



LMS111-10190

Bulkscan

FLOW SENSORS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

Type	part no.
LMS111-10190	1093274

Other models and accessories → www.sick.com/Bulkscan

Detailed technical data

Features

Measurement principle	Laser run time technology
Medium	Bulk solids
Communication interface	Serial, RS-232 USB, RS-422
Light source	Infrared (905 nm)
Laser class	1, eye-safe (IEC 60825-1:2014)
Aperture angle	190°
Scanning frequency	25 Hz 50 Hz
Bandwidth	No limit
Heating	Yes
Working range	0.5 m ... 10 m
Amount of evaluated echoes	2

Performance

Measurement accuracy	± 6 % under reference conditions and with "high" contour smoothing
Response time	20 ms, 40 ms
Average filter	0 s ... 3,600 s
Max. conveyor speed	≤ 20 m/s

Interfaces

	Serial host interface, Ethernet, Auxiliary interface
Number	1, 1, 1
Protocol	RS-232/RS-422 TCP/IP RS-232
Data transmission rate	115.2 kBaud 100 Mbit/s

	115.2 kBaud
Switching inputs	2 + Encoder
Switching outputs	3
Analog signals	Available with separate accessory BAM100
Optical indicators	5 LEDs Additional 7-segment display

Electronics

Supply voltage	10.8 V ... 30 V
Power consumption	8 W + 35 W heating (typical)
Residual ripple	± 5 %
Protection class	✓
Connection type	M12 round connector
Output signal	Ethernet Digital inputs and digital outputs USB auxiliary interface RS-232/RS-422
Enclosure rating	IP67 (IEC 60529)
MTTF	> 100 years
Switch-on peak current	2 A
Operating current scanner	≤ 0.4 A
Switch-on time	≤ 60 s

Mechanics

Weight	1.1 kg
Housing color	Gray (RAL 7032)
Dimensions	161 mm x 102 mm x 105 mm
Distance of the sensor to the bulk solid	≥ 0.5 m

Ambient data

Ambient operating temperature	-30 °C ... +50 °C
Electromagnetic compatibility (EMC)	IEC 61000-6-2:2016-08 / IEC 61000-6-3:2006-07 / EN 61000-6-2:2005 / EN 61000-6-3 / A1 2011
Ambient temperature, storage	-40 °C ... +70 °C
Ambient light immunity	40,000 lx

Certificates

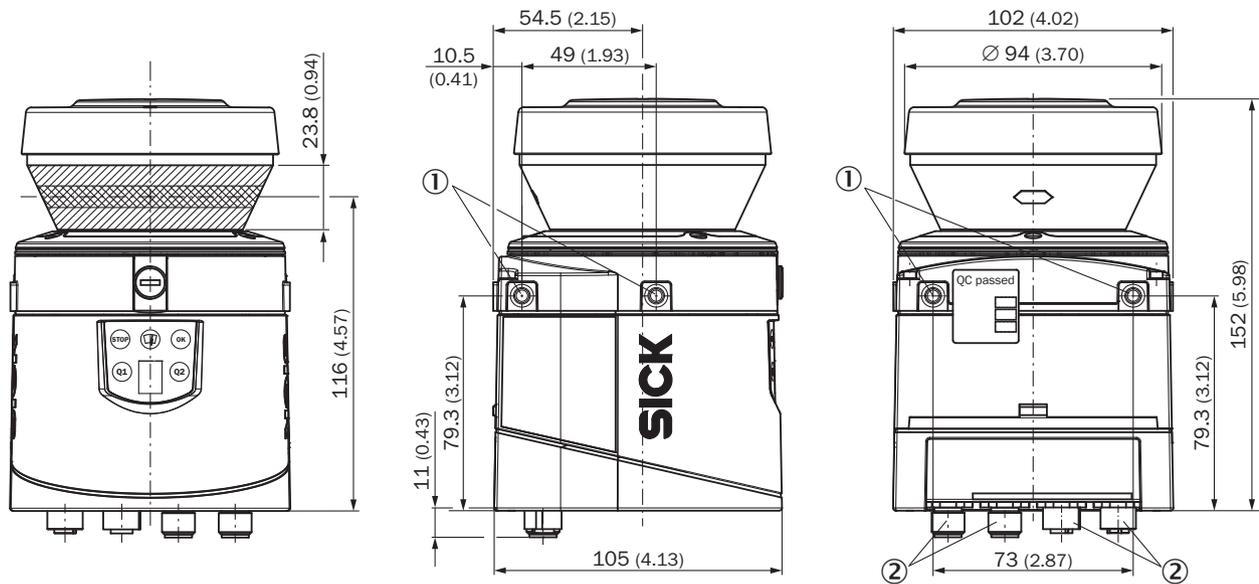
EU declaration of conformity	✓
UK declaration of conformity	✓
ACMA declaration of conformity	✓
China RoHS	✓
cTUVus certificate	✓
Information according to Art. 3 of Data Act (Regulation EU 2023/2854)	✓

