



S30A-4011DA

S3000 Professional

SAFETY LASER SCANNERS

SICK
Sensor Intelligence.



Illustration may differ



Ordering information

| Type | Part no. |
|-------------|----------|
| S30A-4011DA | 1028936 |

The system plug has to be ordered separately. For details, see "Accessories, plug connectors and cables".

Other models and accessories → www.sick.com/S3000_Professional

Detailed technical data

Features

| | |
|--|--|
| Model | Sensor without system plug |
| Application | Indoor |
| Protective field range | 4 m |
| Warning field range | 49 m (20 m at 20 % reflectivity) |
| Distance measuring range | 49 m |
| Number of simultaneously monitored protective fields | ≤ 4 ¹⁾ |
| Type of field set | Triple field sets, dual field sets |
| Number of field sets | 8 |
| Number of fields | 24 |
| Number of monitoring cases | 16 |
| Scanning angle | 190° |
| Resolution (can be configured) | 30 mm, 40 mm, 50 mm, 70 mm, 150 mm |
| Angular resolution | 0.5°, 0.25°, depending on range and resolution |
| Response time | 60 ms ²⁾ |
| Protective field supplement | 100 mm |
| Number of multiple samplings | 2 ... 16, configurable |
| Delay of automatic reset | 2 s ... 60 s, configurable |

¹⁾ If several protective fields are monitored simultaneously, the shut-off signals must be connected to safe outputs on a Flexi Soft safety controller or routed via a safe EFI gateway.

²⁾ Depending on basic response time and multiple sampling.

Safety-related parameters

| | |
|------|--------------------|
| Type | Type 3 (IEC 61496) |
|------|--------------------|

| | |
|---|--|
| Safety integrity level | SIL 2 (IEC 61508) |
| Category | Category 3 (EN ISO 13849) |
| Performance level | PL d (EN ISO 13849) |
| PFH_D (mean probability of a dangerous failure per hour) | 8.0×10^{-8} |
| T_M (mission time) | 20 years (EN ISO 13849) |
| Safe state in the event of a fault | At least one OSSD is in the OFF state. |

Functions

| | |
|---|------------|
| Restart interlock | ✓ |
| External device monitoring (EDM) | ✓ |
| Multiple sampling | ✓ |
| Monitoring case switching | ✓ |
| Simultaneous monitoring | ✓ |
| Static protective field switching | ✓ |
| Dynamic protective field switching | ✓ |
| Contour as a reference | ✓ |
| Integrated configuration memory | ✓ |
| Measured data output | Via RS-422 |
| Safe SICK device communication via EFI | ✓ |

Electrical data

| | |
|---|--|
| Protection class | II (EN 50178) |
| Supply voltage V_s | 24 V DC (16.8 V DC ... 28.8 V DC) |
| Power consumption | $\leq 0.8 \text{ A}^{1)}$ $\leq 2.3 \text{ A}^{2)}$ |
| Outputs | |
| Output signal switching devices (OSSDs) | 2 x 500 mA |
| Application diagnostic outputs | 3 x 100 mA ³⁾ |

¹⁾ At 24 V DC without output load.

²⁾ At 24 V DC including maximum output load.

³⁾ Freely programmable, e.g. warning field, contamination, reset required.

Mechanical data

| | |
|------------------------------------|--|
| Dimensions (W x H x D) | 155 mm x 185 mm x 160 mm |
| Weight | 3.3 kg |
| Housing material | Aluminum die cast |
| Housing color | RAL 1021 (yellow) |
| Front screen material | Polycarbonate |
| Front screen surface finish | Outside with scratch-resistant coating |

Ambient data

| | |
|--------------------------------------|-------------------|
| Enclosure rating | IP65 (EN 60529) |
| Ambient operating temperature | -10 °C ... +50 °C |
| Storage temperature | -25 °C ... +50 °C |

| | |
|-----------------------------|---|
| Vibration resistance | IEC 60068-2-6, IEC 60068-2-64, IEC 60721-3-5, IEC TR 60721-4-5, IEC 61496-3 |
| Class | 5M1 (IEC 60721-3-5) |
| Shock resistance | IEC 60068-2-27, IEC 60721-3-5, IEC TR 60721-4-5, IEC 61496-3 |
| Class | 5M1 (IEC 60721-3-5) |
| Continuous shock | 50 m/s², 11 ms 100 m/s², 16 ms |

