

# DS4 Standard

## DETECTION AND MEASUREMENT

### AREA SENSOR



Versatile area sensors for detecting and measuring in various industrial applications. Conveniently configured using IO-Link and wirelessly programmable through AppGUI for detailed parameter adjustments and advanced setups.

- Detection height from 300 to 3000 mm
- 5, 10, 25 mm pitch
- Operating distance up to 13 m

- IO-Link or Wi-Fi App GUI configuration for monitoring, quick setting and advanced functions
- Digital and analogue output (0...10 V or 4...20 mA)
- Transparent object detection
- Crossed or parallel beams
- Communication interface: RS 485 and Ethernet TCP/IP
- 3 configurable digital I/Os



## CODE DESCRIPTION

**DS4 - 05 - 300 - S 08 - JE**

|                     |             |                                                         |
|---------------------|-------------|---------------------------------------------------------|
| series              | <b>DS4</b>  | Area sensors detection and measurement                  |
| pitch               | <b>05</b>   | 5 mm                                                    |
|                     | <b>10</b>   | 10 mm                                                   |
|                     | <b>25</b>   | 25 mm                                                   |
| controlled height   | <b>0300</b> | 300 mm                                                  |
|                     | <b>0450</b> | 450 mm                                                  |
|                     | <b>0600</b> | 600 mm                                                  |
|                     | <b>0750</b> | 750 mm                                                  |
|                     | <b>0900</b> | 900 mm                                                  |
|                     | <b>1050</b> | 1050 mm                                                 |
|                     | <b>1200</b> | 1200 mm                                                 |
|                     | <b>1350</b> | 1350 mm                                                 |
|                     | <b>1500</b> | 1500 mm                                                 |
|                     | <b>1650</b> | 1650 mm                                                 |
|                     | <b>1800</b> | 1800 mm                                                 |
|                     | <b>1950</b> | 1950 mm                                                 |
|                     | <b>2100</b> | 2100 mm                                                 |
|                     | <b>2250</b> | 2250 mm                                                 |
|                     | <b>2400</b> | 2400 mm                                                 |
|                     | <b>2550</b> | 2550 mm                                                 |
|                     | <b>2700</b> | 2700 mm                                                 |
|                     | <b>2850</b> | 2850 mm                                                 |
|                     | <b>3000</b> | 3000 mm                                                 |
| model               | <b>S</b>    | Standard                                                |
| receiver plug (M12) | <b>08</b>   | 8 poles                                                 |
|                     | <b>12</b>   | 8 poles + 4 poles                                       |
| output              | <b>JZ</b>   | Analogue V/A, IO-Link, Digital outputs, RS 485          |
|                     | <b>JE</b>   | Analogue V/A, IO-Link, Digital outputs, ETHERNET TCP/IP |

# DS4 Standard

## TECHNICAL SPECIFICATIONS

DETECTION/MEASUREMENT AREA SENSORS

|                                |                                                                                                                                                | DS4-**-****-S08-JZ                                                                                                                                                       | DS4-**-****-S12-JE |
|--------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------|
|                                |                                                                                                                                                |       |                    |
| GENERAL DATA                   |                                                                                                                                                |                                                                                                                                                                          |                    |
| Operating principle            | Emitter + Receiver                                                                                                                             |                                                                                                                                                                          |                    |
| MONITORED AREA                 |                                                                                                                                                |                                                                                                                                                                          |                    |
| Nominal sensing distance       | 0.2 ... 13 m                                                                                                                                   |                                                                                                                                                                          |                    |
| Controlled height              | 300 ... 3000 mm                                                                                                                                |                                                                                                                                                                          |                    |
| EMISSION DATA                  |                                                                                                                                                |                                                                                                                                                                          |                    |
| Emission                       | Infrared (850nm)                                                                                                                               |                                                                                                                                                                          |                    |
| FUNCTIONS                      |                                                                                                                                                |                                                                                                                                                                          |                    |
| Available functions            | Advanced functions:<br>Transparent object<br>Blanking<br>Pattern match                                                                         |                                                                                                                                                                          |                    |
| INPUT/OUTPUT                   |                                                                                                                                                |                                                                                                                                                                          |                    |
| Output type                    | PNP or NPN or Push-Pull , 0...10 V, 4..20 mA, IO-Link, RS485                                                                                   | PNP or NPN or Push-Pull , 0...10 V, 4..20 mA, IO-Link, Ethernet TCP/IP                                                                                                   |                    |
| Baud rate                      | 2400/9600/19200/28400/57600/115200/230400/576000/921600 Default: 57600                                                                         |                                                                                                                                                                          |                    |
| IO-LINK                        |                                                                                                                                                |                                                                                                                                                                          |                    |
| IO-Link version                | IO-Link V1.1.3                                                                                                                                 |                                                                                                                                                                          |                    |
| Transmission rate              | 230400 bits/s (COM3)                                                                                                                           |                                                                                                                                                                          |                    |
| Minimum cycle time             | 2 ms                                                                                                                                           |                                                                                                                                                                          |                    |
| DeviceID DEC                   | 1                                                                                                                                              |                                                                                                                                                                          |                    |
| Process Data input length      | 32 Bytes                                                                                                                                       |                                                                                                                                                                          |                    |
| Process data output l          | 8 Bits                                                                                                                                         |                                                                                                                                                                          |                    |
| HMI/UI                         |                                                                                                                                                |                                                                                                                                                                          |                    |
| LED Indicators (TX)            | Green (Power ON), Yellow (Emission range) Red (Test, failure, Firmware ongoing update), Blue (Emission range, Firmware update completed)       |                                                                                                                                                                          |                    |
| LED Indicators (RX)            | Green (Power ON), Yellow (Status output, Connection and teach-in active) Red (Hardware Errors, Invalid confiuration, module optical occupied)  |                                                                                                                                                                          |                    |
| ELECTRICAL DATA                |                                                                                                                                                |                                                                                                                                                                          |                    |
| Supply voltage                 | 19.2 ... 28.8 Vdc                                                                                                                              |                                                                                                                                                                          |                    |
| Maximum No-load absorption     | 360 mA(emitter and receiver)                                                                                                                   |                                                                                                                                                                          |                    |
| Power consumption - Emitter    | ≤ 2 W                                                                                                                                          |                                                                                                                                                                          |                    |
| Power consumption - Receiver   | ≤ 5 W                                                                                                                                          |                                                                                                                                                                          |                    |
| Maximum DC output voltage drop | 2.5 V @ IL=100mA                                                                                                                               |                                                                                                                                                                          |                    |
| Maximum DC load current        | 100 mA                                                                                                                                         |                                                                                                                                                                          |                    |
| MECHANICAL DATA                |                                                                                                                                                |                                                                                                                                                                          |                    |
| Dimensions                     | 35 x 40 x (307.5 ... 3009) mm                                                                                                                  |                                                                                                                                                                          |                    |
| Material                       | Aluminium / PBT                                                                                                                                |                                                                                                                                                                          |                    |
| Housing material               | Aluminium                                                                                                                                      |                                                                                                                                                                          |                    |
| Optic window material          | PMMA                                                                                                                                           |                                                                                                                                                                          |                    |
| Connections                    | M12 5 poles + 200 mm length cable TPU (TX),<br>M12 8 poles + 200 mm length cable TPU (RX)<br>(DS4-**-****-S08-JZ)                              | M12 5 poles + 200 mm length cable TPU (TX),<br>M12 8 poles + 200 mm length cable TPU (RX), M12 4<br>poles D code + 150 mm length cable TPU (ETH)<br>(DS4-**-****-S12-JE) |                    |
| Weight                         | 1.40 Kg/m single bar, without package                                                                                                          |                                                                                                                                                                          |                    |
| ENVIRONMENTAL DATA             |                                                                                                                                                |                                                                                                                                                                          |                    |
| Operating Temperature          | -30 ... 55 °C (without freeze)                                                                                                                 |                                                                                                                                                                          |                    |
| Storage temperature max.       | -30 ... 70 °C                                                                                                                                  |                                                                                                                                                                          |                    |
| Mechanical Protection          | IP65 IP67                                                                                                                                      |                                                                                                                                                                          |                    |
| Shocks and vibrations          | 10 mm / 3g, 5 ... 150 Hz frequency, (EN 60068-2-6 / Class 3M7 IEC TR 60721-4-3); 25g x 6 ms x 600 (EN 60068-2-27 / Class 3M7 IEC TR 60721-4-3) |                                                                                                                                                                          |                    |
| Humidity                       | 15 ... 95 % (no freeze)                                                                                                                        |                                                                                                                                                                          |                    |