Classifications

ECLASS 5.0	27200413
ECLASS 5.1.4	27200413

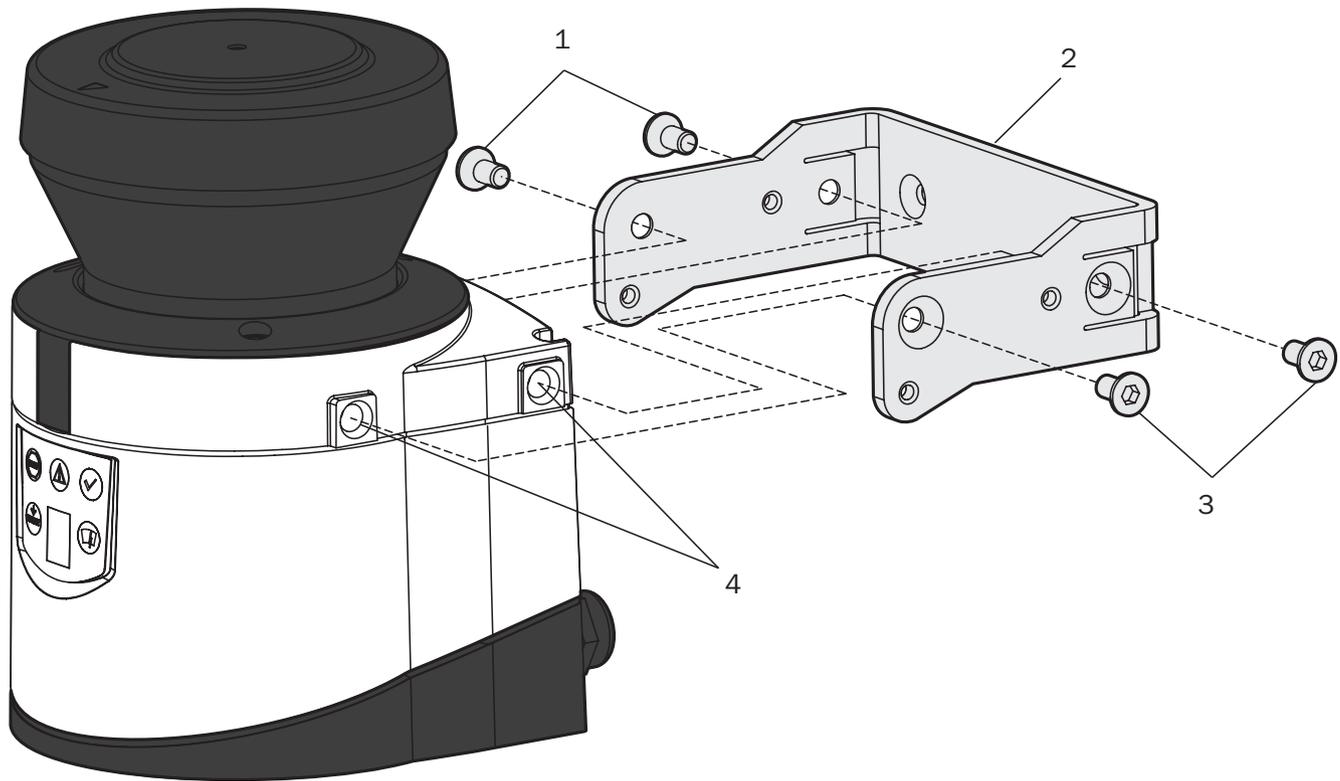
ECLASS 6.0	27200413
ECLASS 6.2	27200413
ECLASS 7.0	27200413
ECLASS 8.0	27200413
ECLASS 8.1	27200413
ECLASS 9.0	27200413
ECLASS 10.0	27200413
ECLASS 11.0	27200413
ECLASS 12.0	27200413
ETIM 5.0	EC002580
ETIM 6.0	EC002580
ETIM 7.0	EC002580
ETIM 8.0	EC002580
UNSPSC 16.0901	41112501

