



FTMg

FLOW SENSOR WITH LEAKAGE DETECTION

Flow sensors

SICK
Sensor Intelligence.

FLOW SENSOR WITH LEAKAGE DETECTION



Product description

The FTMg thermal flowmeter measures gas flow and temperature as well as the process pressure, making it a cost-saving multi-talent. With high measurement dynamics and low pressure loss, it measures non-corrosive gases with extreme efficiency. The contrast-rich color display enables easy operation of the FTMg and allows for representation of several measured values as a process diagram.

Internal data logging over seven days and integrated static evaluation helps detect even the smallest leaks in a pneumatic systems. PoE also enables simple web-based connection to a PC or a cloud to make energy consumption more transparent. All measurement data can be transmitted via IO-Link or with switching and analog signals.

At a glance

- Measures compressed air and non-corrosive gases such as argon, helium, carbon dioxide and nitrogen
- Calorimetric measurement principle with a measurement accuracy of $\pm 3\%$ M.V. and $\pm 0.3\%$ M.E.V.
- Measurement of gas flow and temperature as well as process pressure and energy consumption with only one sensor
- Low pressure loss
- High measurement dynamics for cylinder and leakage monitoring

Your benefits

- Transparent compressed air consumption measurement according to DIN EN 50001
- Complete overview of the flow, pressure and temperature of gases increases system reliability
- IO-Link or Ethernet interfaces (communication with OPC UA) for simple system integration and data availability
- Cost savings thanks to reduced energy consumption and increase in production efficiency
- Intuitive configuration with large, contrast-rich OLED display saves time and money during commissioning
- Only one installation and commissioning process for the collection of flow, pressure and temperature data



Additional information

Detailed technical data	3
Type code	4
Ordering information	5
Dimensional drawings	5
Accessories	6

→ www.sick.com/FTMg

For more information, simply enter the link or scan the QR code and get direct access to technical data, CAD design models, operating instructions, software, application examples, and much more.



Detailed technical data

Features

	DN 15	DN 20	DN 25
Measurement principle	Calorimetric (flow, temperature), piezoresistive (pressure)		
Medium	Compressed air (air quality ISO 8573-1:2010 [3:4:4]), helium, argon, nitrogen, carbon dioxide		
Nominal width measuring tube	DN 15	DN 20	DN 25
Measuring range ¹⁾	5.3 l/min ... 1,060.3 l/min, standard measuring range 1,060.3 l/min ... 1,590.4 l/min, extended measuring range	9.4 l/min ... 1,884.9 l/min, standard measuring range 1,884.9 l/min ... 2,827.4 l/min, extended measuring range	14.7 l/min ... 2,945.2 l/min, standard measuring range 2,945.2 l/min ... 4,417.9 l/min, extended measuring range
Process temperature	-20 °C ... +60 °C		
Process pressure	0 bar ... 16 bar		
Communication interface	IO-Link V1.1 Ethernet (depending on type)		
Temperature measurement	✓		
Pressure measurement	✓		
Indication	✓ 128 x 128 pixels, adjustable rotary OLED display (90° steps) and 4 pushbuttons		

¹⁾ Reference conditions according to DIN 1343 (atmospheric pressure 1,013 mbar, compressed air temperature 0 °C).

Performance

Minimum flow velocity	≥ 0.5 m/s
Maximum flow velocity	≤ 150 m/s
Accuracy of sensor element	± 3 % from measured value + 0.3 % of the measuring range end value (standard measuring range) according to ISO 8573-1:2010 [3:4:4] ± 8 % from measured value + 1 % of the measuring range end value (extended measuring range)
Reproducibility	± 1.5 % from measured value
Response time	< 0.3 s
Temperature measurement	
Accuracy (temperature)	± +2 °C
Reproducibility (temperature)	± +0.5 °C
Pressure measurement	
Accuracy (pressure)	± 1.5 % from measuring range
Non-linearity (pressure)	± 0.5 % from measuring range
Reproducibility (pressure)	± 0.2 % from measuring range