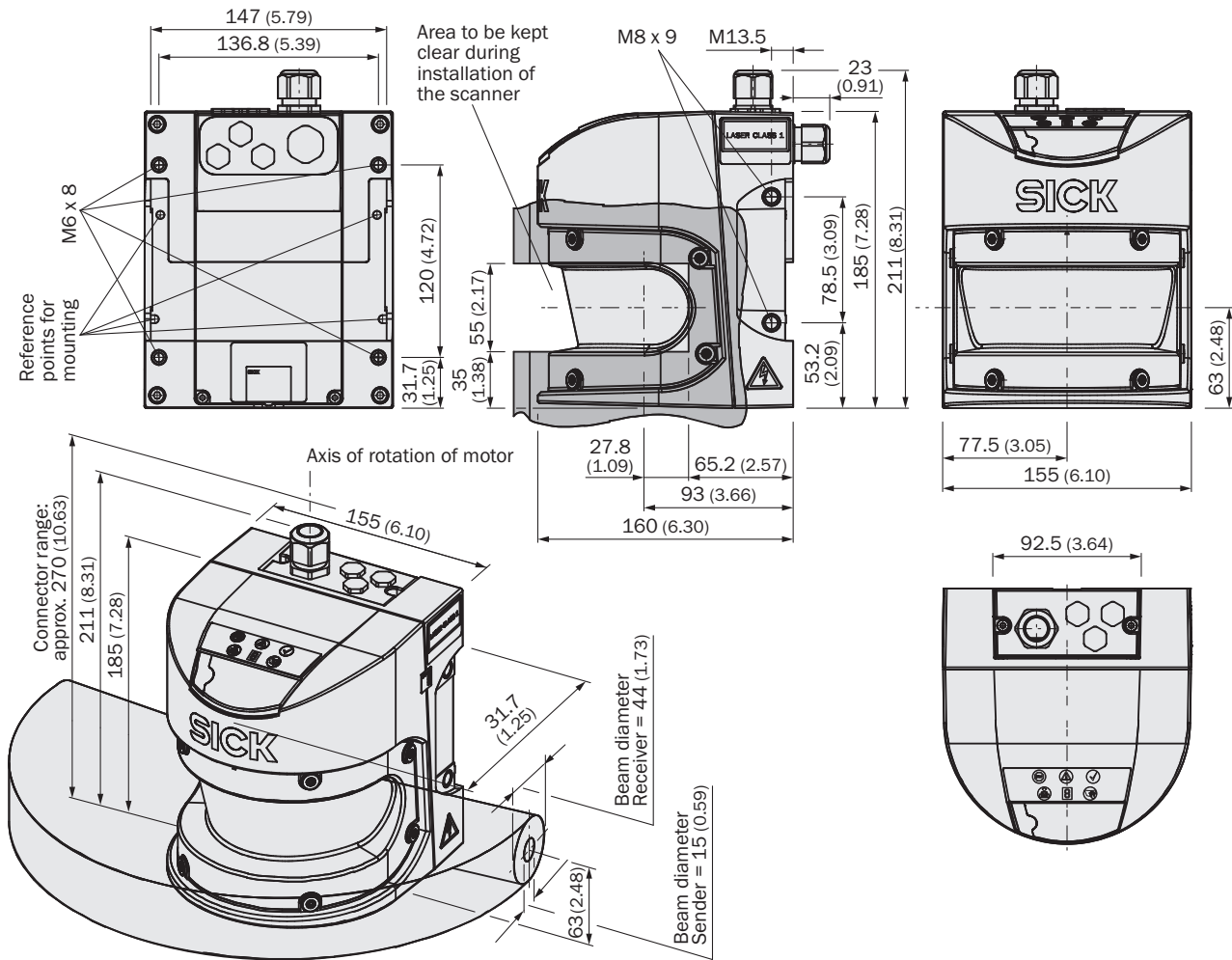
Other information

| | |
|------------------------------------|---|
| Type of light | Pulsed laser diode |
| Wave length | 905 nm |
| Detectable remission factor | 1.8 % ... > 1,000 %, reflectors |
| Laser class | 1 (21 CFR 1040.10 and 1040.11, IEC 60825-1) |

