Top product features!

- Inductive sensors with the longest sensing ranges in the market
- Sensing technology provides same sensing range for all target materials
- Industry standard M12, M18 and M30 diameter housings fit a variety of industrial automation applications
- Wide temperature range for application flexibility
- Robust metal housings are tested to withstand harsh environments and are rated IP 68/69K

Sensors with extended sensing ranges detect all metals – set new price/performance benchmark

NEW! ifm's new line of inductive proximity sensors offers an ideal combination of features, performance and value. The IFS, IGS and IIS Series new technology sensors have extended sensing ranges that enable the sensor to be mounted farther away from a target. This prevents mechanical damage to the sensor from physical impact. The IIS Series has up to 30 mm range, the longest sensing range on the market today.

K factor 1 sensing technology

Standard proximity sensors have correction factors for sensing ranges depending on the target material. For example, the range for an aluminum target compared to a mild steel target is reduced by 60%. The K=1 technology sensors have a correction factor of one for all metals. The ifm "S" Series inductive sensors provide an equal range for aluminum and mild steel targets.

Designed for reliable sensing

These sensors resist shock, vibration and electrical noise. They are rated IP68/IP69K against water ingress and resist oils and coolants used in harsh applications.

They feature a high switching frequency and reliably sense metal targets in high speed applications. Moreover, they incorporate a technology that allows them to ignore magnetic fields that can cause false triggers. With a wide temperature range of -40 to 185 °F, the Series "S" inductive sensors can be applied in many applications.

High performance and a low price point, ifm's IFS, IGS and IIS Series inductive sensors can be used as a plant standard—not just a solution for harsh applications.

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Type	Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Electrical Connection	Part No.	List Price (1-pc.)
	M8 / L = 40	3 mm flush	3	PNP, N.O.	10…30	2000	100	M8 Pico DC	**IES200**	**$51.00**
	M8 / L = 40	6 mm nonflush	3	PNP, N.O.	10…30	2000	100	M8 Pico DC	**IES201**	**$51.00**
	M12 / L = 45	4 mm flush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IFS297**	**$48.00**
	M12 / L = 45	8 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IFS298**	**$48.00**
	M12 / L = 45	10 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IFS299**	**$48.00**
	M12 / L = 60	4 mm flush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IFS304**	**$48.00**
	M12 / L = 60	8 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IFS305**	**$48.00**
	M12 / L = 60	10 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IFS306**	**$48.00**
	M18 / L = 45	8 mm flush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IGS287**	**$48.00**
	M18 / L = 45	12 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IGS288**	**$48.00**
	M18 / L = 45	15 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IGS289**	**$48.00**
	M18 / L = 60	8 mm flush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IGS290**	**$48.00**
	M18 / L = 60	12 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IGS291**	**$48.00**
	M18 / L = 60	15 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IGS292**	**$48.00**
	M30 / L = 45	15 mm flush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IIS281**	**$60.00**
	M30 / L = 60	15 mm flush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IIS282**	**$60.00**
	M30 / L = 60	22 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IIS283**	**$60.00**
	M30 / L = 60	30 mm nonflush	3	PNP, N.O.	10…30	2000	100	M12 Micro DC	**IIS284**	**$60.00**

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	M8 Pico DC (3-pin) 2 m, PUR	**EVC141**	**$14.00**
	M8 Pico DC (3-pin) 5 m, PUR	**EVC142**	**$17.00**
	M8 Pico DC (3-pin) 2 m, PUR	**EVC144**	**$14.00**
	M8 Pico DC (3-pin) 5 m, PUR	**EVC145**	**$17.00**

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) 2 m, PUR	**EVC004**	**$11.00**
	M12 Micro DC (4-pin) 5 m, PUR	**EVC005**	**$15.00**

Technical Specs

Protection	IP 68, IP 69K
Operating temperature	-40…185 °F (-40…85 °C)
Leakage current	< 20 mA
Housing material	Housing: 316 stainless steel Active face: LCP

Top product features!

- *Stainless steel housing and sensor face withstand physical damage in industrial automation applications*
- *Sensor design dramatically extends life-in-application by a factor of 15 compared to plastic face sensors*
- *Extended sensing ranges increase distance between the sensor and target which increases uptime*
- *Permanent laser-etched part numbers will not wear off over time*
- *360° ring LED for status indication*

Metal face technology design dramatically improves life-in-application and increases production uptime

Metal face technology can dramatically extend life-in-application for the sensor.

In industrial automation applications, plastic sensors can fail from liquid ingress, damage from target impact, and overall wear from high shock and vibration.

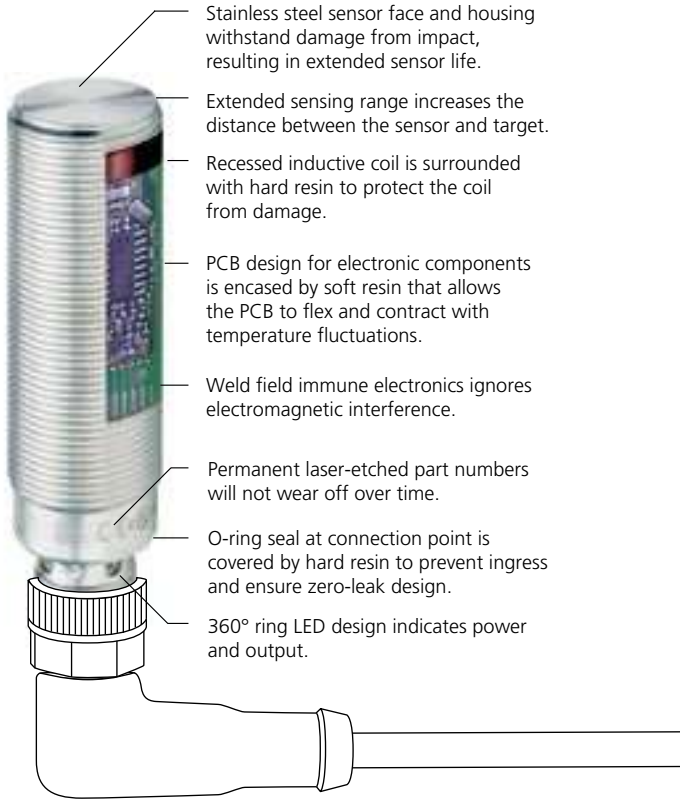
ifm's non-contact, zero-leak, all-metal sensors are so robust that they may outlast the life of your machines! Our highly durable, stainless steel sensors are completely sealed against ingress and carry protection ratings of IP67, IP68 and IP69K.

ifm metal face sensors offer reliable performance and durability in tough industrial applications. Stainless steel construction extends the sensor's life-in-application by a factor of 15 compared to teflon or plastic face sensors. ifm metal face sensors increase plant uptime, and its price point is the best value in the market.

The stainless steel sensors are subjected to a variety of tests that insure reliable performance in application.

- Stainless steel sensor face and housing withstand damage from machining process and moisture ingress.
- Sensor design extends life-in-application by a factor of 15.
- Extended sensing range increases the distance between the sensor and the target.

Can be used in oils and coolants



IO-Link | Position Sensors | Motion Control | Vision Sensors

Company	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

Type	Dimensions Flush (mm)	Sensing Range	No. Wires	Output Function	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Electrical Connection	Part No.	List Price (1-pc.)
	M8 / L = 50	2 mm flush	3	PNP, N.O.	10…36	100	100	M8 Pico DC	**IEC201**	**$66.00**
	M8 / L = 50	2 mm flush	3	PNP, N.O.	10…36	100	100	M8 Pico DC	**IEC202**	**$66.00**
	M8 / L = 60	2 mm flush	3	PNP, N.O.	10…36	100	100	M8 Pico DC	**IEC200**	**$66.00**
	M12 / L = 45	4 mm flush	3	PNP, N.O.	10…30	100	100	M12 Micro DC	**IFC275**	**$64.00**
	M12 / L = 60	3 mm flush	3	PNP, N.O.	10…36	100	100	M12 Micro DC	**IFC258**	**$64.00**
	M12 / L = 60	3 mm flush	3	NPN, N.O.	10…36	100	100	M12 Micro DC	**IFC266**	**$64.00**
	M12 / L = 70	6 mm nonflush	3	PNP, N.O.	10…36	500	100	M12 Micro DC	**IFT245**	**$71.00**
	M12 / L = 70	6 mm nonflush	3	NPN, N.O.	10…36	500	100	M12 Micro DC	**IFT246**	**$71.00**
	M18 / L = 45	8 mm flush	3	PNP, N.O.	10…30	100	100	M12 Micro DC	**IGC258**	**$66.00**
	M18 / L = 70	5 mm flush	3	PNP, N.O.	10…36	100	100	M12 Micro DC	**IGC248**	**$66.00**
	M18 / L = 70	5 mm flush	3	NPN, N.O.	10…36	100	100	M12 Micro DC	**IGC252**	**$66.00**
	M18 / L = 70	12 mm nonflush	3	PNP, N.O.	10…36	500	100	M12 Micro DC	**IGT249**	**$73.00**
	M18 / L = 70	12 mm nonflush	3	NPN, N.O.	10…36	500	100	M12 Micro DC	**IGT250**	**$73.00**
	M30 / L = 50	15 mm flush	3	PNP, N.O.	10…30	50	100	M12 Micro DC	**IIC233**	**$71.00**
	M30 / L = 70	10 mm flush	3	PNP, N.O.	10…36	50	100	M12 Micro DC	**IIC224**	**$71.00**
	M30 / L = 70	10 mm flush	3	NPN, N.O.	10…36	50	100	M12 Micro DC	**IIC226**	**$71.00**
	M30 / L = 70	25 mm nonflush	3	PNP, N.O.	10…36	250	100	M12 Micro DC	**IIT231**	**$77.00**
	M30 / L = 70	25 mm nonflush	3	NPN, N.O.	10…36	250	100	M12 Micro DC	**IIT232**	**$77.00**

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	M8 Pico DC (3-pin) 2 m, PUR	**EVC141**	**$14.00**
	M8 Pico DC (3-pin) 5 m, PUR	**EVC142**	**$17.00**
	M8 Pico DC (3-pin) 2 m, PUR	**EVC144**	**$14.00**
	M8 Pico DC (3-pin) 5 m, PUR	**EVC145**	**$17.00**

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) 2 m, PUR	**EVC004**	**$11.00**
	M12 Micro DC (4-pin) 5 m, PUR	**EVC005**	**$15.00**

Accessories see page 27

Technical Specs

Protection: Part Nos. IEC200, IEC201, IEC202, IFC258, ifC266, IGC248, IGC252, IIC224, IIC226: IP67 / IP68
Part Nos. IFC275, IFT245, IFT246, IGC258, IGT249, IGT250, IIT231, IIT232: IP68 / IP69K

Operating temp: Part Nos. IEC200, IEC201, IEC202, IFC258, IFC266, IGC248: -13…158 °F (-25…70 °C)
Part Nos. IFT245, IFT246, IGT249, IGT250, IIT231, IIT232: 32... 212 °F (0... 100 °C)
Part Nos. IFC275, IGC258, IIC233: -40…185 °F (-40…85 °C)

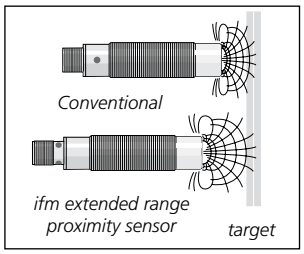
Leakage current: Negligible

Housing material: Housing: high-grade stainless steel;
Active face: high-grade stainless steel;
Lock nuts: high-grade stainless steel;
Connector housing: TPU
Connector coupling nut: nickel plated brass

Top product features!

