

## High performance ultrasonic fork sensors for transparent label detection

- Dynamic or static teach models
- Slot size 3mm
- High resolution up to 2 mm label gap
- M8 connector with PNP or NPN output
- M12 connector with PNP/NPN output and external teach-in
- Rugged and sturdy aluminium housing



### APPLICATIONS

- Detection of transparent, opaque, or metallic ink labels
- Double sheet detection
- Adhesive surface detection

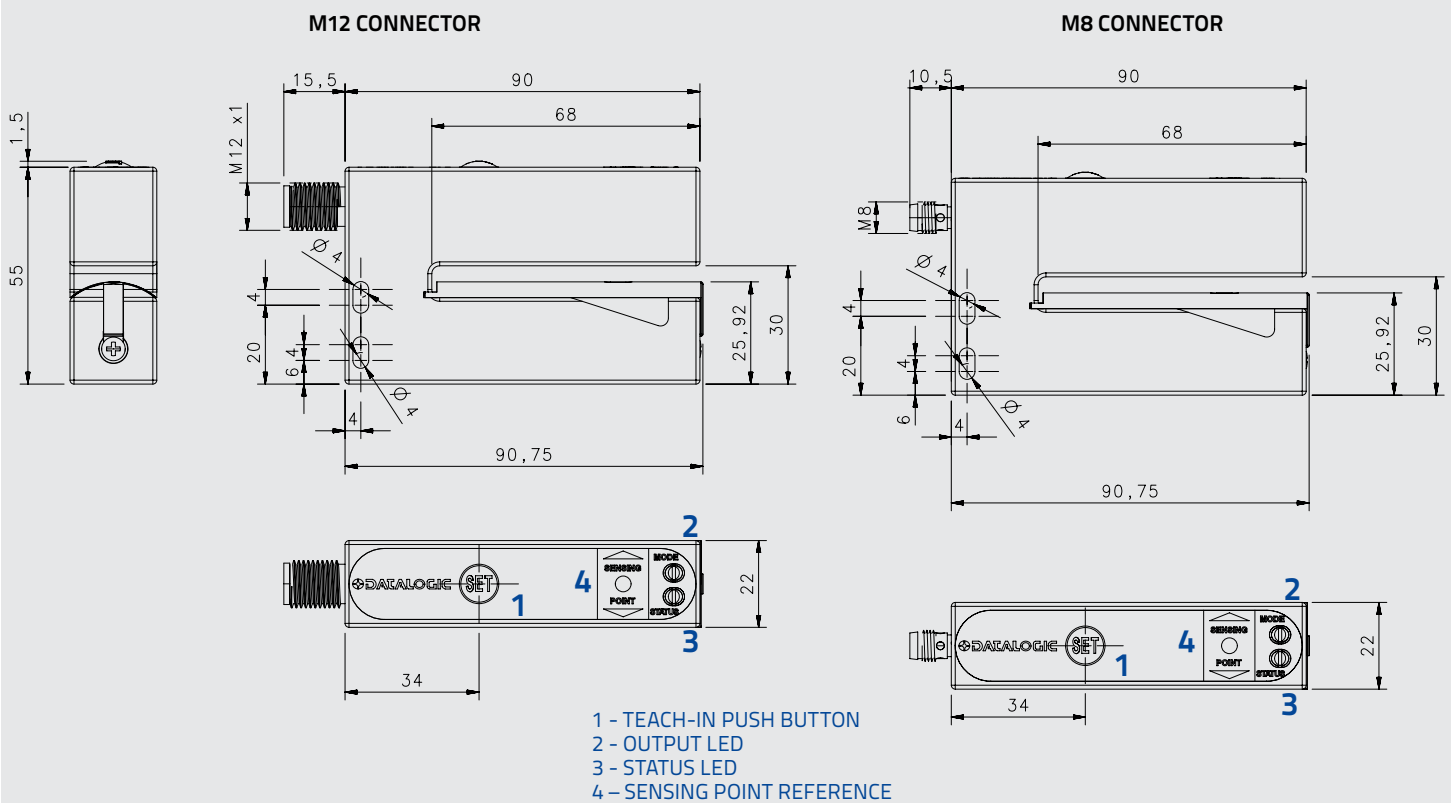


| SR23                        |           |                    |
|-----------------------------|-----------|--------------------|
| Slot width                  |           | 3 mm               |
| Slot depth                  |           | 68 mm              |
| Switching frequency         |           | 500 hz             |
| Emission type               |           | Ultrasonic 300 KHz |
| Setting                     |           | 300 mm             |
| Power supply                | Vdc       | 10...30 Vdc •      |
|                             | PNP       | •                  |
|                             | NPN       | •                  |
| Connection                  | Connector | M12 5-pin          |
|                             | Connector | M8 4-pin           |
| Approximate dimensions (mm) |           | 90 x 55 x 22       |
| Housing material            |           | Aluminium          |
| Mechanical protection       |           | IP54               |