Mechanics

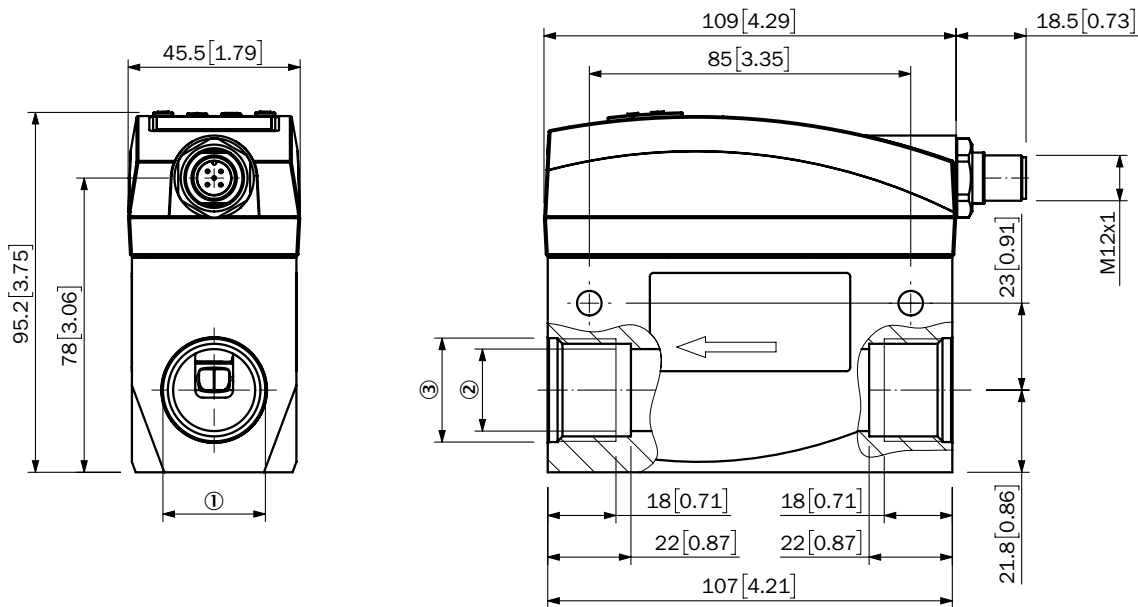
	DN 15	DN 20	DN 25
Process connection	G ½ (according to DIN ISO 228-1)	G ¾ (according to DIN ISO 228-1)	G 1 (according to DIN ISO 228-1)
Wetted parts	Stainless steel 1.4305, PA6, Viton®, aluminum		
Housing material	PC+ABS, PA66+PA6I GF50, PC, TPE, stainless steel 1.4301		
Enclosure rating	IP65/IP67 (according to IEC 60529)		
Weight	Approx. 805 g	Approx. 755 g	Approx. 685 g

Ordering information

Communication interface	Nominal width measuring tube	Process connection	Connection type	Type	Part no.
IO-Link	DN 15	G ½ (according to DIN ISO 228-1)	Round connector M12 x 1, 5-pin	FTMG-ISD15AXO	1100211
	DN 20	G ¾ (according to DIN ISO 228-1)	Round connector M12 x 1, 5-pin	FTMG-ISD20AXO	1100212
	DN 25	G 1 (according to DIN ISO 228-1)	Round connector M12 x 1, 5-pin	FTMG-ISD25AXO	1100213
Ethernet	DN 15	G ½ (according to DIN ISO 228-1)	1 x M12 round connector, 8-pin, x-coded	FTMG-ESD15AXO	1100214
	DN 20	G ¾ (according to DIN ISO 228-1)	1 x M12 round connector, 8-pin, x-coded	FTMG-ESD20AXO	1100215
	DN 25	G 1 (according to DIN ISO 228-1)	1 x M12 round connector, 8-pin, x-coded	FTMG-ESD25AXO	1100216