- *Extended sensing ranges reduce failure from mechanical damage and increase uptime*
- *Available in both short and long body lengths*
- *Wider temperature range of -40...185 °F for greater application flexibility*
- *Robust industry standard housings are rated IP68 / IP69K and reliably perform in environments with oils and coolants*
- *Four bright LEDs provide 360-degree visibility for status indication and make troubleshooting in applications easy*

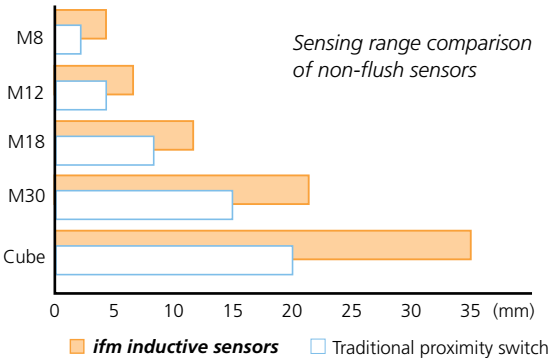
Sensor with extended range reduces failures from mechanical damage



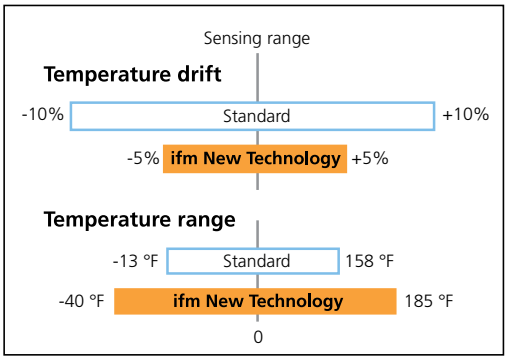
NEW! ifm's new line of inductive sensors offers an ideal combination of features, performance and value. A newly patented design provides less temperature drift over a wider temperature range. This improves sensing range tolerance to ± 5%.

The sensors resist shock, vibration and electrical noise. They are rated IP68/IP69K against water ingress and resist oils and coolants used in harsh applications.

ifm's new technology sensors incorporate extended sensing ranges that enable the sensor to be mounted farther away from a target. This prevents mechanical damage to the sensor from physical impact.



Sensing range comparison of non-flush sensors



Many variables affect sensing range such as temperature. ifm's newly patented design provides a sensor with less temperature drift over a wider temperature range. This improves sensing range tolerance to ± 5% and enables more reliable detection of metal targets.

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Dimensions Short body (mm)	Dimensions Long body (mm)	Sensing Range	No. of Wires	Output Function	Switching Frequency (Hz)	Part No. Short body	Part No. Long body	List Price (1-pc.)
-	M8 / L = 62	2 mm, flush	3	DC PNP, N.O.	1000	–	**IE5312**	**$49.00**
-	M8 / L = 62	4 mm, nonflush	3	DC PNP, N.O.	300	–	**IE5288**	**$45.00**
M12 / L = 45	M12 / L = 60	4 mm, flush	3	DC PNP, N.O.	700	**IFS244**	**IFS240**	**$46.00**
M12 / L = 45	M12 / L = 60	7 mm, nonflush	3	DC PNP, N.O.	700	**IFS245**	**IFS241**	**$46.00**
M12 / L = 45	M12 / L = 60	4 mm, flush	3	DC NPN, N.O.	700	**IFS246**	**IFS242**	**$46.00**
M12 / L = 45	M12 / L = 60	7 mm, nonflush	3	DC NPN, N.O.	700	**IFS247**	**IFS243**	**$46.00**
M18 / L = 45	M18 / L = 60	8 mm, flush	3	DC PNP, N.O.	400	**IGS236**	**IGS232**	**$48.00**
M18 / L = 45	M18 / L = 60	12 mm, nonflush	3	DC PNP, N.O.	300	**IGS237**	**IGS233**	**$48.00**
M18 / L = 45	M18 / L = 60	8 mm, flush	3	DC NPN, N.O.	400	**IGS238**	**IGS234**	**$48.00**
M18 / L = 45	M18 / L = 60	12 mm, nonflush	3	DC NPN, N.O.	300	**IGS239**	**IGS235**	**$48.00**
M30 / L = 50	M30 / L = 60	15 mm, flush	3	DC PNP, N.O.	100	**IIS230**	**IIS226**	**$58.00**
M30 / L = 50	M30 / L = 60	22 mm, nonflush	3	DC PNP, N.O.	100	**IIS231**	**IIS227**	**$58.00**
M30 / L = 50	M30 / L = 60	15 mm, flush	3	DC NPN, N.O.	100	**IIS232**	**IIS228**	**$58.00**
M30 / L = 50	M30 / L = 60	22 mm, nonflush	3	DC NPN, N.O.	100	**IIS233**	**IIS229**	**$58.00**

Note: PNP N.C. and NPN N.C. versions also available, call 800-441-8246.

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Snap clamp for 8 mm sensor	**E11521**	**$8.00**
	Snap clamp for 12 mm sensor	**E11047**	**$8.00**
	Snap clamp for 18 mm sensor	**E11048**	**$8.00**
	Snap clamp for 30 mm sensor	**E11049**	**$8.00**
	L-bracket for 8 mm sensor	**U20304**	**$6.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**
	L-bracket for 18 mm sensor	**U20302**	**$6.00**
	L-bracket for 30 mm sensor	**U20303**	**$6.00**

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**

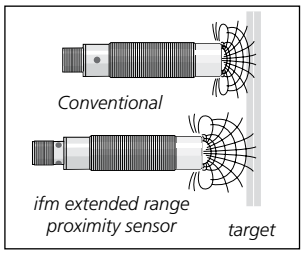
Technical Specs

Operating voltage:	10... 30 VDC; except Part Nos. IE5288 and IE5312: 10...36 VDC
Protection:	IP65, IP67, IP68, IP69K; except Part Nos. IE 5288 and IE5312: IP67
Temperature:	-40…185 °F (-40…85 °C); except Part Nos. IE5288 and IE5312: -13...158 °F (-25...70 °C)
Leakage current:	Negligible
Housing materials:	Brass plated with white bronze, PBT, PEI; except Part No. IE5288 brass plated with white bronze, CO-PC, Part No. IE5312 brass plated with white bronze, LCP
Electrical connection:	M12; except Part No. IE5288 200 mA and IE5312 250 mA
Maximum load current:	100mA

Top product features!

- *Extended sensing ranges reduce failure from mechanical damage and increase uptime*
- *Available in both short and long housing lengths*
- *Wider temperature range of -40...185 °F for greater application flexibility*
- *Robust industry standard housings are rated IP68 / IP69K and reliably perform in environments with oils and coolants*
- *Bright LED provides 360-degree visibility for status indication and make troubleshooting in applications easy*

Prewired sensors with extended range reduce failures from mechanical damage

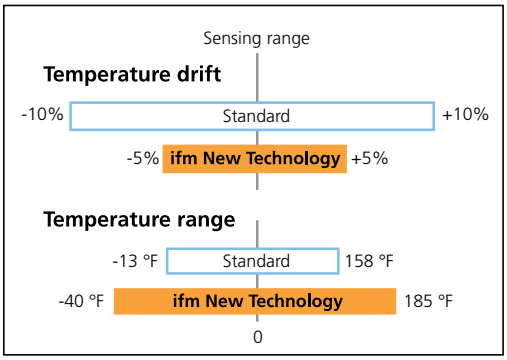


NEW! ifm's new line of prewired inductive sensors offers an ideal combination of features, performance and value. A newly patented design provides less temperature drift over a wider temperature range. This improves sensing range tolerance to ± 5%.

The sensors resist shock, vibration and electrical noise. They are rated IP68/IP69K against water ingress and resist oils and coolants used in harsh applications.

ifm's new technology sensors incorporate extended sensing ranges that enable the sensor to be mounted farther away from a target. This prevents mechanical damage to the sensor from physical impact.

New bright LED offers excellent visibility of the LED from all directions.



Many variables affect sensing range such as temperature. ifm's newly patented design provides a sensor with less temperature drift over a wider temperature range. This improves sensing range tolerance to ± 5% and enables more reliable detection of metal targets.

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Company | 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

Dimensions Short body (mm)	Dimensions Long body (mm)	Sensing Range	No. of Wires	Output Function	Switching Frequency (Hz)	Part No. Short body	Part No. Long body	List Price (1-pc.)
M12 / L = 40	M12 / L = 60	4 mm, flush	3	DC PNP, N.O.	700	**IFS256**	**IFS252**	**$48.00**
M12 / L = 40	M12 / L = 60	7 mm, nonflush	3	DC PNP, N.O.	700	**IFS257**	**IFS253**	**$48.00**
M12 / L = 40	M12 / L = 60	4 mm, flush	3	DC NPN, N.O.	700	**IFS258**	**IFS254**	**$48.00**
M12 / L = 40	M12 / L = 60	7 mm, nonflush	3	DC NPN, N.O.	700	**IFS259**	**IFS255**	**$48.00**
M18 / L = 40	M18 / L = 60	8 mm, flush	3	DC PNP, N.O.	400	**IGS248**	**IGS244**	**$50.00**
M18 / L = 40	M18 / L = 60	12 mm, nonflush	3	DC PNP, N.O.	300	**IGS249**	**IGS245**	**$50.00**
M18 / L = 40	M18 / L = 60	8 mm, flush	3	DC NPN, N.O.	400	**IGS250**	**IGS246**	**$50.00**
M18 / L = 40	M18 / L = 60	12 mm, nonflush	3	DC NPN, N.O.	300	**IGS251**	**IGS247**	**$50.00**
M30 / L = 45	M30 / L = 60	15 mm, flush	3	DC PNP, N.O.	100	**IIS242**	**IIS238**	**$60.00**
M30 / L = 45	M30 / L = 60	22 mm, nonflush	3	DC PNP, N.O.	100	**IIS243**	**IIS239**	**$60.00**
M30 / L = 45	M30 / L = 60	15 mm, flush	3	DC NPN, N.O.	100	**IIS244**	**IIS240**	**$60.00**
M30 / L = 45	M30 / L = 60	22 mm, nonflush	3	DC NPN, N.O.	100	**IIS245**	**IIS241**	**$60.00**

Note: PNP N.C. and NPN N.C. versions also available, call 800-441-8246

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Snap clamp for 12 mm sensor	**E11047**	**$8.00**
	Snap clamp for 18 mm sensor	**E11048**	**$8.00**
	Snap clamp for 30 mm sensor	**E11049**	**$8.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**
	L-bracket for 18 mm sensor	**U20302**	**$6.00**
	L-bracket for 30 mm sensor	**U20303**	**$6.00**

Technical Specs

Operating voltage:	10... 30 VDC
Protection:	IP65, IP67, IP68, IP69K
Temperature:	-40…185 °F (-40…85 °C)
Leakage current:	Negligible
Housing materials:	Brass plated with white bronze, PBT, PEI
Electrical connection:	2 meter cable, PUR
Maximum load current:	100 mA


Metal forming applications

Top product features!

