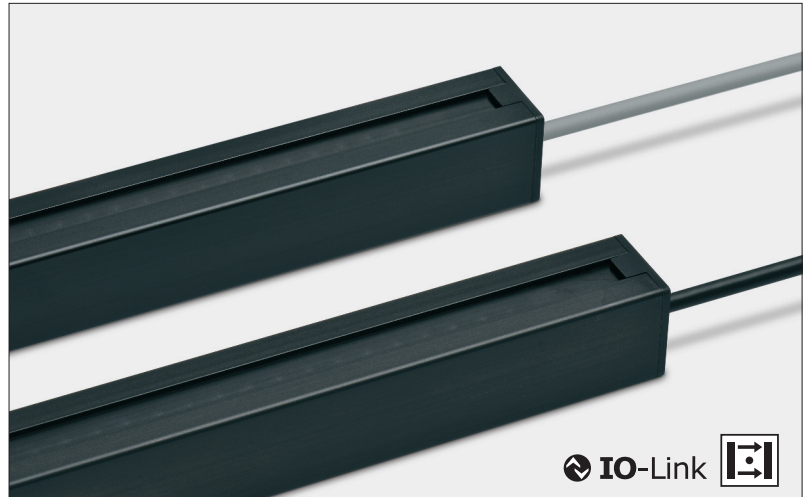


Description

- 0-10 metre sensing range
- 12 to 384 channels
- Channel spacing of 5, 10 or 20 mm
- Active length of 225 mm to 1920 mm
- Housing length of 300 mm to 1980 mm
- Plug connection
- 18-30 V dc supply voltage
- Power, output and system status indicators
- 33x36 mm aluminium housing with T-slot mounting
- High tolerance to hostile environments
- IO-Link communication interface
- Up to 4 digital outputs with software configurable functions
- Analogue output 4-20 mA and 0-10 V with software and control wire configurable function
- PC software for parameter configuration and diagnostics with optional USB-IO-Link Master 02



The SS 02-IO series is an advanced, industrial measuring light curtain system which consists of a self-contained transmitter SST and receiver SSR, which can either be positioned opposite or next to each other for thru beam or diffuse proximity mode. The light curtains are housed in sturdy aluminium profiles (33 x 36 mm) with T-slot mounting rail, available in lengths ranging from 300 mm to 1980 mm.

The SS 02-IO series supports a wide range of geometrical analysis functions which may be used for measurement, positioning and monitoring functions. This version of the SS 02 light curtain is equipped with an IO-link communication interface. Parameters and settings can be programmed and monitored through the IO-link interface. These selectable/adjustable settings include: scan mode, operation mode, gain

control/mode, hysteresis, blanking function and smoothing (pre-filtering) function. The light curtain offers a 2-wire analogue output (4-20 mA or 0-10 V) and up to four individual digital outputs which can be individually configured with a selection of a wide range of measurement and output conditions. A digital input is included to switch between two different output readings on the analogue output.

A test input in the SST may be used for either disabling or enabling the transmitting power temporarily for test purposes. The transmitter and receiver are electrically synchronised by wire connection. Both transmitter and receiver units are protected against reverse polarity of power supplies, control inputs and output signals. Output is protected against short circuit and inductive loads.

| Technical Data | | | | | | |
|--|---------------------|-----------------------------------|------------|------------|--|-----------------------|
| | | SST | | | SSR | |
| Supply voltage | | 18-30 V dc | | | | |
| Current consumption | | 100 mA | | | 75 mA | |
| Digital output | Type | - | | | NPN or PNP | |
| | Max. Load | - | | | 100 mA | |
| Analogue output | Type | - | | | 4-20 mA / 0-10 V (software selectable) | |
| | Current output load | - | | | ≤ 600 Ohm | |
| | Voltage output load | - | | | ≥ 1 kOhm | |
| | Bit resolution | - | | | 16 bit | |
| IO-Link communication | | - | | | Yes | |
| Light source | | Infrared (880 nm) | | | - | |
| Channel spacing | | 5 mm | 10 mm | 20 mm | 5 mm | 10 mm 20 mm |
| Number of channels (diodes per detector) | | 48 ... 384 | 24 ... 192 | 12 ... 96 | 48 ... 384 | 24 ... 192 12 ... 96 |
| Number of beams | Parallel | 48 ... 384 | 24 ... 192 | 12 ... 96 | 48 ... 384 | 24 ... 192 12 ... 96 |
| | Cross | 142 ... 1150 | 70 ... 574 | 34 ... 286 | 142 ... 1150 | 70 ... 574 34 ... 286 |
| Active length | | 225 ... 1920 mm | | | | |
| Housing length | | 300 ... 1980 mm | | | | |
| Max. response time | | - | | | (N x 120 µs) + 2 ms | |
| Power on indicator | | Green LED | | | | |
| Output indicator | | - | | | Yellow LED | |
| System status indicator | | - | | | Red LED | |
| Housing dimensions (w x d) | | 33 x 36 mm | | | | |
| Housing material | Profile | Aluminium (black sealed anodised) | | | | |
| | Lens cover | CoPET | | | | |
| Connection Cable, PVC Ø 5,9 mm | | 0,5 m cable with 5 pin, M12 plug | | | 0,5 m cable with 12 pin, M12 plug | |

Note: "N" is equal to the number of beams (parallel or crossed).

