



C4P-PA12031S002

deTec

SAFETY LIGHT CURTAINS

SICK
Sensor Intelligence.



Illustration may differ

Ordering information

| Note | Resolution | Scanning range | Protective field height | System part | Type | Part no. |
|--------------------------------|------------|----------------|-------------------------|-------------|-----------------|----------|
| System plug 1000 pre-assembled | 30 mm | 30 m | 1,200 mm | Set | C4P-PA12031S002 | 1116164 |

Included in delivery: C4P-EA12031CA0 (1), C4P-SA12031AA0 (1), BEF-1SHABPKU4S09 (1), C-Fix bracket (1), FlexFix adapter plate (1), T-connector with pushbutton for laser alignment aid, M12, 5-pin (1)

System plug 1000 pre-assembled

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



Detailed technical data

Features

| | |
|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Sub product family | deTec4 |
| Application | Normal industrial environment |
| System part | Set |
| Resolution | 30 mm |
| Scanning range | 30 m |
| Protective field height | 1,200 mm |
| Response time | 12 ms (Uncoded) 20 ms (code 1 or code 2) |
| No blind zones | Yes |
| Synchronization | Optical synchronisation |
| Integrated laser alignment aid | ✓ |
| Items supplied | Sender System plug 1000 Receiver 4 FlexFix brackets 2 protective caps M12 for female connector Test rod with diameter corresponding to the resolution of the safety light curtain 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) | 15.3 x 10 ⁻⁹ |
| Single device | |
| T_M (mission time) | 20 years (ISO 13849-1) |

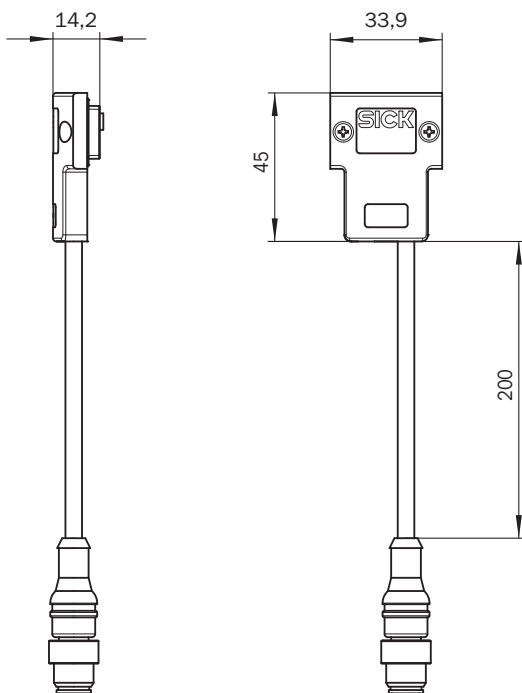
| | |
|---------------------------------------------------------------------------|--------------------------------------------------------------------------------------|
| Safe state in the event of a fault | At least one OSSD is in the OFF state. |
| Functions | |
| Protective operation | ✓ |
| Automatic calibration of the protective field width | ✓ |
| Beam coding | ✓ |
| Interfaces | |
| System connection | Male connector M12, 5-pin |
| Length of cable | 200 mm |
| Cable diameter | 5 mm |
| Extension connection | - |
| Configuration method | DIP switch on system plug |
| Display elements | LEDs |
| Display of the synchronization status of the upper and lower beams | ✓ |
| Near Field Communication (NFC) | ✓ |
| Electrical data | |
| Protection class | III (IEC 61140) |
| Supply voltage V_S | 24 V DC (19.2 V ... 28.8 V) |
| Ripple | ≤ 10 % |
| Output signal switching devices (OSSDs) | |
| Type of output | 2 PNP semiconductors, short-circuit protected, cross-circuit monitored ¹⁾ |
| 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 |
| ¹⁾ Applies to the voltage range between -30 V and +30 V. | |
| Mechanical data | |
| Dimensions | See dimensional drawing |
| Housing material | Aluminum extruded profile |
| 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 | |
| Wave length | 850 nm |
| Type of light | Near-infrared (NIR), invisible |
| Integrated laser alignment aid | ✓ |

