T-muting
deTem

SAFETY MULTIBEAM SENSORS

SICK
Sensor Intelligence.

Ordering information

deTem4 LT Muting A/P

	Scanning range	Number of beams	Beam sep-aration	End cap with inte-grated LED	Type	Part no.
Certificates and other downloads can be found with the components included with deliv-ery: M4M-ZA04300D20 active unit (1096014) and GL6-P0311S94 muting sensors (1102710).	3.2 m	4	300 mm	✓	T-muting	1110584

Certificates and other downloads can be found with the components included with delivery: M4M-ZA04300D20 active unit (1096014) and GL6-P0311S94 muting sensors (1102710).

Other models and accessories ➜ www.sick.com/deTem

Detailed technical data

Features

Sub product family	deTem4 LT Muting A/P
Application	Normal industrial environment
Functional principle	Active/passive
System part	Muting system
Scanning range	3.2 m
Dimension of the light path	
Typical	0.5 m ... 3.2 m
Number of beams	4
Beam separation	300 mm
Response time	20 ms
End cap with integrated LED	✓
Items supplied	Active unit Passive unit Muting arm for active unit with mounted muting sensors with cable Muting arm for passive unit with mounted reflectors 4 FlexFix brackets Safety instruction Mounting instructions Operating instructions for download

Safety-related parameters

Type	Type 4 (IEC 61496-1)
Safety integrity level	SIL 3 (IEC 61508)
Category	Category 4 (ISO 13849-1)
Performance level	PL e (ISO 13849-1)
PFH$_D$ (mean probability of a dangerous failure per hour)	6.8×10^{-9}
T$_M$ (mission time)	20 years (ISO 13849-1)
Safe state in the event of a fault	At least one OSSD is in the OFF state.

Functions

Beam coding	✓
Restart interlock	✓
Differentiation between man and material (muting)	✓
Type of human-material differentiation	T muting
C1 muting release	✓
Concurrence monitoring	✓
Monitoring of total muting time	✓
Sensor gap monitoring	✓
Muting with override	✓
Exit monitoring	✓
Entry and exit monitoring	✓
End of muting by ESPE	✓

Interfaces

System connection	Male connector M12, 8-pin
Connection for reset/override pushbutton	Female connector M12, 5-pin
Connection for muting sensor	2 × female connector, M12, 5-pin
Configuration method	Hard wired
Display elements	LEDs
Alignment aid	Alignment quality via diagnostic LEDs
End cap with integrated LED	✓
Application diagnostic output (ADO)	✓
Near Field Communication (NFC)	✓

Electrical data

Protection class	III (IEC 61140) [1]
Supply voltage V$_S$	24 V DC (19.2 V DC … 28.8 V DC) [2]
Residual ripple	≤ 10 % [3]
Power consumption typical	7 W (DC)

[1] SELV/PELV safety/protective extra-low voltage.

[2] 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.

[3] Within the limits of V$_S$.

[4] Applies to the voltage range between –30 V and +30 V.

Output signal switching devices (OSSDs)	2 PNP semiconductors, short-circuit protected, cross-circuit monitored [4]
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
Application diagnostic output (ADO)	PNP semiconductor, short-circuit protected [4]
Output voltage HIGH (active)	≥ V_S – 3 V
Output voltage LOW (deactivated)	High resistance
Current loading	≤ 100 mA

[1] SELV/PELV safety/protective extra-low voltage.

[2] 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.

[3] Within the limits of V_S.

[4] Applies to the voltage range between –30 V and +30 V.