| Environmental Data | | SST | SSR |
|-------------------------------|--|------------------|-------------|
| Vibration | | 10-55 Hz, 0,5 mm | |
| Shock | | 30 g | |
| Light immunity @ 5° incidence | | - | 100 000 lux |
| Temperature, operation | | -30 to +60 °C | |
| Temperature, storage | | -40 to +80 °C | |
| Sealing class | | IP 67 | |
| Approvals | | CE UK CA | |

| Available Types | | | | | | | | | |
|-----------------|----------------|---------------|--------------------|----------------------------------|-----------------|------------|----------------------------------|--------------------------------|------|
| | Housing Length | Active Length | Number of Channels | Number of Beams Parallel / Cross | Channel Spacing | Connection | 0.5 m cable with 5 pin, M12 plug | Range | |
| | | | | | | Output | Order Reference | | |
| Transmitter | 300 mm | 240 mm | 48 | 48 / 142 | 5 mm | - | - | SST 02-030-048-05-H-1D1-0.5-J5 | 10 m |
| | 380 mm | 320 mm | 64 | 64 / 190 | | | | SST 02-038-064-05-H-1D1-0.5-J5 | |
| | 460 mm | 400 mm | 80 | 80 / 238 | | | | SST 02-046-080-05-H-1D1-0.5-J5 | |
| | 540 mm | 480 mm | 96 | 96 / 286 | | | | SST 02-054-096-05-H-1D1-0.5-J5 | |
| | 620 mm | 560 mm | 112 | 112 / 334 | | | | SST 02-062-112-05-H-1D1-0.5-J5 | |
| | 700 mm | 640 mm | 128 | 128 / 382 | | | | SST 02-070-128-05-H-1D1-0.5-J5 | |
| | 860 mm | 800 mm | 160 | 160 / 478 | | | | SST 02-086-160-05-H-1D1-0.5-J5 | |
| | 1020 mm | 960 mm | 192 | 192 / 574 | | | | SST 02-102-192-05-H-1D1-0.5-J5 | |
| | 1180 mm | 1120 mm | 224 | 224 / 670 | | | | SST 02-118-224-05-H-1D1-0.5-J5 | |
| | 1340 mm | 1280 mm | 256 | 256 / 766 | | | | SST 02-134-256-05-H-1D1-0.5-J5 | |
| | 1500 mm | 1440 mm | 288 | 288 / 862 | | | | SST 02-150-288-05-H-1D1-0.5-J5 | |
| | 1660 mm | 1600 mm | 320 | 320 / 958 | | | | SST 02-166-320-05-H-1D1-0.5-J5 | |
| | 1820 mm | 1760 mm | 352 | 352 / 1054 | | | | SST 02-182-352-05-H-1D1-0.5-J5 | |
| | 1980 mm | 1920 mm | 384 | 384 / 1150 | | | | SST 02-198-384-05-H-1D1-0.5-J5 | |
| | 300 mm | 235 mm | 24 | 24 / 70 | 10 mm | - | - | SST 02-030-024-10-H-1D1-0.5-J5 | |
| | 380 mm | 315 mm | 32 | 32 / 94 | | | | SST 02-038-032-10-H-1D1-0.5-J5 | |
| | 460 mm | 395 mm | 40 | 40 / 118 | | | | SST 02-046-040-10-H-1D1-0.5-J5 | |
| | 540 mm | 475 mm | 48 | 48 / 142 | | | | SST 02-054-048-10-H-1D1-0.5-J5 | |
| | 620 mm | 555 mm | 56 | 56 / 166 | | | | SST 02-062-056-10-H-1D1-0.5-J5 | |
| | 700 mm | 635 mm | 64 | 64 / 190 | | | | SST 02-070-064-10-H-1D1-0.5-J5 | |
| | 860 mm | 795 mm | 80 | 80 / 238 | | | | SST 02-086-080-10-H-1D1-0.5-J5 | |
| | 1020 mm | 955 mm | 96 | 96 / 286 | | | | SST 02-102-096-10-H-1D1-0.5-J5 | |
| | 1180 mm | 1115 mm | 112 | 112 / 334 | | | | SST 02-118-112-10-H-1D1-0.5-J5 | |
| | 1340 mm | 1275 mm | 128 | 128 / 382 | | | | SST 02-134-128-10-H-1D1-0.5-J5 | |
| | 1500 mm | 1435 mm | 144 | 144 / 430 | | | | SST 02-150-144-10-H-1D1-0.5-J5 | |
| | 1660 mm | 1595 mm | 160 | 160 / 478 | | | | SST 02-166-160-10-H-1D1-0.5-J5 | |
| | 1820 mm | 1755 mm | 176 | 176 / 526 | | | | SST 02-182-176-10-H-1D1-0.5-J5 | |
| | 1980 mm | 1915 mm | 192 | 192 / 574 | | | | SST 02-198-192-10-H-1D1-0.5-J5 | |
| | 300 mm | 225 mm | 12 | 12 / 34 | 20 mm | - | - | SST 02-030-012-20-H-1D1-0.5-J5 | |
| | 380 mm | 305 mm | 16 | 16 / 46 | | | | SST 02-038-016-20-H-1D1-0.5-J5 | |
| | 460 mm | 385 mm | 20 | 20 / 58 | | | | SST 02-046-020-20-H-1D1-0.5-J5 | |
| | 540 mm | 465 mm | 24 | 24 / 70 | | | | SST 02-054-024-20-H-1D1-0.5-J5 | |
| | 620 mm | 545 mm | 28 | 28 / 82 | | | | SST 02-062-028-20-H-1D1-0.5-J5 | |
| | 700 mm | 625 mm | 32 | 32 / 94 | | | | SST 02-070-032-20-H-1D1-0.5-J5 | |
| | 860 mm | 785 mm | 40 | 40 / 118 | | | | SST 02-086-040-20-H-1D1-0.5-J5 | |
| | 1020 mm | 945 mm | 48 | 48 / 142 | | | | SST 02-102-048-20-H-1D1-0.5-J5 | |
| 1180 mm | 1105 mm | 56 | 56 / 166 | SST 02-118-056-20-H-1D1-0.5-J5 | | | | | |
| 1340 mm | 1265 mm | 64 | 64 / 190 | SST 02-134-064-20-H-1D1-0.5-J5 | | | | | |
| 1500 mm | 1425 mm | 72 | 72 / 214 | SST 02-150-072-20-H-1D1-0.5-J5 | | | | | |
| 1660 mm | 1585 mm | 80 | 80 / 238 | SST 02-166-080-20-H-1D1-0.5-J5 | | | | | |
| 1820 mm | 1745 mm | 88 | 88 / 262 | SST 02-182-088-20-H-1D1-0.5-J5 | | | | | |
| 1980 mm | 1905 mm | 96 | 96 / 286 | SST 02-198-096-20-H-1D1-0.5-J5 | | | | | |

