# TYPE 4 SAFETY CONTROL UNITS
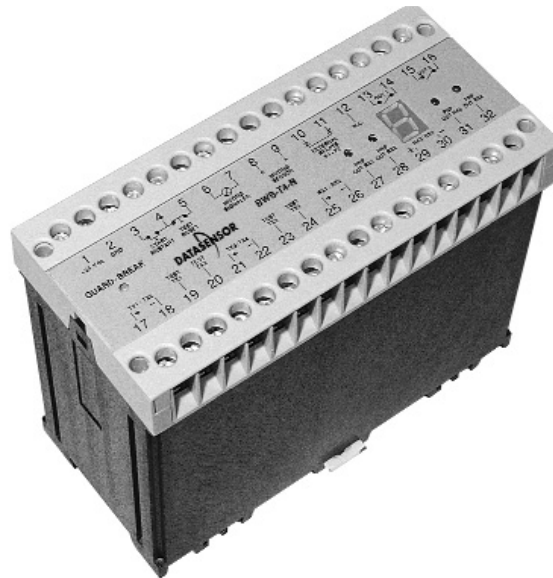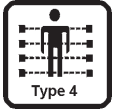
Type 4

**SAFETY DEVICES**

- *Functioning with up to 4 emitter-receiver photoelectric sensors*
- *Device for body protection and access control*
- *Versions with 'Muting', double 'Muting' and 'Override' functions*
- *Double safety relay output*

# SB-BWS-T4 SERIES

The control units of the **SB-BWS-T4** series are suitable for type 4 safety systems and can be connected with up to four emitter-receiver photoelectric sensors, available in the tubular M18 format, either in the plastic S5-F/G-ST4 or metal S10-F/G-ST4 versions for distances reaching 8 m, in the M18 tubular plastic SL5-F/G-ST4 model with class 1 and class 2 laser emission for distances reaching 40 m or in the parallelepiped S30-F/G-ST4 model reaching 50 m.

The couples of photoelectric sensors are controlled in sequence in order to avoid interferences; at any interruption of sensors beam, the contacts of the two relay outputs open causing the safety block of the controlled machinery. The autodiagnostic is continuous and the Restart is automatic or manual selectable.

The versions with 'Muting' and 'Override' offer the possibility to set, by means of the internal dip-switches, the photoelectric sensors to deactivate during material passage. The dip-switches can be easily reached through a side slot.

The **BWS-T4N-MT** model presents the 'double Muting' function that, using one single control unit, allows the control of two dangerous areas with independent mutings.

The display and a red/green bicolour LED indicates the operating status of the control unit; other 4 green LEDs signal the correct sensors' alignment.

**DATASENSOR**
value through detection

# TECHNICAL DATA

**Power supply:** ................................................ 24 Vdc ± 10%, reverse polarity protection

**Consumption:** ................................................ 420 mA max.

**Inputs for photocells:** .................................. from 1 to 4 couples of emitter-receiver safety
photoelectric sensors
(S5-F/G-ST4, S10-F/G-ST4, SL5-F/G-ST4,
S30-F/G-ST4 series)

**Operating distance:** ..................................... 0 **...** 8 m with S5-F/G-ST4 or S10-F/G-ST4
0 **...** 40 m with SL5-F/G-ST4,
0 **...** 50 m with S30-F/G-ST4

**Inputs:** ........................................................ Start/Restart - NO, Test/Reset - NC
Muting - NO, Ext. Relays - NC

**Indicators:** ................................................... 1 digit display with 7 status indications and
9 error indications
green/red free/interrupted beam LED
4 green photocell alignment LEDs
external Muting lamp 24Vdc (300 mA)

**Output  type:** ............................................... 2 safety relay outputs with NO contact

**Output current:** ............................................ 3.15 A max. (250 Vac)

**Response time:** ............................................ 30 ms max.

**Auxiliary functions:** .................................... Muting and Override configurable for each
couple of photoelectric sensors, selectable
automatic or manual Restart