- *Stainless steel sensor face and housing withstand damage from physical impact in the part loading process in manufacturing cells*
- *High temperature, weld slag resistant coating prevents weld slag from adhering to sensor*
- *Sensor design dramatically extends life-in-application by a factor of 15 compared to Teflon™ and plastic face sensors*
- *Permanent laser-etched part numbers will not wear off over time*

High performance at a good value

ifm's metal face sensors are designed and tested to provide reliable position detection in the toughest welding and metal stamping applications. The stainless steel sensor face and housing withstand damage from physical impact in the part loading process in manufacturing cells. A high temperature weld slag resistant coating prevents weld slag from adhering to the sensor, eliminating abrasive cleaning techniques.

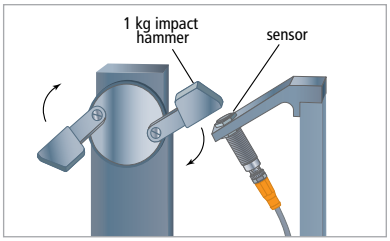
The right combination of price and performance

Priced lower than competing metal-faced sensors, ifm's sensors are an exceptional benchmark for value. High performance, longer life-in-application and a low price point. The ifm metal face sensors can now be used as a plant standard – not just a solution for harsh applications.

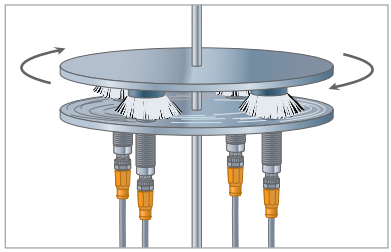
Challenge
Plastic and teflon sensors life expectancies are reduced from weld-slag build-up and physical impact from the part-loading process in manufacturing cells.

Solution
The ifm metal forming sensor's stainless steel construction and high temperature weld-slag resistant coating withstands damage from impact and weld slag build-up.

Designed and tested to increase life-in-application



ifm Impact Test
Sensors are hit twice every second by a 1 kg hammer. This represents the force of a large part being loaded in a cell. ifm's sensors can withstand 500,000 impacts compared to plastic face sensors that failed after 32,000 impacts.



ifm Abrasion Test
Sensors are scoured with wire wheel brushes for 1 million passes to simulate abrasive cleaning processes.

IO-Link | Position Sensors | Motion Control | Vision Sensors
Company | 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

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Sensor Termination	Part No.	List Price (1-pc.)
M8 / L = 60	2 mm flush	3	PNP, N.O.	10…36	100	100	M12 Micro DC	**IER200**	**$69.00**
M8 / L = 60	2 mm flush	3	NPN, N.O.	10...36	100	100	M12 Micro DC	**IER201**	**$69.00**
M12 / L = 45	4 mm flush	3	PNP, N.O.	10...30	2	100	M12 Micro DC	**IFR207**	**$65.00**
M12 / L = 60	4 mm flush	3	NPN, N.O.	10...36	2	100	M12 Micro DC	**IFR202**	**$65.00**
M18 / L = 45	8 mm flush	3	PNP, N.O.	10…30	2	100	M12 Micro DC	**IGR207**	**$67.00**
M18 / L = 70	6 mm flush	3	NPN, N.O.	10...36	2	100	M12 Micro DC	**IGR202**	**$67.00**
M30 / L = 45	15 mm flush	3	PNP, N.O.	10...30	2	100	M12 Micro DC	**IIR207**	**$70.00**
M30 / L = 70	12 mm flush	3	NPN, N.O.	10...36	2	100	M12 Micro DC	**IIR202**	**$72.00**

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	L-bracket for 8 mm sensor	**U20304**	**$6.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**
	L-bracket for 18 mm sensor	**U20302**	**$6.00**
	L-bracket for 30 mm sensor	**U20303**	**$6.00**

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	M12 Micro DC (4-pin) 2 m, PUR	**EVW001**	**$17.00**
	M12 Micro DC (4-pin) 5 m, PUR	**EVW002**	**$22.00**
	M12 Micro DC (4-pin) 10 m, PUR	**EVW003**	**$27.00**
	M12 Micro DC (4-pin) 2 m, PUR	**EVW004**	**$17.00**
	M12 Micro DC (4-pin) 5 m, PUR	**EVW005**	**$22.00**
	M12 Micro DC (4-pin) 10 m, PUR	**EVW006**	**$27.00**

ifm cordsets are designed and tested for metal forming applications. Cable material is rated for high temperatures and coupling nuts feature a weld-slag resistant coating.

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

Technical Specs

Protection: IP67; except IFR207, IGR207, IIR207: IP68 / IP69K
Operating temperature: 32...185 °F (0...85 °C); except IFR207, IGR207, IIR207: -40...185 °F (-40... 85 °C)
Leakage current: Negligible
Housing material: Housing: high-grade stainless steel, weld-slag resistant coating
Active face: high-grade stainless steel, weld-slag resistant coating
Connector: PA
Lock nuts: high-grade stainless steel, weld-slag resistant coating


Metal forming applications

Top product features!

- *Stainless steel sensor face and housing withstand damage from physical impact in the part loading process in manufacturing cells*
- *High temperature, weld slag resistant coating prevents weld slag from adhering to sensor*
- *2-wire DC sensor with PNP or NPN programmable output*
- *Flexible wiring options directly replace 3-wire PNP and 3-wire NPN sensors*

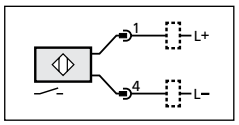
Withstands damage from physical impact in manufacturing cells

ifm's metal face sensors are designed and tested to provide reliable position detection in the toughest welding and metal stamping applications. The stainless steel sensor face and housing withstand damage from physical impact in the part loading process in manufacturing cells. A high temperature weld slag resistant coating prevents weld slag from adhering to the sensor, eliminating abrasive cleaning techniques.

Directly replaces 3-wire sensors

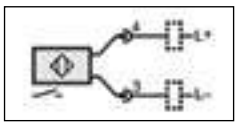
ifm has designed sensors to provide flexible wiring solutions for our customers. These 2-wire sensors can directly replace 3-wire sensors

A



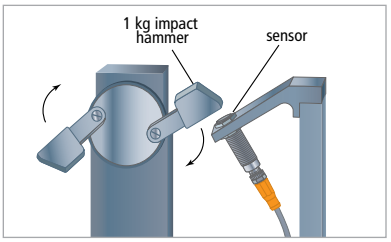
2-wire to directly replace 3-wire PNP

B



2-wire to directly replace 3-wire NPN

Designed and tested to increase life-in-application



ifm Impact Test
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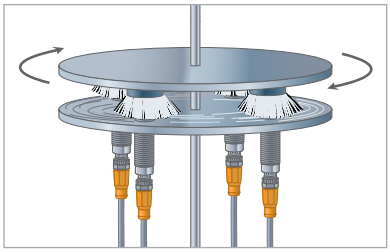

ifm Abrasion Test
Sensors are scoured with wire wheel brushes for 1 million passes to simulate abrasive cleaning processes.

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Electrical Connection	Part No.	List Price (1-pc.)
(A) Uses Pins 1 and 4 • Can directly replace 3-wire PNP sensors									
M8 / L = 45	2 mm flush	2	PNP/NPN, N.O.	10…36	150	100	M12 0.3 m pigtail	**IER203**	**$66.00**
M12 / L = 40	4 mm flush	2	PNP/NPN, N.O.	10…36	75	100	M12 0.3 m pigtail	**IFR203**	**$66.00**
M18 / L = 40	6 mm flush	2	PNP/NPN, N.O.	10…36	50	100	M12 0.3 m pigtail	**IGR203**	**$71.00**
M30 / L = 40	12 mm flush	2	PNP/NPN, N.O.	10…36	25	100	M12 0.3 m pigtail	**IIR203**	**$82.00**
(B) Uses Pins 3 and 4 • Can directly replace 3-wire NPN sensors									
M8 / L = 45	2 mm flush	2	PNP/NPN, N.O.	10…36	150	100	M12 0.3 m pigtail	**IER206**	**$66.00**
M12 / L = 40	4 mm flush	2	PNP/NPN, N.O.	10…36	75	100	M12 0.3 m pigtail	**IFR206**	**$66.00**
M18 / L = 40	6 mm flush	2	PNP/NPN, N.O.	10…36	50	100	M12 0.3 m pigtail	**IGR206**	**$71.00**
M30 / L = 40	12 mm flush	2	PNP/NPN, N.O.	10…36	25	100	M12 0.3 m pigtail	**IIR206**	**$82.00**

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	L-bracket for 8 mm sensor	**U20304**	**$6.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**
	L-bracket for 18 mm sensor	**U20302**	**$6.00**
	L-bracket for 30 mm sensor	**U20303**	**$6.00**

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	M12 Micro DC (4-pin) 2 m, PUR	**EVW001**	**$17.00**
	M12 Micro DC (4-pin) 5 m, PUR	**EVW002**	**$22.00**
	M12 Micro DC (4-pin) 10 m, PUR	**EVW003**	**$27.00**
	M12 Micro DC (4-pin) 2 m, PUR	**EVW004**	**$17.00**
	M12 Micro DC (4-pin) 5 m, PUR	**EVW005**	**$22.00**
	M12 Micro DC (4-pin) 10 m, PUR	**EVW006**	**$27.00**

ifm cordsets are designed and tested for metal forming applications. Cable material is rated for high temperatures and coupling nuts feature a weld-slag resistant coating.

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

Technical Specs

Protection: IP67
Operating temperature: 32...185 °F (0...85 °C)
Leakage current: < 0.75 mA: Part Nos. IER203, IER206
< 0.6 mA: Part Nos. IFR203, IFR206, IGR203, IGR206, IIR203, IIR206
Housing material: Housing: high-grade stainless steel, weld-slag resistant coating
Active face: high-grade stainless steel, weld-slag resistant coating
Connector: PA
Lock nuts: high-grade stainless steel, weld-slag resistant coating

Top product features!

