



# M40E-034023RB0

M4000 Advanced

**MULTIPLE LIGHT BEAM SAFETY DEVICES**

**SICK**  
Sensor Intelligence.



### Ordering information

Type	Part no.
M40E-034023RB0	1200067

Other models and accessories → [www.sick.com/M4000\\_Advanced](http://www.sick.com/M4000_Advanced)



### Detailed technical data

#### Features

<b>Scanning range</b>	0.5 m ... 70 m, configurable
<b>Low scanning range</b>	0.5 m ... 20 m
<b>Great scanning range</b>	9 m ... 70 m
<b>Number of beams</b>	3
<b>Beam separation</b>	400 mm
<b>Response time</b>	10 ms
<b>Synchronization</b>	Optical synchronisation
<b>End cap with integrated LED</b>	✓

#### Safety-related parameters

<b>Type</b>	Type 4 (IEC 61496-1)
<b>Safety integrity level</b>	SIL3 (IEC 61508) SILCL3 (EN 62061)
<b>Category</b>	Category 4 (EN ISO 13849)
<b>Performance level</b>	PL e (EN ISO 13849)
<b>PFH<sub>D</sub> (mean probability of a dangerous failure per hour)</b>	6.6 x 10 <sup>-9</sup> (EN ISO 13849)
<b>T<sub>M</sub> (mission time)</b>	20 years (EN ISO 13849)
<b>Safe state in the event of a fault</b>	At least one OSSD is in the OFF state.

#### Functions

	Functions	Delivery status
<b>Restart interlock</b>	✓	Internal
<b>External device monitoring (EDM)</b>	✓	Activated
<b>Beam coding</b>	✓	Uncoded
<b>Sender test</b>	✓	Deactivated
<b>Configurable scanning range</b>	✓	0.5 m ... 20 m
<b>Configurable application diagnostic output</b>	✓	Contamination (OWS)

	Functions	Delivery status
Safe SICK device communication via EFI	✓	
Muting	✓	

## Interfaces

<b>System connection</b>	Connection type	Hirschmann male connector M26, 12-pin
	Permitted cable length	≤ 50 m <sup>1)</sup>
	Permitted cross-section	≥ 0.75 mm <sup>2</sup>
<b>Extension connection</b>	Connection type	Male connector M12, 5-pin
<b>Configuration method</b>		PC with CDS (Configuration and Diagnostic Software)
<b>Configuration connection</b>	Connection type	Female connector M8, 4-pin
<b>Display elements</b>		LEDs 7-segment display
<b>Fieldbus, industrial network</b>	Integration via EFI gateways	CANopen, Ethernet, PROFIBUS DP, PROFIBUS PROFI-safe, PROFINET PROFI-safe <sup>2)</sup>
	Integration via Flexi Soft safety controller	CANopen, DeviceNet™, EtherCAT®, EtherNet/IP™, Modbus TCP, PROFIBUS DP, PROFINET <sup>3)</sup>

<sup>1)</sup> Depending on load, power supply and wire cross-section. The technical specifications must be observed.

<sup>2)</sup> For a suitable EFI-gateway see modules and gateways in the accessory section of connection systems.

<sup>3)</sup> For additional information on Flexi Soft -> [www.sick.com/Flexi\\_Soft](http://www.sick.com/Flexi_Soft).

## Electrical data

<b>Protection class</b>		III (IEC 61140)
<b>Supply voltage <math>V_S</math></b>		24 V DC (19.2 V DC ... 28.8 V DC) <sup>1)</sup>
<b>Residual ripple</b>		≤ 10 % <sup>2)</sup>
<b>Power consumption</b>		≤ 0.6 A <sup>3)</sup>
<b>Output signal switching devices (OSSDs)</b>	Type of output	2 PNP semiconductors, short-circuit protected, cross-circuit monitored <sup>4)</sup>
	ON state, switching voltage HIGH	24 V DC ( $V_S - 2.25$ V DC ... $V_S$ )
	OFF state, switching voltage LOW	≤ 2 V DC
	Current-carrying capacity per OSSD	≤ 500 mA
<b>Diagnostic outputs</b>	Type of output	PNP semiconductor, short-circuit protected
	ON state, switching voltage HIGH	24 V DC ( $V_S - 4.2$ V DC ... $V_S$ )
	OFF state, switching voltage LOW	High resistance
	Current-carrying capacity per OSSD	≤ 100 mA

<sup>1)</sup> The external voltage supply must be capable of buffering brief mains voltage failures of 20 ms as specified in EN 60204-1. Suitable power supplies are available as accessories from SICK.