# AVAILABLE MODELS

| Distance between beams | Nominal sensing distance                                                                                                           | Sensitivity adjustment              | Response time | Controlled height | Beams number | Output type                                                   |                                                                         |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|---------------|-------------------|--------------|---------------------------------------------------------------|-------------------------------------------------------------------------|
|                        |                                                                                                                                    |                                     |               |                   |              | PNP or NPN or Push-Pull , 0...10 V, 4...20 mA, IO-Link, RS485 | PNP or NPN or Push-Pull , 0...10 V, 4...20 mA, IO-Link, Ethernet TCP/IP |
| 5 mm                   | 0.2 ... 5 m<br>Transparent objects<br>(T = 0...50 °C; H ≤ 1.5 m):<br>10% (0.35 - 1.5 m)<br>20% (0.35 - 2.5 m)<br>30 % (0.35 - 4 m) | remote teach,<br>IO-Link,<br>AppGUI | 2.80 ms       | 300 mm            | 60           | <b>DS4-05-0300-S08-JZ</b><br>(957650010)                      | <b>DS4-05-0300-S12-JE</b><br>(957650029)                                |
|                        |                                                                                                                                    |                                     | 3.70 ms       | 450 mm            | 90           | <b>DS4-05-0450-S08-JZ</b><br>(957650011)                      | <b>DS4-05-0450-S12-JE</b><br>(957650030)                                |
|                        |                                                                                                                                    |                                     | 4.60 ms       | 600 mm            | 120          | <b>DS4-05-0600-S08-JZ</b><br>(957650012)                      | <b>DS4-05-0600-S12-JE</b><br>(957650031)                                |
|                        |                                                                                                                                    |                                     | 5.50 ms       | 750 mm            | 150          | <b>DS4-05-0750-S08-JZ</b><br>(957650013)                      | <b>DS4-05-0750-S12-JE</b><br>(957650032)                                |
|                        |                                                                                                                                    |                                     | 6.40 ms       | 900 mm            | 180          | <b>DS4-05-0900-S08-JZ</b><br>(957650014)                      | <b>DS4-05-0900-S12-JE</b><br>(957650033)                                |
|                        |                                                                                                                                    |                                     | 7.30 ms       | 1050 mm           | 210          | <b>DS4-05-1050-S08-JZ</b><br>(957650015)                      | <b>DS4-05-1050-S12-JE</b><br>(957650034)                                |
|                        |                                                                                                                                    |                                     | 8.20 ms       | 1200 mm           | 240          | <b>DS4-05-1200-S08-JZ</b><br>(957650016)                      | <b>DS4-05-1200-S12-JE</b><br>(957650035)                                |
|                        |                                                                                                                                    |                                     | 9.10 ms       | 1350 mm           | 270          | <b>DS4-05-1350-S08-JZ</b><br>(957650017)                      | <b>DS4-05-1350-S12-JE</b><br>(957650036)                                |
|                        |                                                                                                                                    |                                     | 10.00 ms      | 1500 mm           | 300          | <b>DS4-05-1500-S08-JZ</b><br>(957650018)                      | <b>DS4-05-1500-S12-JE</b><br>(957650037)                                |
|                        |                                                                                                                                    |                                     | 10.90 ms      | 1650 mm           | 330          | <b>DS4-05-1650-S08-JZ</b><br>(957650019)                      | <b>DS4-05-1650-S12-JE</b><br>(957650038)                                |
|                        |                                                                                                                                    |                                     | 11.80 ms      | 1800 mm           | 360          | <b>DS4-05-1800-S08-JZ</b><br>(957650020)                      | <b>DS4-05-1800-S12-JE</b><br>(957650039)                                |
|                        |                                                                                                                                    |                                     | 12.70 ms      | 1950 mm           | 390          | <b>DS4-05-1950-S08-JZ</b><br>(957650021)                      | <b>DS4-05-1950-S12-JE</b><br>(957650040)                                |
|                        |                                                                                                                                    |                                     | 13.60 ms      | 2100 mm           | 420          | <b>DS4-05-2100-S08-JZ</b><br>(957650022)                      | <b>DS4-05-2100-S12-JE</b><br>(957650041)                                |
|                        |                                                                                                                                    |                                     | 14.50 ms      | 2250 mm           | 450          | <b>DS4-05-2250-S08-JZ</b><br>(957650023)                      | <b>DS4-05-2250-S12-JE</b><br>(957650042)                                |
|                        |                                                                                                                                    |                                     | 15.40 ms      | 2400 mm           | 480          | <b>DS4-05-2400-S08-JZ</b><br>(957650024)                      | <b>DS4-05-2400-S12-JE</b><br>(957650043)                                |
|                        |                                                                                                                                    |                                     | 16.30 ms      | 2550 mm           | 510          | <b>DS4-05-2550-S08-JZ</b><br>(957650025)                      | <b>DS4-05-2550-S12-JE</b><br>(957650044)                                |
|                        |                                                                                                                                    |                                     | 17.20 ms      | 2700 mm           | 540          | <b>DS4-05-2700-S08-JZ</b><br>(957650026)                      | <b>DS4-05-2700-S12-JE</b><br>(957650045)                                |
|                        |                                                                                                                                    |                                     | 18.10 ms      | 2850 mm           | 570          | <b>DS4-05-2850-S08-JZ</b><br>(957650027)                      | <b>DS4-05-2850-S12-JE</b><br>(957650046)                                |
|                        |                                                                                                                                    |                                     | 19.00 ms      | 3000 mm           | 600          | <b>DS4-05-3000-S08-JZ</b><br>(957650028)                      | <b>DS4-05-3000-S12-JE</b><br>(957650047)                                |