Classifications

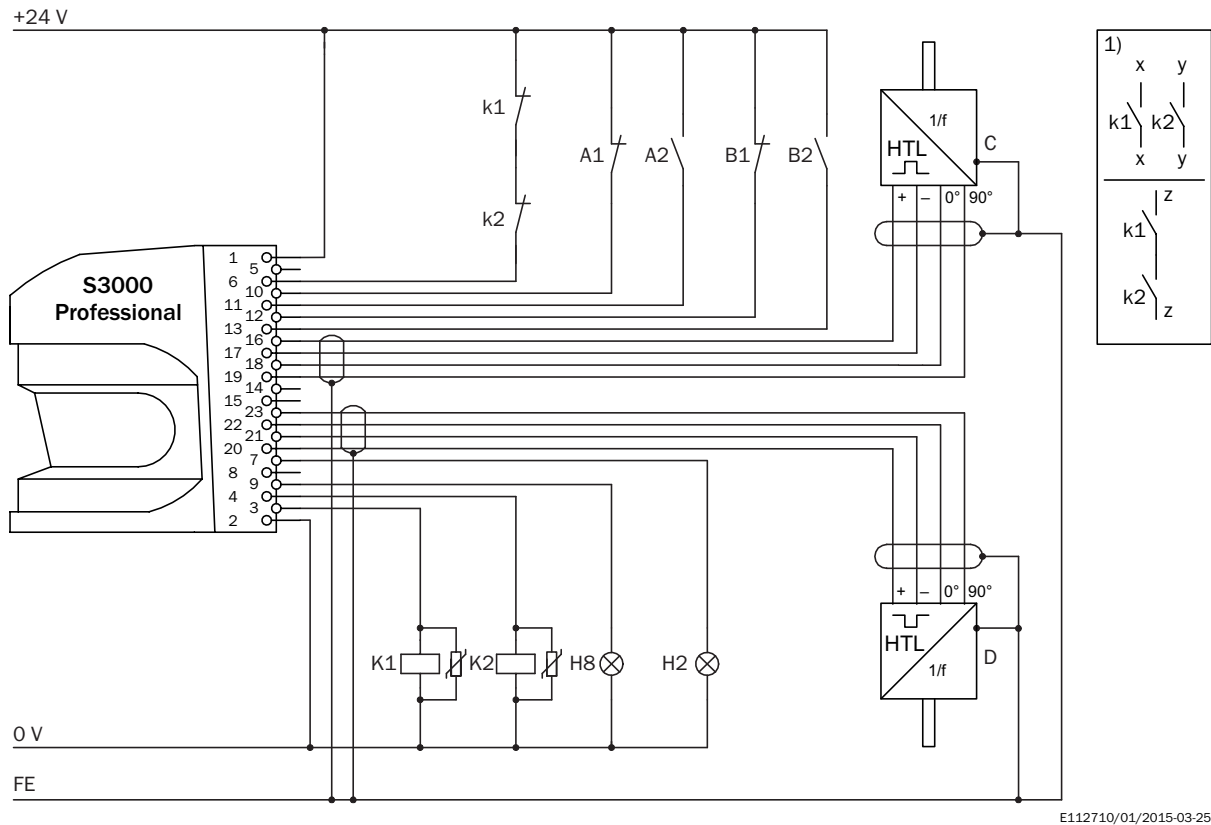
| | |
|-----------------------|----------|
| ECLASS 5.0 | 27272705 |
| ECLASS 5.1.4 | 27272705 |
| ECLASS 6.0 | 27272705 |
| ECLASS 6.2 | 27272705 |
| ECLASS 7.0 | 27272705 |
| ECLASS 8.0 | 27272705 |
| ECLASS 8.1 | 27272705 |
| ECLASS 9.0 | 27272705 |
| ECLASS 10.0 | 27272705 |
| ECLASS 11.0 | 27272705 |
| ECLASS 12.0 | 27272705 |
| ETIM 5.0 | EC002550 |
| ETIM 6.0 | EC002550 |
| ETIM 7.0 | EC002550 |
| ETIM 8.0 | EC002550 |
| UNSPSC 16.0901 | 39121528 |

Dimensional drawing (Dimensions in mm (inch))