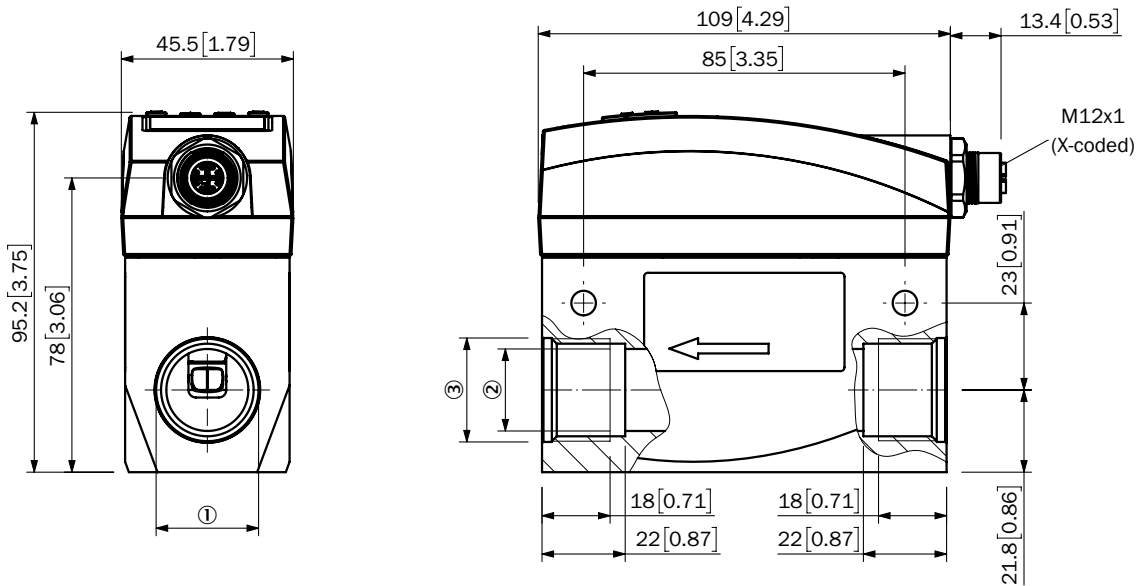
Dimensional drawings (Dimensions in mm (inch))

Industrial version, unit: mm (inch), decimal separator: period



Type	DN	1	2	3
FTMG-ISD15AXX	15	G 1/2	Ø 16.1	Ø 22
FTMG-ISD20AXX	20	G 3/4	Ø 21.7	Ø 27.5
FTMG-ISD25AXX	25	G1	Ø 27.3	Ø 33.5

Ethernet version, unit: mm (inch), decimal separator: period



Type	DN	1	2	3
FTMG-ESD15AXX	15	G 1/2	Ø 16.1	Ø 22
FTMG-ESD20AXX	20	G 3/4	Ø 21.7	Ø 27.5
FTMG-ESD25AXX	25	G 1	Ø 27.3	Ø 33.5

Accessories

Mounting systems

Other mounting accessories

Others

Brief description	Type	Part no.
One discharge pipe set for FTMg (FTMG-xxx25xxx) with process connection G1 in 1.4305	BEF-EL-G10D25-FTMG	2111054
One discharge pipe set for FTMg (FTMG-xxx15xxx) with process connection G1/2 in 1.4305	BEF-EL-G12D15-FTMG	2111050
One discharge pipe set for FTMg (FTMG-xxx20xxx) with process connection G3/4 in 1.4305	BEF-EL-G34D20-FTMG	2111052
One discharge pipe set for FTMg (FTMG-xxx25xxx) with process connection 1" NPT in 1.4305	BEF-EL-N10D25-FTMG	2111055
One discharge pipe set for FTMg (FTMG-xxx15xxx) with process connection 1/2" NPT in 1.4305	BEF-EL-N12D15-FTMG	2111051
One discharge pipe set for FTMg (FTMG-xxx20xxx) with process connection 3/4" NPT in 1.4305	BEF-EL-N34D20-FTMG	2111053


Connection systems

Power supply units and power supply cables




	Brief description	Type	Part no.
	Power supply DC 24 V / 2,1 A, adjustment range 24 V ... 28 V, input current typ. 0.77 A/ 0.44 A, mains frequency 50 Hz ... 60 Hz	Power supply unit	6022427

