



Top product features!

- Easy-to-use sensors make vibration monitoring simple for prevention of machine downtime
- Monitoring in accordance with recognized industrial standard for machine protection (ISO 10816)
- VKV sensors combine both switching function and transmitter in one small package
- VTV transmitter is IP69K and made of 316L stainless steel for use in harsh environments
- VNB transmitters include display and provides trend history

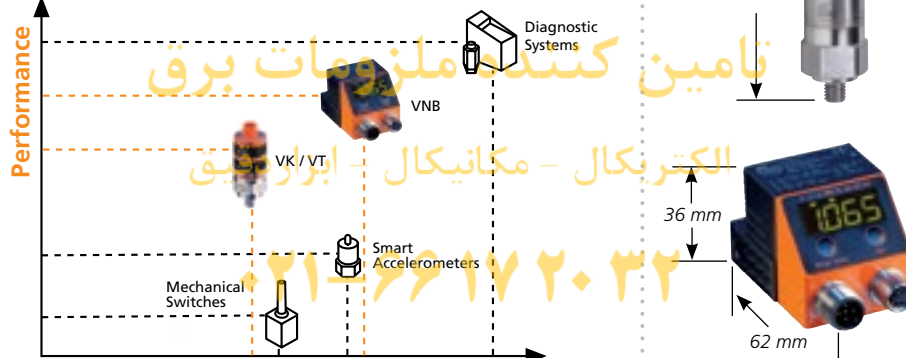
ifm's compact vibration sensors detect changing conditions of machinery for early warning of machine damage

In most industrial plants, every piece of equipment has its own vibration level that can change when it experiences unusual operating conditions. These changes can indicate potential machine damage or failure.

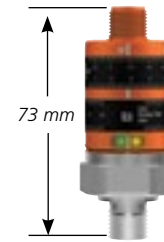
ifm's vibration sensors are designed to permanently mount on a machine to continuously monitor the machine's vibration level. By detecting vibration level changes when they first occur, these sensors can prevent equipment from catastrophically failing, reduce secondary damage and eliminate expensive downtime.

The VK, VT and VNB sensors monitor vibration levels on:

- Motors
- Pumps
- Compressors
- Fans
- Centrifuges
- Vibratory feeders



ifm's vibration sensors offer the advantages of high performance vibration monitoring devices for a fraction of the price.



VK vibration monitor
Transmitter with switching output
Setpoint via rotatable dials
Operating status LEDs



VT vibration monitor
Transmitter with time delay
Robust 316 stainless steel housing
Rated IP69K for harsh environments



NEW!
VNB vibration monitor with digital display
Display shows real-time vibration level and alarm status
Memory stores time-stamped trend history
Easy setup via two pushbuttons; free software available for VNB211

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Company	IO-Link	Position Sensors		Cylinder / valve position	Photoelectrics / lasers / fiber optics	Distance / Application specific	Ultrasonic	Motion Control	Vision Sensors
	IO-Link	Inductive	Capacitive					Encoders / Speed monitors	2D / 3D inspection
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Search Bar



Product + accessory selector

	Output 1	Output 2	Input	Measuring Range	Frequency Range	Measuring Principle	Part No.	List Price (1-pc.)
	PNP, N.C.	4...20 mA fixed	-	0...25 mm/s	10...1000 Hz	Vibration velocity RMS	VKV021	\$252.00
	PNP, N.C.	4...20 mA fixed	-	0...50 mm/s	10...1000 Hz	Vibration velocity RMS	VKV022	\$252.00
	-	4...20 mA fixed	-	0...25 mm/s	10...1000 Hz	Vibration velocity RMS	VTV122	\$275.00
	PNP, N.O. / N.C. or 4...20 mA scaleable	PNP, N.O. / N.C.	-	0...500 mm/s	2...1000 Hz	Vibration velocity peak or RMS (set via pushbuttons)	VNB001	\$497.00
	PNP, N.O. / N.C. or 4...20 mA scaleable	PNP, N.O. / N.C.	0/4...20mA	0...25 g	2...6000 Hz	Vibration velocity / acceleration peak or RMS (set via pushbuttons or free software)	VNB211	\$536.00