## TECHNICAL DATA

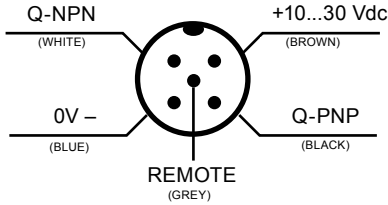
| SPECIFICATION             |  |                                                                        |
|---------------------------|--|------------------------------------------------------------------------|
| Minimum pulse time        |  | 1ms                                                                    |
| Detectable size           |  | > 2mm                                                                  |
| Max. tape speed           |  | 60m/min                                                                |
| Tape size                 |  | > 16mm                                                                 |
| Ultrasonic frequency      |  | 300 KHz                                                                |
| ELECTRICAL DATA           |  |                                                                        |
| Power supply              |  | 12...30 Vdc                                                            |
| Current consumption       |  | < 55mA                                                                 |
| Ripple                    |  | 10%                                                                    |
| Output current            |  | 250 mA max.                                                            |
| Output saturation voltage |  | < 1,5V @ 100mA                                                         |
| Rising time               |  | 0,8 us max                                                             |
| Falling time              |  | 1,6 us max                                                             |
| Power On delay            |  | 325 ms                                                                 |
| Response time             |  | 1ms                                                                    |
| Switching frequency       |  | 500 hz                                                                 |
| Output                    |  | PNP / NPN                                                              |
| MECHANICAL DATA           |  |                                                                        |
| Connection                |  | M12 5 pin                                                              |
| Operating temperature     |  | 0 °C ... +50 °C                                                        |
| Storage temperature       |  | -25 °C ... +75 °C                                                      |
| Humidity                  |  | 35...85% rH non condensing                                             |
| Vibration                 |  | 0.5 mm amplitude, 10 ... 55 Hz frequency, for every axis (EN60068-2-6) |
| Shock resistance          |  | 11 ms (30 G) 6 shock for every axis (EN60068-2-27)                     |
| Housing material          |  | Aluminium                                                              |
| Protection class          |  | IP54                                                                   |
| Weight                    |  | 300g                                                                   |

## DIMENSIONS



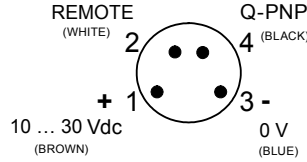
## CONNECTION

### M12 CONNECTOR – 5 PIN

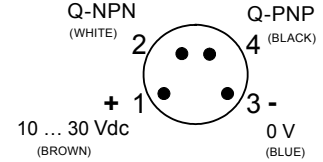


|       |   |              |
|-------|---|--------------|
| BROWN | 1 | +10...30 Vdc |
| WHITE | 2 | Q-NPN        |
| BLACK | 4 | Q-PNP        |
| BLUE  | 3 | 0 V          |
| GREY  | 5 | TEACH-IN     |

### M8 CONNECTOR – 8 PIN



|       |   |              |
|-------|---|--------------|
| BROWN | 1 | +10...30 Vdc |
| WHITE | 2 | REMOTE       |
| BLACK | 4 | Q-PNP        |
| BLUE  | 3 | 0 V          |



|       |   |              |
|-------|---|--------------|
| BROWN | 1 | +10...30 Vdc |
| WHITE | 2 | Q-NPN        |
| BLACK | 4 | Q-PNP        |
| BLUE  | 3 | 0 V          |