Note: Special lengths are available upon request.

| Available Types | | | | | | | | | |
|-----------------|----------------|---------------|--------------------|----------------------------------|--|--|--|--|--|
| | Housing Length | Active Length | Number of Channels | Number of Beams Parallel / Cross | Channel Spacing | Connection | Range | | |
| | | | | | | Output | | | |
| Receiver | 300 mm | 240 mm | 48 | 48 / 142 | 5 mm | Refer to Available Output Configurations Table | 0.5 m cable with 12 pin, M12 plug | | |
| | 380 mm | 320 mm | 64 | 64 / 190 | | | Order Reference | | |
| | 460 mm | 400 mm | 80 | 80 / 238 | | | SSR 02-030-048-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 540 mm | 480 mm | 96 | 96 / 286 | | | SSR 02-038-064-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 620 mm | 560 mm | 112 | 112 / 334 | | | SSR 02-046-080-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 700 mm | 640 mm | 128 | 128 / 382 | | | SSR 02-054-096-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 860 mm | 800 mm | 160 | 160 / 478 | | | SSR 02-062-112-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1020 mm | 960 mm | 192 | 192 / 574 | | | SSR 02-070-128-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1180 mm | 1120 mm | 224 | 224 / 670 | | | SSR 02-086-160-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1340 mm | 1280 mm | 256 | 256 / 766 | | | SSR 02-102-192-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1500 mm | 1440 mm | 288 | 288 / 862 | | | SSR 02-118-224-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1660 mm | 1600 mm | 320 | 320 / 958 | | | SSR 02-134-256-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1820 mm | 1760 mm | 352 | 352 / 1054 | | | SSR 02-150-288-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1980 mm | 1920 mm | 384 | 384 / 1150 | | | SSR 02-166-320-05-H-IO-UUK-ZZW-0.5-J12 | | |
| | 300 mm | 235 mm | 24 | 24 / 70 | | | 10 mm | Refer to Available Output Configurations Table | SSR 02-182-352-05-H-IO-UUK-ZZW-0.5-J12 |
| | 380 mm | 315 mm | 32 | 32 / 94 | | | | | SSR 02-198-384-05-H-IO-UUK-ZZW-0.5-J12 |
| | 460 mm | 395 mm | 40 | 40 / 118 | | | | | SSR 02-030-024-10-H-IO-UUK-ZZW-0.5-J12 |
| | 540 mm | 475 mm | 48 | 48 / 142 | | | | | SSR 02-038-032-10-H-IO-UUK-ZZW-0.5-J12 |
| | 620 mm | 555 mm | 56 | 56 / 166 | SSR 02-046-040-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 700 mm | 635 mm | 64 | 64 / 190 | SSR 02-054-048-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 860 mm | 795 mm | 80 | 80 / 238 | SSR 02-062-056-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 1020 mm | 955 mm | 96 | 96 / 286 | SSR 02-070-064-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 1180 mm | 1115 mm | 112 | 112 / 334 | SSR 02-086-080-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 1340 mm | 1275 mm | 128 | 128 / 382 | SSR 02-102-096-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 1500 mm | 1435 mm | 144 | 144 / 430 | SSR 02-118-112-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 1660 mm | 1595 mm | 160 | 160 / 478 | SSR 02-134-128-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 1820 mm | 1755 mm | 176 | 176 / 526 | SSR 02-150-144-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 1980 mm | 1915 mm | 192 | 192 / 574 | SSR 02-166-160-10-H-IO-UUK-ZZW-0.5-J12 | | | | |
| | 300 mm | 225 mm | 12 | 12 / 34 | 20 mm | Refer to Available Output Configurations Table | | | SSR 02-182-176-10-H-IO-UUK-ZZW-0.5-J12 |
| | 380 mm | 305 mm | 16 | 16 / 46 | | | | | SSR 02-198-192-10-H-IO-UUK-ZZW-0.5-J12 |
| | 460 mm | 385 mm | 20 | 20 / 58 | | | | | SSR 02-030-012-20-H-IO-UUK-ZZW-0.5-J12 |
| | 540 mm | 465 mm | 24 | 24 / 70 | | | | | SSR 02-038-016-20-H-IO-UUK-ZZW-0.5-J12 |
| | 620 mm | 545 mm | 28 | 28 / 82 | | | SSR 02-046-020-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 700 mm | 625 mm | 32 | 32 / 94 | | | SSR 02-054-024-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 860 mm | 785 mm | 40 | 40 / 118 | | | SSR 02-062-028-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1020 mm | 945 mm | 48 | 48 / 142 | | | SSR 02-070-032-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1180 mm | 1105 mm | 56 | 56 / 166 | | | SSR 02-086-040-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1340 mm | 1265 mm | 64 | 64 / 190 | | | SSR 02-102-048-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1500 mm | 1425 mm | 72 | 72 / 214 | | | SSR 02-118-056-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1660 mm | 1585 mm | 80 | 80 / 238 | | | SSR 02-134-064-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1820 mm | 1745 mm | 88 | 88 / 262 | | | SSR 02-150-072-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | 1980 mm | 1905 mm | 96 | 96 / 286 | | | SSR 02-166-080-20-H-IO-UUK-ZZW-0.5-J12 | | |
| | | | | | | | | | SSR 02-182-088-20-H-IO-UUK-ZZW-0.5-J12 |
| | | | | | | | | | SSR 02-198-096-20-H-IO-UUK-ZZW-0.5-J12 |

Note: Special lengths are available upon request.