Modules and gateways

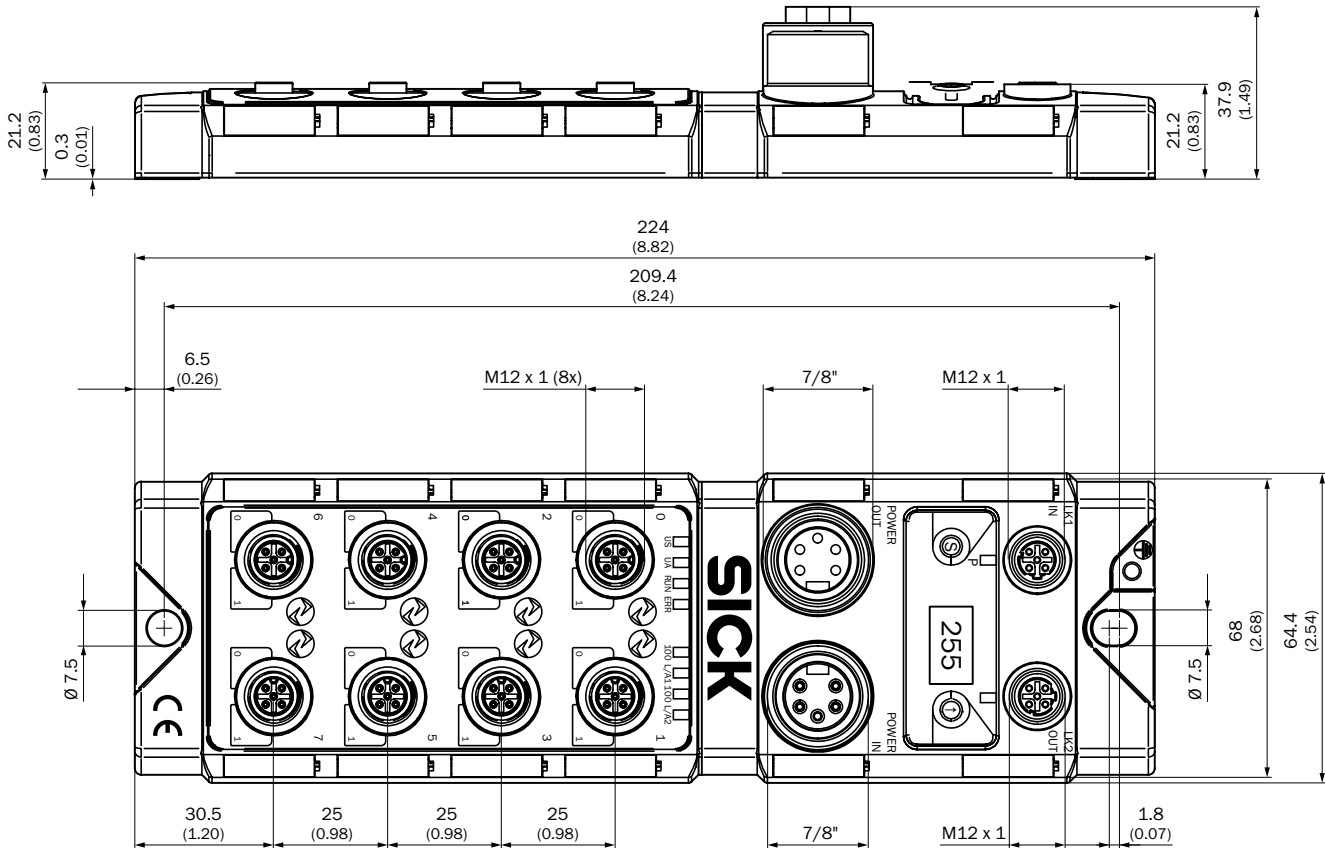
Connection modules

	Brief description	Type	Part no.
	IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A	IOLA2US-01101 (SiLink2 Master)	1061790