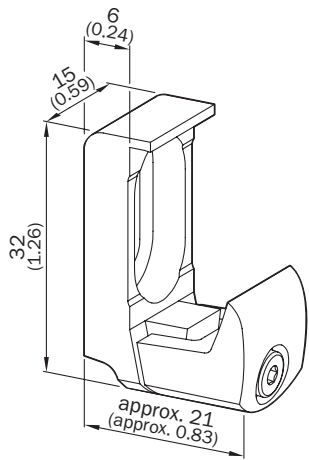
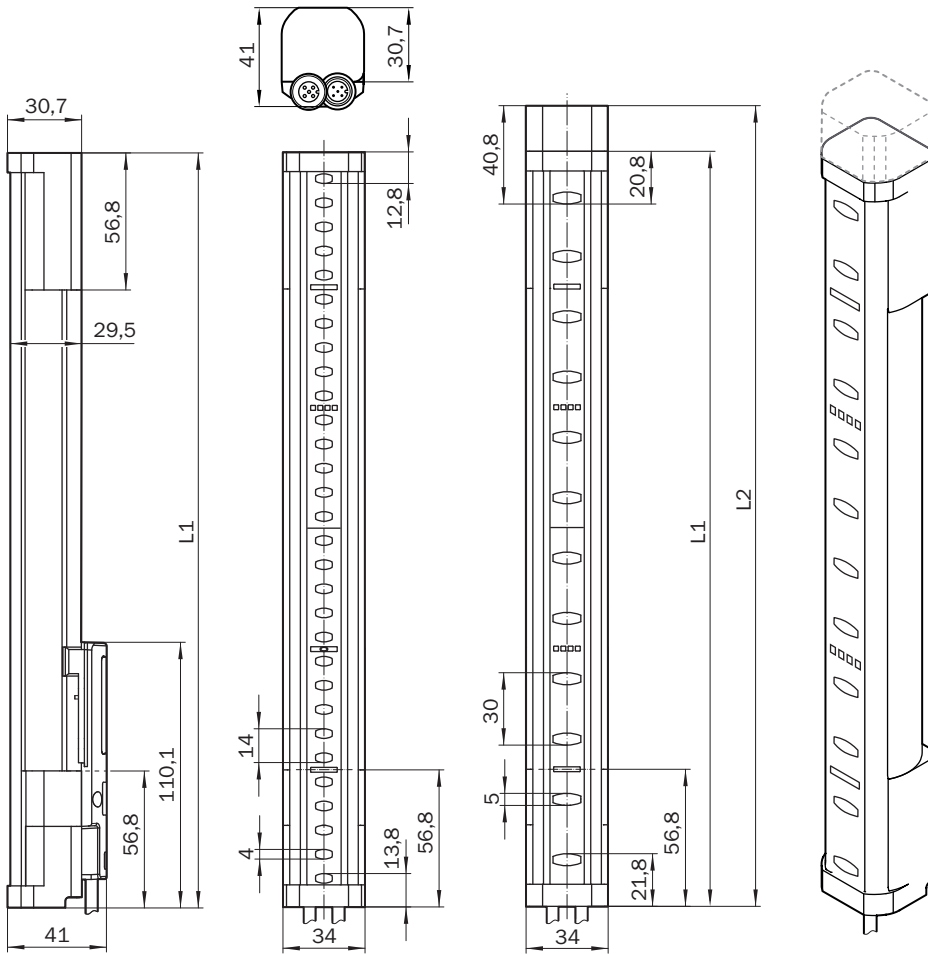
| | |
|---------------|-------------------|
| Laser class | 1 |
| Wave length | 650 nm |
| Type of light | Visible red light |