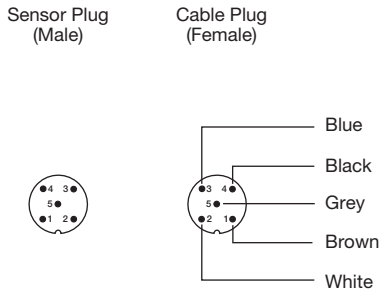
| Available Output Configurations | | | |
|---|---------------------------|-----------------|---------|
| Type Number Designation in SSR 'IO-UUK-ZZW' | Analogue Output | Digital Outputs | IO-Link |
| IO-AC2-DN2 | 4-20 mA / 0-10 V (2-wire) | 2 x NPN | Yes |
| IO-AC2-DP2 | 4-20 mA / 0-10 V (2-wire) | 2 x PNP | Yes |
| IO-ANN-DN4 | None | 4 x NPN | Yes |
| IO-ANN-DP4 | None | 4 x PNP | Yes |

Note: Different output configurations are available upon request.

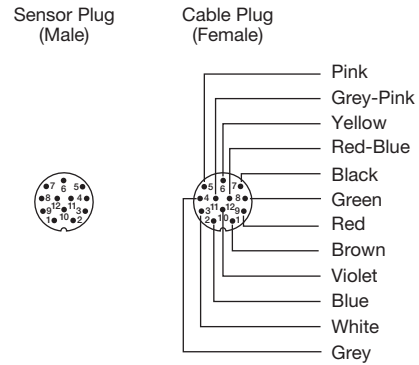
Connections

| | M12 Plug / Cable | |
|-----------------------------------|------------------|--------------------|
| | SST | SSR |
| Supply + | Pin 1 / Brown | Pin 1 / Brown |
| Supply - | Pin 3 / Blue | Pin 2 / Blue |
| Common sync + | Pin 2 / White | Pin 3 / White |
| Common sync - | Pin 5 / Grey | Pin 4 / Grey |
| Test input | Pin 4 / Black | - |
| Digital input 1 | - | Pin 6 / Yellow |
| IO-Link | - | Pin 11 / Grey-Pink |
| Not used | - | Pin 12 / Red-Blue |
| Digital output 1 | - | Pin 10 / Violet |
| Digital output 2 | - | Pin 5 / Pink |
| Digital output 3 / Analogue out - | - | Pin 8 / Green |
| Digital output 4 | - | Pin 9 / Red |
| Analogue out + | - | Pin 7 / Black |