# DS4 Standard

## AVAILABLE MODELS

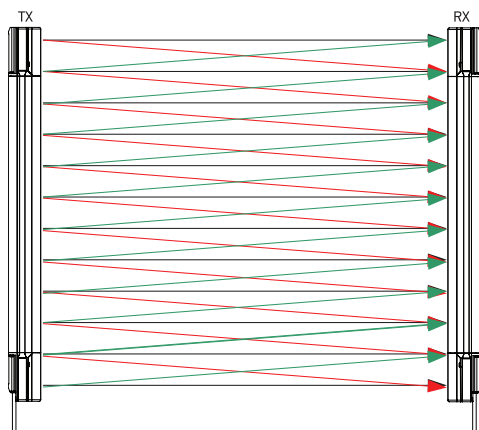
DETECTION/MEASUREMENT AREA SENSORS

| Distance between beams | Nominal sensing distance                                                                                                           | Sensitivity adjustment           | Response time | Controlled height | Beams number | Output type                                                   |                                                                         |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------------------------------|---------------|-------------------|--------------|---------------------------------------------------------------|-------------------------------------------------------------------------|
|                        |                                                                                                                                    |                                  |               |                   |              | PNP or NPN or Push-Pull , 0...10 V, 4...20 mA, IO-Link, RS485 | PNP or NPN or Push-Pull , 0...10 V, 4...20 mA, IO-Link, Ethernet TCP/IP |
| 10 mm                  | 0.2 ... 7 m<br>Transparent objects<br>(T = 0...50 °C; H ≤ 1.5 m):<br>10% (0.35 - 1.5 m)<br>20% (0.35 - 2.5 m)<br>30 % (0.35 - 4 m) | remote teach,<br>IO-Link, AppGUI | 1.90 ms       | 300 mm            | 30           | <b>DS4-10-0300-S08-JZ</b><br>(957650057)                      | <b>DS4-10-0300-S12-JE</b><br>(957650076)                                |
|                        |                                                                                                                                    |                                  | 2.35 ms       | 450 mm            | 45           | <b>DS4-10-0450-S08-JZ</b><br>(957650058)                      | <b>DS4-10-0450-S12-JE</b><br>(957650077)                                |
|                        |                                                                                                                                    |                                  | 2.80 ms       | 600 mm            | 60           | <b>DS4-10-0600-S08-JZ</b><br>(957650059)                      | <b>DS4-10-0600-S12-JE</b><br>(957650078)                                |
|                        |                                                                                                                                    |                                  | 3.25 ms       | 750 mm            | 75           | <b>DS4-10-0750-S08-JZ</b><br>(957650060)                      | <b>DS4-10-0750-S12-JE</b><br>(957650079)                                |
|                        |                                                                                                                                    |                                  | 3.70 ms       | 900 mm            | 90           | <b>DS4-10-0900-S08-JZ</b><br>(957650061)                      | <b>DS4-10-0900-S12-JE</b><br>(957650080)                                |
|                        |                                                                                                                                    |                                  | 4.15 ms       | 1050 mm           | 105          | <b>DS4-10-1050-S08-JZ</b><br>(957650062)                      | <b>DS4-10-1050-S12-JE</b><br>(957650081)                                |
|                        |                                                                                                                                    |                                  | 4.60 ms       | 1200 mm           | 120          | <b>DS4-10-1200-S08-JZ</b><br>(957650063)                      | <b>DS4-10-1200-S12-JE</b><br>(957650082)                                |
|                        |                                                                                                                                    |                                  | 5.05 ms       | 1350 mm           | 135          | <b>DS4-10-1350-S08-JZ</b><br>(957650064)                      | <b>DS4-10-1350-S12-JE</b><br>(957650083)                                |
|                        |                                                                                                                                    |                                  | 5.50 ms       | 1500 mm           | 150          | <b>DS4-10-1500-S08-JZ</b><br>(957650065)                      | <b>DS4-10-1500-S12-JE</b><br>(957650084)                                |
|                        |                                                                                                                                    |                                  | 5.95 ms       | 1650 mm           | 165          | <b>DS4-10-1650-S08-JZ</b><br>(957650066)                      | <b>DS4-10-1650-S12-JE</b><br>(957650085)                                |
|                        |                                                                                                                                    |                                  | 6.40 ms       | 1800 mm           | 180          | <b>DS4-10-1800-S08-JZ</b><br>(957650067)                      | <b>DS4-10-1800-S12-JE</b><br>(957650086)                                |
|                        |                                                                                                                                    |                                  | 6.85 ms       | 1950 mm           | 195          | <b>DS4-10-1950-S08-JZ</b><br>(957650068)                      | <b>DS4-10-1950-S12-JE</b><br>(957650087)                                |
|                        |                                                                                                                                    |                                  | 7.30 ms       | 2100 mm           | 210          | <b>DS4-10-2100-S08-JZ</b><br>(957650069)                      | <b>DS4-10-2100-S12-JE</b><br>(957650088)                                |
|                        |                                                                                                                                    |                                  | 7.75 ms       | 2250 mm           | 225          | <b>DS4-10-2250-S08-JZ</b><br>(957650070)                      | <b>DS4-10-2250-S12-JE</b><br>(957650089)                                |
|                        |                                                                                                                                    |                                  | 8.20 ms       | 2400 mm           | 240          | <b>DS4-10-2400-S08-JZ</b><br>(957650071)                      | <b>DS4-10-2400-S12-JE</b><br>(957650090)                                |
|                        |                                                                                                                                    |                                  | 8.65 ms       | 2550 mm           | 255          | <b>DS4-10-2550-S08-JZ</b><br>(957650072)                      | <b>DS4-10-2550-S12-JE</b><br>(957650091)                                |
|                        |                                                                                                                                    |                                  | 9.10 ms       | 2700 mm           | 270          | <b>DS4-10-2700-S08-JZ</b><br>(957650073)                      | <b>DS4-10-2700-S12-JE</b><br>(957650092)                                |
|                        |                                                                                                                                    |                                  | 9.55 ms       | 2850 mm           | 285          | <b>DS4-10-2850-S08-JZ</b><br>(957650074)                      | <b>DS4-10-2850-S12-JE</b><br>(957650093)                                |
|                        |                                                                                                                                    |                                  | 10.00 ms      | 3000 mm           | 300          | <b>DS4-10-3000-S08-JZ</b><br>(957650075)                      | <b>DS4-10-3000-S12-JE</b><br>(957650094)                                |