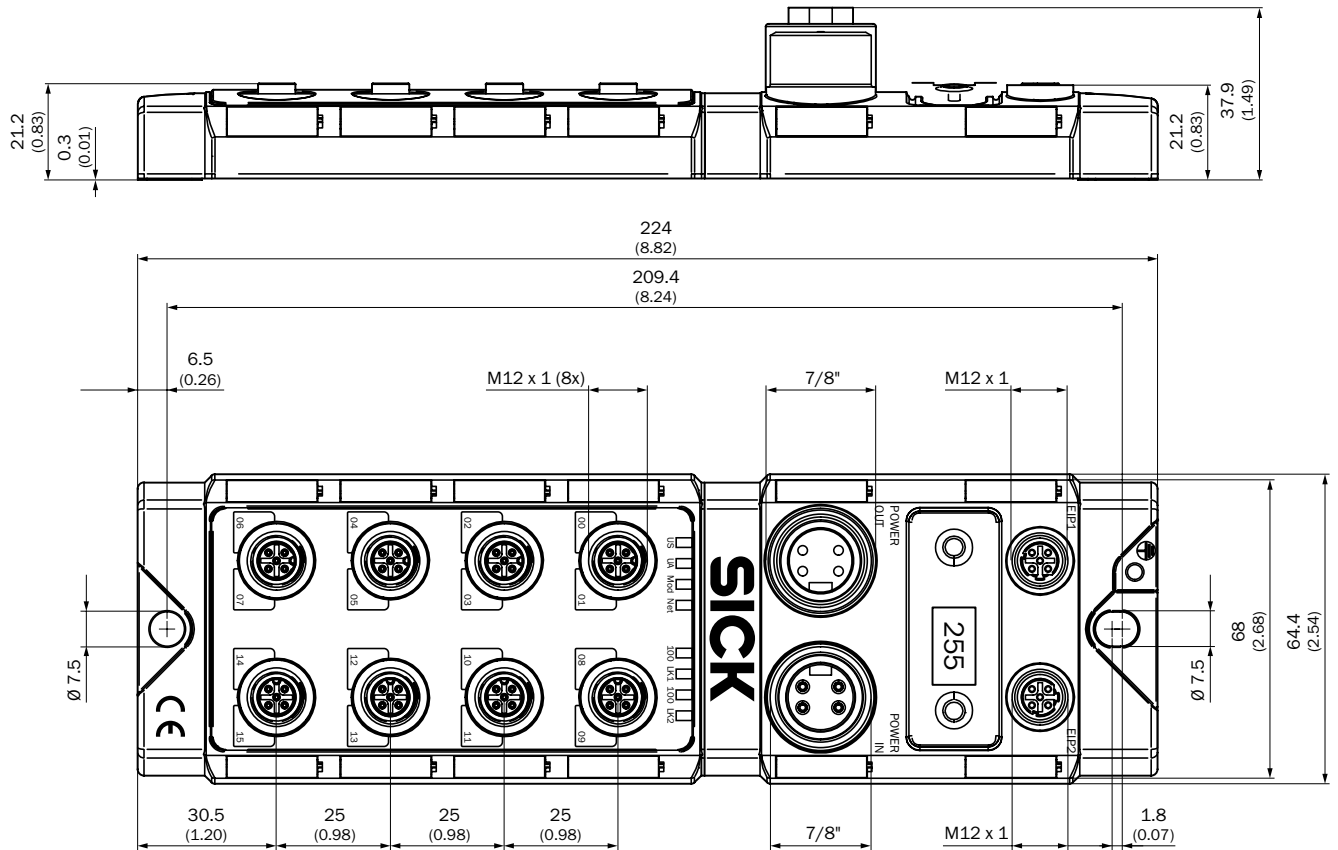
Fieldbus modules

	Brief description	Type	Part no.
 Illustration may differ	EtherCAT IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2EC-03208R01 (IO-Link Master)	6053254
 Illustration may differ	EtherNet/IP IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12-cable	IOLG2EI-03208R01 (IO-Link Master)	6053255
	PROFINET IO-Link Master, IO-Link V1.1, Port Class A, power supply via 7/8" cable 24 V / 8 A, fieldbus connection via M12 cable	IOLG2PN-03208R01 (IO-Link Master)	6053253