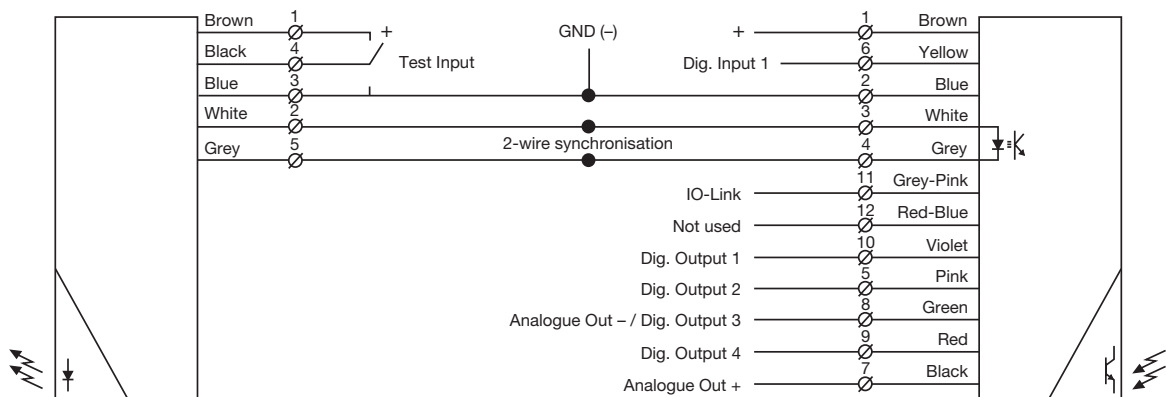
5 pin, M12



12 pin, M12



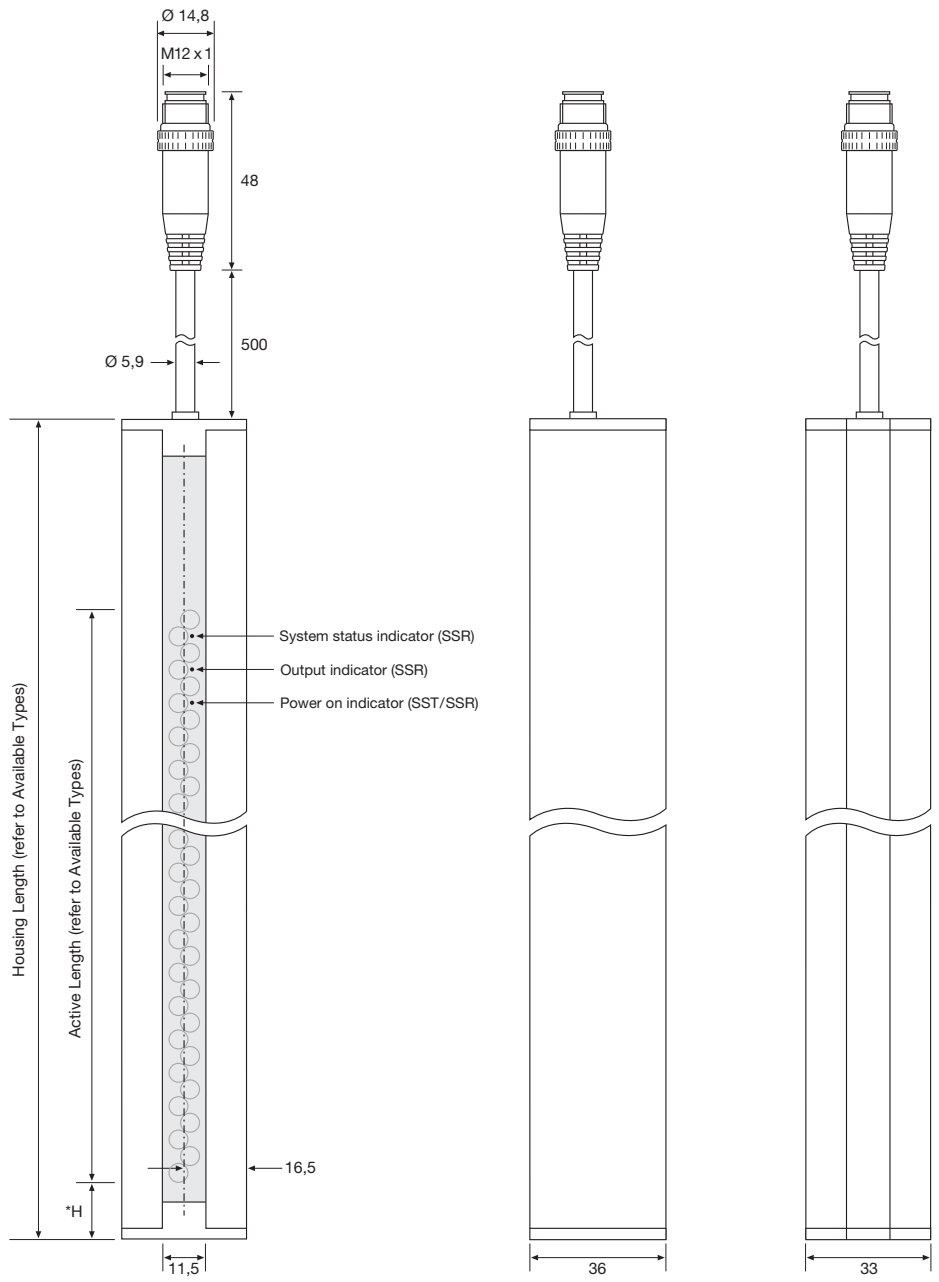
Wiring Diagrams



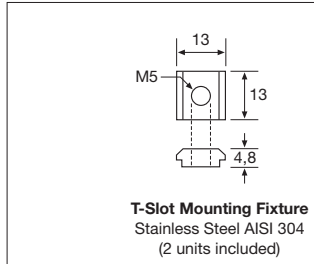
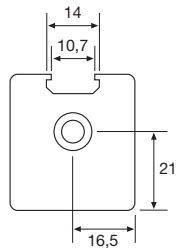
SST 02
Connect black test input wire to + or - to disable SST

SSR 02-10

Dimensions and Descriptions

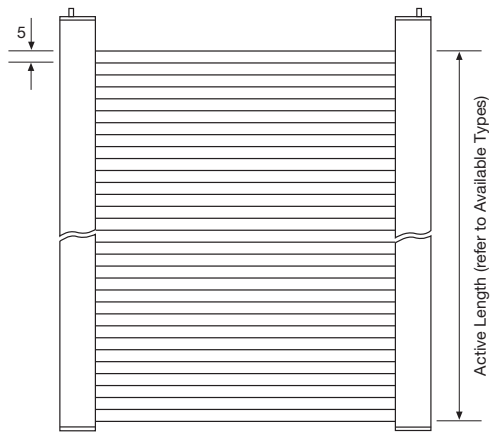


*H =
 5 mm channel spacing: 13,8 mm
 10/20 mm channel spacing: 15,8 mm

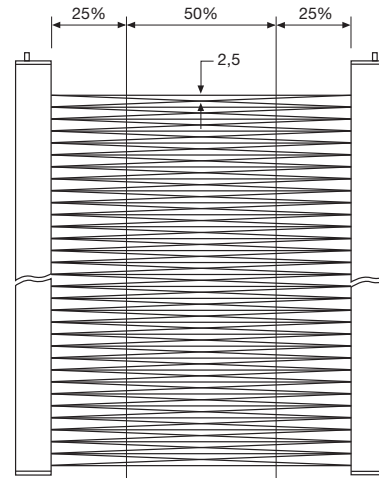


(Units in mm)