- *Inductive sensor with IO-Link precisely monitors target position with high linearity and repeatability*
- *Digital transmission of target distance eliminates analog signal drift and noise*
- *Additional features such as plug-and-play replacement, real-time recipe changes and diagnostic feedback*
- *Output function and polarity selectable via IO-Link*
- *Wider temperature range of -40...185 °F for greater application flexibility*
- *Rated IP 68 / IP 69K and reliably perform in oils and coolants environments*

Precise position sensing on machines

NEW! ifm's new inductive sensors with IO-Link incorporate several functions in one unit. They can be utilized as switching sensors with an adjustable switch point or target window.

The output signal can be set to normally open or normally closed and PNP or NPN switching. IO-Link also allows output on-delays and off-delays to be programmed. Additionally, these inductive sensors can be applied as a measuring system with the target distance value transmitted digitally via IO-Link.

Highest precision

ifm's IO-Link inductive sensors can precisely detect minute changes in target position. Even spindle runout or the tension of circular or band saw blades is reliably detected.

An alarm can be set if the target leaves the target window or comes too close to the sensing face. All data acquired can be transmitted via IO-Link and recorded.

IO-Link provides the foundation for Industry 4.0 and allows the precise detection of the target with greater accuracy and maximizes overall equipment effectiveness.

Robust industry standard housings, ifm's new inductive sensors detect runout in rotating mechanical systems leading to improved tool life and higher quality manufactured parts.

Search Bar

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

Dimensions (mm)	Sensing Range (mm)	No. of Wires	Output Function Can be set via IO-Link	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Electrical Connection	Part No.	List Price (1-pc.)
M12 / L = 60	.375…3.75 flush	3	PNP/NPN, N.O. / N.C.	10…30	600	100	M12 DC	**IF6123**	**$48.00**
M12 / L = 60	0.7…7 nonflush	3	PNP/NPN, N.O. / N.C.	10…30	600	100	M12 DC	**IF6124**	**$48.00**
M18 / L = 60	0.75...7.5 flush	3	PNP/NPN, N.O. / N.C.	10…30	300	100	M12 DC	**IG6615**	**$48.00**
M18 / L = 60	1.3...13 nonflush	3	PNP/NPN, N.O. / N.C.	10…30	300	100	M12 DC	**IG6616**	**$48.00**
M30 / L = 65	1.3...13 flush	3	PNP/NPN, N.O. / N.C.	10…30	100	100	M12 DC	**II5973**	**$60.00**
M30 / L = 65	2.3...23 nonflush	3	PNP/NPN, N.O. / N.C.	10…30	100	100	M12 DC	**II5974**	**$60.00**
Rectangular 40 x 40 mm	2.1...21 flush	3	PNP/NPN, N.O. / N.C.	10…30	100	100	M12 DC	**IM5172**	**$65.00**
	2.6...26 nonflush	3	PNP/NPN, N.O. / N.C.	10…30	100	100	M12 DC	**IM5173**	**$65.00**

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	L-bracket for 12 mm sensor	**E10735**	**$8.00**
	L-bracket for 18 mm sensor	**E10736**	**$9.00**
	L-bracket for 30 mm sensor	**E10737**	**$9.00**
	Snap clamp for 12 mm sensor	**E11047**	**$8.00**
	Snap clamp for 18 mm sensor	**E11048**	**$8.00**
	Snap clamp for 30 mm sensor	**E11049**	**$8.00**

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) 2 m, PUR	**EVC004**	**$11.00**
	M12 Micro DC (4-pin) 5 m, PUR	**EVC005**	**$15.00**

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

Technical Specs

Protection: IP 65, IP 66, IP 67, IP 68, IP 69K
Part Nos. IM5172 and IM5173: IP 67

Operating temperature: -40...185 °F (-40...85 °C)
Part Nos. IM5172 and IM5173: -13…176 ° F (-25…80 °C)

Leakage current: 10 mA

Housing material: Coated brass
Part Nos. IM5172 and IM5173: PA


Oils and coolants applications

Top product features!

- *Extended sensing ranges increase distance between the sensor and target which increases uptime*
- *Models with robust 316 stainless steel housings withstand aggressive oils and coolants*
- *Models with chip-resistant ceramic sensing faces*
- *K=1 sensing technology provides same sensing range for all target materials*
- *Industry standard M12 Micro DC connectors*

Robust sensors for oils and coolants

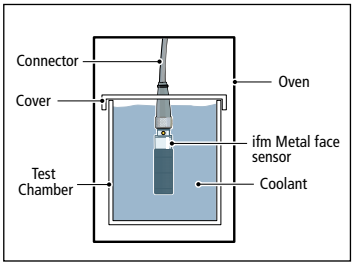
The oils and coolants used in metalworking applications can penetrate into the housing of a sensor resulting in component failure and sensing range fluctuations. Through research and experience, a number of oils and coolants were identified that were used by industry leaders.

ifm's sensors were completely submerged in these oils and coolants at a temperature of 176 °F. The sensor's zero-leak design was verified by measuring the sensing range after prolonged exposure in the chamber. The sensors passed this test with no change in sensing range characteristics.

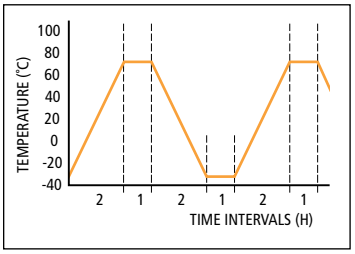
K factor 1 sensing technology

Standard technology proximity sensors have correction factors for sensing ranges depending on the target material. For example, the range for an aluminum target compared to a mild steel target is reduced by 60%. The K=1 technology sensors have a correction factor of one for all metals. Therefore, these sensors have an equal range for aluminum and steel targets.

Tested for oils and coolants



High temperature IP68 coolant test
Sensors are submerged in industrial oils and coolants at 176 °F. The sensors successfully pass the test and maintain sensing characteristics.



1000-hour cycle test
Sensors are cycled between -30 °C and 70°C to apply stress on the electronic and mechanical components and to check overall design integrity.

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Product + accessory selector

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Electrical Connection	Part No.	List Price (1-pc.)
Plastic face									
M12 / L = 45	4 mm flush	3	PNP, N.O.	10…36	700	100	M12 Micro DC	**IFC204**	**$95.00**
M12 / L = 60	4 mm flush	3	PNP, N.O.	10…36	700	200	M12 Micro DC	**IF5775**	**$95.00**
M12 / L = 50	7 mm nonflush	3	PNP, N.O.	10…36	700	100	M12 Micro DC	**IFC205**	**$95.00**
M12 / L = 60	7 mm nonflush	3	PNP, N.O.	10…36	700	200	M12 Micro DC	**IF5811**	**$95.00**
M18 / L = 46	8 mm flush	3	PNP, N.O.	10…36	400	100	M12 Micro DC	**IGC204**	**$96.00**
M18 / L = 72	8 mm flush	3	PNP, N.O.	10…36	500	250	M12 Micro DC	**IG5788**	**$96.00**
M18 / L = 51	12 mm nonflush	3	PNP, N.O.	10…36	300	100	M12 Micro DC	**IGC205**	**$96.00**
M18 / L = 70	12 mm nonflush	2/3	PNP/NPN, N.O.	10…36	300	100	M12 Micro DC	**IGC213**	**$96.00**
M18 / L = 72	12 mm nonflush	3	PNP, N.O.	10…36	300	250	M12 Micro DC	**IG5841**	**$96.00**
M30 / L = 50	15 mm flush	3	PNP, N.O.	10…36	100	100	M12 Micro DC	**IIC200**	**$99.00**
M30 / L = 50	22 mm nonflush	3	PNP, N.O.	10…36	100	100	M12 Micro DC	**IIC201**	**$99.00**
Ceramic face									
M12 / L = 45	4 mm flush	3	PNP, N.O.	10…36	700	100	M12 Micro DC	**IFC206**	**$99.00**
M12 / L = 70	4 mm flush	2/3	PNP/NPN, N.O.	10…36	500	100	M12 Micro DC	**IFC210**	**$105.00**
M18 / L = 46	8 mm flush	3	PNP, N.O.	10…36	400	100	M12 Micro DC	**IGC206**	**$102.00**
M18 / L = 70	8 mm flush	2/3	PNP/NPN, N.O.	10…36	400	100	M12 Micro DC	**IGC210**	**$107.00**
Ferrous only sensors									
M12 / L = 60	2.5 mm flush	3	PNP, N.O.	10…36	100	100	M12 Micro DC	**IFC263**	**$69.00**
M12 / L = 60	2.5 mm flush	3	PNP, N.C.	10…36	100	100	M12 Micro DC	**IFC264**	**$69.00**
M18 / L = 70	4.5 mm flush	3	PNP, N.O.	10…36	100	100	M12 Micro DC	**IGC249**	**$71.00**
M18 / L = 70	4.5 mm flush	3	PNP, N.C.	10…36	100	100	M12 Micro DC	**IGC250**	**$71.00**

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Snap clamp for 12 mm sensor	**E11047**	**$8.00**
	Snap clamp for 18 mm sensor	**E11048**	**$8.00**
	Snap clamp for 30 mm sensor	**E11049**	**$8.00**
	Quick-mount sleeve for 12 mm sensor	**E11114**	**$13.00**
	Quick-mount sleeve for 18 mm sensor	**E11115**	**$14.00**
	Quick-mount sleeve for 30 mm sensor	**E10808**	**$17.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**
	L-bracket for 18 mm sensor	**U20302**	**$6.00**
	L-bracket for 30 mm sensor	**U20303**	**$6.00**

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**

Technical Specs

Protection:	IP68
Operating temperature:	-13…158 °F (-25…70 °C); -40…185 °F (-40…85 °C): IFS304, IFS306,IGS290,IGS292,IIS282,IIS284
Housing material:	Special coated brass; 316 stainless steel: Part Nos. IGC232, IGC233, IIC218, IIC219; brass: Part No. IFC259 Active face; LCP: PBT: Part No. IIC219; ceramic: Part Nos. IFC206, IFC210, IGC206, IGC210
Leakage current:	< 0.5 mA: Part Nos. IFC210, IGC210; < 0.9 mA: Part No. IGC213 when used in 2-wire operation

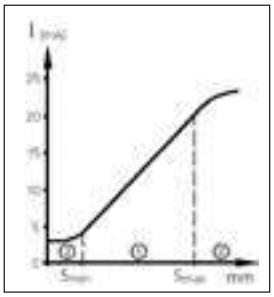
Top product features!