## AVAILABLE MODELS

| Distance between beams | Nominal sensing distance | Sensitivity adjustment        | Response time | Controlled height | Beams number | Output type                                                   |                                                                         |
|------------------------|--------------------------|-------------------------------|---------------|-------------------|--------------|---------------------------------------------------------------|-------------------------------------------------------------------------|
|                        |                          |                               |               |                   |              | PNP or NPN or Push-Pull , 0...10 V, 4...20 mA, IO-Link, RS485 | PNP or NPN or Push-Pull , 0...10 V, 4...20 mA, IO-Link, Ethernet TCP/IP |
| 25 mm                  | 0.2 ... 13 m             | remote teach, IO-Link, AppGUI | 1.36 ms       | 300 mm            | 12           | <b>DS4-25-0300-S08-JZ</b><br>(957650104)                      | <b>DS4-25-0300-S12-JE</b><br>(957650123)                                |
|                        |                          |                               | 1.54 ms       | 450 mm            | 18           | <b>DS4-25-0450-S08-JZ</b><br>(957650105)                      | <b>DS4-25-0450-S12-JE</b><br>(957650124)                                |
|                        |                          |                               | 1.72 ms       | 600 mm            | 24           | <b>DS4-25-0600-S08-JZ</b><br>(957650106)                      | <b>DS4-25-0600-S12-JE</b><br>(957650125)                                |
|                        |                          |                               | 1.90 ms       | 750 mm            | 30           | <b>DS4-25-0750-S08-JZ</b><br>(957650107)                      | <b>DS4-25-0750-S12-JE</b><br>(957650126)                                |
|                        |                          |                               | 2.08 ms       | 900 mm            | 36           | <b>DS4-25-0900-S08-JZ</b><br>(957650108)                      | <b>DS4-25-0900-S12-JE</b><br>(957650127)                                |
|                        |                          |                               | 2.26 ms       | 1050 mm           | 42           | <b>DS4-25-1050-S08-JZ</b><br>(957650109)                      | <b>DS4-25-1050-S12-JE</b><br>(957650128)                                |
|                        |                          |                               | 2.44 ms       | 1200 mm           | 48           | <b>DS4-25-1200-S08-JZ</b><br>(957650110)                      | <b>DS4-25-1200-S12-JE</b><br>(957650129)                                |
|                        |                          |                               | 2.62 ms       | 1350 mm           | 54           | <b>DS4-25-1350-S08-JZ</b><br>(957650111)                      | <b>DS4-25-1350-S12-JE</b><br>(957650130)                                |
|                        |                          |                               | 2.80 ms       | 1500 mm           | 60           | <b>DS4-25-1500-S08-JZ</b><br>(957650112)                      | <b>DS4-25-1500-S12-JE</b><br>(957650131)                                |
|                        |                          |                               | 2.98 ms       | 1650 mm           | 66           | <b>DS4-25-1650-S08-JZ</b><br>(957650113)                      | <b>DS4-25-1650-S12-JE</b><br>(957650132)                                |
|                        |                          |                               | 3.16 ms       | 1800 mm           | 72           | <b>DS4-25-1800-S08-JZ</b><br>(957650114)                      | <b>DS4-25-1800-S12-JE</b><br>(957650133)                                |
|                        |                          |                               | 3.34 ms       | 1950 mm           | 78           | <b>DS4-25-1950-S08-JZ</b><br>(957650115)                      | <b>DS4-25-1950-S12-JE</b><br>(957650134)                                |
|                        |                          |                               | 3.52 ms       | 2100 mm           | 84           | <b>DS4-25-2100-S08-JZ</b><br>(957650116)                      | <b>DS4-25-2100-S12-JE</b><br>(957650135)                                |
|                        |                          |                               | 3.70 ms       | 2250 mm           | 90           | <b>DS4-25-2250-S08-JZ</b><br>(957650117)                      | <b>DS4-25-2250-S12-JE</b><br>(957650136)                                |
|                        |                          |                               | 3.88 ms       | 2400 mm           | 96           | <b>DS4-25-2400-S08-JZ</b><br>(957650118)                      | <b>DS4-25-2400-S12-JE</b><br>(957650137)                                |
|                        |                          |                               | 4.06 ms       | 2550 mm           | 102          | <b>DS4-25-2550-S08-JZ</b><br>(957650119)                      | <b>DS4-25-2550-S12-JE</b><br>(957650138)                                |
|                        |                          |                               | 4.24 ms       | 2700 mm           | 108          | <b>DS4-25-2700-S08-JZ</b><br>(957650120)                      | <b>DS4-25-2700-S12-JE</b><br>(957650139)                                |
|                        |                          |                               | 4.42 ms       | 2850 mm           | 114          | <b>DS4-25-2850-S08-JZ</b><br>(957650121)                      | <b>DS4-25-2850-S12-JE</b><br>(957650140)                                |
|                        |                          |                               | 4.60 ms       | 3000 mm           | 120          | <b>DS4-25-3000-S08-JZ</b><br>(957650122)                      | <b>DS4-25-3000-S12-JE</b><br>(957650141)                                |

## CROSSED BEAMS



| Model<br>Distance between beams | Crossed beam<br>(minimum distance) |
|---------------------------------|------------------------------------|
| DS4-05-****-S**-**<br>5 mm      | ≥ 300 mm                           |
| DS4-10-****-S**-**<br>10 mm     | ≥ 700 mm                           |
| DS4-25-****-S**-**<br>25 mm     | No crossed beams                   |