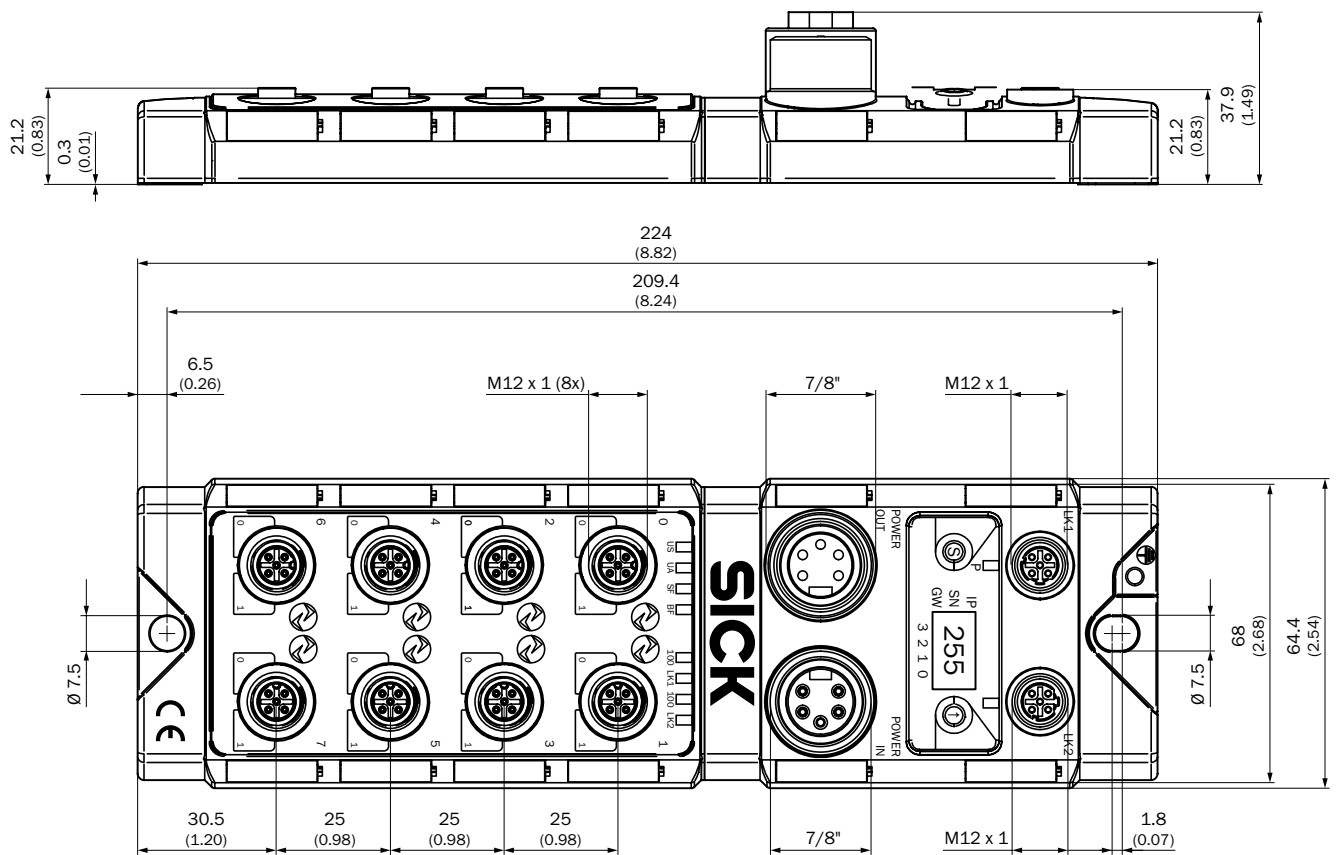
IOLG2EC-03208R01 (IO-Link Master)



IOLG2EI-03208R01 (IO-Link Master)





IOLG2PN-03208R01 (IO-Link Master)

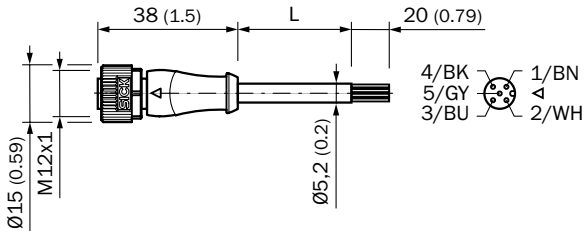


Plug connectors and cables

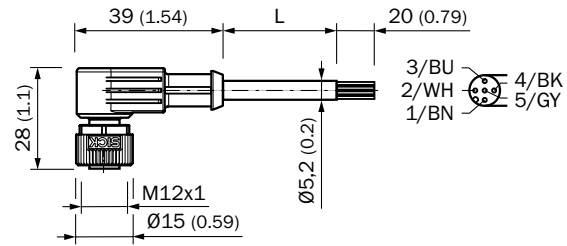
Connecting cables

	Brief description	Length of cable	Type	Part no.
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 0.34 mm ² , 5.2 mm	2 m	YF2A15-020VB5X-LEAX	2096239
		5 m	YF2A15-050VB5X-LEAX	2096240
		10 m	YF2A15-100VB5X-LEAX	2096241
		15 m	YF2A15-150VB5X-LEAX	2096242
	Head A: female connector, M12, 5-pin, angled, A-coded Head B: Flying leads Cable: Sensor/actuator cable, PVC, unshielded, 0.34 mm ² , 5.2 mm	2 m	YG2A15-020VB5X-LEAX	2096215
		5 m	YG2A15-050VB5X-LEAX	2096216