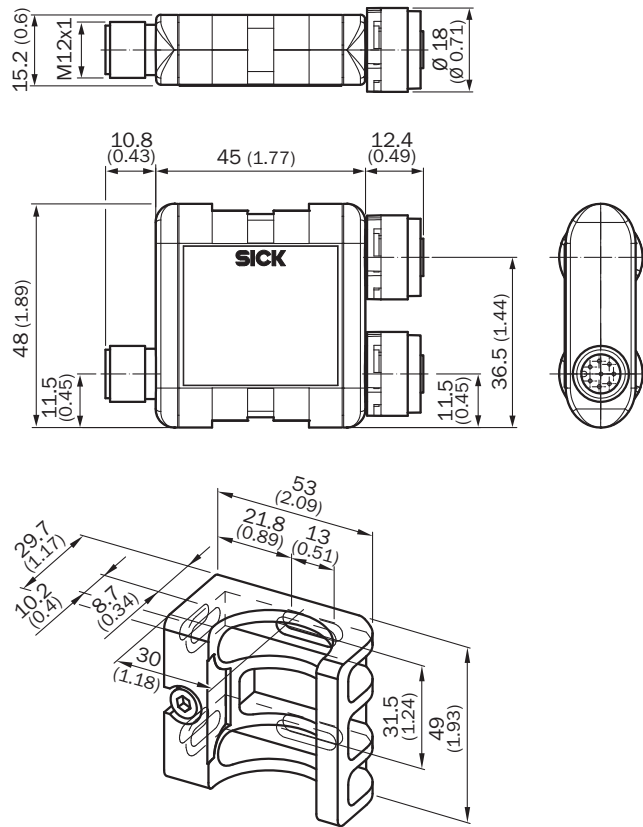
Classifications

| | |
|-----------------------|----------|
| ECLASS 5.0 | 27272704 |
| ECLASS 5.1.4 | 27272704 |
| ECLASS 6.0 | 27272704 |
| ECLASS 6.2 | 27272704 |
| ECLASS 7.0 | 27272704 |
| ECLASS 8.0 | 27272704 |
| ECLASS 8.1 | 27272704 |
| ECLASS 9.0 | 27272704 |
| ECLASS 10.0 | 27272704 |
| ECLASS 11.0 | 27272704 |
| ECLASS 12.0 | 27272704 |
| ETIM 5.0 | EC002549 |
| ETIM 6.0 | EC002549 |
| ETIM 7.0 | EC002549 |
| ETIM 8.0 | EC002549 |
| UNSPSC 16.0901 | 46171620 |

Dimensional drawing (Dimensions in mm (inch))