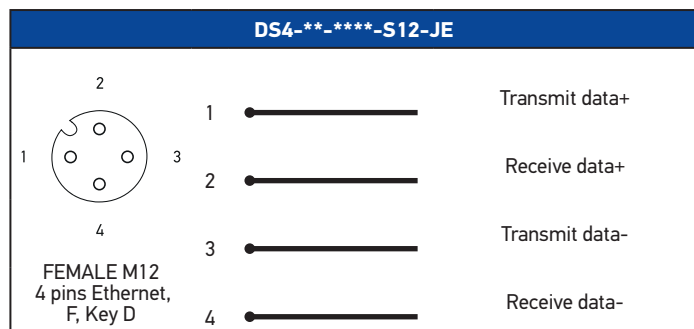
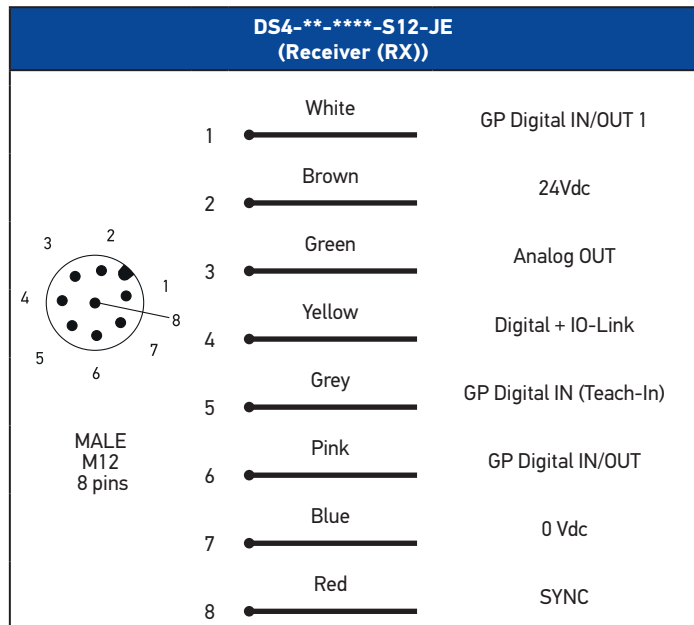
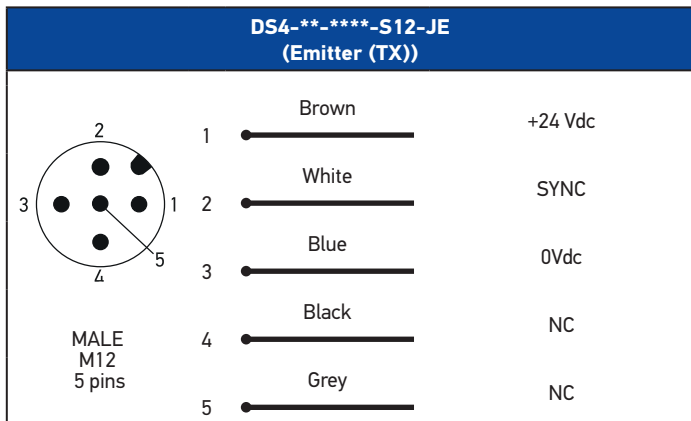
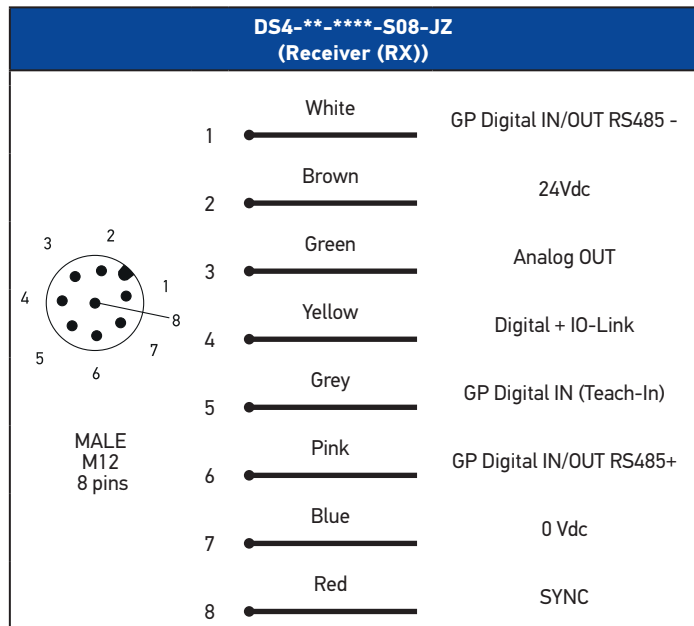
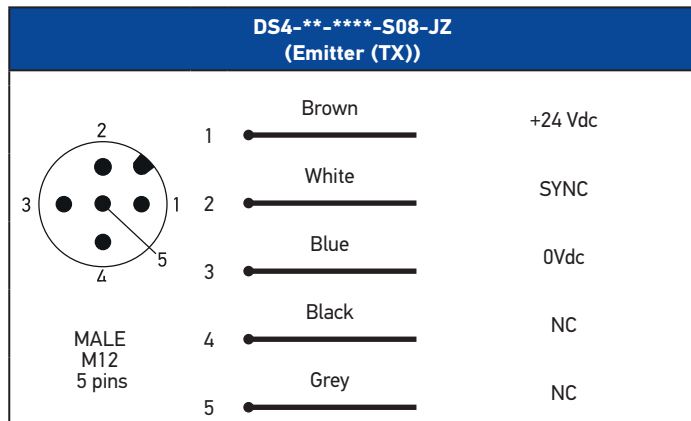
# DS4 Standard