Dimensional drawing Bulkscan LMS111



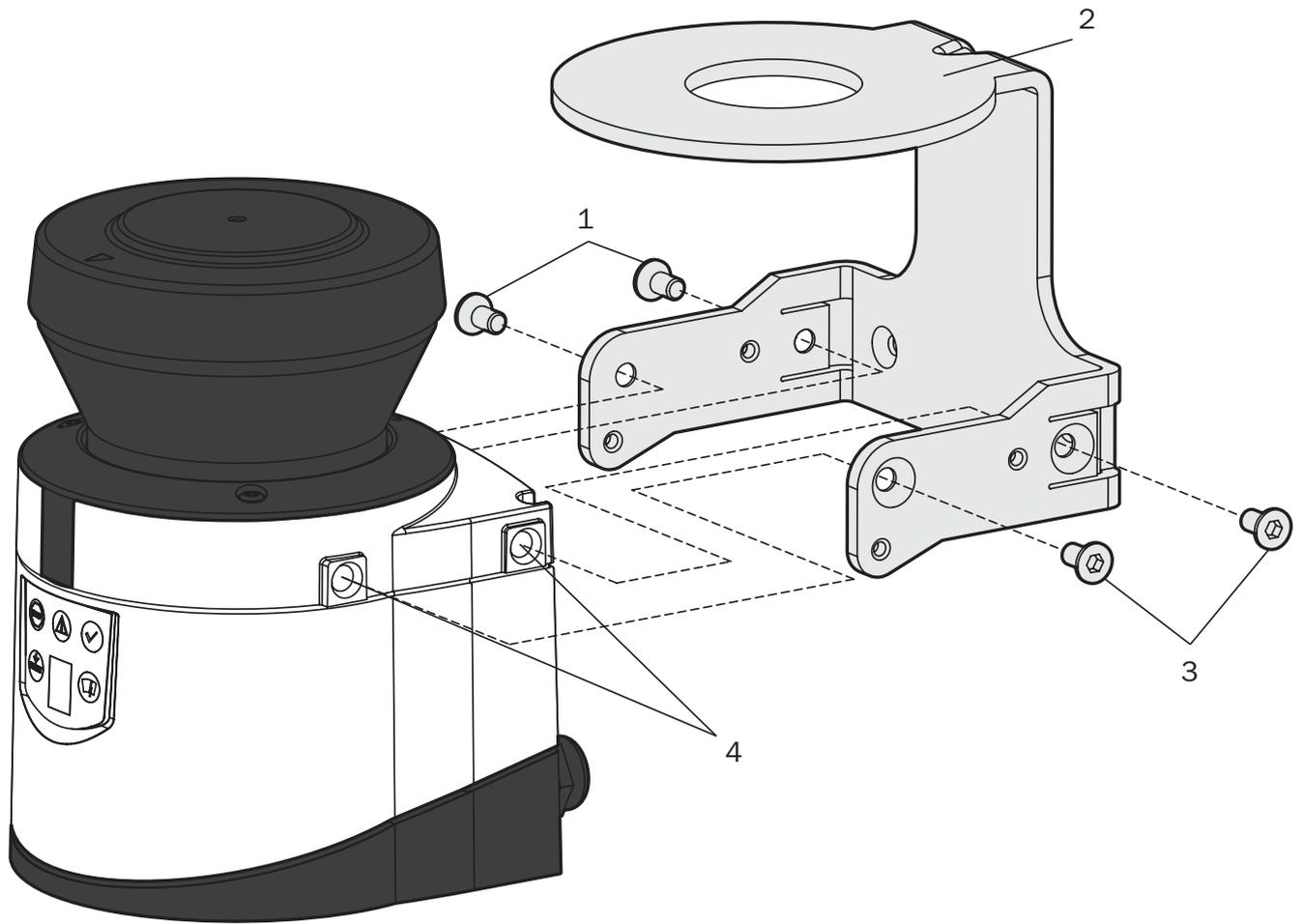
- Dimensions in mm (inch)
- ① Mounting hole M5 x 7.5
 - ② Connector M12