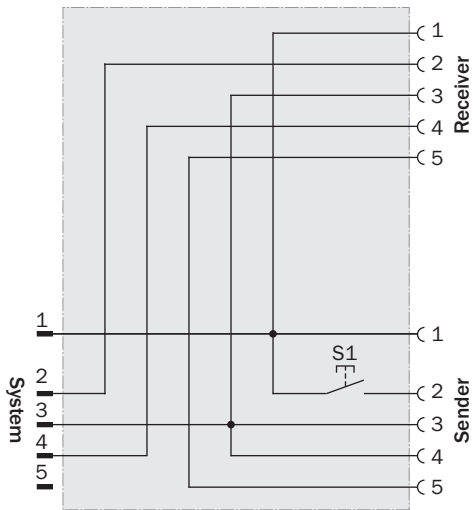




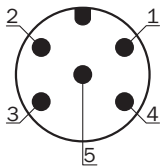


| Protective field height | L1 | L2 |
|-------------------------|---------------|---------------|
| 300 (11.81) | 313 (12.32) | 332 (13.07) |
| 450 (17.72) | 463 (18.23) | 482 (18.98) |
| 600 (23.62) | 613 (24.13) | 632 (24.88) |
| 750 (29.53) | 763 (30.04) | 782 (30.79) |
| 900 (35.43) | 913 (35.94) | 932 (36.69) |
| 1,050 (41.34) | 1,063 (41.85) | 1,082 (42.6) |
| 1,200 (47.24) | 1,213 (47.75) | 1,232 (48.5) |
| 1,350 (53.15) | 1,362 (53.62) | 1,381 (54.37) |
| 1,500 (59.06) | 1,512 (59.53) | 1,531 (60.28) |
| 1,650 (64.96) | 1,662 (65.43) | 1,681 (66.18) |
| 1,800 (70.87) | 1,812 (71.34) | 1,831 (72.09) |
| 1,950 (76.77) | 1,962 (77.24) | 1,981 (77.99) |
| 2,100 (82.68) | 2,112 (83.15) | 2,131 (83.9) |

Pin assignment



deTec4 system connection





| Pin | Sender | Receiver |
|-----|-----------------------------------|----------|
| 1 | +24 V DC | +24 V DC |
| 2 | In2 Laser alignment aid button | OSSD1 |
| 3 | 0 V DC | 0 V DC |
| 4 | In1 Laser alignment aid switch | OSSD2 |
| 5 | MFP1 | MFP1 |

For details see operating instructions

Recommended accessories


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

| | Brief description | Type | Part no. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------|----------|
| Connection modules | | | |
|  | IO-Link V1.1 Class A port, USB2.0 port, optional external power supply 24V / 1A | IOLA2US-01101 (SiLink2 Master) | 1061790 |
|  | Connector for connecting an IO-Link master and up to 2 muting sensors to a safety light curtain or a multiple light beam safety device | IO-Link connector | 2092757 |

| | Brief description | Type | Part no. |
|-------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
|  | Connector for connecting 2 muting sensors and a muting lamp to a safety light curtain or a multiple light beam safety device | Muting connector | 2092758 |
| Muting accessories | | | |
|  | Sensor bracket G6 and P250 | BEF-2KHAAAKU1 | 2113145 |
|  | Universal holder for round steel arms and muting arms, for mounting sensors or reflectors | BEF-KHS-N01 | 2044953 |
|  | Muting arm bracket | Muting arm bracket | 2106455 |
|  | Muting arm, long | Muting arm, long | 2111923 |
|  | Muting arm, short | Muting arm, short | 2111924 |
| Distributors | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 5-pin, A-coded Connection type head B: Male connector, M12, 5-pin, A-coded Connection type head C: Female connector, M12, 5-pin, A-coded Description: T-piece for simultaneous connection to sender and receiver, splits the cable from the control cabinet to the sender and receiver Note: 5-pin | DSC-1205T000025KM0 | 6030664 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, A-coded Connection type head B: Female connector, M12, 8-pin, A-coded Connection type head C: Male connector, M12, 8-pin, A-coded Description: T-distributor for simultaneous connection to sender and receiver, splits the cable from the control cabinet between the sender and receiver Note: 8-pin | DSC-1208T000025KM0 | 6058647 |
| Reflectors | | | |
|  | Rectangular, screw connection, 51 mm x 61 mm, PMMA/ABS, Screw-on, 2 hole mounting | P250 | 5304812 |
| 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 |
|  | <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 |

| | Brief description | Type | Part no. |
|-------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|----------|
|  | <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, 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: Zones with oils and lubricants, Drag chain operation, Robot | YF2A18-050UA5XLEAX | 2095653 |
|  | <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: 10 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A18-100UA5XLEAX | 2095654 |
|  | <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 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Male connector, M12, 8-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 2 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A18-020UA5M2A18 | 2096033 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Male connector, M12, 8-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 5 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A18-050UA5M2A18 | 2096034 |
|  | <ul style="list-style-type: none"> Connection type head A: Female connector, M12, 8-pin, straight, A-coded Connection type head B: Male connector, M12, 8-pin, straight, A-coded Signal type: Sensor/actuator cable Cable: 10 m, 8-wire, PUR, halogen-free Description: Sensor/actuator cable, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A18-100UA5M2A18 | 2096035 |
|  | <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, unshielded Application: Zones with oils and lubricants, Drag chain operation, Robot | YF2A18-020UA5XLEAX | 2095652 |