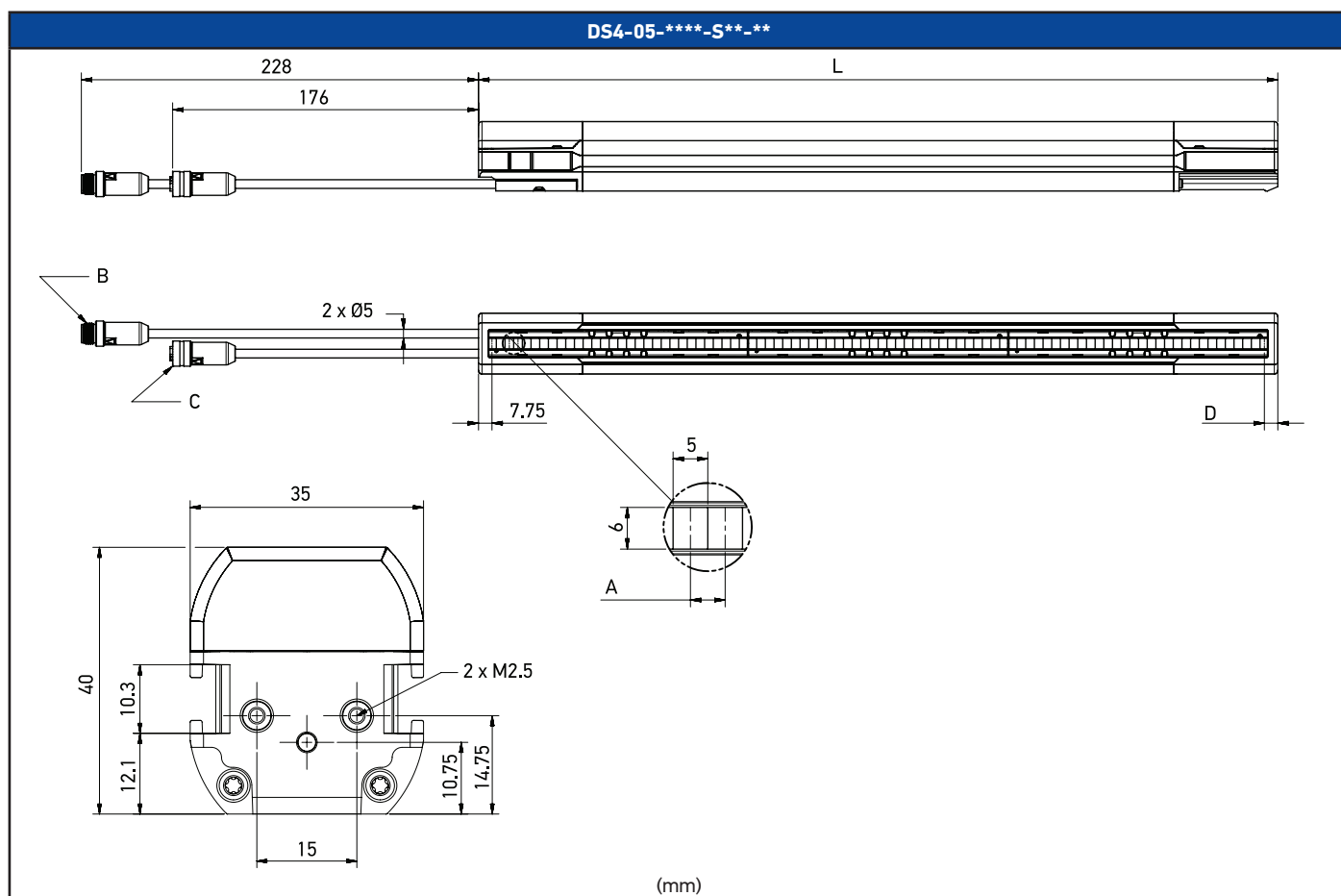
## MINIMUM DETECTABLE OBJECT

|                    | Measurement                                                         | Detection with teach | Detection without teach |
|--------------------|---------------------------------------------------------------------|----------------------|-------------------------|
| DS4-05-****-S**-** | 5 mm 2.5 mm (Augmented Resolution Mode)<br>T = 0...50 °C; H ≤ 1.5 m | ≥ 3.5 mm             | 10 mm                   |
| DS4-10-****-S**-** | 10 mm                                                               | 10 mm                | 14 mm                   |
| DS4-25-****-S**-** | 25 mm                                                               | 25 mm                | 25 mm                   |

