



# INDUCTIVE SENSORS

Ø 12

10 ÷ 30 Vdc - 3 WIRES NPN OR PNP OUTPUT

- 2 mm to 4 mm operating distance - shielded, unshielded
- Short housing models
- Cable or M8 or M12 connector models
- Output status LED

IS Series

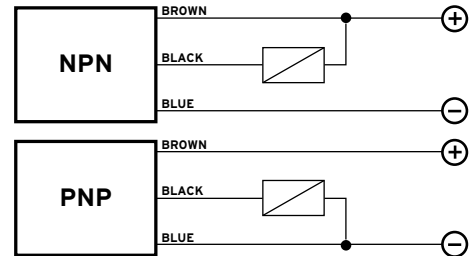


## TECHNICAL DATA

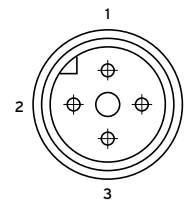
|                          | SHIELDED                                    | UNSHIELDED |
|--------------------------|---|------------|
| OPERATING DISTANCE (Sn)  | 2 mm  | 4 mm       |
| POWER SUPPLY             | 10 ÷ 30 Vdc (-15 / +10%)                    |            |
| RIPPLE                   | ≤ 10%                                       |            |
| HYSTERESIS               | < 10%                                       |            |
| OUTPUT CURRENT           | 200 mA max.                                 |            |
| CONSUMPTION              | < 10 mA @ 24 Vdc                            |            |
| SATURATION VOLTAGE       | < 1.8 V (I = 100 mA)                        |            |
| INDICATORS               | Yellow LED                                  |            |
| SWITCHING FREQUENCY      | 1000 Hz                                     |            |
| DELAY AT POWER ON        | ≤ 50 ms                                     |            |
| REPEATABILITY            | ≤ 3%  |            |
| SHORT CIRCUIT PROTECTION | Present (self-resetting)                    |            |
| PROTECTIONS CIRCUIT      | Against polarity reversal - inductive loads |            |
| OPERATING TEMPERATURE    | - 25 ÷ +60 °C                               |            |
| MECHANICAL PROTECTION    | IP67  |            |
| CONNECTIONS              | 2 m cable (3 x 0.25 mm <sup>2</sup> )       |            |
| HOUSING MATERIAL         | Nickel-plated brass                         |            |
| WEIGHT                   | 110 g cable version                         |            |
|                          | 60 g M8 connector version                   |            |
|                          | 60 g M12 connector version                  |            |

<sup>(4)</sup> Device marking II 3D IP67 T6X.

## CONNECTIONS



## M12 CONNECTOR

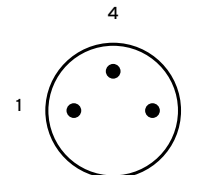


View of quadripole male connector

### CONFIGURATION

| Outputs    | PIN numbers |   |   |       |
|------------|-------------|---|---|-------|
|            | 1           | 2 | 3 | 4     |
| (NO or NC) | +           |   | - | NO/NC |

## M8 CONNECTOR

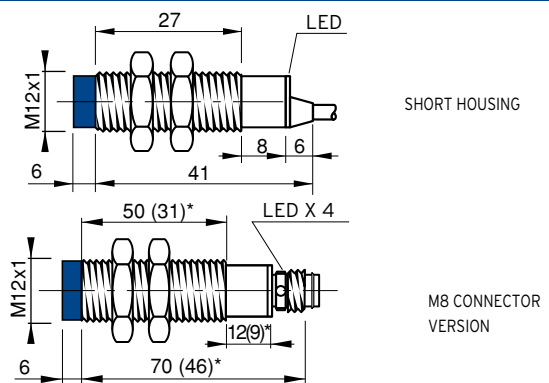
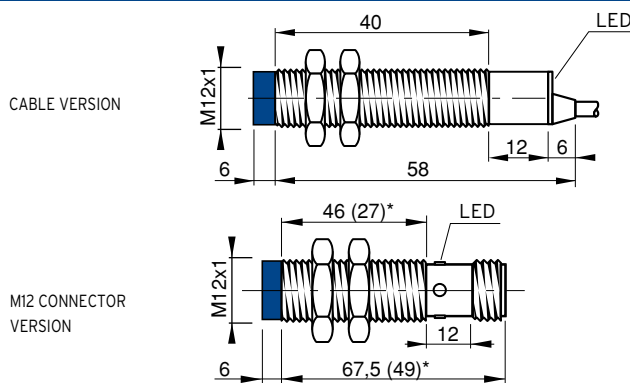