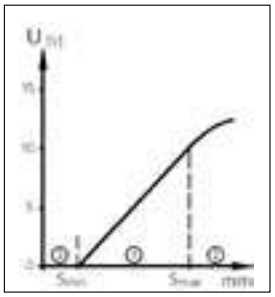
- *Analog sensors with precise linear output signals*
- *4...20 mA and 0...10 V analog output models in M12, M18 and M30 housings*
- *Four LEDs provide 360-degree visibility*
- *Wide temperature range enables sensors to withstand harsh conditions*
- *Use with ifm's ecolink M12 Micro DC cordsets*

Analog sensors

ifm efector's inductive proximity sensor family includes models with analog output. Both 4-20 mA and 0-10 V output versions are available in 12, 18 and 30 mm diameter body styles. The sensors feature a linearity error of ±1% or ±3% depending on the model.

Linearity describes how closely the actual analog output of the proximity sensor mirrors a straight line drawn from the start point of the operating range (s_{min}) to the end point of the operating range (s_{max}).





(1) *Operating range – LED on*
(2) *Warning range – LED flashes*

S_{min} = *start point of operating range*
S_{max} = *end point of operating range*

LED Indication

The analog proximity sensor contains a single yellow LED. The LED is "on" when a target is within the specified operating range and the LED flashes when a target is not present or out of range. For example, the 30mm sensor has an operating range of 1mm (s_{min}) to 15mm (s_{max}). If the sensor is <1mm or >15mm from the target, the LED will flash. The LED will be "on" if the target is within the operating range (1mm to 15mm). Note: this example assumes a mild target. Standard material and size/shape correction factors apply to this sensor.

Analog Sensors solve a variety of applications:

Converting linear motion into an analog signal: The distance between the sensor and target can be continuously monitored by an analog input card. Multiple switch points can be programmed if needed.

Sorting product by material: Targets with different material correction factors will have different curves when the output (current or voltage) is plotted versus the sensing distance. If the sensing distance is constant, targets constructed of dissimilar material will give different outputs and can be distinguished.

Sorting product by height: Targets constructed of the same material, but with different heights or thickness, can easily be sorted.

Concentricity monitoring: Analog proximity sensors can determine if rotating concentric targets go "out of round."

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Dimensions (mm)	Sensing Range	No. of Wires	Response Time (ms)	Linearity (%)	Repeatability (%)	Part No.	List Price (1-pc.)
4...20 mA output							
M12 / L = 70	2 mm, flush	3	< 10	± 3	± 2	**IF6028**	**$167.00**
M12 / L = 70	4 mm, nonflush	3	< 10	± 3	± 2	**IF6030**	**$167.00**
M18 / L = 60	5 mm, flush	3	< 20	± 3	± 2	**IG6086**	**$172.00**
M18 / L = 60	8 mm, nonflush	3	< 10	± 1	± 1	**IG6083**	**$172.00**
M30 / L = 70	10 mm, flush	3	< 10	± 3	± 2	**II5916**	**$187.00**
M30 / L = 70	15 mm, nonflush	3	< 20	± 1	± 1	**II5913**	**$187.00**
0...10 V DC output							
M12 / L = 70	2 mm, flush	3	< 10	± 3	± 2	**IF6029**	**$167.00**
M12 / L = 70	4 mm, nonflush	3	< 10	± 3	± 2	**IF6031**	**$167.00**
M18 / L = 60	5 mm, flush	3	< 10	± 3	± 2	**IG6087**	**$172.00**
M18 / L = 60	8 mm, nonflush	3	< 10	± 1	± 1	**IG6084**	**$172.00**
M30 / L = 70	10 mm, flush	3	< 10	± 3	± 2	**II5917**	**$187.00**
M30 / L = 70	15 mm, nonflush	3	< 20	± 1	± 1	**II5914**	**$187.00**

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Snap clamp for 12 mm sensor	**E11047**	**$8.00**
	Snap clamp for 18 mm sensor	**E11048**	**$8.00**
	Snap clamp for 30 mm sensor	**E11049**	**$8.00**
	Quick-mount sleeve for 12 mm sensor	**E11114**	**$13.00**
	Quick-mount sleeve for 18 mm sensor	**E11115**	**$14.00**
	Quick-mount sleeve for 30 mm sensor	**E10808**	**$17.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**
	L-bracket for 18 mm sensor	**U20302**	**$6.00**
	L-bracket for 30 mm sensor	**U20303**	**$6.00**

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**

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

Technical Specs

Supply Voltage:	15...30 V DC
Supply Current:	< 20 mA
Protection:	IP67
Operating Temperature:	-13...176 °F (-25...80 °C)
Max. Load Resistance:	Part Nos.: IF6028, IF6030, IG6083, IG6086, II5913 and II5916: 500 Ω
Min. Load Resistance:	Part Nos.: IF6029, IF6031, IG6084, IG6087, II5914 and II5917: 2000 Ω
Leakage Current:	Negligible

Dedicated sales engineers

ifm's experienced sales engineers understand your applications and provide solutions to your challenges.

Place orders, tech support
800-441-8246

Visit our product catalog
www.ifm.com/us

Shop for products online
Easy ordering via eShop

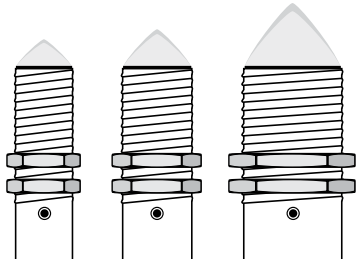
Top product features!

- *Extended sensing ranges reduce failure from mechanical damage and increase uptime*
- *Models available in universal voltage with a range of 20...250 V AC/DC*
- *Industry standard M12, M18 and M30 diameter housings to fit a variety of industrial automation applications*
- *Available in quick disconnect and prewired options – visit www.ifm.com/us for more sensor options*
- *Robust metal housings are designed and tested to withstand industrial automation applications*

Flexible mounting and quick installation

Sensor + **Cordset** + **Bracket**

A three-piece solution provides flexible mounting and quick installation. ifm has developed accessories and connectors to simplify the installation process for inductive proximity sensors. The overall installation time of a proximity sensor can be further reduced by utilizing ifm efector's quick disconnect cordset for "plug and play" wiring.



IF 12 mm Diameter | *IG 18 mm Diameter* | *II 30 mm Diameter*

Sensing range is determined by the physical size of the sensor

The strength of the radiated sensing field is a function of the size of the core in the sensor. Larger sensors have larger cores, and therefore, longer sensing ranges.

Select from three brackets for installation flexibility

ifm's snap clamp allows quick replacement of a switch with no tools or mounting nuts. The clamp features a "positive stop" that provides exact placement every time.

Metal quick mount sleeve features a "positive stop" for accurate placement every time.

L-Bracket secures tubular sensors and mounts quickly.

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V AC/DC)	Switching Frequency (Hz) AC/DC	Max Load Current (mA) AC/DC	Electrical Connection	Part No.	List Price (1-pc.)
M12 / L = 62	4 mm flush	2	N.O.	20...140	25 / 200	200	1/2" Micro AC	**IF0311**	**$108.00**
M12 / L = 62	7 mm nonflush	2	N.O.	20...140	25 / 90	200	1/2" Micro AC	**IF0312**	**$108.00**
M18 / L = 72	8 mm flush	2	N.O.	20...250	25 / 60	250 / 100	1/2" Micro AC	**IG0344**	**$114.00**
M18 / L = 72	12 mm nonflush	2	N.O.	20...250	25 / 90	250 / 100	1/2" Micro AC	**IG0345**	**$114.00**
M30 / L = 72	15 mm flush	2	N.O.	20...250	25 / 40	350 / 100	1/2" Micro AC	**II0340**	**$119.00**
M30 / L = 72	22 mm nonflush	2	N.O.	20...250	25 / 70	350 / 100	1/2" Micro AC	**II0341**	**$119.00**

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Snap clamp for 12 mm sensor	**E11047**	**$8.00**
	Snap clamp for 18 mm sensor	**E11048**	**$8.00**
	Snap clamp for 30 mm sensor	**E11049**	**$8.00**
	Quick-mount sleeve for 12 mm sensor	**E11114**	**$13.00**
	Quick-mount sleeve for 18 mm sensor	**E11115**	**$14.00**
	Quick-mount sleeve for 30 mm sensor	**E10808**	**$17.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**
	L-bracket for 18 mm sensor	**U20302**	**$6.00**
	L-bracket for 30 mm sensor	**U20303**	**$6.00**

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	1/2" Micro AC (3-pin) 2 m, PVC	**E18212**	**$15.00**
	1/2" Micro AC (3-pin) 5 m, PVC	**E18213**	**$19.00**
	1/2" Micro AC (3-pin) 2 m, PVC	**E18214**	**$15.00**
	1/2" Micro AC (3-pin) 5 m, PVC	**E18215**	**$19.00**

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

Technical Specs

Protection: IP67
Operating Temperature: -13...158 °F (-25...70 °C)
Leakage Current: < 0.8 mA: Part Nos. IF0311, IF0312
< 1 mA @ 250 VAC: Part Nos. IG0344, IG0345, II0340, II0341
Housing materials: Special coated brass; active face; PBT: Part Nos. IF0311, IF0312, II0340, II0341
Special coated brass; active face; PA, PBT: Part Nos. IG0344, IG0345

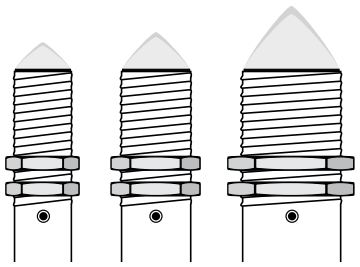
Top product features!

- *Extended sensing ranges reduce failure from mechanical damage and increase uptime*
- *Models available in universal voltage with a range of 20...250 V AC/DC*
- *Industry standard M12, M18 and M30 diameter housings to fit a variety of industrial automation applications*
- *2 meter high-flex PVC cable*
- *Available in quick disconnect and prewired options – visit www.ifm.com/us for more sensor options*

Robust housings designed and tested for industrial automation

ifm's prewired tubular sensors provide reliable position detection throughout the industrial automation process. The robust, metal housings are ideal for tough applications found in robotics, packaging, assembly automation and material handling.

Extended sensing ranges allow the sensors to be placed farther away from a target which reduces the chance of damage from physical impact. The sensor's high-flex PVC cable can withstand repetitive movement.



IF
12 mm
Diameter

IG
18 mm
Diameter

II
30 mm
Diameter

Sensing range is determined by the physical size of the sensor

The strength of the radiated sensing field is a function of the size of the core in the sensor. Larger sensors have larger cores, and therefore, longer sensing ranges.

Select from three brackets for installation flexibility

ifm's snap clamp allows quick replacement of a switch with no tools or mounting nuts. The clamp features a "positive stop" that provides exact placement every time.

Metal quick mount sleeve features a "positive stop" for accurate placement every time.

L-bracket secures tubular sensors and mounts quickly.