Instruction for installation Mounting kit 1a (2034324)



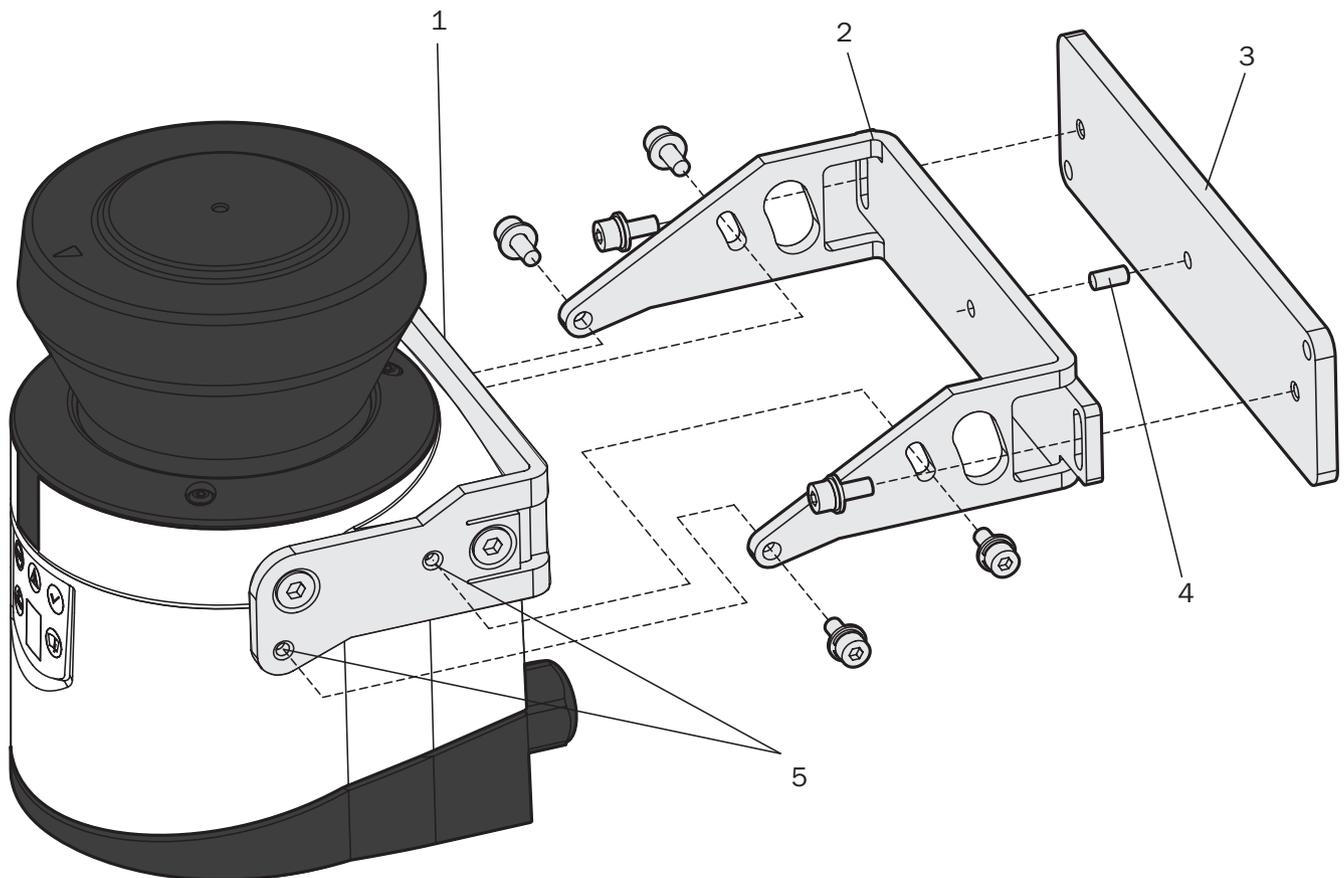
- ① Mounting screws
- ② Mounting kit 1a (2034324)
- ③ Mounting screws
- ④ threaded holes M5x8