Beam Patterns

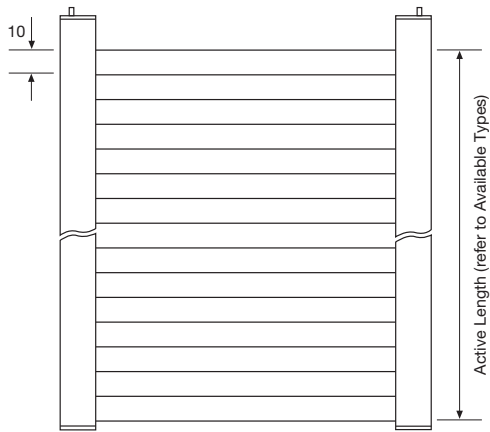


Parallel Beams

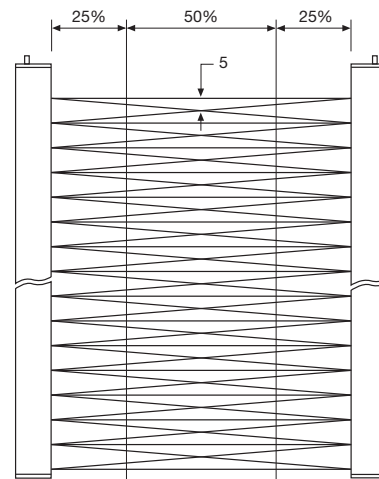


Cross Beams

5 mm channel spacing

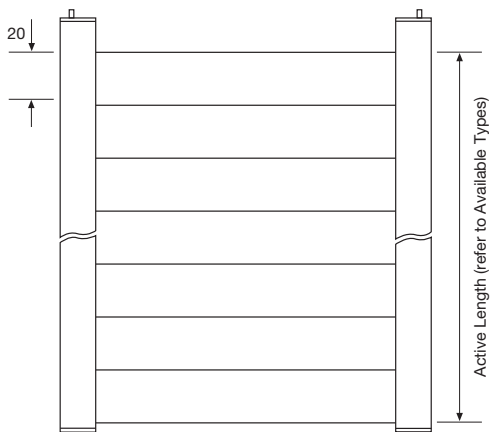


Parallel Beams

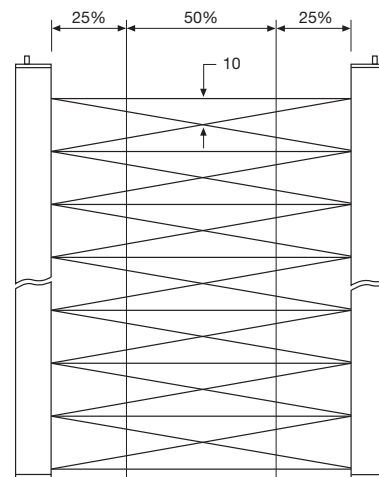


Cross Beams

10 mm channel spacing



Parallel Beams



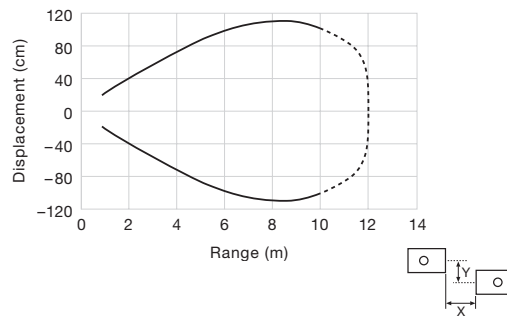
Cross Beams

20 mm channel spacing

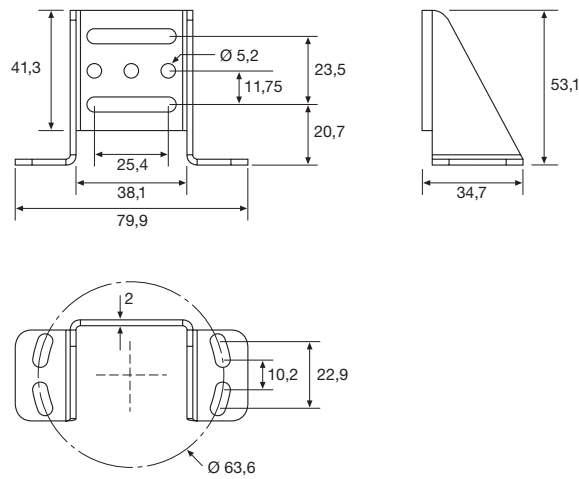
(Units in mm)

Sensing Characteristics

Parallel Displacement



Mounting Bracket



TR SS53-80 LU
Stainless Steel AISI 304
(to be ordered separately)

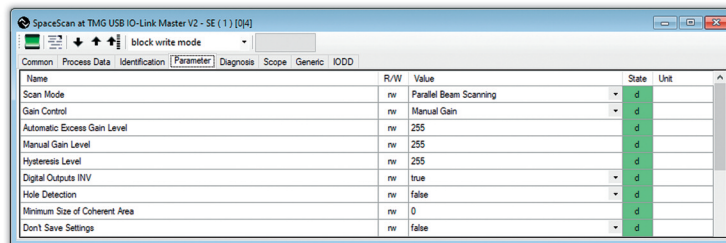
(Units in mm)

SpaceScan PC Programming and Monitoring

General Setup

| | Name | Description | Value Range |
|---|-------------------------------|---|---|
| 1 | Scan Mode | Select scan mode | Parallel beam scanning / Crossed beam scanning |
| 2 | Gain Control | Select gain control mode | Manual gain / Automatic gain |
| 3 | Automatic Excess Gain Level | Set the excess gain level of receiver, when used in automatic gain mode | 0-255 (2 - 10) |
| 4 | Manual Gain Level | Adjust the gain level of the receiver | 0-255 (0 - 100%) |
| 5 | Hysteresis Level | Adjust the hysteresis level | 0-255 (0% - 35%) |
| 6 | Digital Output INV | Invert the status of all digital outputs | True / False |
| 7 | Hole Detection | Invert the status of all beams | Selected / Not selected |
| 8 | Minimum Size of Coherent Area | Specifies the maximum size of objects that shall be ignored | Beam number |
| 9 | Don't Save Settings | Settings will not be saved in permanent memory | True / False |