Connection diagram

Protective field switching with static and dynamic inputs



E112710/01/2015-03-25

S3000 Professional in conjunction with relays/contactors

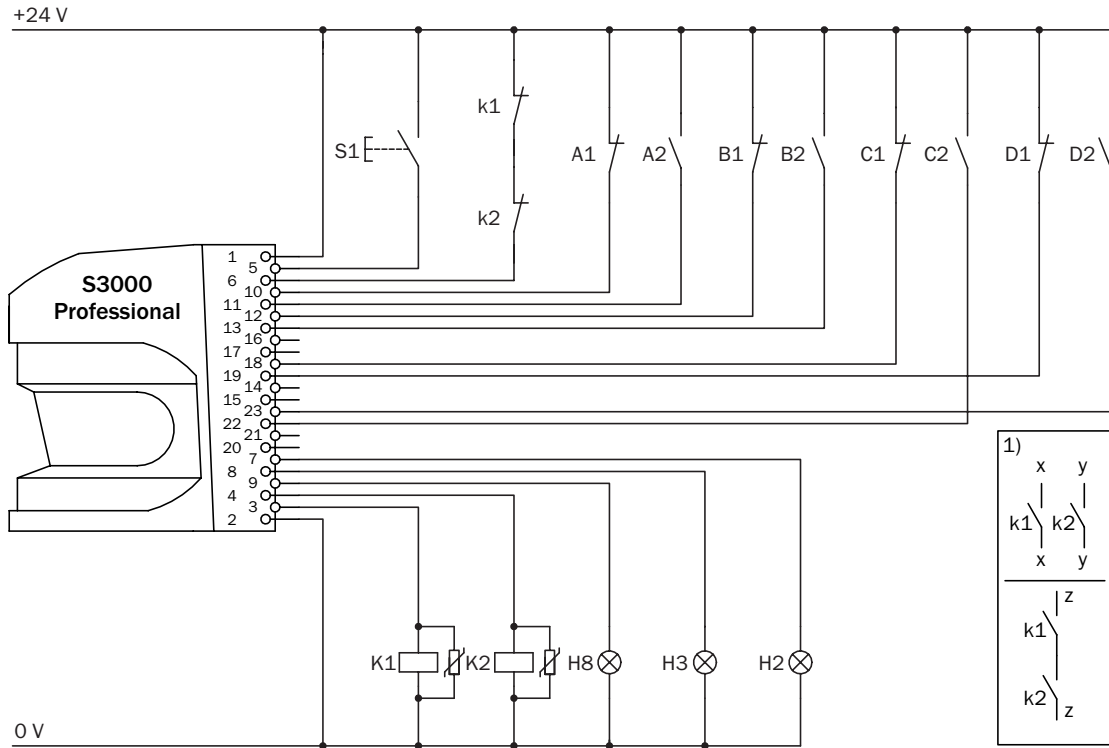
Operating mode: without restart interlock with external device monitoring (EDM)

Dynamic protective field switching using B1 and B2 as well as static protective field switching using the control inputs A and B

Comments

¹⁾ Output circuits: These contacts are to be connected to the controller such that, with the output circuit open, the dangerous state is disabled. For categories 4 and 3, this integration must be dual-channel (x/y paths). Single-channel insertion in the control (z path) is only possible with a single-channel control and by taking the risk analysis into account.

Protective field switching with four static inputs



E112709/00/2014-03-06

S3000 Professional in conjunction with relays/contactors

Operating mode: with restart interlock and external device monitoring




Static protective field switching by means of the control inputs A, B, C and D

Comments


¹⁾ Output circuits: These contacts are to be connected to the controller such that, with the output circuit open, the dangerous state is disabled. For categories 4 and 3, this integration must be dual-channel (x/y paths). Single-channel insertion in the control (z path) is only possible with a single-channel control and by taking the risk analysis into account.

Recommended accessories

Other models and accessories → www.sick.com/S3000_Professional

| | Brief description | Type | Part no. |
|---|--|-------------------------|----------|
| Mounting brackets and plates | | | |
|  | 1 piece, Visor for heavy duty mounting kit (2080350), steel, painted (RAL 1021) | Heavy duty sight | 2083733 |
|  | 1 piece, Mounting bracket, heavy-duty version, with protection cover, for floor mounting, adjustable longitudinal and lateral axes via alignment plate, height adjustment possible. Tilt angle $\pm 5^\circ$. Additional mounting brackets are not required., steel, painted (RAL 1021) | Heavy-duty mounting kit | 2080350 |
|  | 1 piece, mounting bracket for direct mounting, from the rear, on wall or machine, not adjustable, Aluminum | Mounting kit 1 | 2015623 |