Product + accessory selector

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (VAC / VDC)	Switching Frequency (Hz) AC/DC	Max Load Current (mA) AC/DC	Electrical Connection	Part No.	List Price (1-pc.)
M12 / L = 71	2 mm flush	2	N.O.	20...250	25	250	Prewired 2 m cable	**IF0303**	**$99.00**
M12 / L = 71	4 mm nonflush	2	N.O.	20...250	25	250	Prewired 2 m cable	**IF0302**	**$99.00**
M18 / L = 80	5 mm flush	2	N.O.	20...250	25 / 50	350 / 100	Prewired 2 m cable	**IG0305**	**$100.00**
M18 / L = 80	8 mm nonflush	2	N.O.	20...250	25 / 50	350 / 100	Prewired 2 m cable	**IG0307**	**$100.00**
M30 / L = 81	10 mm flush	2	N.O.	20...250	25 / 50	350 / 100	Prewired 2 m cable	**II0272**	**$104.00**
M30 / L = 81	15 mm nonflush	2	N.O.	20...250	25 / 50	350 / 100	Prewired 2 m cable	**II0274**	**$104.00**

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Snap clamp for 12 mm sensor	**E11047**	**$8.00**
	Snap clamp for 18 mm sensor	**E11048**	**$8.00**
	Snap clamp for 30 mm sensor	**E11049**	**$8.00**
	Quick-mount sleeve for 12 mm sensor	**E11114**	**$13.00**
	Quick-mount sleeve for 18 mm sensor	**E11115**	**$14.00**
	Quick-mount sleeve for 30 mm sensor	**E10808**	**$17.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**
	L-bracket for 18 mm sensor	**U20302**	**$6.00**
	L-bracket for 30 mm sensor	**U20303**	**$6.00**

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

Technical Specs

Protection: IP67
Operating Temperature: -13...176 °F (-25...80 °C)
Leakage Current: < 2 mA: Part Nos. IF0302, IF0303
< 2.5 mA: Part Nos. IG0305, IG0307, II0272, II0274
Housing materials: Special coated brass; active face; PC: Part Nos. IF0302, IF0303, IG0305, IG0307
Special coated brass: Part Nos. II0272, II0274
Special coated brass; active face; PBT: Part Nos. II0272, II0274

Top product features!

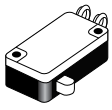
- *Small package, large sensing range! Compact design is ideal for applications with limited mounting space*
- *Sensors retrofit V3 mechanical switches which increases uptime and reduces installation time*
- *Wiring flexibility – sensors available with quick disconnect or prewired 300 mm cable with M8 Pico connector*
- *Robust industry standard housings designed and tested to withstand industrial automation environments*
- *Plastic and metal housings to suit application needs*

Compact sensors with powerful performance

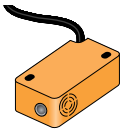
ifm efector's small rectangular proximity sensors are ideal for sensing the "open" and "closed" positions of a rising stem valve. The housing design of the IS Series family is a direct replacement for V3 style mechanical devices. The sensors are based on standard inductive technology and are mounted in the valve top for non-contact sensing of the stem.

ifm proximity sensors are designed as a sensor "system" with surface-mounted components on flexible polyamide film. All elements are carefully matched to expand and contract together, minimizing the effects of thermal shock. Sensors with an IP67 rating are constructed to withstand washdown conditions.

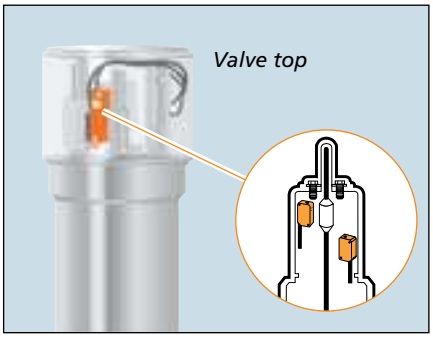
Retrofits V3 style mechanical switches



V3 style mechanical device



ifm Series IS non-contact sensor



Compact rectangular sensors can be mounted in the valve top for non-contact sensing of the stem.

	IO-Link	Position Sensors						Motion Control	Vision Sensors
Company	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

	Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Electrical Connection	Part No.	List Price (1-pc.)
A	52 x 8 x 8	2 mm flush	3	PNP, N.O.	10...36	2000	250	M8 Pico	**IL5004**	**$93.00**
B	28 x 10 x 16	2 mm flush	3	PNP, N.O.	10...36	800	200	M8 Pico	**IS5035**	**$102.00**
C	28 x 10 x 16	2 mm flush	3	PNP, N.O.	10...36	800	200	Prewired 2 m cable	**IS5001**	**$81.00**
	28 x 10 x 16	2 mm flush	3	NPN, N.O.	10...36	800	200	Prewired 2 m cable	**IS5003**	**$81.00**
	28 x 10 x 16	2 mm flush	2	PNP/NPN, N.O. / N.C.	10...36	2000	200	Prewired 2 m cable	**IS5026**	**$84.00**
	28 x 10 x 16	2 mm flush	3	PNP, N.O.	10...36	800	200	Pigtail 0.3 m cable w/ M8 Pico	**IS5068**	**$105.00**
D	40 x 12 x 26	2 mm flush	3	PNP, N.O.	10...36	1400	250	M8 Pico	**IN5230**	**$108.00**
	40 x 12 x 26	4 mm nonflush	3	PNP, N.O.	10...36	1300	250	M8 Pico	**IN5212**	**$108.00**
	40 x 12 x 26	2 mm flush	3	PNP, N.O.	10...36	1400	250	Prewired 2 m cable	**IN5121**	**$88.00**
	40 x 12 x 26	2 mm flush	3	NPN, N.O.	10...36	1400	250	Prewired 2 m cable	**IN5125**	**$88.00**
	40 x 12 x 26	4 mm nonflush	3	PNP, N.O.	10...36	1300	250	Prewired 2 m cable	**IN5129**	**$88.00**
	40 x 12 x 26	4 mm nonflush	3	NPN, N.O.	10...36	1300	250	Prewired 2 m cable	**IN5133**	**$88.00**
E	60 x 36 x 10	8 mm nonflush	3	PNP, N.O.	10...36	300	250	M8 Pico	**IW5064**	**$103.00**
	60 x 36 x 10	8 mm nonflush	3	NPN, N.O.	10...36	120	250	Prewired 2 m cable	**IW5008**	**$92.00**

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

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	M8 Pico DC (3-pin) 2 m, PUR	**EVC141**	**$14.00**
	M8 Pico DC (3-pin) 5 m, PUR	**EVC142**	**$17.00**
	M8 Pico DC (3-pin) 10 m, PUR	**EVC143**	**$24.00**
	M8 Pico DC (3-pin) 2 m, PUR	**EVC144**	**$14.00**
	M8 Pico DC (3-pin) 5 m, PUR	**EVC145**	**$17.00**
	M8 Pico DC (3-pin) 10 m, PUR	**EVC146**	**$24.00**

Technical Specs

Protection:	IP65: Part Nos. IL5004, IN5212, IW5064 IP67: Part Nos. IN5121, IN5125, IN5129, IN5230, IN5133, IS5001, IS5003, IS5026, IS5035, IW5008
Operating Temperature:	-13...158 °F (-25...70 °C): Part Nos. IL5004, IS5001 -13...176 °F (-25...80 °C): Part Nos. IN5121, IN5125, IN5129, IN5133, IN5212, IS5003, IS5026, IS5035, IW5008, IS5068 -4...176 °F (-20...80 °C): Part Nos. IN5230, IW5064
Leakage Current:	Negligible; < 0.8 mA: Part No. IS5026
Housing materials:	Special coated brass; active face; LCP: Part No. IL5004 PBT: Part Nos. IS5026, IN5121, IN5125, IN5129, IN5133, IN5212, IN5230, IS5001, IS5003, IS5035, IS5068, IW5008 and IW5064

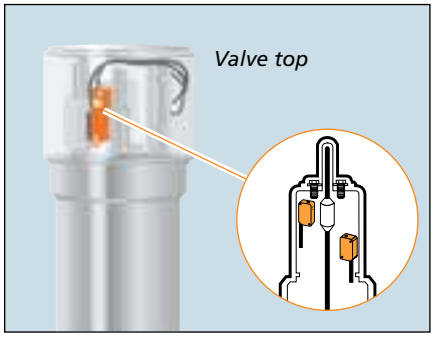
Top product features!

- Robust industry standard miniature housing for applications with limited mounting space
- Sensors retrofit V3 style mechanical switches which increases uptime and reduces installation time
- Corrosion resistant plastic housing designed and tested to withstand industrial automation environments
- Wide dual voltage range of 20...250 AC/DC
- 2 m cable with PVC jacket options

Compact sensors with powerful performance

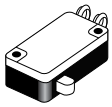
ifm efector's small rectangular proximity sensors are ideal for sensing the "open" and "closed" positions of a rising stem valve. The housing design of the Series IS family is a direct replacement for V3 style mechanical devices. The sensors are based on standard inductive technology and are mounted in the valve top for non-contact sensing of the stem.

ifm proximity sensors are designed as a sensor "system" with surface-mounted components on flexible polyamide film. All elements are carefully matched to expand and contract together, minimizing the effects of thermal shock. Sensors with an IP67 rating are constructed to withstand washdown conditions.

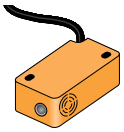


Compact rectangular sensors can be mounted in the valve top for non-contact sensing of the stem.

Retrofits V3 style mechanical switches



V3 style mechanical device



ifm Series IS non-contact sensor

Search Bar

	IO-Link	Position Sensors					Motion Control	Vision Sensors
Company	IO-Link	Inductive	Capacitive	Cylinder / valve position	Photoelectrics / lasers / fiber optics	Distance / Application specific	Ultrasonic	Encoders / Speed monitors	2D / 3D inspection
1 - 5	6 - 21	22 - 55	56 - 61	62 - 71	72 - 111	112 - 117	118 - 119	120 - 127	128 - 143

Product + accessory selector

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V) AC/DC	Switching Frequency (Hz)	Max Load Current (mA)	Electrical Connection	Part No.	List Price (1-pc.)
28 x 10 x 16	2 mm flush	2	N.O.	20...140 AC / 10...140 DC	25	200	Prewired 0.3 m cable	**IS3501**	**$89.00**
28 x 10 x 16	2 mm flush	2	N.C.	20...140 AC / 10...140 DC	25	200	Prewired 0.3 m cable	**IS0008**	**$89.00**
40 x 12 x 26	2 mm flush	2	N.O.	20...250	25 / 50	350 / 250	Prewired 2 m cable	**IN0097**	**$96.00**
40 x 12 x 26	4 mm nonflush	2	N.O.	20...250	25 / 50	350 / 250	Prewired 2 m cable	**IN0098**	**$96.00**

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

Technical Specs

Protection: IP67
Operating Temperature: -4...176 °F (-20...80 °C): Part Nos. IS3501, IS0008
-13...176 °F (-25...80 °C): Part Nos. IN0097, IN0098
Leakage Current [mA]: < 0.8: Part Nos. IS3501, IS0008
< 2.0 (AC 250 V) / < 1.3 (AC 110 V) / < 0.8 (DC 24 V): Part Nos. IN0097, IN0098
Housing material: PBT

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Wiring Technology: Cordset solutions — 264 - 277

Top product features!