## CONNECTIONS

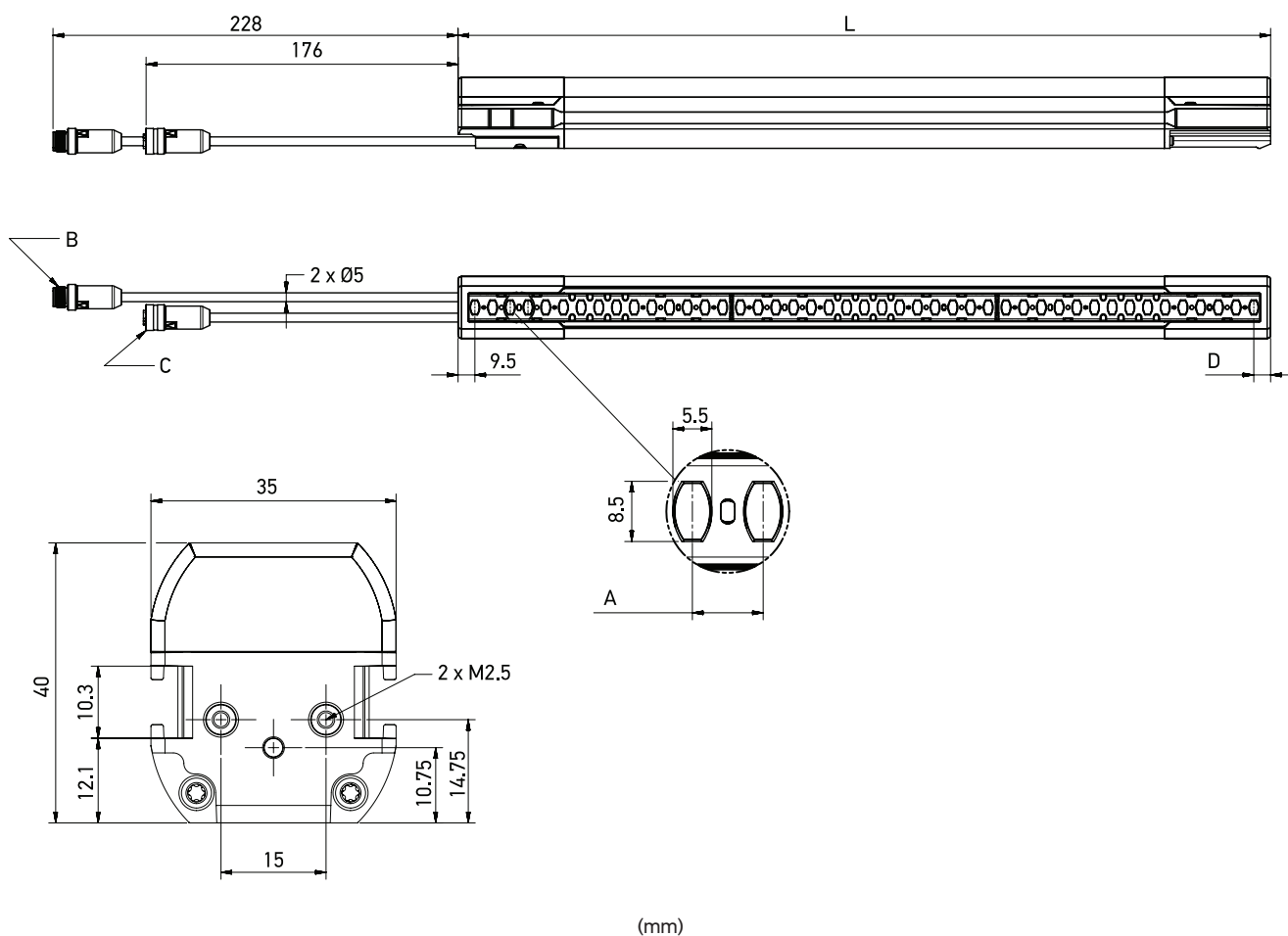
DETECTION/MEASUREMENT AREA SENSORS





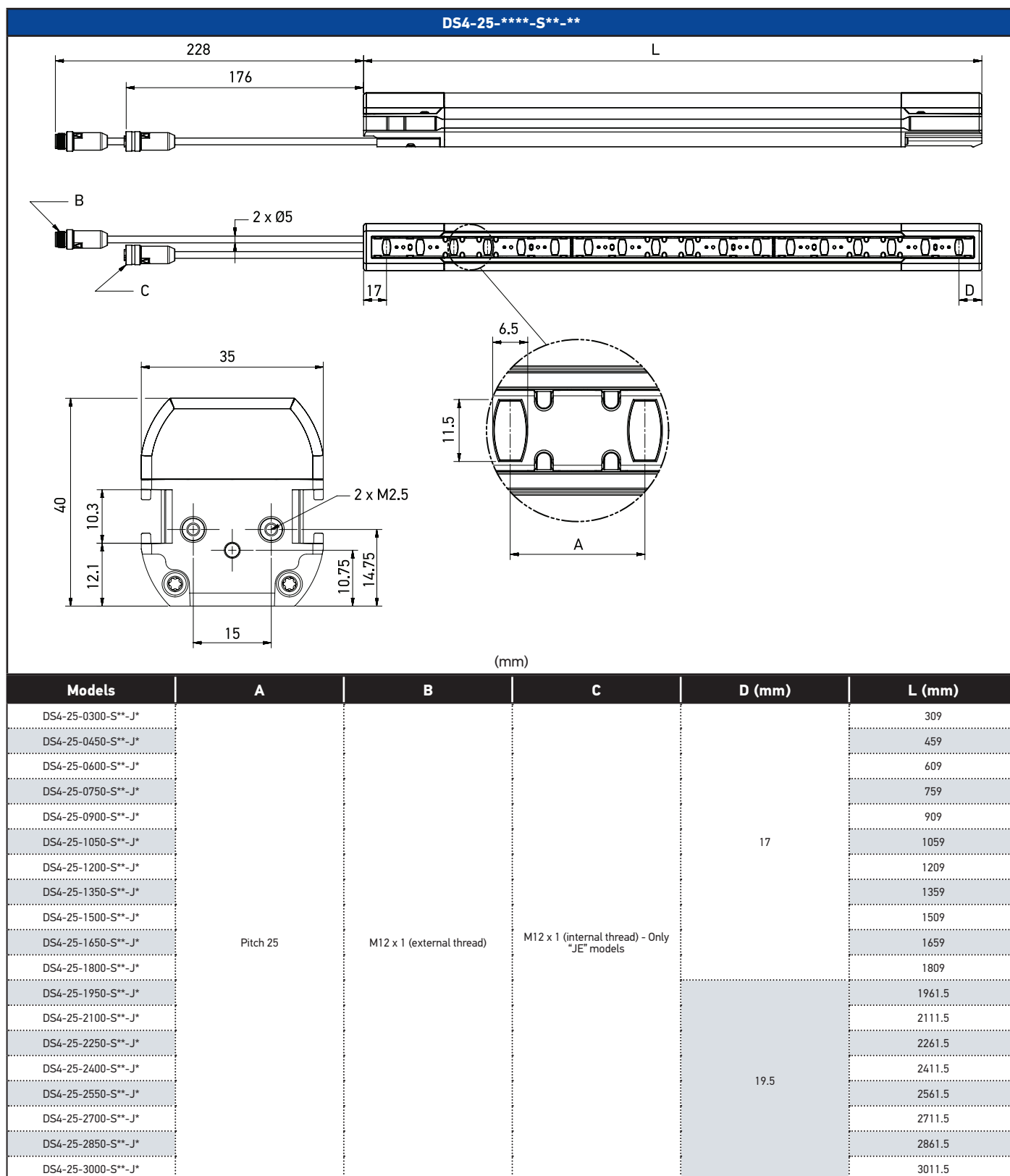
| Models             | A       | B                         | C                                               | D (mm) | L (mm) |
|--------------------|---------|---------------------------|-------------------------------------------------|--------|--------|
| DS4-05-0300-S**-J* | Pitch 5 | M12 x 1 (external thread) | M12 x 1 (internal thread)<br>- Only "JE" models | 7.75   | 310.5  |
| DS4-05-0450-S**-J* |         |                           |                                                 |        | 460.5  |
| DS4-05-0600-S**-J* |         |                           |                                                 |        | 610.5  |
| DS4-05-0750-S**-J* |         |                           |                                                 |        | 760.5  |
| DS4-05-0900-S**-J* |         |                           |                                                 |        | 910.5  |
| DS4-05-1050-S**-J* |         |                           |                                                 |        | 1060.5 |
| DS4-05-1200-S**-J* |         |                           |                                                 |        | 1210.5 |
| DS4-05-1350-S**-J* |         |                           |                                                 |        | 1360.5 |
| DS4-05-1500-S**-J* |         |                           |                                                 |        | 1510.5 |
| DS4-05-1650-S**-J* |         |                           |                                                 |        | 1660.5 |
| DS4-05-1800-S**-J* |         |                           |                                                 |        | 1810.5 |
| DS4-05-1950-S**-J* |         |                           |                                                 | 10.25  | 1963   |
| DS4-05-2100-S**-J* |         |                           |                                                 |        | 2113   |
| DS4-05-2250-S**-J* |         |                           |                                                 |        | 2263   |
| DS4-05-2400-S**-J* |         |                           |                                                 |        | 2413   |
| DS4-05-2550-S**-J* |         |                           |                                                 |        | 2563   |
| DS4-05-2700-S**-J* |         |                           |                                                 |        | 2713   |
| DS4-05-2850-S**-J* |         |                           |                                                 |        | 2863   |
| DS4-05-3000-S**-J* |         |                           |                                                 |        | 3013   |

DS4-10-\*\*\*\*-S\*\*-\*\*



| Models             | A        | B                         | C                                               | D (mm) | L (mm) |
|--------------------|----------|---------------------------|-------------------------------------------------|--------|--------|
| DS4-10-0300-S**-J* | Pitch 10 | M12 x 1 (external thread) | M12 x 1 (internal thread)<br>- Only "JE" models | 9.5    | 309    |
| DS4-10-0450-S**-J* |          |                           |                                                 |        | 459    |
| DS4-10-0600-S**-J* |          |                           |                                                 |        | 609    |
| DS4-10-0750-S**-J* |          |                           |                                                 |        | 759    |
| DS4-10-0900-S**-J* |          |                           |                                                 |        | 909    |
| DS4-10-1050-S**-J* |          |                           |                                                 |        | 1059   |
| DS4-10-1200-S**-J* |          |                           |                                                 |        | 1209   |
| DS4-10-1350-S**-J* |          |                           |                                                 |        | 1359   |
| DS4-10-1500-S**-J* |          |                           |                                                 |        | 1509   |
| DS4-10-1650-S**-J* |          |                           |                                                 |        | 1659   |
| DS4-10-1800-S**-J* |          |                           |                                                 | 12     | 1809   |
| DS4-10-1950-S**-J* |          |                           |                                                 |        | 1961.5 |
| DS4-10-2100-S**-J* |          |                           |                                                 |        | 2111.5 |
| DS4-10-2250-S**-J* |          |                           |                                                 |        | 2261.5 |
| DS4-10-2400-S**-J* |          |                           |                                                 |        | 2411.5 |
| DS4-10-2550-S**-J* |          |                           |                                                 |        | 2561.5 |
| DS4-10-2700-S**-J* |          |                           |                                                 |        | 2711.5 |
| DS4-10-2850-S**-J* |          |                           |                                                 |        | 2861.5 |
| DS4-10-3000-S**-J* |          |                           |                                                 |        | 3011.5 |