## SETTINGS

| STEP | USER ACTION DYNAMIC SETTING                                 | LED INTERFACE                                 | USER ACTION STATIC SETTING                                                    | LED INTERFACE                 | SENSOR ACTION                                                         |
|------|-------------------------------------------------------------|-----------------------------------------------|-------------------------------------------------------------------------------|-------------------------------|-----------------------------------------------------------------------|
| 1    | Place the label in the fork                                 | It shows the output status                    | Place the label in the fork                                                   | It shows the output status    | In working mode                                                       |
| 2    | press the button for more than 1s                           | It is turned off and after 1s it is turned on | Press the TEACH Button for more than 1s.                                      | It turns OFF and ON           | It measures the time of the button pressure                           |
| 3    | Release the button                                          | It blinks                                     | Release before 4s.                                                            | It turns OFF and blinks       | It start the calibration                                              |
| 4    | Run the tape for some labels                                | It blinks                                     | Wait the LED blinking                                                         | LED is blinking               | It searches the bestworking condition                                 |
| 5    | To close procedure for D.on, press the button briefly       | It blinks                                     | To close and store the calibration, wait the end of the led blinking          | LED is blinking then Turns ON | It waits 3s. It stores the new values Then it returns in working mode |
|      | To close procedure for L.on, press the button more than 5 s | After 5 s it blinks slowly                    | To close WITHOUT store the calibration, press briefly the TEACH-IN within 3s. | It turns OFF and ON           | It restore the previous setting                                       |
| 6    | Release the button                                          | It shows the output status                    |                                                                               |                               |                                                                       |

## MODEL SELECTION AND ORDER INFORMATION

| ADJUSTMENT       | OUTPUT      | CONNECTION | MODEL               | ORDER No. |
|------------------|-------------|------------|---------------------|-----------|
| Dynamic Teach-in | PNP/NPN+EXT | M12 5 pin  | SRX3-5-US-M12-PNH   | 953171000 |
| Static Teach-in  | PNP/NPN+EXT | M12 5 pin  | SRX3-5-US-3-M12-PNH | 953171010 |
| Dynamic Teach-in | PNP+EXT     | M8 4 pin   | SRX3-6-US-M8-PH     | 953171020 |
| Static Teach-in  | PNP+EXT     | M8 4 pin   | SRX3-6-US-3-M8-PH   | 953171030 |
| Dynamic Teach-in | PNP/NPN     | M8 4 pin   | SRX3-6-US-M8-PN     | 953171040 |
| Static Teach-in  | PNP/NPN     | M8 4 pin   | SRX3-6-US-3-M8-PN   | 953171050 |

## CABLES

| TYPE                               | No. Of POLES | SHEAT               | LENGTH | DESCRIPTION    | ORDER No. |
|------------------------------------|--------------|---------------------|--------|----------------|-----------|
| Female<br>M12 Connector<br>(Axial) | 5-poles      | Grey, P.V.C.        | 3 m    | CS-A1-03-G-03  | 95ACC2110 |
|                                    |              |                     | 5 m    | CS-A1-03-G-05  | 95ACC2120 |
|                                    |              |                     | 10 m   | CS-A1-03-G-10  | 95ACC2140 |
|                                    |              | Black, P.V.C.<br>UL | 3      | CS-A1-03-U-03  | 95ASE1170 |
|                                    |              |                     | 5      | CS-A1-03-U-05  | 95ASE1180 |
|                                    |              |                     | 10     | CS-A1-03-U-10  | 95ASE1190 |
| M8 Connector<br>(Axial)            | 4-poles      | Grey, P.V.C.        | 3 m    | CS-B-1-02-G-03 | 95A251420 |
|                                    |              |                     | 5 m    | CS-B-1-02-G-05 | 95A251430 |
|                                    |              |                     | 7 m    | CS-B-1-02-G-07 | 95A251440 |
|                                    |              |                     | 10 m   | CS-B-1-02-G-10 | 95A251480 |
|                                    |              | P.U.R.              | 2 m    | CS-B-1-02-R-02 | 95A251500 |
|                                    |              |                     | 5 m    | CS-B-1-02-R-05 | 95A251520 |
| M8 Connector<br>(radial 90°)       | 4-poles      | Grey, P.V.C.        | 3 m    | CS-B2-02-G-03  | 95A251450 |
|                                    |              |                     | 5 m    | CS-B2-02-G-05  | 95A251480 |
|                                    |              |                     | 7 m    | CS-B2-02-G-07  | 95A251470 |
|                                    |              | P.U.R.              | 5 m    | CS-B2-02-R-05  | 95ACC2110 |