, dirt, and oil; strong magnetic fields; high shock vibration; and EMI-RFI.

The VM 3.1 is a passive sensor, with no moving parts or active electronic elements and is compatible with most types of conductive and semi-conductive target material.

## VM 3.1

### AIR GAP CAPACITIVE SENSOR

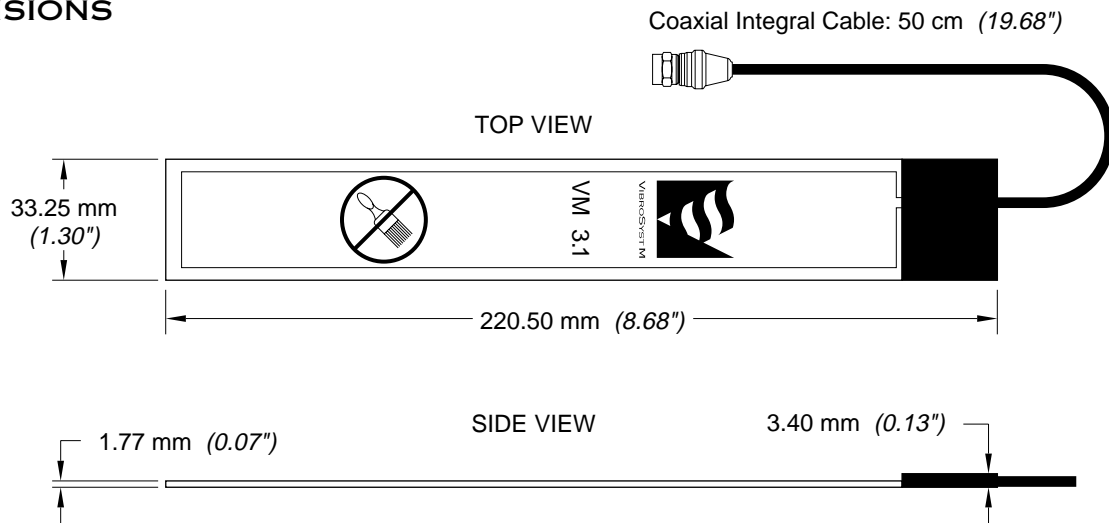
#### APPLICATIONS

- On-line air gap measurements for:
  - generators,
  - synchronous condensers, and
  - motors
- On-line proximity measurements
- Specified for gaps from 7 to 14 mm (*275 to 550 mils*)

#### FEATURES

- Range: 2 to 20 mm (*80 to 800 mils*)
- Used with AGMS or ZOOM Data Acquisition Units, and with the DCC-631 Signal Conditioner
- Highly immune to deposits of carbon dust and oil, and strong magnetic fields
- Easy to install on stator wall without removing the rotor or poles
- Noncontact, nonintrusive sensor
- Over 10 years of field experience

## DIMENSIONS





## VM 3.1 GENERAL SPECIFICATIONS

### Operation

- Linear Measuring Range 2 to 20 mm standard  
(80 to 800 mils)
- Power Source 455 kHz
- Frequency Response Limited by the conditioner
- Interchangeability ±5%

### Environmental

- Temperature Range 0° to 125°C  
(32° to 260°F)
- Magnetic Field Up to 1.5 tesla  
[50 Hz or 60 Hz]
- Dust and Oil Contamination No effect

### Connection

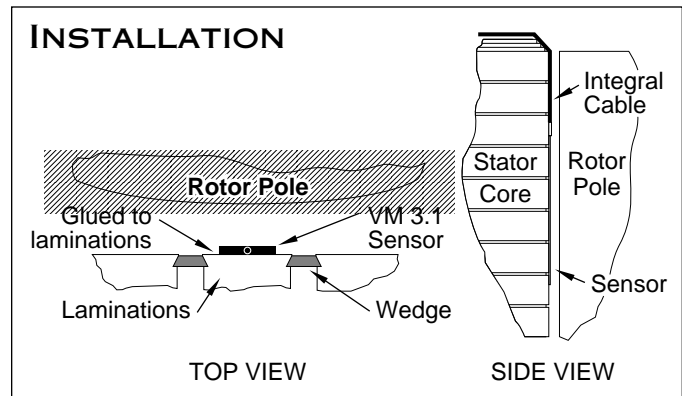
- Integral Cable Type Teflon coaxial
  - Connector Male SMA
  - Length 50.0 cm (19.7 in.)
- Extension Cable Type Belden Triaxial
  - Connectors with DCC-631 Female SMA and ground lug on sensor end; Male bayonet triaxial on DCC- conditioner end
  - with AG or ZM-DAU Female SMA and ground lug on sensor end; Male BNC coaxial and ground mini plug on DAU end
  - Length Fixed, 10 m (32.8 ft) standard; 3 m (9.8 ft), 5 m (16.4 ft) opt.

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\*Patented measuring technology

**Published:** 89.09.21 **Revised:** 99.04.29

## INSTALLATION



## Dimensions

- Height 220.50 mm (8.68 in.)
- Width 33.25 mm (1.30 in.)
- Thickness 1.77 mm (0.07 in.)
- Clearance 3.40 mm (0.13 in.)