



M2C-EA04300A10

deTem

SAFETY MULTIBEAM SENSORS

SICK
Sensor Intelligence.



Ordering information

deTem2 Core

| Number of beams | Beam separation | System part | Type | Part no. |
|-----------------|-----------------|-------------|----------------|----------|
| 4 | 300 mm | Receiver | M2C-EA04300A10 | 1085570 |

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

Illustration may differ



Detailed technical data

Features

| | |
|-----------------------------|------------------------------------------------------------------------------------------------|
| Application | Normal industrial environment |
| Functional principle | Sender/receiver |
| System part | Receiver |
| Number of beams | 4 |
| Beam separation | 300 mm |
| Response time | 20 ms |
| Synchronization | Optical synchronisation |
| Items supplied | Receiver Safety instruction Mounting instructions Operating instructions for download |

Safety-related parameters

| | |
|---------------------------------------------------------------------------|----------------------------------------|
| Type | Type 2 (IEC 61496-1) |
| Safety integrity level | SIL 1 (IEC 61508) |
| Category | Category 2 (ISO 13849-1) |
| Performance level | PL c (ISO 13849-1) |
| PFH_D (mean probability of a dangerous failure per hour) | 3×10^{-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. |

Interfaces

| | |
|------------------------------------------|---------------------------|
| System connection | Male connector M12, 5-pin |
| Flexi Loop compatible M12 male connector | ✓ |
| Permitted cable length | 50 m |
| Display elements | LEDs |

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 | $\leq 10\%$ ³⁾ |
| Power consumption | ≤ 150 mA |
| Power consumption | ≤ 4.32 W (DC) |
| 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 | ≤ 300 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 |
| Housing cross-section | 31 mm x 34 mm |
| Material | |
| Housing | Aluminum extruded profile |
| Front screen | Polycarbonate, scratch-resistant coating |
| Weight | 880 g (± 50 g) |
| Cable bend radius | |
| Stationary position | > 12 x cable diameter |
| Flexible use | > 15 x cable diameter |

Ambient data

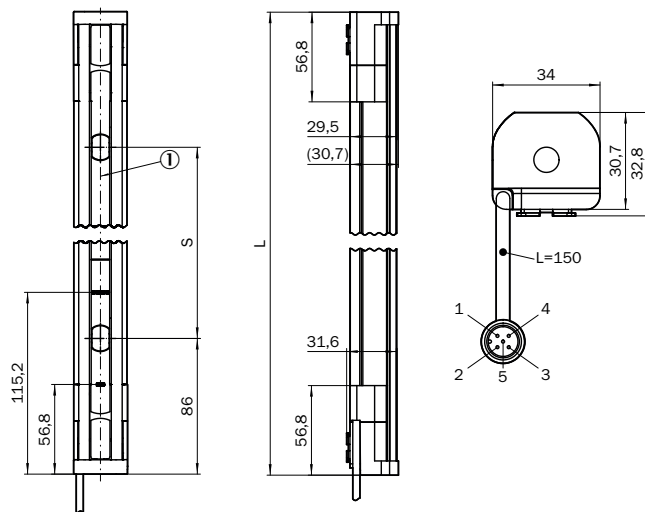
| | |
|--------------------------------------|--------------------------------------|
| Enclosure rating | IP65 (IEC 60529) IP67 (IEC 60529) |
| Ambient operating temperature | -30 °C ... +55 °C |
| Storage temperature | -30 °C ... +70 °C |
| Air humidity | 15 % ... 95 %, Non-condensing |
| Vibration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

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))








① Optical axis

| Number of beams | Beam separation S | Length L |
|-----------------|-------------------|--------------|
| 2 | 500 (19.69) | 672 (26.46) |
| 3 | 400 (15.75) | 972 (38.27) |
| 4 | 300 (11.81) | 1,072 (42.2) |

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 $\pm 15^\circ$, including M5 screw, plastic | BEF-1SHABPKU4 | 2066614 |
|  | 4 pieces, QuickFix bracket for 2 devices (e.g. sender and receiver), plastic | BEF-3SHABPKU4 | 2098710 |

| | Brief description | Type | Part no. |
|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
| Others | | | |
|  | <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: Sensor/actuator cable • Cable: 2 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A15-020UB5XLEAX | 2095617 |
|  | <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: Sensor/actuator cable • Cable: 5 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A15-050UB5XLEAX | 2095618 |
|  | <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: Sensor/actuator cable • Cable: 10 m, 5-wire, PUR, halogen-free • Description: Sensor/actuator cable, unshielded • Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A15-100UB5XLEAX | 2095619 |
|  | <ul style="list-style-type: none"> • 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: Zones with oils and lubricants, Drag chain operation, Robot | YF2A15-020UB5M2A15 | 2096009 |
|  | <ul style="list-style-type: none"> • 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: Zones with oils and lubricants, Drag chain operation, Robot | YF2A15-050UB5M2A15 | 2096010 |
|  | <ul style="list-style-type: none"> • 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: Zones with oils and lubricants, Drag chain operation, Robot | YF2A15-100UB5M2A15 | 2096011 |
| Safety switching amplifier | | | |
|  | <ul style="list-style-type: none"> • 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 |
|  | <ul style="list-style-type: none"> • 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.”

WORLDWIDE PRESENCE:

Contacts and other locations –www.sick.com