View of tripole male connector

### CONFIGURATION

| Outputs    | PIN numbers |   |       |
|------------|-------------|---|-------|
|            | 1           | 3 | 4     |
| (NO or NC) | +           | - | NO/NC |

## DIMENSIONS (mm)



(\* The dimensions in brackets refer to short housing models  
**Note:** the front part in blue is valid only for unshielded models



### MODEL SELECTION TABLE

| DIAMETER   | CONSTRUCTION  | OUTPUT                        | CONNECTION        |
|------------|---|-------------------------------|-------------------|
| 04 = 4 mm  | A= shielded standard housing                              | 1 = 10-30 Vdc PNP NO          | 02 = 500 mm CABLE |
| 05 = 5 mm  | B= shielded short housing                                 | 2 = 10-30 Vdc PNP NC          | 03 = 2 m CABLE    |
| 08 = 8 mm  | C= unshielded standard housing                            | 3 = 10-30 Vdc NPN NO          | S1 = M8 CONN.     |
| 12 = 12 mm | D= unshielded short housing                               | 4 = 10-30 Vdc NPN NC          | S2 = M12 CONN.    |
| 18 = 18 mm | E= shielded standard housing, double operating distance   | 5 = 10-30 Vdc PNP NO-NC       |                   |
| 30 = 30 mm | F= unshielded standard housing, double operating distance | 6 = 10-30 Vdc NPN NO-NC       |                   |
|            | G= shielded short housing, double operating distance      | 7 = 24-230 Vac - 2 wires NO   |                   |
|            | H= unshielded short housing, double operating distance    | 8 = 24-230 Vac - 2 wires NC   |                   |
|            | I= shielded standard metal housing                        | 9 = 10-30 Vac - 2 wires NO-NC |                   |
|            | L= unshielded standard metal housing                      | 0 = 12-30 Vac - 4 wires       |                   |