| | Brief description | Type | Part no. |
|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|
| Photoelectric sensors | | | |
| | GL10-P4151 | GL10-P4151 | 1069860 |
| | GL6-P0211S49 | GL6-P0211S49 | 1070568 |
| | GTB10-P4411S01 | GTB10-P4411S01 | 1066852 |
| | GTB6-P7441S56 | GTB6-P7441S56 | 1077541 |
| Safety switching amplifier | | | |
|  | <ul style="list-style-type: none"> • Applications: Output expansion module for OSSDs • Compatible sensor types: Safety sensors with OSSDs • Connection type: Front connector with spring terminals • Restart interlock: no • External device monitoring (EDM): Via path • Outputs: 2 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe) • Housing width: 18 mm | RLY3-OSSD100 | 1085343 |
|  | <ul style="list-style-type: none"> • Applications: Output expansion module for OSSDs • Compatible sensor types: Safety sensors with OSSDs • Connection type: Front connector with spring terminals • Restart interlock: no • External device monitoring (EDM): Via path • Outputs: 4 enabling current paths (safe), 1 feedback current path (for use as external device monitoring, not safe), 1 signaling current path (not safe) • Housing width: 28 mm | RLY3-OSSD400 | 1099971 |
| SP1 system plug | | | |
|  | <ul style="list-style-type: none"> • System plug: SP1 • Connection type: Male connector M12, 5-pin • Extension connection: – | 1000 | 2076832 |
|  | <ul style="list-style-type: none"> • System plug: SP1 • Connection type: Male connector M12, 5-pin • Extension connection: Female connector M12, 5-pin | 1100 | 2076833 |
|  | <ul style="list-style-type: none"> • System plug: SP1 • Connection type: Male connector M12, 8-pin • Extension connection: – | 1200 | 2076834 |
|  | <ul style="list-style-type: none"> • System plug: SP1 • Connection type: Male connector M12, 8-pin • Extension connection: Female connector M12, 5-pin | 1300 | 2076835 |
| Sensor Integration Gateway | | | |
|  | <ul style="list-style-type: none"> • Further functions: Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions • Connection CONFIG: 1 x M8, 4-pin female connector, USB 2.0 (USB-A) • Logic editor: yes • Communication interface: IO-Link, USB, Ethernet, PROFINET, REST API • Product category: IO-Link Master | SIG200-0A0412200 | 1089794 |
|  | <ul style="list-style-type: none"> • Description: The SIG200 Sensor Integration Gateway is an IO-Link master with 4 configurable ports through which the IO-Link devices or standard inputs or standard outputs can be connected to a PLC or cloud application using the REST API. • Further functions: Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions • Connection CONFIG: 1 x M8, 4-pin female connector, USB 2.0 (USB-A) • Logic editor: yes • Communication interface: IO-Link, USB, Ethernet, EtherNet/IP™, REST API • Product category: IO-Link Master | SIG200-0A0512200 | 1089796 |

| | Brief description | Type | Part no. |
|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|----------|
|  | <ul style="list-style-type: none">• Further functions: Web server integrated, USB connection for easy configuration of the SIG200 Sensor Integration Gateway with SOPAS ET, the engineering tool from SICK, logic editor is available for easy configuration of logic functions• Connection CONFIG: 1 x M8, 4-pin female connector, USB 2.0 (USB-A)• Logic editor: yes• Communication interface: IO-Link, USB, Ethernet, REST API• Product category: IO-Link Master | SIG200-0A0G12200 | 1102605 |

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:

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