Optional Accessories for VK and VT Sensors

Type	Description	Part No.	List Price (1-pc.)	Type	Description	Part No.	List Price (1-pc.)
	VK protective cover, transparent plastic	E30094	\$9.00		M12 Micro DC (4-pin) 2 m, PUR	EVC001	\$11.00
	Magnetic mounting base for temporary mounting, flat surface	UW0004	\$58.00		M12 Micro DC (4-pin) 5 m, PUR	EVC002	\$15.00
	Magnetic mounting base for temporary mounting, curved surface	F90043	\$112.00		M12 Micro DC (4-pin) 10 m, PUR	EVC003	\$19.00
	Glue-on base for permanent mounting	F90042	\$20.00		M12 Micro DC (4-pin) 2 m, PUR	EVC004	\$11.00
	Adhesive for F90042	F90037	\$45.00		M12 Micro DC (4-pin) 5 m, PUR	EVC005	\$15.00
					M12 Micro DC (4-pin) 10 m, PUR	EVC006	\$19.00
					USB/M8 cable and history software for VNB	E30136	\$42.00

▶ Can't find the right sensor for your application, call 800-441-8246 or visit www.ifm.com/us

Technical Specs

	VKVxxx	VTV122	VNB001	VNB211
Mounting threads:	M8 x 1.25	M8 x 1.25 / UNF 1/4-28	M8 x 1	M5 / M8
Supply voltage:	18...32 VDC	9.6...32 VDC	9.6...30 VDC	9.6...30 VDC
Maximum load current:	500 mA	-	100 mA	100 mA
Current consumption:	<50 mA	-	<200 mA	<70 mA
Ambient temperature:	-13...176 °F (-25...80 °C)	-22...221 °F (-30...105 °C)	-22...140 °F (-30...60 °C)	-22...140 °F (-30...60 °C)
Accuracy:	±3% of full range	±3% of full range	±3% of measured value	±3% of measured value
Shock resistance:	400 g	400 g	100 g	50 g
Housing material:	Pocan; Makrolon; Viton; 316L stainless steel	316L stainless steel	Die-cast zinc, nickel plated	Die-cast zinc, nickel plated
Protection rating:	IP67	IP69K	IP67	IP67

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ID Systems

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AS-i network

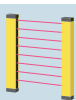
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Top product features!

- Cost-effective real-time vibration monitoring system
- Direct Ethernet connectivity for remote monitoring of machine condition
- Digital and analog alarm outputs
- Time stamped internal memory for trend history
- Easy to use configuration and analysis software



Real-time vibration monitoring

By continuously monitoring a machine's condition, unforeseen problems can be identified and addressed. Vibration analysis protects machine components, tools and workpieces during machining against costly consequential damage and avoids scrap.

ifm's multiplex vibration monitor provides specific vibration analysis on components inside a machine such as rolling element bearings, rotational unbalances, and gear drives.

The system consists of a cabinet-mount diagnostic module, model VSE, and multiple compact accelerometers that are mounted permanently on the equipment.

The condition of the equipment is continually monitored and evaluated for any changes in the operating parameters. Time and frequency domain data is locally processed for triggering of the integrated programmable analog and digital outputs, or for transmission to SCADA systems via the integrated Ethernet communication port.

Programming of the monitor is straightforward with the user-friendly configuration software.

Analysis tools included in the programming software give you the ability to remotely evaluate machine conditions. For example: the green / yellow / red damage level screen allows for a quick check on monitored components condition.



Pumps, blowers, ventilators, and cooling towers are monitored for unbalance, bearing damage, and general vibration levels using the VSE Multiplex system.