### PRODUCT TABLE

| DESCRIPTION | CONNECTION    | SHIELDED | HOUSING  | ORDER CODE |
|-------------|---------------|----------|----------|------------|
| IS-12-A1-03 | 2 m CABLE     | yes      | standard | 95B061240  |
| IS-12-A1-S1 | M8 CONNECTOR  | yes      | standard | 95B061260  |
| IS-12-A1-S2 | M12 CONNECTOR | yes      | standard | 95B061250  |
| IS-12-A2-03 | 2 m CABLE     | yes      | standard | 95B061270  |
| IS-12-A2-S1 | M8 CONNECTOR  | yes      | standard | 95B061290  |
| IS-12-A2-S2 | M12 CONNECTOR | yes      | standard | 95B061280  |
| IS-12-A3-03 | 2 m CABLE     | yes      | standard | 95B061180  |
| IS-12-A3-S1 | M8 CONNECTOR  | yes      | standard | 95B061200  |
| IS-12-A3-S2 | M12 CONNECTOR | yes      | standard | 95B061190  |
| IS-12-A4-03 | 2 m CABLE     | yes      | standard | 95B061210  |
| IS-12-A4-S1 | M8 CONNECTOR  | yes      | standard | 95B061230  |
| IS-12-A4-S2 | M12 CONNECTOR | yes      | standard | 95B061220  |
| IS-12-B1-03 | 2 m CABLE     | yes      | short    | 95B062040  |
| IS-12-B1-S1 | M8 CONNECTOR  | yes      | short    | 95B062060  |
| IS-12-B1-S2 | M12 CONNECTOR | yes      | short    | 95B062050  |
| IS-12-B2-03 | 2 m CABLE     | yes      | short    | 95B062070  |
| IS-12-B2-S1 | M8 CONNECTOR  | yes      | short    | 95B062090  |
| IS-12-B2-S2 | M12 CONNECTOR | yes      | short    | 95B062080  |
| IS-12-B3-03 | 2 m CABLE     | yes      | short    | 95B061980  |
| IS-12-B3-S1 | M8 CONNECTOR  | yes      | short    | 95B062000  |
| IS-12-B3-S2 | M12 CONNECTOR | yes      | short    | 95B061990  |
| IS-12-B4-03 | 2 m CABLE     | yes      | short    | 95B062010  |
| IS-12-B4-S1 | M8 CONNECTOR  | yes      | short    | 95B062030  |
| IS-12-B4-S2 | M12 CONNECTOR | yes      | short    | 95B062020  |
| IS-12-C1-03 | 2 m CABLE     | no       | standard | 95B061640  |
| IS-12-C1-S1 | M8 CONNECTOR  | no       | standard | 95B061660  |
| IS-12-C1-S2 | M12 CONNECTOR | no       | standard | 95B061650  |
| IS-12-C2-03 | 2 m CABLE     | no       | standard | 95B061670  |
| IS-12-C2-S1 | M8 CONNECTOR  | no       | standard | 95B061690  |
| IS-12-C2-S2 | M12 CONNECTOR | no       | standard | 95B061680  |
| IS-12-C3-03 | 2 m CABLE     | no       | standard | 95B061580  |
| IS-12-C3-S1 | M8 CONNECTOR  | no       | standard | 95B061600  |
| IS-12-C3-S2 | M12 CONNECTOR | no       | standard | 95B061590  |
| IS-12-C4-03 | 2 m CABLE     | no       | standard | 95B061610  |
| IS-12-C4-S1 | M8 CONNECTOR  | no       | standard | 95B061630  |
| IS-12-C4-S2 | M12 CONNECTOR | no       | standard | 95B061620  |
| IS-12-D1-03 | 2 m CABLE     | no       | short    | 95B062440  |
| IS-12-D1-S1 | M8 CONNECTOR  | no       | short    | 95B062460  |
| IS-12-D1-S2 | M12 CONNECTOR | no       | short    | 95B062450  |
| IS-12-D2-03 | 2 m CABLE     | no       | short    | 95B062470  |
| IS-12-D2-S1 | M8 CONNECTOR  | no       | short    | 95B062490  |
| IS-12-D2-S2 | M12 CONNECTOR | no       | short    | 95B062480  |
| IS-12-D3-03 | 2 m CABLE     | no       | short    | 95B062380  |
| IS-12-D3-S1 | M8 CONNECTOR  | no       | short    | 95B062400  |
| IS-12-D3-S2 | M12 CONNECTOR | no       | short    | 95B062390  |
| IS-12-D4-03 | 2 m CABLE     | no       | short    | 95B062410  |
| IS-12-D4-S1 | M8 CONNECTOR  | no       | short    | 95B062430  |
| IS-12-D4-S2 | M12 CONNECTOR | no       | short    | 95B062420  |



# INDUCTIVE SENSORS

## Ø 12 DOUBLE OPERATING DISTANCE 10÷30 Vdc - 3 WIRES NPN OR PNP OUTPUT

- 4 mm to 8 mm operating distance - shielded, unshielded
- Short housing models
- Cable or M12 connector models
- Output status LED

