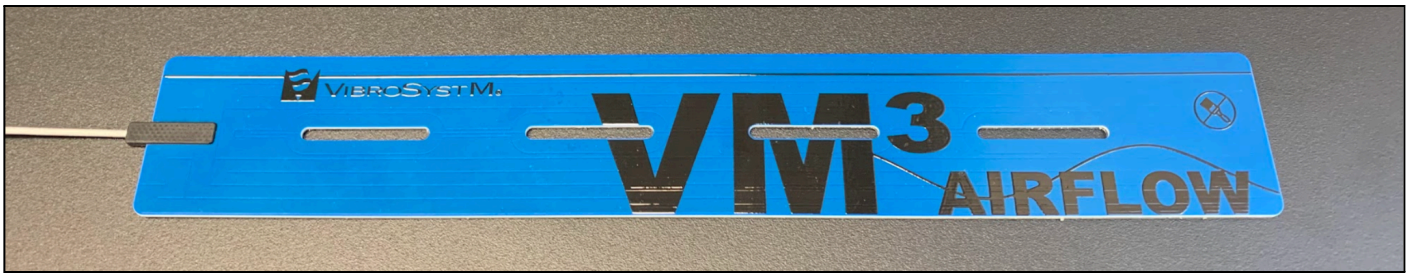
VM3AF - 15H - 2 to 20mm

U.S. Patent No. 11125795

Capacitive Air Gap Measuring Chain



GENERAL SPECIFICATIONS

Sensor

Operation

• Measurement type	Non-contact proximity, capacitive technology

Connection [1]

• Integral cable	Coaxial
• Connector	Male, gold-plated SMA

Environmental

• Operating temperature range	0 to 125°C [32 to 257°F]
• Absolute maximum temperature	155°C [311°F] [2]
• Resistance to industrial chemicals and solvents	Very good [3]
• Magnetic field immunity	Up to 2 Tesla (50 or 60 Hz)
• Dust and oil contamination	Films have no effect
• Humidity	Up to 95%, non-condensing

Physical Characteristics

• Sensor material	Glass reinforced laminates
• Cable material	PVDF over FEP jacket / FEP insulation

Extension Cable

Connection

• Cable type	Triaxial
• Absolute minimum length	14.5 m [47.6 ft]
• Connectors	
Sensor side	Female, gold-plated SMA and grounding terminal
Conditioner side	Male, gold-plated SMA and grounding terminal
• Minimum bending radius	10 cm [4 in]

Environmental

• Temperature range	0 to 125°C [32 to 257°F]

Physical Characteristics

• Type H cable material	FEP Jacket / FEP Insulation

LIN™-300 Conditioner

Power Requirements

- Voltage — 24 Vdc ±15%
- Consumption — 120 mA max.
- Warm-up time — 30 minutes

Connection

- Sensor input — Female, gold-plated SMA and grounding terminal
- Power/Output — 5-pin M12 male
- Maximum cable length - power / output cable — 300m [984 ft]

Environmental

- Operating temperature range — 0 to 55°C [32 to 131°F]

Physical Characteristics

- Body — Nickel-plated aluminum
- Mounting — 4 oblong holes for #6 (M3.5) screws
- Max. torque on SMA — 1.1 Nm [10 in-lb]
- Status indicator — Bicolor LED

[1] ***Warning***: *Due to their small size, the coaxial cable and SMA connector are delicate components and must be handled with the utmost care.*

[2] *Applicable to the sensor body in the event of a fault, for a short period of time (<3h per event). If left continuously at temperature above operating range, premature aging of the sensor will occur.*

[3] *Compatible with acetone, alcohol isopropyl, and paint thinner. Do not soak or submerge. Tests any other product on a small area of the sensor before using it. If in doubt, contact VibroSystM for support.*

MEASURING CHAIN TECHNICAL SPECIFICATIONS

At room temperature, unless otherwise noted

Sensor	**VM3AF - 15H - 2/20**
Nominal measuring range	2 to 20 mm [79 to 787 mils]
Sensor integral cable length	0.7 m [27.5 in]
Extension cable nominal length	Type H: 15 m [49.2 ft]
Conditioner model	LIN-33AF-15H-2/20
Output	4 to 20mA
Load at output	500 Ω max.
Bandwidth	DC to 1.2 kHz (-3 dB)
Sensitivity	0.889 mA/mm [22.6 µA/mil]
Accuracy	See figure 1
Repeatability (% of reading)	± 0.3 %
Maximum temperature drift *(Standard installation and under normal operation conditions)*	± 2% (at mid-range)