Instruction for installation Mounting kit 1b



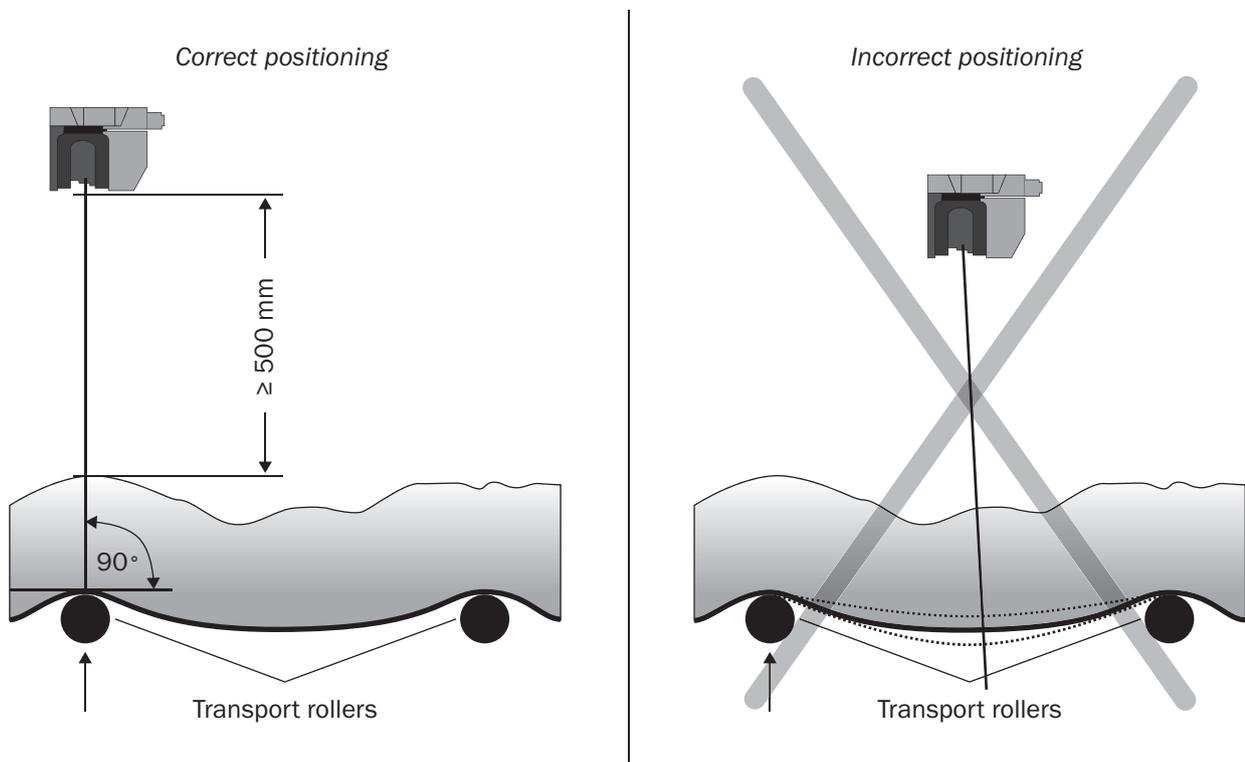
- ① Mounting screws
- ② mounting kit 1b
- ③ Mounting screws
- ④ threaded holes M5x8

Instruction for installation Mounting kit 2



- ① Mounting kit 1a (2034324)
- ② Mounting kit 2
- ③ Mounting kit 3
- ④ centring pin
- ⑤ threaded holes M4