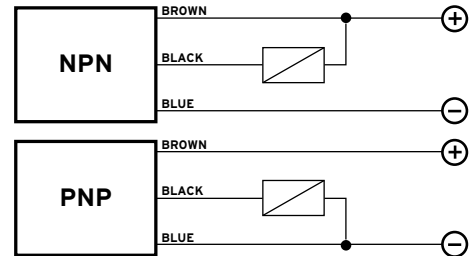
IS Series



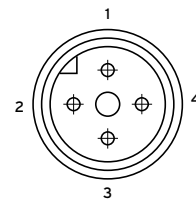
### TECHNICAL DATA

|                          | SHIELDED  | UNSHIELDED |
|--------------------------|---|------------|
| OPERATING DISTANCE (Sn)  | 4 mm  | 8 mm       |
| POWER SUPPLY             | 10 ÷ 30 Vdc (-15 / +10%)                          |            |
| RIPPLE                   | ≤ 10%   |            |
| HYSTERESIS               | < 10%   |            |
| OUTPUT CURRENT           | 200 mA max.                                       |            |
| CONSUMPTION              | < 10 mA @ 24 Vdc                                  |            |
| SATURATION VOLTAGE       | < 1.2 V (I = 100 mA)                              |            |
| INDICATORS               | Yellow LED  |            |
| SWITCHING FREQUENCY      | 500 Hz  |            |
| DELAY AT POWER ON        | ≤ 75 ms   |            |
| REPEATABILITY            | ≤ 3%  |            |
| SHORT CIRCUIT PROTECTION | Present (self-resetting)                          |            |
| PROTECTIONS CIRCUIT      | Against polarity reversal - inductive loads       |            |
| OPERATING TEMPERATURE    | -25 ÷ +70 °C                                      |            |
| MECHANICAL PROTECTION    | IP67  |            |
| CONNECTIONS              | 2 m cable (3 x 0.25 mm <sup>2</sup> )             |            |
| HOUSING MATERIAL         | Nickel-plated brass                               |            |
| WEIGHT                   | 110 g cable version<br>60 g M12 connector version |            |

### CONNECTIONS



### M12 CONNECTOR

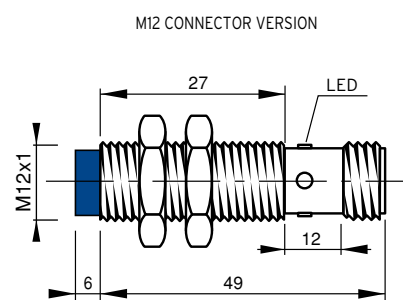
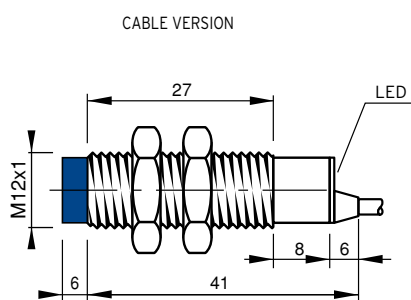


View of  
quadripole  
male  
connector

### CONFIGURATION

| Outputs    | PIN numbers |   |   |       |
|------------|-------------|---|---|-------|
|            | 1           | 2 | 3 | 4     |
| (NO or NC) | +           |   | - | NO/NC |

### DIMENSIONS (mm)



Note: the front part in blue is valid only for unshielded models



### MODEL SELECTION TABLE

| DIAMETER   | CONSTRUCTION  | OUTPUT                        | CONNECTION        |
|------------|---|-------------------------------|-------------------|
| 04 = 4 mm  | A= shielded standard housing                              | 1 = 10-30 Vdc PNP NO          | 02 = 500 mm CABLE |
| 05 = 5 mm  | B= shielded short housing                                 | 2 = 10-30 Vdc PNP NC          | 03 = 2 m CABLE    |
| 08 = 8 mm  | C= unshielded standard housing                            | 3 = 10-30 Vdc NPN NO          | S1 = M8 CONN.     |
| 12 = 12 mm | D= unshielded short housing                               | 4 = 10-30 Vdc NPN NC          | S2 = M12 CONN.    |
| 18 = 18 mm | E= shielded standard housing, double operating distance   | 5 = 10-30 Vdc PNP NO-NC       |                   |
| 30 = 30 mm | F= unshielded standard housing, double operating distance | 6 = 10-30 Vdc NPN NO-NC       |                   |
|            | G= shielded short housing, double operating distance      | 7 = 24-230 Vac - 2 wires NO   |                   |
|            | H= unshielded short housing, double operating distance    | 8 = 24-230 Vac - 2 wires NC   |                   |
|            | I= shielded standard metal housing                        | 9 = 10-30 Vac - 2 wires NO-NC |                   |
|            | L= unshielded standard metal housing                      | 0 = 12-30 Vac - 4 wires       |                   |