Accelerometers type VSA are connected to VSE units to monitor critical components of the process (pumps, motors, agitators).

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	IO-Link	Inductive	Capacitive	Cylinder / valve position	Photoelectrics / lasers / fiber optics	Distance / Application specific	Ultrasonic	Encoders / Speed monitors	2D / 3D inspection
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Product + accessory selector

efector Octavis Diagnostic Monitors

Type	Accelerometer Channels	Frequency Range [hz]	Spectral Resolution [hz]	Diagnostic Method	Comm. Port	Switching Inputs/Outputs	Part No.	List Price (1-pc.)
	4 channels configurable IEPE/MEMS	0...10,000 Hz	Variable	FFT, envelope curve FFT, trend analysis	Ethernet	2 inputs 2 outputs	VSE002	\$705.00
	4 channels configurable IEPE/MEMS	0...10,000 Hz	Variable	FFT, envelope curve FFT, trend analysis	Ethernet	2 inputs 2 outputs 8 configurable I/O	VSE100	\$907.00

Accelerometers

Type	Frequency Range [Hz]	Mounting Thread	Operating Temperature	Part No.	List Price (1-pc.)
	0...6,000	M8	-22...257 °F (-30...125 °C)	VSA001	\$161.00
	0...10,000	M16	-22...185 °F (-30...85 °C)	VSA002	\$241.00
	0...10,000	M5	-4...176 °F (-20...80 °C)	VSA004	\$241.00
	0...10,000	M5	-4...176 °F (-20...80 °C)	VSA005	\$255.00

Accessories

Type	Description	Part No.	List Price (1-pc.)
	Ethernet crossover cable for VSE / VSA	EC2080	\$19.00
	Configuration analysis software	VES004	Downloadable*
	efector octavis OPC server software for 25...1000 connections	VOS001	\$505.00

* Visit www.ifm.com/us for downloadable software

Technical Specs Diagnostic Monitors

Supply voltage:	24 V DC
Ambient temperature:	32...158 °F (0...70 °C)
Data interface:	Ethernet TCP/IP, (10 / 100 MBits)
History function:	integrated
Counter function:	integrated
Protection rating:	IP20
Inputs:	4 vibration inputs IEPE or VSA type 2 analog inputs for speed
Outputs:	2x PNP switching for alarms or 1x PNP switching and scaleable analog
Additional I/O VSE100:	8 configurable digital I/O

Technical Specs Accelerometers

Housing material:	316L stainless steel
Measuring range:	±25 g
Resolution:	1.0 mg
Protection rating:	IP67
Protection rating:	IP67; VSA001: IP69K

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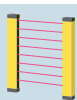
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Top product features!

- In-line flow meter monitors compressed air systems and specialty gases (Ar, CO₂, N₂)
- Monitors air and gas consumption to identify leakage areas and improve energy efficiencies
- Optimizes air and gas usage and improves system performance
- Totalizer function monitors overall compressed air and gas usage in a plant
- Units mounted on integrated pipes ensure easy installation

efactor metris compressed air and specialty gas meter



efactor Metris monitors compressed air and specialty gases such as argon (Ar), carbon dioxide (CO₂), and nitrogen (N₂) to detect leakage areas and improve energy efficiencies. Compressed gases are considered one of the most expensive sources of energy consumption in a plant. By identifying leakage areas, efactor Metris can optimize compressed gas usage, improve system performance, and reduce energy costs.