USB-IO Link Master 02 PC Software Screenshot

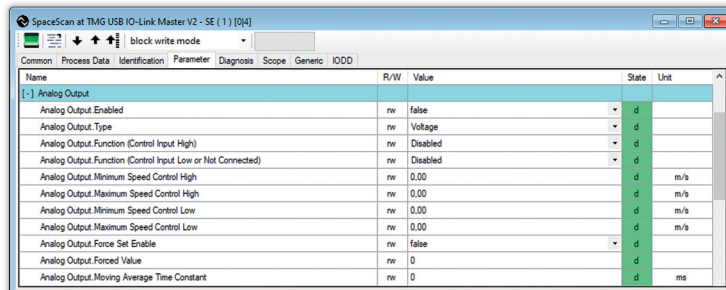


SpaceScan PC Programming and Monitoring

Analogue Output

| | Name | Description | Value Range |
|----|---|--|-----------------------------------|
| 1 | Enabled | Output is enabled or disabled | True / False |
| 2 | Type | Select between 4-10 mA current or 0-10 V voltage output | Current / Voltage |
| 3 | Function (Control Input High) | Select the function that becomes active when control input is high | DIS, FBB, .. SD |
| 4 | Function (Control Input Low or Not Connected) | Select the function that becomes active when control input is low | DIS, FBB, .. SD |
| | | Output is disabled, i.e. constantly de-energised | DIS: Disabled Output |
| | | Position of the first beam blocked | FBB: First Beam Blocked |
| | | Position of the first beam made | FBM: First Beam Made |
| | | Position of the last beam blocked | LBB: Last Beam Blocked |
| | | Position of the last beam made | LBM: Last Beam Made |
| | | Position of the (FBB+LBB) / 2 rounded to nearest integer | MBB: Middle Beam Blocked |
| | | Total number of beams blocked | TBB: Total Beams Blocked |
| | | Total number of beams made | TBM: Total Beams Made |
| | | Reads out the number of beams in the largest group of adjacent beams blocked | CBB: Contiguous Beams Blocked |
| | | Reads out the number of beams in the largest group of adjacent beams made | CBM: Contiguous Beams Made |
| | | The number of transitions in the beam pattern between made beams and blocked beams | TRN: Number of Transitions |
| | | Reads out LBB - FBB+1, corresponding to the size of a single object contained in the beam pattern, counted in beam breaks | OD: Outside Dimensions |
| | | Reads out the count of beams made between first beam broken and last beam broken. This corresponds to the size of a hole in a single solid object in the light curtain | ID: Inside Dimensions |
| 5 | Minimum Speed Control High | The velocity that corresponds to 4 mA / 0 V. When AO is in Speed and Direction mode and Control input is High | -4000 - 4000 (-40.00 - 40.00 m/s) |
| 6 | Maximum Speed Control High | The velocity that corresponds to 20 mA / 10 V. When AO is in Speed and Direction mode and Control input is High | -4000 - 4000 (-40.00 - 40.00 m/s) |
| 7 | Minimum Speed Control Low | The velocity that corresponds to 4 mA / 0 V. When AO is in Speed and Direction mode and Control input is Low or NC | -4000 - 4000 (-40.00 - 40.00 m/s) |
| 8 | Maximum Speed Control Low | The velocity that corresponds to 20 mA / 10 V. When AO is in Speed and Direction mode and Control input is Low or NC | -4000 - 4000 (-40.00 - 40.00 m/s) |
| 9 | Force Set Enable | Allows the user to write values direct to the analogue output | True / False |
| 10 | Forced Value | Defines the value of the analogue output (in beam position) | 0 - 384 beams |
| 11 | Moving Average Time Constant | The analogue output is filtered with a moving average | 0 to 2000 ms |