### PRODUCT TABLE

| DESCRIPTION | CONNECTION | SHIELDED | HOUSING | ORDER CODE |
|-------------|------------|----------|---------|------------|
| IS-12-G1-03 | CABLE      | yes      | short   | 95B063360  |
| IS-12-G1-S2 | M12        | yes      | short   | 95B063370  |
| IS-12-G2-03 | CABLE      | yes      | short   | 95B063380  |
| IS-12-G2-S2 | M12        | yes      | short   | 95B063390  |
| IS-12-G3-03 | CABLE      | yes      | short   | 95B063320  |
| IS-12-G3-S2 | M12        | yes      | short   | 95B063330  |
| IS-12-G4-03 | CABLE      | yes      | short   | 95B063340  |
| IS-12-G4-S2 | M12        | yes      | short   | 95B063350  |
| IS-12-H1-03 | CABLE      | no       | short   | 95B063440  |
| IS-12-H1-S2 | M12        | no       | short   | 95B063450  |
| IS-12-H2-03 | CABLE      | no       | short   | 95B063460  |
| IS-12-H2-S2 | M12        | no       | short   | 95B063470  |
| IS-12-H3-03 | CABLE      | no       | short   | 95B063400  |
| IS-12-H3-S2 | M12        | no       | short   | 95B063410  |
| IS-12-H4-03 | CABLE      | no       | short   | 95B063420  |
| IS-12-H4-S2 | M12        | no       | short   | 95B063430  |

# INDUCTIVE SENSORS

## Ø 12 DOUBLE OPERATING DISTANCE 10÷30 Vdc - 4 WIRES NPN OR PNP OUTPUT

- 4 mm to 8 mm operating distance - shielded, unshielded
- Short housing models
- Cable or M12 connector models
- 200mA NPN or PNP
- Output status LED

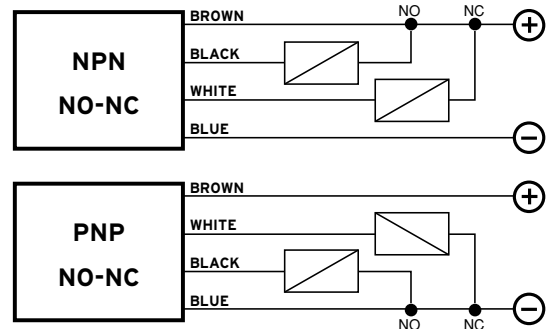
IS Series



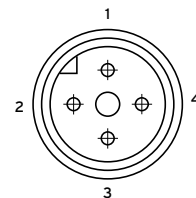
### TECHNICAL DATA

|                          | SHIELDED  | UNSHIELDED |
|--------------------------|---|------------|
| OPERATING DISTANCE (Sn)  | 4 mm  | 8 mm       |
| POWER SUPPLY             | 10 ÷ 30 Vdc (-15 / +10%)                          |            |
| RIPPLE                   | ≤ 10%   |            |
| HYSTERESIS               | < 10%   |            |
| OUTPUT CURRENT           | 200 mA max.                                       |            |
| CONSUMPTION              | < 10 mA @ 24 Vdc                                  |            |
| SATURATION VOLTAGE       | < 1.2 V (I = 100 mA)                              |            |
| INDICATORS               | Yellow LED  |            |
| SWITCHING FREQUENCY      | 500 Hz  |            |
| DELAY AT POWER ON        | 75 ms   |            |
| REPEATABILITY            | 3%  |            |
| SHORT CIRCUIT PROTECTION | Present (self-resetting)                          |            |
| PROTECTIONS CIRCUIT      | Against polarity reversal - inductive loads       |            |
| OPERATING TEMPERATURE    | -25 ÷ +70 °C                                      |            |
| MECHANICAL PROTECTION    | IP67  |            |
| CONNECTIONS              | 2 m cable (3 x 0.25 mm <sup>2</sup> )             |            |
| HOUSING MATERIAL         | Nickel-plated brass                               |            |
| WEIGHT                   | 110 g cable version<br>60 g M12 connector version |            |

### CONNECTIONS



### M12 CONNECTOR

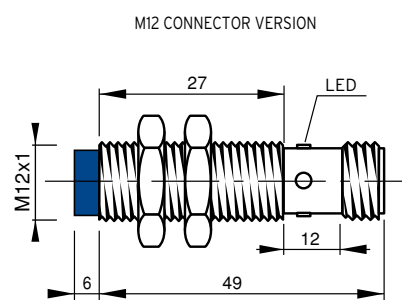
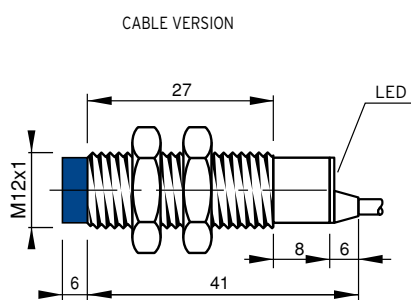