Mechanical data

Dimensions	See dimensional drawing

Ambient data

Enclosure rating	IP65 (IEC 60529) IP67 (IEC 60529)
Ambient operating temperature	–30 °C … +55 °C
Storage temperature	–30 °C … +70 °C
Air humidity	15 % … 95 %, Non-condensing
Vibration resistance	5 g, 10 Hz … 55 Hz (IEC 60068-2-6)
Shock resistance	10 g, 16 ms (IEC 60068-2-27)

Other information

Type of light	Near-infrared (NIR), invisible

Classifications

ECLASS 5.0	27272703
ECLASS 5.1.4	27272703
ECLASS 6.0	27272703
ECLASS 6.2	27272703
ECLASS 7.0	27272703
ECLASS 8.0	27272703
ECLASS 8.1	27272703
ECLASS 9.0	27272703
ECLASS 10.0	27272703
ECLASS 11.0	27272703
ECLASS 12.0	27272703
ETIM 5.0	EC001832
ETIM 6.0	EC001832
ETIM 7.0	EC001832
ETIM 8.0	EC001832
UNSPSC 16.0901	46171620

Dimensional drawing (Dimensions in mm (inch))

T muting, passive
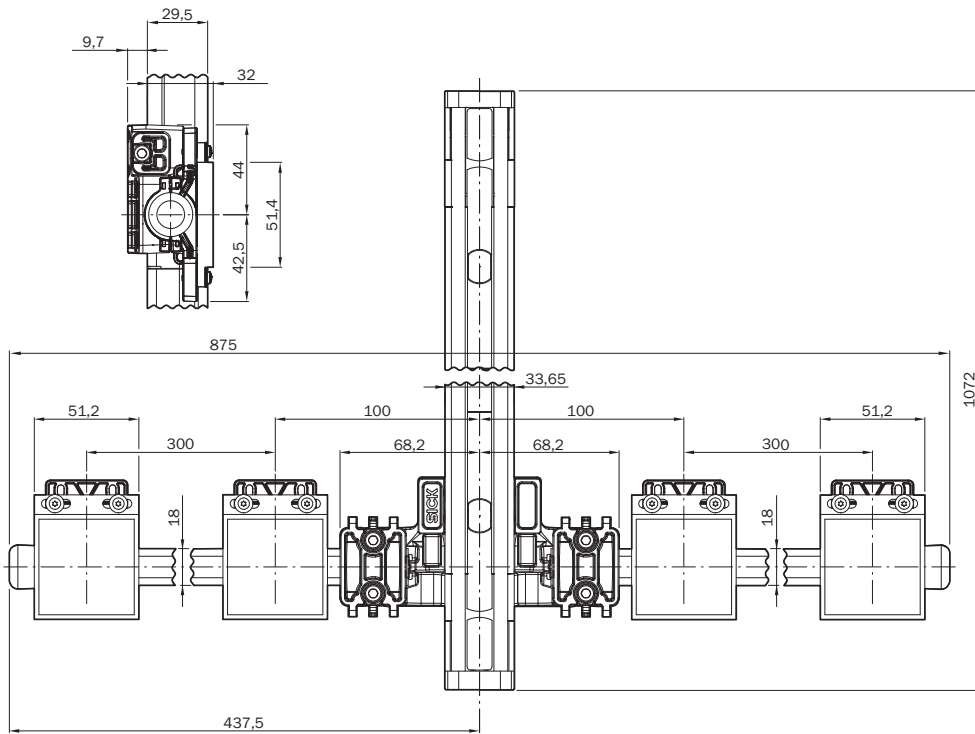
T muting, active
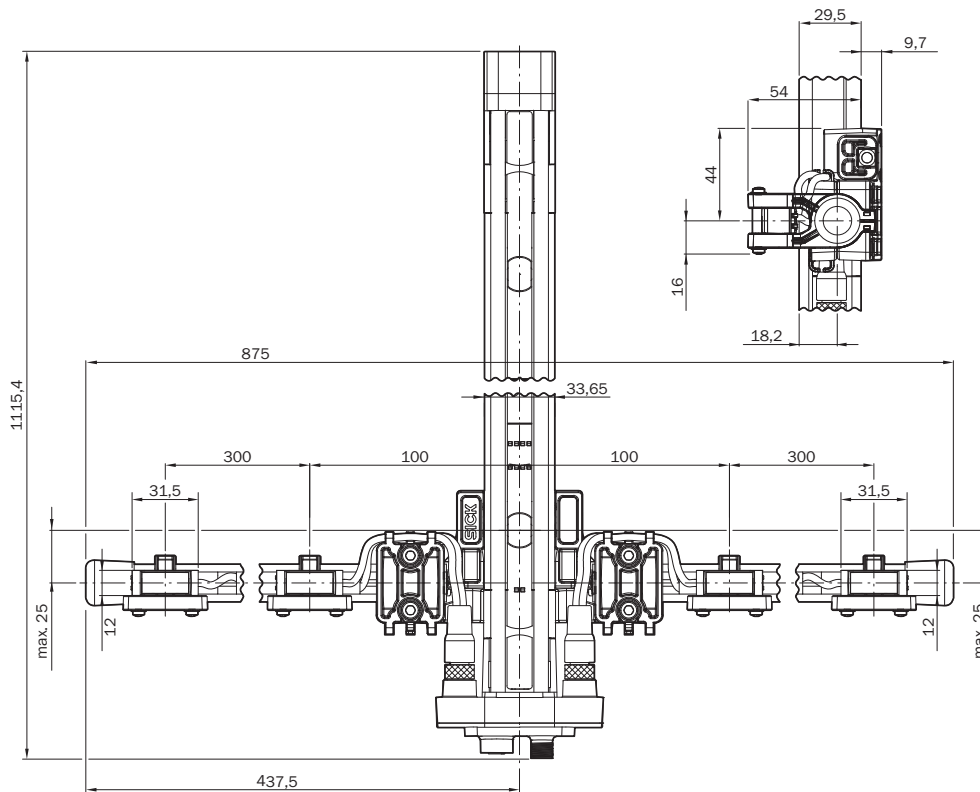
Recommended accessories