USB-IO Link Master 02 PC Software Screenshot

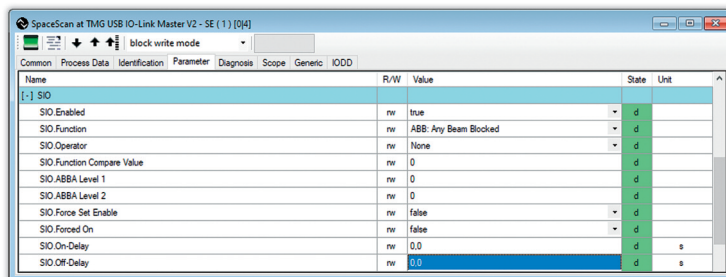


SpaceScan PC Programming and Monitoring

SIO / Digital Output

| | Name | Description | Value Range |
|---|-------------------------------------|--|-------------------------------|
| 1 | Enabled | Output is enabled or disabled | True / False |
| 2 | Function | Select output function used for comparison | DIS, FBB, .. SA |
| | | Output is disabled i.e. constantly de-energised | DIS: Disabled Output |
| | | Position of the first beam blocked | FBB: First Beam Blocked |
| | | Position of the first beam made | FBM: First Beam Made |
| | | Position of the last beam blocked | LBB: Last Beam Blocked |
| | | Position of the last beam made | LBM: Last Beam Made |
| | | Position of the (FBB+LBB) / 2 rounded to nearest integer | MBB: Middle Beam Blocked |
| | | Total number of beams blocked | TBB: Total Beams Blocked |
| | | Total number of beams made | TBM: Total Beams Made |
| | | Reads out the number of beams in the largest group of adjacent beams blocked | CBB: Contiguous Beams Blocked |
| | | Reads out the number of beams in the largest group of adjacent beams made | CBM: Contiguous Beams Made |
| | | The number of transitions in the beam pattern between made beams and blocked beams | TRN: Number of Transitions |
| | | Reads out LBB - FBB+1, corresponding to the size of a single object contained in the beam pattern, counted in beam breaks | OD: Outside Dimensions |
| | | Reads out the count of beams made between first beam broken and last beam broken. This corresponds to the size of a hole in a single solid object in the light curtain | ID: Inside Dimensions |
| Reads out the number of the first beam in the largest group of adjacent beams blocked | CFBB: Contiguous First Beam Blocked | | |
| Reads out the number of the last beam in the largest group of adjacent beams blocked | CLBB: Contiguous Last Beam Blocked | | |
| Position of any beam blocked | ABB: Any Beam Blocked | | |
| The digital output is high if the signal is not OK | ALM: Signal Alarm | | |
| 3 | Operator | Select comparison operator | < , > , □ , □ , = |
| 4 | Function Compare Value | Select value to compare with | 0 - 1000 |
| 5 | ABBA: Level 1 | Output changes status if any beam is blocked within the area(s) set in the Low / High limit | 0 - 384 Beam |
| 6 | ABBA: Level 2 | Output changes status if any beam is blocked within the area(s) set in the Low / High limit | 0 - 384 Beam |
| 7 | Force Set Enable | Allows the user to set the value of the digital output | True / False |
| 8 | Forced On | Output is set to high or low | True / False |
| 10 | On-Delay | On-delay time between the expression becomes true and the output is switched | 0 - 400 (0.0 - 10.0 s) |
| 11 | Off-Delay | Off-delay time between the expression becomes false and the output is switched | 0 - 400 (0.0 - 10.0 s) |

USB-IO Link Master 02 PC Software Screenshot

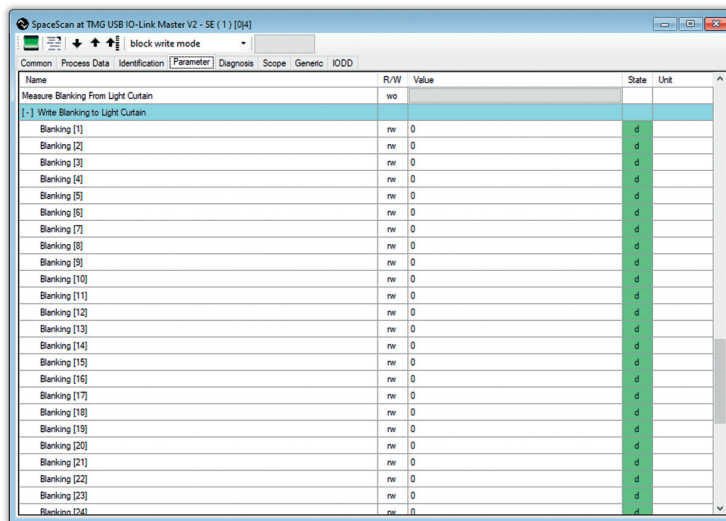


SpaceScan PC Programming and Monitoring

Blanking

| | Name | Description | Value Range |
|----|-------------------------------------|---|-----------------------------|
| 1 | Measure Blanking From Light Curtain | Obstructed areas are read from light curtain and written as text in blanking text box. Blanked beams can be seen in values for Write Blanking to Light Curtain after upload | True (write only) |
| 2 | Blanking [1] | Blanking value for first set of 8 beams in a binary value | 0 - 255 (0-8 beams blanked) |
| 3 | Blanking [2] | Blanking value for second set of 8 beams in a binary value | 0 - 255 (0-8 beams blanked) |
| 4 | Blanking [3] | Blanking value for third set of 8 beams in a binary value | 0 - 255 (0-8 beams blanked) |
| .. | | | |
| 49 | Blanking [48] | Blanking value for beam 377 to 384 | 0 - 255 (0-8 beams blanked) |

USB-IO Link Master 02 PC Software Screenshot

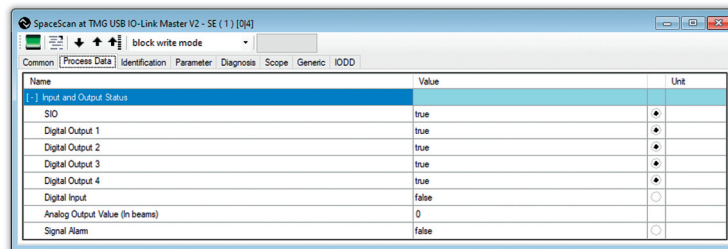


SpaceScan PC Programming and Monitoring

Process Data

| | Name | Description | Value Range |
|---|-----------------------|---|---------------|
| 1 | SIO | Indicates status of SIO output | True / False |
| 2 | Digital Output 1 | Indicates status of digital output 1 | True / False |
| 2 | Digital Output 2 | Indicates status of digital output 2 | True / False |
| 3 | Digital Output 3 | Indicates status of digital output 3 | True / False |
| 4 | Digital Output 4 | Indicates status of digital output 4 | True / False |
| 5 | Digital Input 1 | Indicates status of digital output 1 | True / False |
| 6 | Analogue Output Value | Indication of the analogue output value | 0 - 384 Beams |
| 7 | Signal Alarm | Indicates a pre-warning of low signal level | True / False |

USB-IO Link Master 02 PC Software Screenshot



Telco reserves the right to change specifications without notice.