Instruction for installation Bulkscan LMS511 / Bulkscan LMS111



Recommended accessories

Other models and accessories → www.sick.com/Bulkscan

	Brief description	Type	part no.
Mounting systems			
	<ul style="list-style-type: none"> Description: Pole bracket requires additionally adapter bracket (2059271) or mounting set (2018303) 	Mast mounting bracket	2018304
	<ul style="list-style-type: none"> Description: Strap for mast bracket (sold by meter) 	Tension strap	5306222
	<ul style="list-style-type: none"> Description: Strap lock 	Adjustable strap lock	5306221
	<ul style="list-style-type: none"> Description: Spring arm / mounting arm for DFV60 	DFV60 spring arm	2056155
	<ul style="list-style-type: none"> Description: Mounting bracket for rear mounting on wall or machine Material: Anodized aluminum Details: AlMg3 Packing unit: 1 piece Items supplied: Mounting bracket, 4 x M5 x 10 countersunk screws 	Mounting kit 1a	2034324
	<ul style="list-style-type: none"> Description: Mounting bracket for rear mounting on wall or machine with protection of optics hood Material: Anodized aluminum Details: AlMg3 Packing unit: 1 piece Items supplied: Mounting bracket, 4 x M5 x 10 countersunk screws 	Mounting kit 1b	2034325
	<ul style="list-style-type: none"> Description: Mounting bracket, adjustable lateral axis, only in conjunction with mounting kit 1a (2034324) or 1b (2034325) Material: Anodized aluminum Details: AlMg3 Packing unit: 1 piece Items supplied: Mounting bracket, 4 x M4 x 10 countersunk screws, spring ring 	Mounting kit 2	2039302
	<ul style="list-style-type: none"> Description: Mounting plate, adjustable longitudinal axis, only in conjunction with mounting kit 2 (2039302) Material: Anodized aluminum Details: AlMg3 Packing unit: 1 piece Items supplied: Mounting plate, 2 x M4 x 10 countersunk screws, spring ring 	Mounting kit 3	2039303
	<ul style="list-style-type: none"> Description: Standard mounting set for weather hood Material: Stainless steel 1.4301 (V2A) Details: Stainless steel 1.4301 (V2A) Items supplied: Mounting bracket, incl. 7 x screws with M6 x 12 washers Suitable for: 2085937, 2085938, 2085939, 2046459, 2046458, 2082563, 2082560 	Mounting bracket	2046025
	<ul style="list-style-type: none"> Description: Quick-action lock system for weather hood Material: Steel, Aluminum Suitable for: 2085937, 2085938, 2085939, 2046459, 2046458, 2082563, 2082560 	Quick release	2046989

	Brief description	Type	part no.
Power supply units and power supply cables			
	<ul style="list-style-type: none"> Output voltage: 24 V DC Output current: 10 A Description: Power supply DC 24 V / 10 A 	Power supply	6020875
device protection and care			
	<ul style="list-style-type: none"> Product family: Cleaning agents Description: Cloth for cleaning optical surfaces 	Lens cloth	4003353
	<ul style="list-style-type: none"> Description: Weather hood, 190° Material: Aluminum Items supplied: Weather hood, 190°, 3 x M5 x 12 screws Suitable for: LMS10x, LMS11x, LMS12x, LMS13x, LMS14x, LMS15x, S100 	Weather protection cover 190°	2046459