- *ID and IM Series feature extended sensing ranges that reduce failure from mechanical damage and increase uptime*
- *IM Series "cube" sensing face can rotate in one of five different directions for application versatility*
- *IM "cube" easily retrofits limit switches using only half the space*
- *K=1 sensing technology provides same sensing range for all target materials*
- *ID unit with terminal chamber offers convenient wiring of various lengths*

Rugged housing for industrial applications

IM rectangular inductive proximity sensors feature extended sensing ranges for rugged industrial automation applications. The sensor can be placed farther away from the target which provides protection against mechanical damage in applications such as conveying.

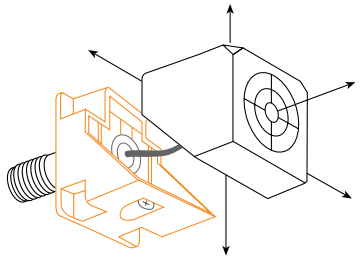
Ideal for packaging lines and conveying applications, the IM "Cube" sensor offers two corner-mounted LEDs to indicate power and output.

Compact size, long sensing range

The compact sensor "cube" measures 40 x 40 x 66 mm and features a sensing face that rotates in one of five different directions. An integrated mounting bracket offers simple installation and the sensor can be rotated in one of five directions for application versatility.

The ID unit is ideal for floor conveyor applications. The ID also has a "mechanical quick disconnect" feature; it snaps onto a mounting bracket, or DIN rail, so any damaged sensor can be replaced in seconds.

Flexible mounting options



The IMC "Cube" sensor can rotate in one of five different directions for application versatility.

PNP to NPN converter cordset

This cordset converts PNP outputs to NPN outputs.

Part no.: EVC01E (5 meters)

List price (1-pc): $19.00

Search Bar

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

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Sensor Termination	Part No.	List Price (1-pc.)
40 x 40 x 66	20 mm flush	3	PNP, N.O.	10...36	100	200	M12 Micro DC	**IM5115**	**$51.00**
40 x 40 x 66	35 mm nonflush	3	PNP, N.O.	10...36	80	200	M12 Micro DC	**IM5116**	**$51.00**
40 x 40 x 66	40 mm nonflush	3	PNP, N.O.	10...36	80	200	M12 Micro DC	**IM5117**	**$92.00**
92 x 80 x 40	50 mm flush*	3	PNP, N.O.	10...36	70	250	M12 Micro DC	**ID5055**	**$170.00**
105 x 80 x 40	60 mm nonflush	3	PNP, N.O.	10...36	100	250	M12 Micro DC	**ID5046**	**$221.00**
K factor 1 technology									
40 x 40 x 66	20 mm flush	3	PNP, N.O.	10...36	200	200	M12 Micro DC	**IM5128**	**$102.00**
40 x 40 x 66	40 mm nonflush	3	PNP, N.O.	10...36	200	200	M12 Micro DC	**IM5131**	**$96.00**

*When mounted nonflush, operating distance of Part No. ID 5055 is 35 mm

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Limit switch adapter bracket	**U20200**	**$21.00**
	Protective Bracket for ID	**E10730**	**$12.00**

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**

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

Technical Specs

Protection: IP67
Operating Temp: -13...158 °F (-25...70 °C)
-13…176 °F (-25…80 °C): Part No. ID5046
Leakage Current: Negligible
Housing material: PA (polyamide)

Reliable service center
The ifm service center team provides tech support, product quotes, delivery information and order placement.

Place orders, tech support
800-441-8246
Visit our product catalog
www.ifm.com/us
Shop for products online
Easy ordering via eShop

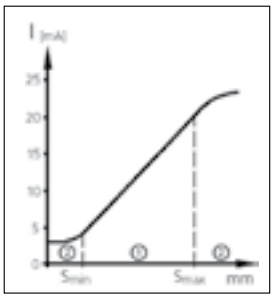
Top product features!

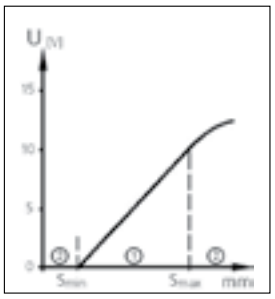
- *Analog sensors with precise linear output signals*
- *4...20 mA and 0...10 V analog output models*
- *Two corner-mounted LEDs indicate power and switching status*
- *"Cube" sensor features sensing face that rotates in one of five directions*
- *Use with ifm's ecolink M12 Micro DC cordsets*

Analog sensors

ifm efector's inductive proximity sensor family includes models with analog output. Both 4-20 mA and 0-10 V output versions are available in rectangular housings. The sensors feature a linearity error of ±1% or ±3% depending on the model.

Linearity describes how closely the actual analog output of the proximity sensor mirrors a straight line drawn from the start point of the operating range (s_{min}) to the end point of the operating range (s_{max}).





(1) *Operating range – LED on*
(2) *Warning range – LED flashes*

S_{min} = start point of operating range
S_{max} = end point of operating range

LED Indication

The analog proximity sensor contains a single yellow LED. The LED is "on" when a target is within the specified operating range and the LED flashes when a target is not present or out of range. For example, the 30mm sensor has an operating range of 1mm (s_{min}) to 15mm (s_{max}). If the sensor is <1mm or >15mm from the target, the LED will flash. The LED will be "on" if the target is within the operating range (1mm to 15mm). Note: this example assumes a mild target. Standard material and size/shape correction factors apply to this sensor.

Analog Sensors solve a variety of applications:

Converting linear motion into an analog signal: The distance between the sensor and target can be continuously monitored by an analog input card. Multiple switch points can be programmed if needed.

Sorting product by material: Targets with different material correction factors will have different curves when the output (current or voltage) is plotted versus the sensing distance. If the sensing distance is constant, targets constructed of dissimilar material will give different outputs and can be distinguished.

Sorting product by height: Targets constructed of the same material, but with different heights or thickness, can easily be sorted.

Concentricity monitoring: Analog proximity sensors can determine if rotating concentric targets go "out of round."

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Dimensions (mm)	Sensing Range	No. of Wires	Response Time (ms)	Linearity (%)	Repeatability (%)	Part No.	List Price (1-pc.)
4...20 mA output							
40 x 40 x 66	15 mm flush	3	< 20	± 3	± 2	**IM5139**	**$184.00**
40 x 40 x 66	26 mm nonflush	3	< 20	± 3	± 2	**IM5141**	**$184.00**
0...10 V DC output							
40 x 40 x 66	14 mm flush	3	< 20	± 3	± 2	**IM5140**	**$184.00**
40 x 40 x 66	26 mm nonflush	3	< 20	± 3	± 3	**IM5142**	**$184.00**

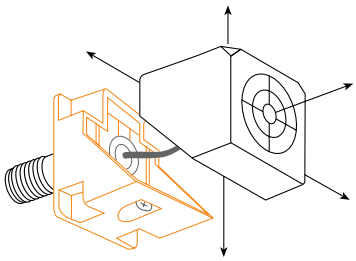
Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Limit switch adapter bracket	**U20200**	**$21.00**

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**

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



Flexible mounting options

The IMC "Cube" sensor can rotate in one of five different directions for application versatility.

Technical Specs

Supply Voltage: 15...30 V DC
Supply Current: < 20
Protection: IP67
Operating Temperature: -13...176 °F (-25...80 °C)
Max. Load Resistance: Part Nos.: IM5139 and IM5141: 500 Ω
Min. Load Resistance: Part Nos.: IM5140 and IM5142: 2000 Ω
Leakage Current: Negligible

Reliable service center

The ifm service center team provides tech support, product quotes, delivery information and order placement.

Place orders, tech support
800-441-8246

Visit our product catalog
www.ifm.com/us

Shop for products online
Easy ordering via eShop

Top product features!

- *ID and IM Series feature extended sensing ranges that reduce failure from mechanical damage and increase uptime*
- *IM Series "cube" sensing face can rotate in one of five different directions for application versatility*
- *IM "cube" easily retrofits limit switches using only half the space*
- *IM "cube" with two corner-mounted bright LEDs indicate power and switching status*
- *ID unit with terminal chamber offers convenient wiring of various lengths*

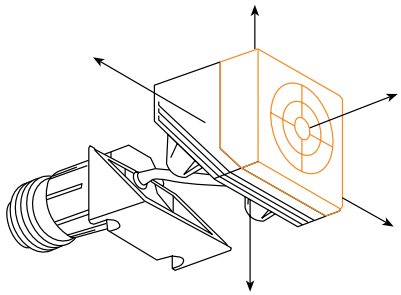
Robust rectangular sensors easily retrofit limit switches

Smaller and more robust that traditional limit switches, ifm's IM Series rectangular inductive proximity sensors feature extended sensing ranges for industrial automation applications. Both ID and IM Series sensors offer extended sensing ranges that allow them to be placed farther away from the target which provides protection against mechanical damage. Ideal for packaging lines and conveying applications, the sensors offer bright LEDs to indicate power and output.

Traditional limit switches are large with moving parts.

IM Cube is compact with no moving parts.

Application flexibility



The IM "Cube" sensor can rotate in one of five different directions for application versatility.

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V) AC/DC	Switching Frequency (Hz) AC/DC	Max Load Current (mA) AC/DC	Sensor Termination	Part No.	List Price (1-pc.)
40 x 40 x 66	20 mm flush	2	N.O.	20...140	25 / 100	450	1/2" Micro AC	**IM0055**	**$102.00**
40 x 40 x 66	35 mm nonflush	2	N.O.	20...140	25 / 100	350	1/2" Micro AC	**IM0041**	**$102.00**
40 x 40 x 120	15 mm flush	2	Programmable N.O. / N.C.	20...250	20 / 55	350 (…50°C), 250 (…80°C) / 100	1/2" NPT Terminal Chamber	**IM0020**	**$109.00**
40 x 40 x 120	20 mm nonflush	2	Programmable N.O. / N.C.	20...250	20 / 55	350 (…50°C), 250 (…80°C) / 100	1/2" NPT Terminal Chamber	**IM0013**	**$109.00**
40 x 80 x 112	50 mm flush*	2	N.O.	20...140 AC/ 10…140 DC	25	450	1/2" Micro AC	**ID0039**	**$176.00**
40 x 80 x 92	50 mm flush*	2	N.O.	20...140 AC/ 10…140 DC	25	450	7/8" Mini AC	**ID0038**	**$176.00**
40 x 80 x 105	60 mm nonflush	2	Programmable N.O. / N.C.	20...250	4	350 (…50°C), 250 (…80°C)/100	1/2" NPT Terminal Chamber	**ID0036**	**$203.00**

*When mounted nonflush, operating distance of Part Nos. ID 0039 and ID 0038 is 35 mm

Optional Accessories

Type	Description	Part No.	List Price (1-pc.)
	Limit switch adapter bracket	**U20200**	**$21.00**
	Protective Bracket for ID	**E10730**	**$12.00**

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	1/2" Micro AC (3-pin) 2 m, PVC	**E18212**	**$15.00**
	1/2" Micro AC (3-pin) 5 m, PVC	**E18213**	**$19.00**
	1/2" Micro AC (3-pin) 2 m, PVC	**E18214**	**$15.00**
	1/2" Micro AC (3-pin) 5 m, PVC	**E18215**	**$19.00**
	7/8" Mini AC (3-pin) 4 m, PVC	**W80610**	**$25.00**
	7/8" Mini AC (3-pin) 4 m, PVC	**W80632**	**$25.00**

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

Technical Specs

Protection: IP67
Operating Temp: -13...158 °F (-25...70 °C)
Leakage Current [mA]: < 1.7: Part Nos. IM0055, IM0041, ID0039, ID0038
< 2.5 (250 V AC) / < 1.3 (110 V AC) / < 0.8 (24 V DC): Part Nos. IM0020, IM0013
< 2.5 (250 V AC) / < 1.3 (110 V AC) / < 1 (24 V DC): Part No. ID0036
Housing material: PPE
Active face: PPE
End cap: diecast zinc
Connector housing: special coated brass
Bracket; diecast zinc; PPE: Part No. IM0055
Connector housing: brass
Bracket; diecast zinc: Part No. IM0041

Top product features!