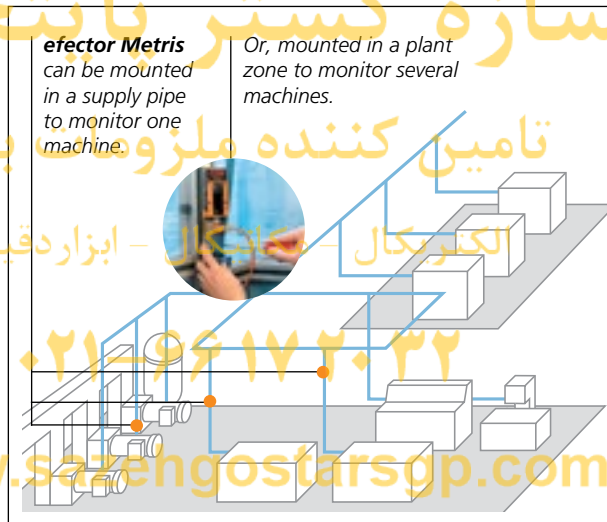
The compact sensor is fitted with an integrated pipe to ensure easy mounting and proper installation depth. The sensor's 4-digit numeric display provides air and gas consumption readings and features

microprocessor-based pushbutton setup. Three display options are available: standard cubic feet per minute, standard cubic feet per hour, and total consumed standard cubic feet. The 24 VDC unit provides switching, analog and pulse output options.

Operating principle

efactor Metris incorporates two ceramic sensing elements that each contain a thermistor.

As one sensor element is heated, the second element is used as a reference. Power is then altered to the heater to ensure a constant temperature difference (CTD) between the two elements.



With its integrated pipe length, efactor Metris ensures easy installation and proper mounting configuration.

IO-Link

Company

IO-Link

Position Sensors

Inductive

Capacitive

Cylinder / valve position

Photoelectrics / lasers / fiber optics

Distance / Application specific

Ultrasonic

Motion Control

Encoders / Speed monitors

Vision Sensors

2D / 3D inspection



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Product + accessory selector

Output	Accuracy	Process Connection	Operating Range [scfm]	Operating Range [scfh]	Volumetric Flow Quantity Monitoring [scf]	Part No.	List Price (1-pc.)	
efector Metris for compressed air								
2 x PNP or PNP and 4-20mA or PNP and pulse output	± (3% measured value + 0.3% of full range)	1/2" NPT	0...44	0...2650	0.04...4,000,000	SD6001	\$788.00	
		1" NPT	0...132	0...7945	0.04...4,000,000	SD8001	\$822.00	
		2" NPT	0...412	0...24,720	0.04...4,000,000	SD2001	\$1,094.00	
Output	Accuracy	Process Connection	Operating Range [Ar]	Operating Range [CO ₂]	Operating Range [N ₂]	Display Units Available	Part No.	List Price (1-pc.)
efector Metris for specialty gases (Ar, CO₂, N₂)								
2 x PNP or PNP and 4-20mA or PNP and pulse output	± (6% measured value + 0.6% of full range)	1/2" NPT	0...69.5 scfm	0...42.2 scfm	0...43 scfm	scfm, scfh, scf	SD6101	\$860.00

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	M12 Micro DC (4-pin) 2 m, PUR	EVC001	\$11.00
	M12 Micro DC (4-pin) 5 m, PUR	EVC002	\$15.00
	M12 Micro DC (4-pin) 10 m, PUR	EVC003	\$19.00
	M12 Micro DC (4-pin) 2 m, PUR	EVC004	\$11.00
	M12 Micro DC (4-pin) 5 m, PUR	EVC005	\$15.00
	M12 Micro DC (4-pin) 10 m, PUR	EVC006	\$19.00

سازه گستر پایتخت

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Technical Specs

Supply voltage:	19...30 VDC
Maximum load current:	2 x 250 mA
Maximum relative air humidity:	90%
Pressure rating:	230 psi (16 bar)
Medium temperature range:	32...140 °F (0...60 °C)
Wetted parts:	304 stainless steel, ceramics, passivated glass, PEEK, polyester, Viton, anodized aluminum
Protection:	IP65

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R&D that delivers solutions

ifm R&D engineers design products that reduce machine downtime, increase productivity and simplify installation.

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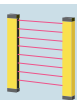
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