<sup>2)</sup> Within the limits of  $V_S$ .

<sup>3)</sup> Without load.

<sup>4)</sup> Applies to the voltage range between -30 V and +30 V.

### Mechanical data

<b>Housing cross-section</b>	52 mm x 55.5 mm
<b>Housing material</b>	Aluminum alloy ALMGSI 0.5
<b>Surface treatment</b>	Powder coated
<b>Front screen material</b>	Polycarbonate, scratch-resistant coating

### Ambient data

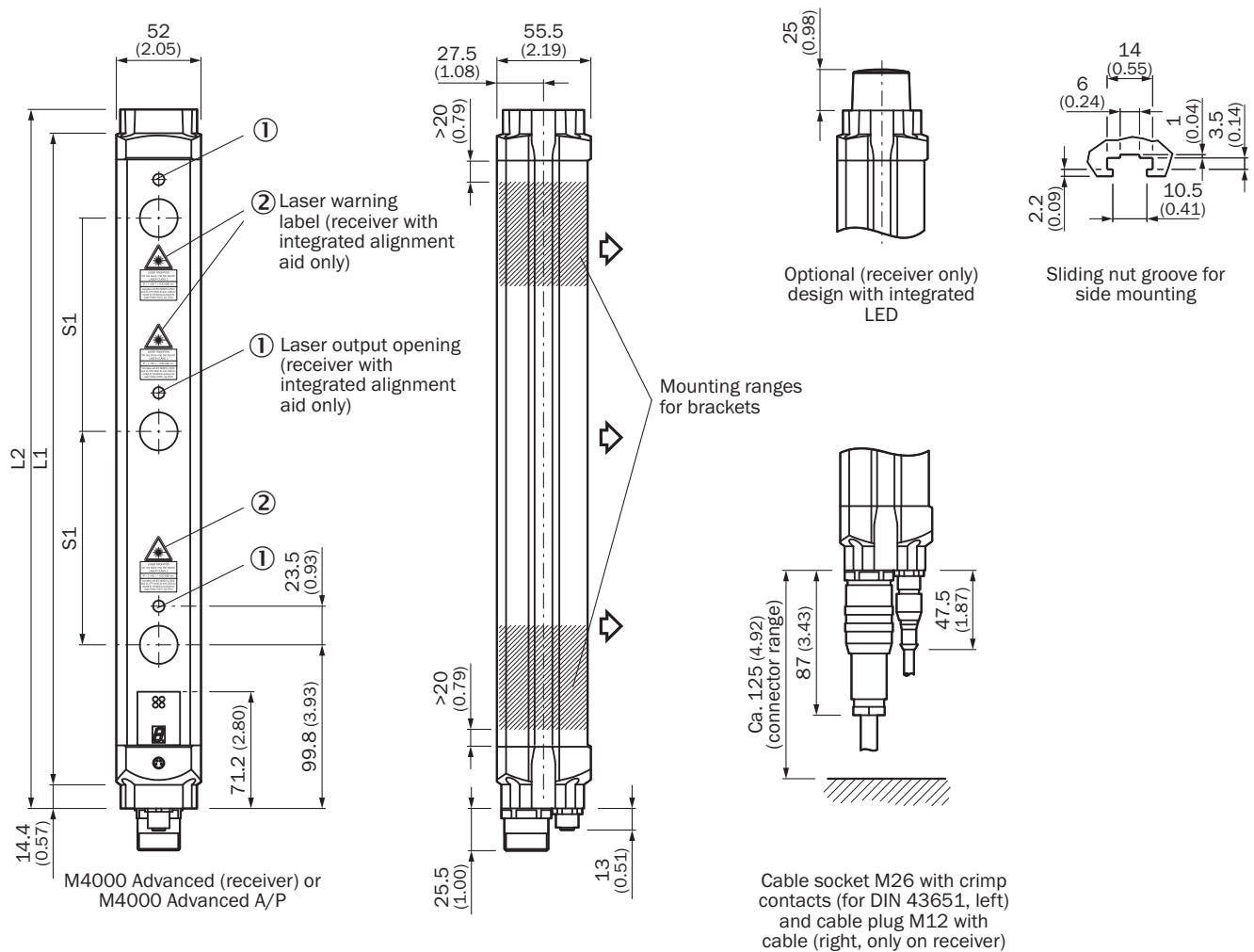
<b>Enclosure rating</b>	IP65 (EN 60529)
<b>Ambient operating temperature</b>	-30 °C ... +55 °C
<b>Storage temperature</b>	-30 °C ... +70 °C
<b>Air humidity</b>	15 % ... 95 %, Non-condensing
<b>Vibration resistance</b>	5 g, 10 Hz ... 55 Hz (IEC 60068-2-6)
<b>Shock resistance</b>	10 g, 16 ms (IEC 60068-2-29)