**Connection:** ................................................. terminal block with 32 screw contacts

**Mounting:** .................................................... DIN rail

**Safety category:** .......................................... type 4

**Electrical protection:** .................................. class 2

**Mechanical protection:** ............................... IP20

**Housing material:** ........................................ plastic

**Weight:** ........................................................ 500 g max.

**Operating temperature:** .............................. -10 ... +55 °C

**Storage temperature:** .................................. -20 ... +65 °C

**Reference standard:** .................................... EN 954-1, IEC 61496-1, IEC 61496-2

**Certifications:** ............................................. CE TÜV

# DETECTION DIAGRAMS
**WITH  Sx-F/G-ST PHOTOELECTRIC SENSORS**



**S5-F/G-ST4**



**S10-F/G-ST4**



**S30-F/G-ST4**



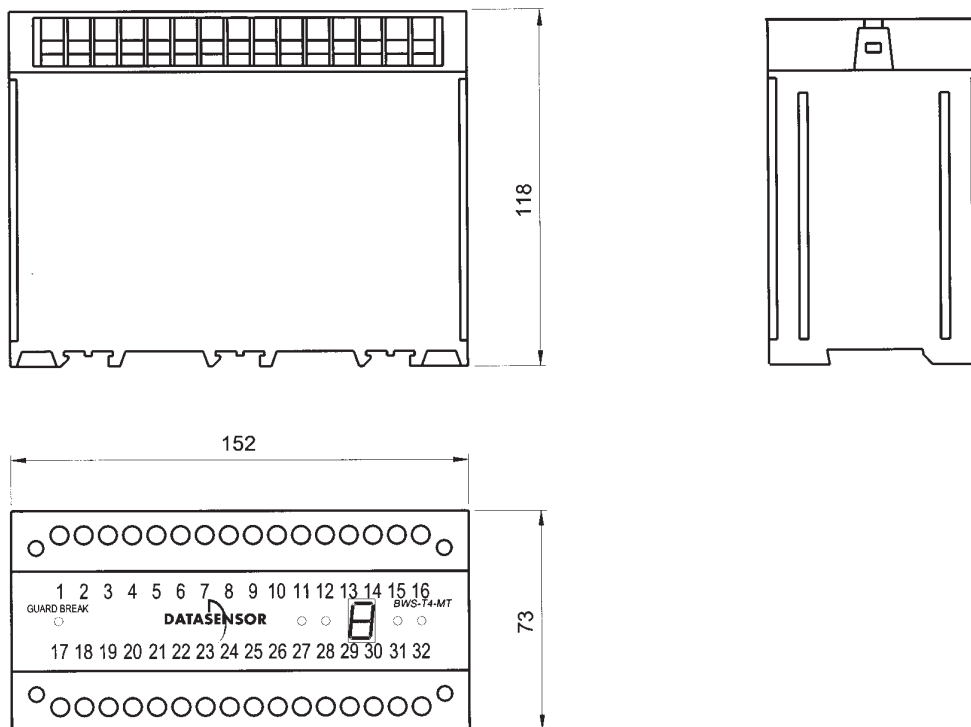**SL5-F/G-ST4**
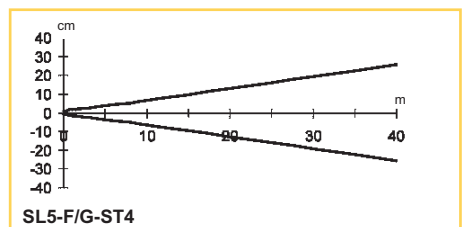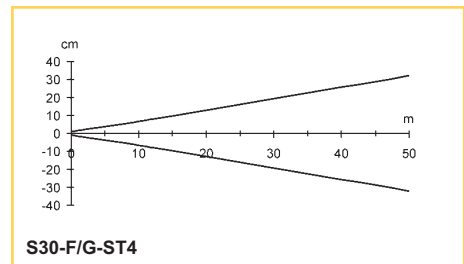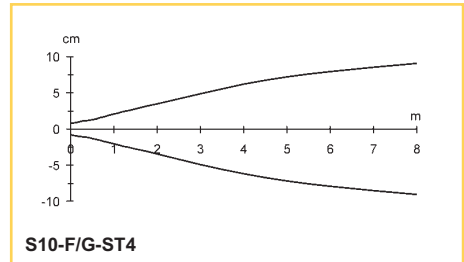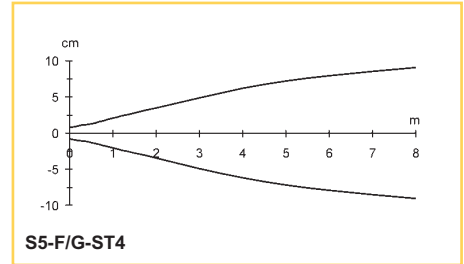
*Effective aperture angle (EAA)*

*For further information please refer to
safety photoelectric sensors
(Sx-F/G-ST series)*

## CONNECTIONS



## DIMENSIONS



mm
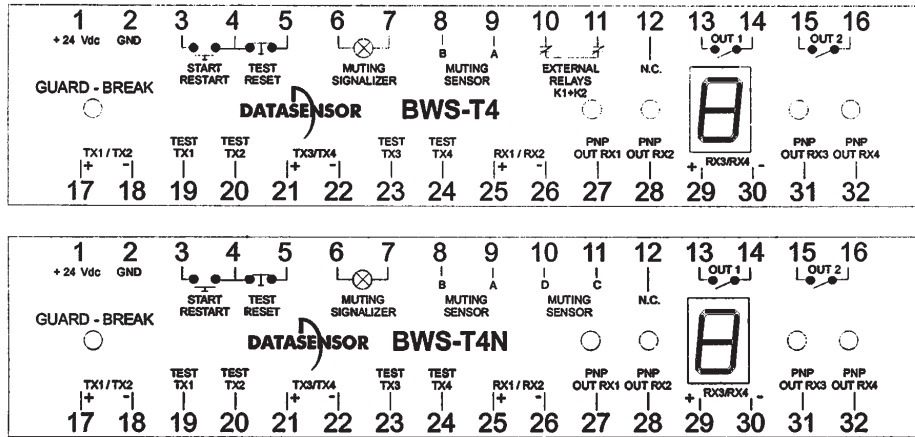
## MODEL SELECTION AND ORDER INFORMATION

| MODEL | DESCRIPTION | CODE N° |
|---|---|---|
| BWS-T4-N | type 4 control unit | 970500030 |
| BWS-T4-N-MT | type 4 control unit with double Muting | 970500040 |
| BWS-T4-MT | type 4 control unit with external contacts control with Muting | 970500020 |

## ACCESSORY SELECTION AND ORDER INFORMATION

| MODEL | DESCRIPTION | CODE N° |
|---|---|---|
| SE-DM 150 | deviating mirror | 95ACC1900 |
| LMS | muting signalling lamp | M2059004 |

*Please refer also to **Sx-F/G-ST** safety photoelectric sensor series*

**SAFETY DEVICES**

***Distributed by:***

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