YF2A15-020VB5XLEAX
 YF2A15-050VB5XLEAX
 YF2A15-100VB5XLEAX
 YF2A15-150VB5XLEAX





YG2A15-020VB5XLEAX
 YG2A15-050VB5XLEAX

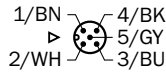
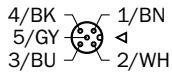
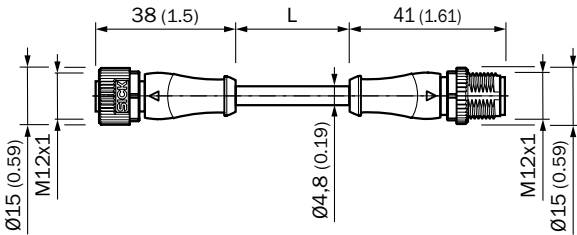


Connection cables

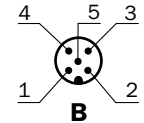
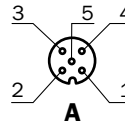
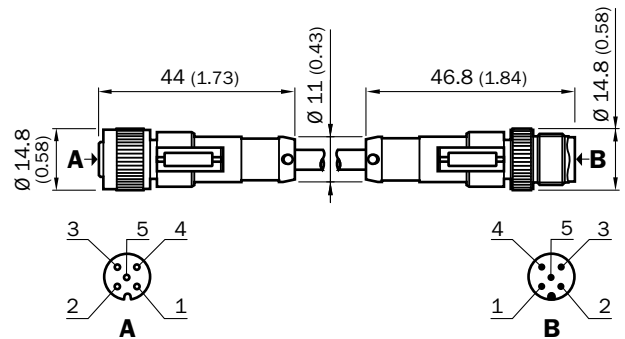
	Brief description	Length of cable	Type	Part no.
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.34 mm ² , 4.8 mm	1 m	YF2A15-010UB-5M2A15	2096007
		1.5 m	YF2A15-015UB-5M2A15	2096008
		2 m	YF2A15-020UB-5M2A15	2096009
		3 m	YF2A15-030UB-5M2A15	2104350
		5 m	YF2A15-050UB-5M2A15	2096010
		10 m	YF2A15-100UB-5M2A15	2096011
		15 m	YF2A15-150UB-5M2A15	2096171
		20 m	YF2A15-200UB-5M2A15	2095844
	Head A: female connector, M12, 5-pin, straight, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: digital I/Os, PUR, halogen-free, shielded, 5.3 mm	5 m	YF2A85-050UB-6M2A85	2096119
		10 m	YF2A85-100UB-6M2A85	2096120

	Brief description	Length of cable	Type	Part no.
	Head A: female connector, M12, 5-pin, angled with LED, A-coded Head B: male connector, M12, 5-pin, straight, A-coded Cable: Sensor/actuator cable, PUR, halogen-free, unshielded, 0.34 mm ² , 4.8 mm	2 m	YI2A15-020UB-5M2A15	2096138
	Head A: male connector, M12, 8-pin, straight, X-coded Head B: male connector, RJ45, 8-pin, straight Cable: Gigabit Ethernet, twisted pair, PUR, halogen-free, shielded, 4 x 2 x 0.14 mm ² , 6.4 mm, AWG26	1 m	YM2X18-010EG2M-RJA8	6049727
		2 m	YM2X18-020EG2M-RJA8	6049728
		5 m	YM2X18-050EG2M-RJA8	6049729
		10 m	YM2X18-100EG2M-RJA8	6049730

YF2A15-010UB5M2A15, YF2A15-015UB5M2A15, YF2A15-020UB5M2A15, YF2A15-030UB5M2A15, YF2A15-050UB5M2A15, YF2A15-100UB5M2A15, YF2A15-150UB5M2A15, YF2A15-200UB5M2A15, YF2A15-300UB5M2A15

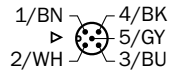
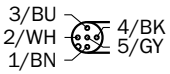
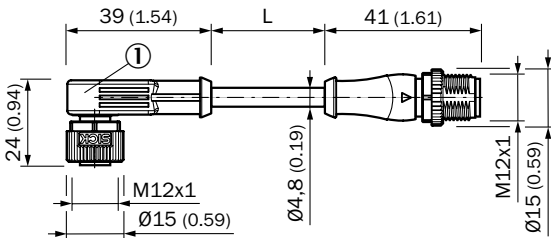