| | Brief description | Type | Part no. |
|---|--|----------------------|----------|
|  | 1 piece, mounting bracket for rear mounting on wall or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623), Aluminum | Mounting kit 2 | 2015624 |
|  | 1 piece, mounting bracket for rear mounting on wall, floor, or machine, adjustable longitudinal and lateral axes, only in conjunction with mounting kit 1 (2015623) and 2 (2015624), Aluminum | Mounting kit 3 | 2015625 |
| Plug connectors and cables | | | |
|  | <ul style="list-style-type: none"> Connection type head A: Flying leads Connection type head B: Flying leads Cable: 13-wire, AWG20, PVC Description: Unshielded Items supplied: By the meter | Connecting cable | 6025729 |
|  | <ul style="list-style-type: none"> Connection type head A: Flying leads Connection type head B: Flying leads Cable: 17-wire, AWG20, PVC Description: Unshielded Items supplied: By the meter | Connecting cable | 6025730 |
|  | <ul style="list-style-type: none"> Connection type head A: Flying leads Connection type head B: Flying leads Cable: 2-wire, twisted pair, 120 Ohm, PVC Description: Shielded Note: Fitting for EFI connections Items supplied: By the meter | EFI connecting cable | 6029448 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M8, 4-pin, straight Connection type head B: Male connector, USB-A, straight Cable: 2 m, 4-wire, PVC Description: Unshielded, Configuration cable with integrated RS-232 transducer on USB for connecting a sensor configuration connection (M8, 4-pin) to the USB interface of a PC | DSL-8U04G02M025KM1 | 6034574 |
|  | <ul style="list-style-type: none"> Connection type head A: Male connector, M8, 4-pin, straight Connection type head B: Male connector, USB-A, straight Cable: 10 m, 4-wire, PVC Description: Unshielded, Configuration cable with integrated RS-232 transducer on USB for connecting a sensor configuration connection (M8, 4-pin) to the USB interface of a PC | DSL-8U04G10M025KM1 | 6034575 |
|  | <ul style="list-style-type: none"> Connection type head A: System plug Description: Without cable, Not for use of incremental encoders, integrated configuration storage, For S3000 Standard, Advanced, Remote, Professional and Expert Items supplied: With 1 x cable gland M20, 1 x blanking plug M20, 2 x blanking plug M12 | SX0A-A0000B | 2023797 |
|  | <ul style="list-style-type: none"> Connection type head A: System plug Description: Without cable, For use of incremental encoders, integrated configuration storage, For S3000 Professional and Expert Items supplied: With 1 x cable gland M20, 2 x cable gland M12, 1 x blanking plug M20, 6 x blanking plug M12 | SX0A-A0000D | 2023310 |
|  | <ul style="list-style-type: none"> Connection type head A: System plug Cable: 5 m, 13-wire, PVC Description: Pre-assembled, For use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert Connection systems: Flying leads Items supplied: With 1 x cable gland M20, 2 x cable gland M12, 1 x blanking plug M20, 6 x blanking plug M12 | SX0A-B1305D | 2027176 |
|  | <ul style="list-style-type: none"> Connection type head A: System plug Cable: 10 m, 13-wire, PVC Description: Pre-assembled, For use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert Connection systems: Flying leads Items supplied: With 1 x cable gland M20, 2 x cable gland M12, 1 x blanking plug M20, 6 x blanking plug M12 | SX0A-B1310D | 2027177 |

| | Brief description | Type | Part no. |
|---|---|-------------|----------|
|  | <ul style="list-style-type: none"> • Connection type head A: System plug • Cable: 5 m, 17-wire, PVC • Description: Pre-assembled, Not for use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert • Connection systems: Flying leads • Items supplied: With 1 x cable gland M20, 1 x blanking plug M20, 2 x blanking plug M12 | SX0A-B1705B | 2027174 |
| | <ul style="list-style-type: none"> • Connection type head A: System plug • Cable: 10 m, 17-wire, PVC • Description: Pre-assembled, Not for use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert • Connection systems: Flying leads • Items supplied: With 1 x cable gland M20, 1 x blanking plug M20, 2 x blanking plug M12 | SX0A-B1710B | 2027175 |
| | <ul style="list-style-type: none"> • Connection type head A: System plug • Cable: 20 m, 17-wire, PVC • Description: Pre-assembled, Not for use of incremental encoders, integrated configuration storage, unshielded, For S3000 Professional and Expert • Connection systems: Flying leads • Items supplied: With 1 x cable gland M20, 1 x blanking plug M20, 2 x blanking plug M12 | SX0A-B1720B | 2027816 |

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