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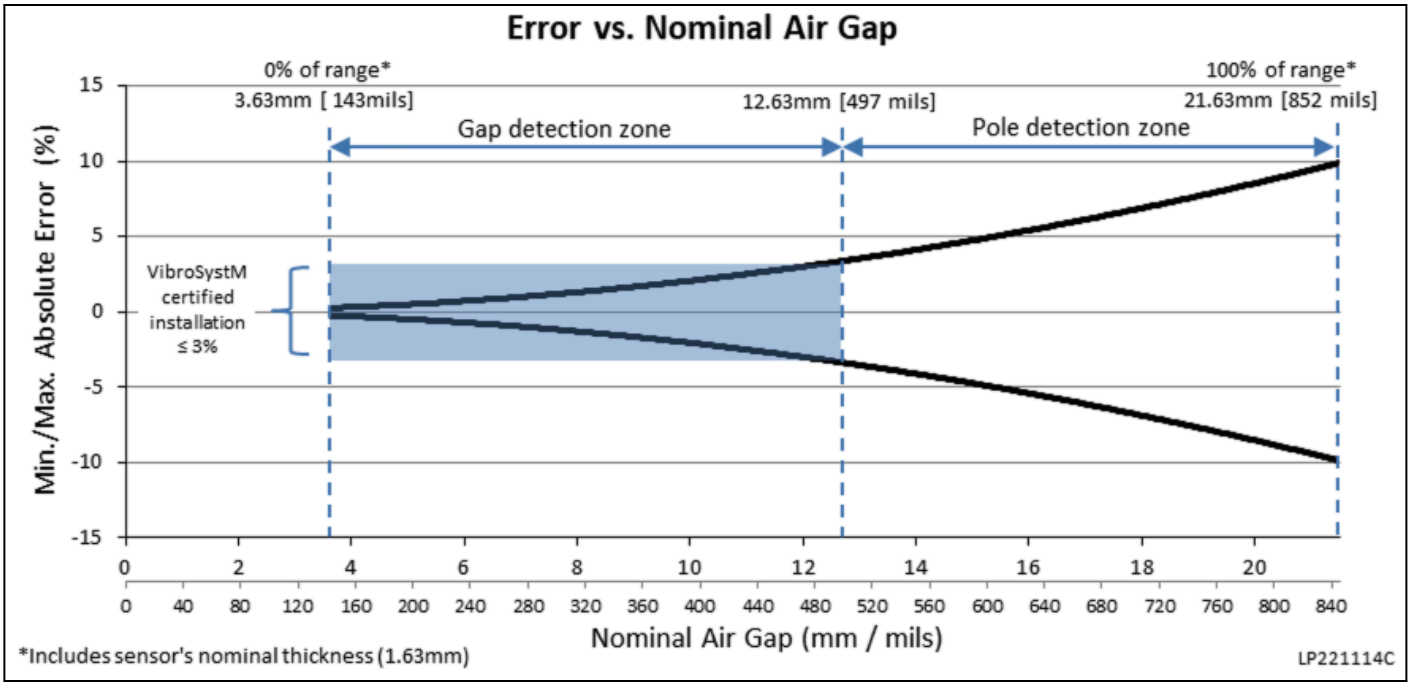
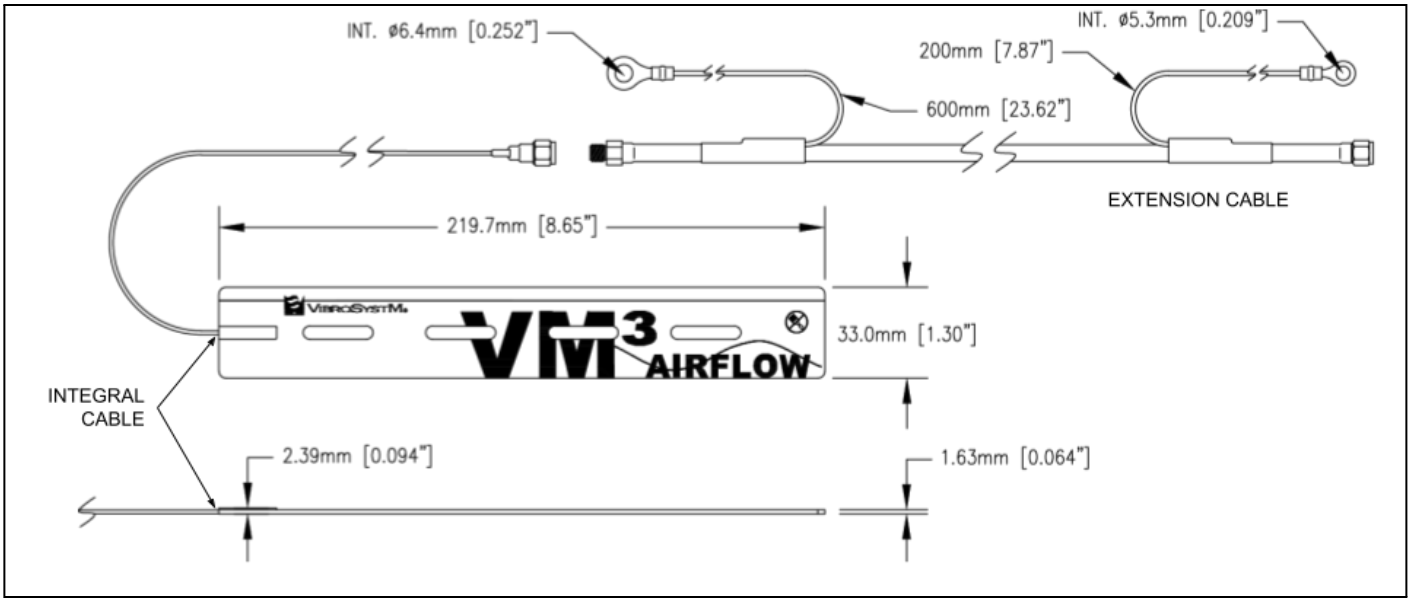
Figure 1: LIN-33AF-15H-2/20 Measuring Chain