	Brief description	Type	part no.
connectors and cables			
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, RJ45, 8-pin, straight Signal type: Ethernet Cable: 20 m, 4-wire, AWG26, PUR, halogen-free Description: Ethernet, twisted pair, shielded 	YM2D24-200EA1M-RJA4	6036158
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Power Cable: 5 m, 4-wire, PUR, halogen-free Description: Power, shielded Connection systems: Flying leads 	YF2A64-050XXXLEAX	6036159
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Power Cable: 20 m, 4-wire, PUR, halogen-free Description: Power, shielded Connection systems: Flying leads Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2Z15-200UE1XLEAX	6042564
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, straight, A-coded Connection type head B: Flying leads Signal type: Power Cable: 10 m, 4-wire, PUR, halogen-free Description: Power, shielded Connection systems: Flying leads Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YF2Z15-100UE1XLEAX	6042565
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 5 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants 	YM2D24-050P-N1MRJA4	2106184
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 4-pin, straight, D-coded Connection type head B: Male connector, RJ45, 4-pin, straight Signal type: Ethernet, PROFINET Cable: 10 m, 4-wire, PUR, halogen-free Description: Ethernet, shielded, PROFINET Application: Drag chain operation, Zones with oils and lubricants 	YM2D24-100P-N1MRJA4	2106185
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Connection systems: Flying leads Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YM2A28-050UA6XLEAX	6036155
	<ul style="list-style-type: none"> Connection type head A: Male connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 10 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Connection systems: Flying leads Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation 	YM2A28-100UA6XLEAX	6036156
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: RS-232, RS-422 Cable: 10 m, 8-wire Description: RS-232, shielded, RS-422 Connection systems: Flying leads 	Connecting cable (female connector - open)	6028420
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: RS-232, RS-422 Cable: 20 m, 8-wire Description: RS-232, shielded, RS-422 Connection systems: Flying leads 	YF2A28-200UA6XLEAX	6036154

	Brief description	Type	part no.
	<ul style="list-style-type: none"> Application: Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 5 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-050UA6XLEAX	2095835
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 0.6 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-C60UA6XLEAX	2145470
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 1 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-010UA6XLEAX	2145471
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 2 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-020UA6XLEAX	2145472
	<ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Flying leads Signal type: Sensor/actuator cable Cable: 3 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, shielded Application: Drag chain operation, Zones with oils and lubricants, Robot, Drag chain operation 	YF2A28-030UA6XLEAX	2145473
integration modules and adapters			
	<ul style="list-style-type: none"> Description: BAM100 analog module for Bulkscan, by Beckhoff, 24 V DC supply voltage (-15% / + 20%), rail mounting on 35 mm C rail, according to EN 50022 with interlocking, Ethernet TCP/IP interface (RJ45), CoLa communication, 3 x IN: 4 mA ... 20 mA, 4 x OUT: 4 mA ... 20 mA 	BAM100-HE44K	2073296
Measuring wheel encoders			
	<ul style="list-style-type: none"> Measuring wheel circumference: 300 mm Measuring wheel surface: O-ring NBR70 Communication interface: 10 V ... 32 V, Incremental, HTL, Push pull Supply voltage: 10 V ... 32 V Pulses per revolution: 1,024 Connection type: Male connector, M12, 8-pin, radial Resolution in pulses/mm: 3.41 	DFV60E-22EC01024	1060308
	<ul style="list-style-type: none"> Measuring wheel circumference: 300 mm Measuring wheel surface: O-ring NBR70 Communication interface: 10 V ... 32 V, Incremental, HTL, Push pull Supply voltage: 10 V ... 32 V Pulses per revolution: 1,024 Connection type: Cable, 8-wire, universal, 1.5 m Resolution in pulses/mm: 3.41 	DFV60E-22EK01024	1060309
Incremental encoders			
	<ul style="list-style-type: none"> Mechanical design: Solid shaft face mount flange 10 mm x 19 mm (With flat) Communication interface: 10 V ... 32 V, HTL, Push pull Connection type: Cable, 8-wire, universal, 1.5 m Pulses per revolution: 1,024 	DFS60E-S4EK01024	1037534
	<ul style="list-style-type: none"> Mechanical design: Blind hollow shaft 15 mm (Front clamp) Communication interface: 10 V ... 32 V, HTL, Push pull Connection type: Male connector, M12, 8-pin, radial Pulses per revolution: 1,024 	DFS60E-BHEC01024	1036541

	Brief description	Type	part no.
Commissioning aids and test equipment			
	<ul style="list-style-type: none"> • Product: Alignment aids • Description: Alignment aid for detecting the infrared light (wavelength 780 nm to 1050 nm) of SICK sensors 	Alignment aid	2101720

SICK AT A GLANCE

SICK is one of the leading manufacturers of intelligent sensors and sensor solutions for industrial applications. 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.

We have extensive experience in a wide range of industries and understand their processes and requirements. With intelligent sensors, we can deliver exactly what our 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 us a reliable supplier and development partner.

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

For us, that is “Sensor Intelligence.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com