## ACCESSORIES

|                   | Model       | Description                                               | Article code |
|-------------------|-------------|-----------------------------------------------------------|--------------|
| Mounting brackets | ST-KSTD     | Metal angled brackets 4 pcs kit for SG/SH4                | 95ACC1670    |
|                   | ST-K4OR     | Orientable supports 4 pcs kit to be used with ST-KSTD     | 95ACC1680    |
|                   | ST-K4AV     | Anti vibration supports 4 pcs kit to be used with ST-KSTD | 95ACC1700    |
|                   | ST-K6AV     | Anti vibration supports 6 pcs kit to be used with ST-KSTD | 95ACC1710    |
|                   | ST-KP4MP    | Plastic angled brackets 4 pcs kit                         | 95ASE1100    |
|                   | ST-K4ROT-SH | Rotating brackets for SH4 4 pcs                           | 95ASE0042    |

|                 | Model          | Description                                            | Article code   |
|-----------------|----------------|--------------------------------------------------------|----------------|
| Cables          | CAB-ETH-M01    | M12-RJ45 IP67 ethernet cable 1m                        | 93A051346      |
|                 | CAB-ETH-M03    | M12-RJ45 IP67 ethernet cable 3m                        | 93A051347      |
|                 | CAB-ETH-M05    | M12-RJ45 IP67 ethernet cable 5m                        | 93A051348      |
|                 | CAB-ETH-M10    | M12-RJ45 IP67 ethernet cable 10m                       | 93A051391      |
|                 | CD12M/0E-050A1 | Connect.M12-F,8 poles-5m,PVC,Axial                     | CD12M/0E-050A1 |
|                 | CD12M/0E-100A1 | Connect.M12-F,8 poles-10m,PVC,Axial                    | CD12M/0E-100A1 |
|                 | CD12M/0E-150A1 | Connect.M12-F,8 poles-15m,PVC,Axial                    | CD12M/0E-150A1 |
|                 | CDP12/0B-010AA | M12-F-Axial, 4p,M12-M-Axial,PVC,1 m                    | CDP12/0B-010AA |
|                 | CDP12/0B-030AA | M12-F-Axial, 4p,M12-M-Axial,PVC,3 m                    | CDP12/0B-030AA |
|                 | CDP12/0B-050AA | M12-F-Axial, 4p,M12-M-Axial,PVC,5 m                    | CDP12/0B-050AA |
|                 | CDP12/0B-100AA | M12-F-Axial, 4p,M12-M-Axial,PVC,10 m                   | CDP12/0B-100AA |
|                 | CS-A1-02-B-NC  | CS-A1-02-B-NC = M12 4-p axial PG                       | G5085002       |
|                 | CS-A1-02-G-03  | CS-A1-02-G-03 = M12 4-p axial 3m                       | 95A251380      |
|                 | CS-A1-02-G-05  | CS-A1-02-G-05 = M12 4-p axial 5m                       | 95A251270      |
|                 | CS-A1-02-G-10  | CS-A1-02-G-10 = M12 4-p axial 10m                      | 95A251390      |
|                 | CS-A1-02-R-02  | CS-A1-02-R-02 = M12 4-p axial 2m PUR                   | 95A251540      |
|                 | CS-A1-02-R-05  | CS-A1-02-R-05 = M12 4-p axial 5m PUR                   | 95A251560      |
|                 | CS-A1-02-U-03  | Cable M12 4 poles axial female unshielded 3 m UL 2464  | 95ASE1120      |
|                 | CS-A1-02-U-05  | Cable M12 4 poles axial female unshielded 5 m UL 2464  | 95ASE1130      |
|                 | CS-A1-02-U-10  | Cable M12 4 poles axial female unshielded 10 m UL 2464 | 95ASE1140      |
|                 | CS-A1-02-U-15  | Cable M12 4 poles axial female unshielded 15 m UL 2464 | 95ASE1150      |
|                 | CS-A1-06-B-03  | CS-A1-06-B-03 = M12 8-p axial 3m                       | 95ACC2230      |
|                 | CS-A1-06-B-05  | CS-A1-06-B-05 = M12 8-p axial 5m                       | 95ACC2240      |
|                 | CS-A1-06-B-10  | CS-A1-06-B-10 M12 8 pins10 m black                     | 95ACC2250      |
|                 | CS-A1-06-B-NC  | M12 8-p axial PG                                       | 95ACC2550      |
|                 | CS-A1-06-U-03  | Cable M12 8 poles axial female unshielded 3 m UL 2464  | 95ASE1220      |
|                 | CS-A1-06-U-05  | Cable M12 8 poles axial female unshielded 5 m UL 2464  | 95ASE1230      |
|                 | CS-A1-06-U-10  | Cable M12 8 poles axial female unshielded 10 m UL 2464 | 95ASE1240      |
|                 | CS-A1-06-U-15  | Cable M12 8 poles axial female unshielded 15 m UL 2464 | 95ASE1250      |
|                 | CS-A1-06-U-25  | Cable M12 8 poles axial female unshielded 25 m UL 2464 | 95ASE1260      |
|                 | CS-H2-03-B-01  | Cascade cable for SH4 1 m                              | 95ASE0031      |
|                 | CS-H2-03-B-03  | Cascade cable for SH4 3 m                              | 95ASE0032      |
|                 | CS-H2-03-B-10  | Cascade cable for SH4 10 m                             | 95ASE0033      |
|                 | CS-I1-02-B-03  | CS-I1-02-B-03 4p M12-M/M12-F axial 3m bk               | 95ACC0009      |
|                 | CS-M1-02-B-03  | CS-M1-02-B-03 5p M12-F Lcode axial 3m gr               | 95ACC0007      |
|                 | CS-Y2-45-B-002 | Y Cable M12 8p female - M12 5p Female + M12 4p Male    | 95ASE0102      |
|                 | CV12/0B-00A    | Connect.M12-M-Axial,4 p,Field attach.                  | CV12/0B-00A    |
|                 | CV12/0B-00B    | Connect.M12-M-90°,4 p,Field attach.                    | CV12/0B-00B    |
|                 | CV12/0H-00A    | Connect.M12-M-Axial,5 p,Field attach.                  | CV12/0H-00A    |
|                 | CV-A1-26-B-03  | Cable M12 8 poles axial female shielded 3m             | 95ACC1510      |
|                 | CV-A1-26-B-05  | Cable M12 8 poles axial female shielded 5m             | 95ACC1520      |
|                 | CV-A1-26-B-10  | Cable M12 8 poles axial female shielded 10m            | 95ACC1530      |
|                 | CV-A1-26-B-15  | Cable M12 8 poles axial female shielded 15m            | 95ACC2080      |
|                 | CV-A1-26-B-25  | Cable M12 8 poles axial female shielded 25m            | 95ACC2100      |
| IO-Link masters | CBX-8IOL-PNIO  | 8P IOL M12 PROFINET MASTER                             | 95ACC8190      |
|                 | CBX-8IOL-EIP   | 8P IOL M12 EIP MASTER                                  | 95ACC8180      |

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