### Classifications

<b>ECl@ss 5.0</b>	27272703
<b>ECl@ss 5.1.4</b>	27272703
<b>ECl@ss 6.0</b>	27272703
<b>ECl@ss 6.2</b>	27272703
<b>ECl@ss 7.0</b>	27272703
<b>ECl@ss 8.0</b>	27272703
<b>ECl@ss 8.1</b>	27272703
<b>ECl@ss 9.0</b>	27272703
<b>ETIM 5.0</b>	EC001832
<b>ETIM 6.0</b>	EC001832
<b>UNSPSC 16.0901</b>	46171620

### Dimensional drawing (Dimensions in mm (inch))

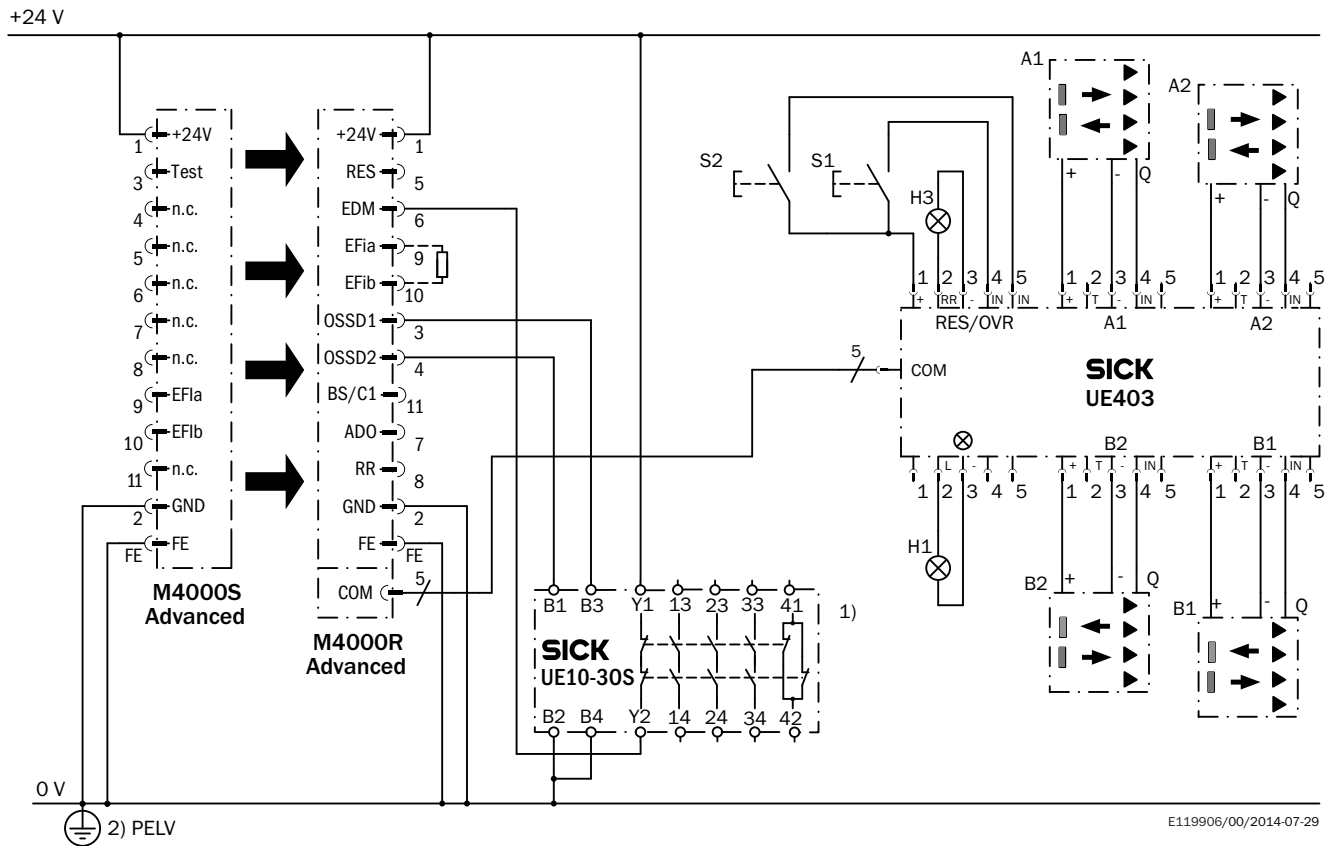
M4000 Advanced



Number of beams	Beam separation S1	L1	L2
2	500 (19.69)	643 (25.31)	672 (26.46)
	600 (23.62)	743 (29.25)	772 (30.39)
3	220 (8.66)	583 (22.95)	612 (24.09)
	400 (15.75)	943 (37.13)	972 (38.27)
	450 (17.72)	1,043 (41.06)	1,072 (42.20)
4	220 (8.66)	803 (31.61)	832 (32.76)
	300 (11.81)	1,043 (41.06)	1,072 (42.20)
5	220 (8.66)	1,023 (40.28)	1,052 (41.42)
6		1,243 (48.94)	1,272 (50.08)
7		1,462 (57.56)	1,491 (58.70)
8		1,682 (66.22)	1,711 (67.36)





### Connection diagram

M4000 Advanced with UE403 muting switching device to UE10-30S safety relay



### Recommended accessories

Other models and accessories → [www.sick.com/M4000\\_Advanced](http://www.sick.com/M4000_Advanced)

Brief description	Description	Type	Part no.
<b>Mounting brackets and plates</b>			
	4 pieces, Mounting kit 1, mounting bracket, rigid, L-shaped, including fixing screws and washers	BEF-3WNGBAST4	7021352
<b>Terminal and alignment brackets</b>			
	4 pieces, Mounting kit 6, side bracket, rotatable, Zinc diecast	BEF-1SHABAZN4	2019506
	4 pieces, Omega bracket, rotatable, fixable with only one screw, for mounting on the swivel mount, including spacer discs	BEF-2SMGEAAL4	2044846
	4 pieces, Mounting kit 12, rotatable, swivel mount	BEF-2SMGEAKU4	2030510

	Brief description	Description	Type	Part no.
<b>Plug connectors and cables</b>				
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads Cable: PVC, unshielded, 5 m		DOL-0612G05M075KM0	2022545