YF2A85-050UB6M2A85
YF2A85-100UB6M2A85

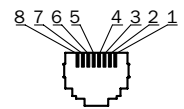
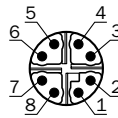
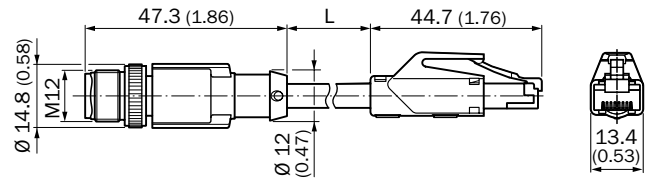


- ① brn
- ② wht
- ③ blu
- ④ blk
- ⑤ gra

YI2A15-020UB5M2A15



YM2X18-010EG2MRJA8
YM2X18-020EG2MRJA8
YM2X18-050EG2MRJA8
YM2X18-100EG2MRJA8



- ① White-orange
- ② Orange
- ③ White-green
- ④ Green
- ⑤ White-brown
- ⑥ Brown
- ⑦ White-blue
- ⑧ Blue

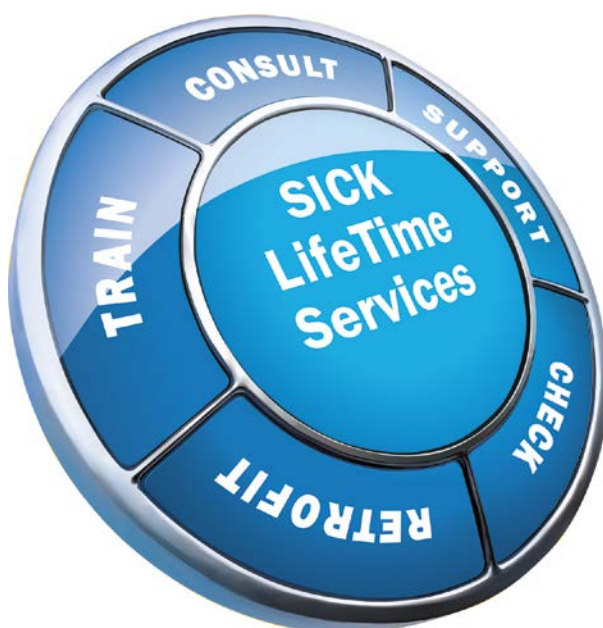
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Our comprehensive and versatile LifeTime Services are the perfect addition to the comprehensive range of products from SICK. The services range from product-independent consulting to traditional product services.



- 
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 Safe and professional
- 
Product and system support
 Reliable, fast, and on-site
- 
Verification and optimization
 Safe and regularly inspected
- 
Upgrade and retrofits
 Easy, safe, and economical
- 
Training and education
 Practical, focused, and professional

SICK AT A GLANCE

SICK is a leading manufacturer of intelligent sensors and sensor solutions for industrial applications. With more than 9,700 employees and over 50 subsidiaries and equity investments as well as numerous agencies worldwide, SICK is always close to its customers. A unique range of products and services creates the perfect basis for controlling processes securely and efficiently, protecting individuals from accidents, and preventing damage to the environment.

SICK has extensive experience in various industries and understands their processes and requirements. With intelligent sensors, SICK delivers exactly what the customers need. In application centers in Europe, Asia, and North America, system solutions are tested and optimized in accordance with customer specifications. All this makes SICK a reliable supplier and development partner.

Comprehensive services round out the offering: SICK LifeTime Services provide support throughout the machine life cycle and ensure safety and productivity.

That is “Sensor Intelligence.”

Worldwide presence:

Australia, Austria, Belgium, Brazil, Canada, Chile, China, Czech Republic, Denmark, Finland, France, Germany, Great Britain, Hungary, Hong Kong, India, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Norway, Poland, Romania, Russia, Singapore, Slovakia, Slovenia, South Africa, South Korea, Spain, Sweden, Switzerland, Taiwan, Thailand, Turkey, United Arab Emirates, USA, Vietnam.

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