View of  
quadripole  
male  
connector

### CONFIGURATION

| Outputs   | PIN numbers |    |   |    |
|-----------|-------------|----|---|----|
|           | 1           | 2  | 3 | 4  |
| (NO + NC) | +           | NC | - | NO |

### DIMENSIONS (mm)



Note: the front part in blue is valid only for unshielded models



### MODEL SELECTION TABLE

| DIAMETER   | CONSTRUCTION  | OUTPUT                        | CONNECTION        |
|------------|---|-------------------------------|-------------------|
| 04 = 4 mm  | A= shielded standard housing                              | 1 = 10-30 Vdc PNP NO          | 02 = 500 mm CABLE |
| 05 = 5 mm  | B= shielded short housing                                 | 2 = 10-30 Vdc PNP NC          | 03 = 2 m CABLE    |
| 08 = 8 mm  | C= unshielded standard housing                            | 3 = 10-30 Vdc NPN NO          | S1 = M8 CONN.     |
| 12 = 12 mm | D= unshielded short housing                               | 4 = 10-30 Vdc NPN NC          | S2 = M12 CONN.    |
| 18 = 18 mm | E= shielded standard housing, double operating distance   | 5 = 10-30 Vdc PNP NO-NC       |                   |
| 30 = 30 mm | F= unshielded standard housing, double operating distance | 6 = 10-30 Vdc NPN NO-NC       |                   |
|            | G= shielded short housing, double operating distance      | 7 = 24-230 Vac - 2 wires NO   |                   |
|            | H= unshielded short housing, double operating distance    | 8 = 24-230 Vac - 2 wires NC   |                   |
|            | I= shielded standard metal housing                        | 9 = 10-30 Vac - 2 wires NO-NC |                   |
|            | L= unshielded standard metal housing                      | 0 = 12-30 Vac - 4 wires       |                   |

### PRODUCT TABLE

| DESCRIPTION | CONNECTION    | SHIELDED | HOUSING  | ORDER CODE |
|-------------|---------------|----------|----------|------------|
| IS-12-G5-03 | 2 m CABLE     | yes      | standard | 95B062680  |
| IS-12-G5-S2 | M12 CONNECTOR | yes      | standard | 95B062690  |
| IS-12-G6-03 | 2 m CABLE     | yes      | standard | 95B062660  |
| IS-12-G6-S2 | M12 CONNECTOR | yes      | standard | 95B062670  |
| IS-12-H5-03 | 2 m CABLE     | no       | standard | 95B062760  |
| IS-12-H5-S2 | M12 CONNECTOR | no       | standard | 95B062770  |
| IS-12-H6-03 | 2 m CABLE     | no       | standard | 95B062740  |
| IS-12-H6-S2 | M12 CONNECTOR | no       | standard | 95B062750  |



# INDUCTIVE SENSORS

## Ø 12 DOUBLE OPERATING DISTANCE 12÷30 Vdc - 4 WIRES PROGRAMMABLE OUTPUT

- 4 mm to 8 mm operating distance - shielded, unshielded
- Programmable outputs: NPN/PNP, NO or NC
- Cable models
- Nickel plated brass
- Output status LED
- 200 mA max output