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads Cable: PVC, unshielded, 10 m		DOL-0612G10M075KM0	2022547
	Head A: female connector, M26, 12-pin, straight Head B: Flying leads Cable: PVC, unshielded, 20 m		DOL-0612G20M075KM0	2022549
	Head A: male connector, M8, 4-pin, straight Head B: male connector, USB-A, straight Cable: PVC, unshielded, 2 m		DSL-8U04G02M025KM1	6034574
	Head A: male connector, M8, 4-pin, straight Head B: male connector, USB-A, straight Cable: PVC, unshielded, 10 m		DSL-8U04G10M025KM1	6034575
	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, 2 m		YF2A15-020UB5M2A15	2096009
	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, 0.6 m		YF2A15-C60UB5M2A15	2096006
	Head A: female connector, M26, 12-pin, straight Cable: unshielded 12 crimping contacts enclosed		DOS-0612G000GA3KM0	6020757
	Head A: female connector, M26, 12-pin, angled Cable: unshielded 12 crimping contacts enclosed		DOS-0612W000GA3KM0	6020758
<b>Alignment aids</b>				
	Laser alignment aid for various sensors, laser class 2 (IEC 60825). Do not look into the beam!		AR60	1015741
	Adapter AR60 for M4000 and M4000 Curtain		AR60 adapter, M4000	4040006
<b>Muting accessories</b>				
	Parallel muting (2 sensors), muting sensor brackets for mounting on M4000 housing profile or device columns with external mounting grooves		Muting arm kit M4000, 2 sensors, parallel muting	2060157
	Parallel muting (2 sensors), muting sensor brackets for mounting on M4000 housing profile or device column with external mounting grooves		Muting arm kit M4000, 2 sensors, parallel muting	2060156

	Brief description	Description	Type	Part no.
Switching amplifiers				
		UE403	UE403-A0930	1026287



## 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](http://www.sick.com)