- Ring and tube inductive sensors detect metal objects inside tubing
- Static and dynamic versions with extremely quick response times
- High resolution – even steel balls with 0.6 mm diameters can be detected
- Pulse stretching and sensitivity adjustable via potentiometer
- Normally open and normally closed options available in varying diameters and connection options

ifm's ring and tube inductive sensors are ideal for feeder process applications

ifm's ring and tube inductive sensors detect small metal objects that pass through tubing. These sensors are ideal for assembly automation applications that include feeder processes and parts counting. Two output versions are available: static and dynamic.

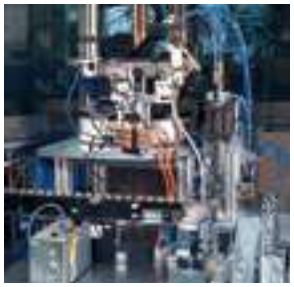
Static and dynamic operating principal

Static sensors operate like an inductive proximity sensor and generate an output signal when there is metal in the detection zone. These sensors can be used for a variety of feed applications that include detecting falling screws or monitoring for jams. Static-style sensors are also used in wire-brake detection applications.

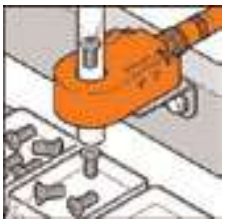
Dynamic sensors are used when very small parts with low mass or fast-moving parts need to be detected. When the sensor detects a part, it generates an output, which is adjustable from 0.1 to 150 ms. The resolution is also adjustable for the application needs and will remain stable, even in the case of metal contamination in the tube.

Ring and tube sensors with high resolution

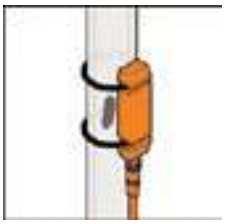
Ideal for assembly automation applications that include feeder processes and parts counting.



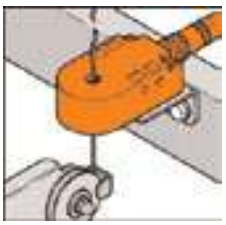
Application solutions



Ring sensor detects parts in hoses



Tube sensor detects parts in feed hose



Wire break detection

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Ring Diameter (mm)	Sensing Range (mm)	No. of Wires	Output Function	Operating Principle	Resolution Steel Ball (Ø mm)	Electrical Connection	Pulse Stretching (ms)	Response Time/ Fall Time (ms)	Part No.	List Price (1-pc.)
Ring sensors										
10.1	–	3	PNP, N.O. / N.C.	Static	1.5	M12 Micro	10...150	0.5 / 10	**I7R201**	**$188.00**
10.1	–	3	NPN, N.O. / N.C.	Static	1.5	M12 Micro	10...150	0.5 / 10	**I7R202**	**$188.00**
15.1	–	3	PNP, N.O. / N.C.	Static	2	M12 Micro	10...150	0.5 / 10	**I7R205**	**$188.00**
15.1	–	3	NPN, N.O. / N.C.	Static	2	M12 Micro	10...150	0.5 / 10	**I7R206**	**$188.00**
20.1	–	3	PNP, N.O. / N.C.	Static	2.5	M12 Micro	10...150	0.5 / 10	**I7R209**	**$188.00**
20.1	–	3	NPN, N.O. / N.C.	Static	2.5	M12 Micro	10...150	0.5 / 10	**I7R210**	**$188.00**
25.1	–	3	PNP, N.O. / N.C.	Static	3	M12 Micro	10...150	0.5 / 10	**I7R213**	**$188.00**
25.1	–	3	NPN, N.O. / N.C.	Static	3	M12 Micro	10...150	0.5 / 10	**I7R214**	**$188.00**
51	–	3	PNP, N.O. / N.C.	Static	6	M12 Micro	10...150	0.5 / 10	**I7R217**	**$262.00**
10.1	–	3	PNP, N.O. / N.C.	Dynamic	0.6	M12 Micro	0.1...150	0.2 / 0.2	**I7R203**	**$198.00**
10.1	–	3	NPN, N.O. / N.C.	Dynamic	0.6	M12 Micro	0.1...150	0.2 / 0.2	**I7R204**	**$198.00**
15.1	–	3	PNP, N.O. / N.C.	Dynamic	0.8	M12 Micro	0.1...150	0.2 / 0.2	**I7R207**	**$198.00**
15.1	–	3	NPN, N.O. / N.C.	Dynamic	0.8	M12 Micro	0.1...150	0.2 / 0.2	**I7R208**	**$198.00**
20.1	–	3	PNP, N.O. / N.C.	Dynamic	1	M12 Micro	0.1...150	0.2 / 0.2	**I7R211**	**$198`.00**
20.1	–	3	NPN, N.O. / N.C.	Dynamic	1	M12 Micro	0.1...150	0.2 / 0.2	**I7R212**	**$198.00**
25.1	–	3	PNP, N.O. / N.C.	Dynamic	1.2	M12 Micro	0.1...150	0.2 / 0.2	**I7R215**	**$188.00**
25.1	–	3	NPN, N.O. / N.C.	Dynamic	1.2	M12 Micro	0.1...150	0.2 / 0.2	**I7R216**	**$188.00**
Tube sensors										
–	14	3	PNP, N.O.	Static	3	M8 Pico	100	0.5 / 100	**I85000**	**$188.00**
–	14	3	NPN, N.O.	Static	3	M8 Pico	100	0.5 / 100	**I85001**	**$188.00**

Cordsets

Type	Description	Part No.	List Price (1-pc.)
	M8 Pico DC (3-pin) 2 m, PUR	**EVC141**	**$14.00**
	M8 Pico DC (3-pin) 5 m, PUR	**EVC142**	**$17.00**
	M8 Pico DC (3-pin) 2 m, PUR	**EVC144**	**$14.00**
	M8 Pico DC (3-pin) 5 m, PUR	**EVC145**	**$17.00**

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) 2 m, PUR	**EVC004**	**$11.00**
	M12 Micro DC (4-pin) 5 m, PUR	**EVC005**	**$15.00**

Technical Specs

Operating voltage:	10…35 VDC
Current rating:	200 mA
Current consumption:	Ring sensors: static < 11 mA; dynamic: < 20 mA Tube sensors: static < 15 mA; dynamic: < 25 mA
Voltage drop:	< 2 V
Part speed:	< 35 ms
Housing material:	Ring sensors: PA (polyamide); ring: POM Tube sensors: polycarbonate
Ambient temperature:	-13…158 °F (-25…70 °C)
Protection:	IP67

Top product features!

- Ideal for sensing non-metallic objects such as plastic, glass, wood and paper
- Robust stainless steel housing withstands harsh industrial environments
- Potentiometer enables easy sensitivity setting
- High performance PEEK sensing face
- 4-port LED for 360° visibility

Capacitive proximity sensors detect the position of non-metallic objects

Capacitive proximity sensors use non-contact sensing and solid state circuitry to ensure durability in the most aggressive environments.

In contrast to inductive sensors, which detect metallic objects, capacitive sensors can detect almost any material. They are used in the wood, paper, glass, plastic, food, and chemical industries.

Potentiometer adjustment

The sensors feature a potentiometer that adjusts the sensitivity of the sensor. This feature allows the sensor to be precisely tuned for a specific application.

Improved noise immunity

Switching power supplies, variable frequency motor drives, and high-powered communication devices are found in most industrial plants. These devices can generate high noise levels contributing to erratic sensor operation.

As a result, ifm's patented "charge balance" circuit design offers reliable noise immunity and enables ifm capacitive sensors to perform effectively in high noise level environments.

PNP to NPN converter cordset

This cordset converts PNP outputs to NPN outputs.

Part no.: EVC01E (5 meters)
List price (1-pc): $19.00

IO-Link | Position Sensors | Motion Control | Vision Sensors

Company | 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

Dimensions (mm)	Sensing Range	No. of Wires	Output Function	Supply Voltage (V DC)	Switching Frequency (Hz)	Max Load Current (mA)	Electrical Connection	Part No.	List Price (1-pc.)
M12 / L = 60	4 mm flush	3	PNP, N.O.	10...36	50	100	M12 Micro	**KF5001**	**$138.00**
M12 / L = 61	8 mm nonflush	3	PNP, N.O.	10...36	50	100	M12 Micro	**KF5002**	**$138.00**

Optional Accessories

Type	Description	Part No.	Unit Price (1-pc.)
	Quick-mount sleeve for 12 mm sensor with hex nut (M16 x 1)	**E11114**	**$13.00**
	Snap clamp for 12 mm sensor	**E11047**	**$8.00**
	L-bracket for 12 mm sensor	**U20301**	**$6.00**

Cordsets

Type	Description	Part No.	Unit 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**
	M12 Micro DC (4-pin) 2 m, PUR, LED	**EVC007**	**$13.00**
	M12 Micro DC (4-pin) 5 m, PUR, LED	**EVC008**	**$16.00**
	M12 Micro DC (4-pin) 10 m, PUR, LED	**EVC009**	**$20.00**

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

Technical Specs

Operating voltage:	10…36 VDC
Voltage drop:	2.5 V
Supply current:	< 12 mA
Operating temperature:	-13...158 °F (-25...70 °C)
Housing material:	stainless steel, PEEK
Protection:	IP65
Switchpoint drift of Sr:	± 20 %
Correction factors:	water 1, glass 0.6, ceramics 0.5, PVC 0.4