Other models and accessories ➜ www.sick.com/deTem

	Brief description	Type	Part no.
Terminal and alignment brackets			
	4 pieces, FlexFix bracket for 2 devices (e.g. sender and receiver), can be aligned ± 15°, including M5 screw, plastic	BEF-1SHABPKU4	2066614
Others			
	• **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, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A18-020UA5XLEAX	2095652
	• **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, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A18-050UA5XLEAX	2095653
	• **Connection type head A:** Female 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, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A18-100UA5XLEAX	2095654
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 5-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 2 m, 5-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A15-020UB5M2A15	2096009
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 5-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 5 m, 5-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A15-050UB5M2A15	2096010
	• **Connection type head A:** Female connector, M12, 5-pin, straight, A-coded • **Connection type head B:** Male connector, M12, 5-pin, straight, A-coded • **Signal type:** Sensor/actuator cable • **Cable:** 10 m, 5-wire, PUR, halogen-free • **Description:** Sensor/actuator cable, unshielded • **Application:** Uncontaminated zones, Zones with oils and lubricants, Robot, Drag chain operation	YF2A15-100UB5M2A15	2096011

Brief description	Type	Part no.
Reset pushbuttons and multiple pushbuttons		
• **Switch type:** Reset pushbutton • **N/O contacts:** 1 • **Connection type Detail:** Plug connector, M12, 5-pin • **Suitable for muting applications (with UE403):** no • **Suitable for reset/override applications (with deTec4):** yes • **Suitable for muting applications (with DMM4):** yes • **Items supplied:** Including retaining clip, "RESET" cover and "RESET/OVERRIDE" cover	ER12-SB3C5	6045316
Safety switching amplifier		
• **Applications:** Evaluation unit • **Compatible sensor types:** Safety sensors with OSSDs • **Connection type:** Front connector with spring terminals • **Restart interlock:** yes • **External device monitoring (EDM):** Integrated • **Outputs:** 2 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe) • **Housing width:** 18 mm	RLY3-OSSD200	1085344
• **Applications:** Evaluation unit • **Compatible sensor types:** Safety sensors with OSSDs • **Connection type:** Front connector with spring terminals • **Restart interlock:** yes • **External device monitoring (EDM):** Integrated • **Outputs:** 3 enabling current paths (safe), 2 application diagnostic outputs (not safe), 1 test pulse output (not safe) • **Housing width:** 18 mm	RLY3-OSSD300	1099969

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."

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