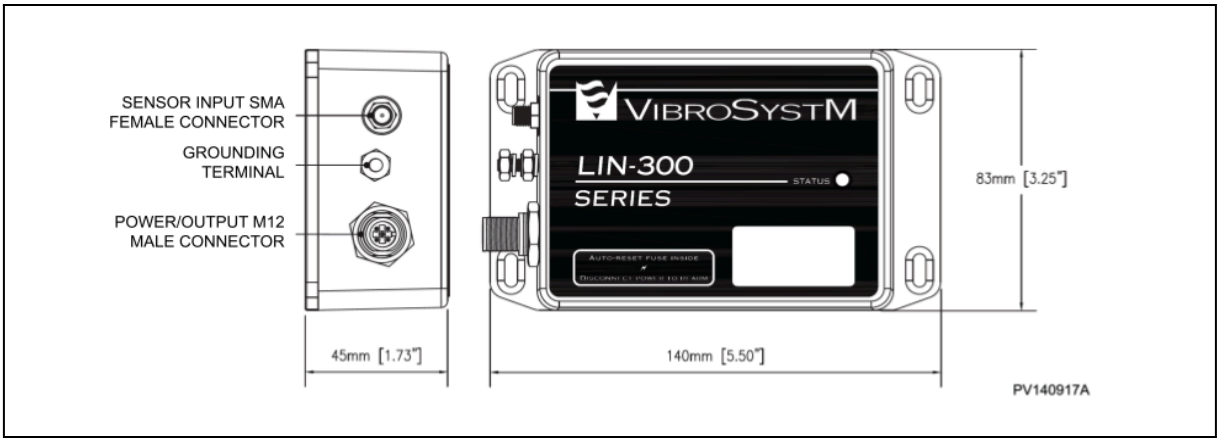


VM3AF MEASURING CHAINS OVERVIEW

VM3AF Sensor with Extension Cable

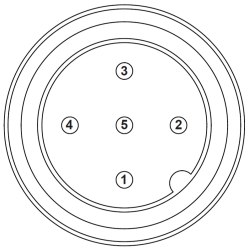


LIN-300 Series Conditioner



M12 CONNECTOR PINOUT

The following table shows the pin assignment for the A-coded, M12 male connector on the signal conditioner. The signal cable must be assembled as follows:



M12 Connector Pin	Color Code	Designation	Specifications
1	Brown	Power Supply	+24 Vdc
2	White	Current Output	4-20 mA
3	Blue	Common	0 V
4	Black	Not Used	
5	Not Used		

TRANSIT / STORAGE GENERAL CONDITIONS

Specifications valid only in original VibroSystM factory packaging.

- Transit / Short term storage (< 3 months) -20 to 60°C [-4 to 140°F], up to 95% RH, non-condensing
- Long term storage 0 to 35°C [32 to 95°F], up to 75% RH, non-condensing

PRODUCT INFORMATION

Product Number	Description
LIN-33AF-15H-2/20 Measuring Chain	
VSM-VM3AF/L	VM3 AIRFLOW air gap sensor
VSM-L33AF-15H-2/20	LIN-33AF-15H conditioner (2-20 mm)
VSM-CBL-331-2/20-15H	Cable / Triaxial - SMA/SMA / (15 m/49.2 ft)