IS Series

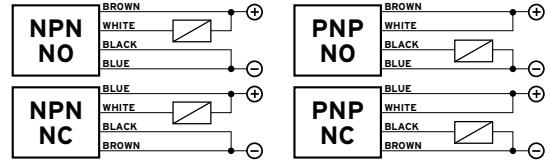


### TECHNICAL DATA

|                          | SHIELDED                                    | UNSHIELDED |
|--------------------------|---|------------|
| OPERATING DISTANCE (Sn)  | 4 mm  | 8 mm       |
| POWER SUPPLY             | 12 ÷ 30 Vdc (-15/+10%)                      |            |
| RIPPLE                   | ≤ 10%                                       |            |
| HYSTERESIS               | < 10%                                       |            |
| OUTPUT                   | NPN or PNP (selectable)                     |            |
| CONTACT                  | NO or NC (selectable)                       |            |
| OUTPUT CURRENT           | 200 mA max.                                 |            |
| CONSUMPTION              | < 1.2 mA @ 24 Vdc                           |            |
| SATURATION VOLTAGE       | < 1,8 V (I = 100 mA)                        |            |
| INDICATORS               | Yellow LED                                  |            |
| SWITCHING FREQUENCY      | 500 Hz                                      |            |
| DELAY AT POWER ON        | ≤ 50 ms                                     |            |
| REPEATABILITY            | ≤ 3%  |            |
| SHORT CIRCUIT PROTECTION | Present (self-resetting)                    |            |
| PROTECTIONS CIRCUIT      | Against polarity reversal - inductive loads |            |
| OPERATING TEMPERATURE    | - 25 ÷ +70 °C                               |            |
| MECHANICAL PROTECTION    | IP67  |            |
| CONNECTIONS              | 2 m cable (4 x 0.25 mm <sup>2</sup> )       |            |
| HOUSING MATERIAL         | Nickel-plated brass                         |            |
| WEIGHT                   | 110 g cable version                         |            |

<sup>(1)</sup> Device marking II 3D IP67 T6X.

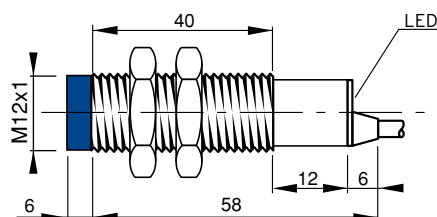
### CONNECTIONS



These sensors, thanks to the unpaired output circuit offer 4 output configurations (NPN-NO, NPN-NC, PNP-NO, PNP-NC) on the same model.

### DIMENSIONS (mm)

CABLE VERSION



**Note:** the front part in blue is valid only for unshielded models



### MODEL SELECTION TABLE

| DIAMETER   | CONSTRUCTION  | OUTPUT                        | CONNECTION        |
|------------|---|-------------------------------|-------------------|
| 04 = 4 mm  | A= shielded standard housing                              | 1 = 10-30 Vdc PNP NO          | 02 = 500 mm CABLE |
| 05 = 5 mm  | B= shielded short housing                                 | 2 = 10-30 Vdc PNP NC          | 03 = 2 m CABLE    |
| 08 = 8 mm  | C= unshielded standard housing                            | 3 = 10-30 Vdc NPN NO          | S1 = M8 CONN.     |
| 12 = 12 mm | D= unshielded short housing                               | 4 = 10-30 Vdc NPN NC          | S2 = M12 CONN.    |
| 18 = 18 mm | E= shielded standard housing, double operating distance   | 5 = 10-30 Vdc PNP NO-NC       |                   |
| 30 = 30 mm | F= unshielded standard housing, double operating distance | 6 = 10-30 Vdc NPN NO-NC       |                   |
|            | G= shielded short housing, double operating distance      | 7 = 24-230 Vac - 2 wires NO   |                   |
|            | H= unshielded short housing, double operating distance    | 8 = 24-230 Vac - 2 wires NC   |                   |
|            | I= shielded standard metal housing                        | 9 = 10-30 Vac - 2 wires NO-NC |                   |
|            | L= unshielded standard metal housing                      | 0 = 12-30 Vac - 4 wires       |                   |

### PRODUCT TABLE

| DESCRIPTION | CONNECTION | SHIELDED | HOUSING  | ORDER CODE |
|-------------|------------|----------|----------|------------|
| IS-12-E0-03 | CABLE      | yes      | standard | 95B063840  |





# INDUCTIVE SENSORS

**Ø 12 DOUBLE OPERATING DISTANCE**  
**10÷30 Vdc 2 WIRES NO-NC PROGRAMMABLE OUTPUT**

- 4 mm to 8 mm operating distance - shielded, unshielded
- Cable models
- Nickel plated brass

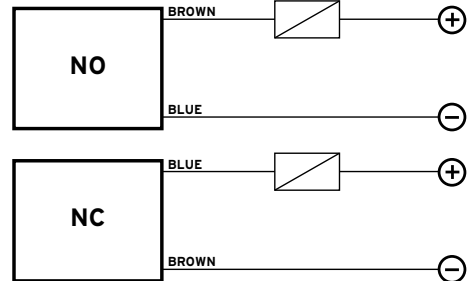
**IS Series**



## TECHNICAL DATA

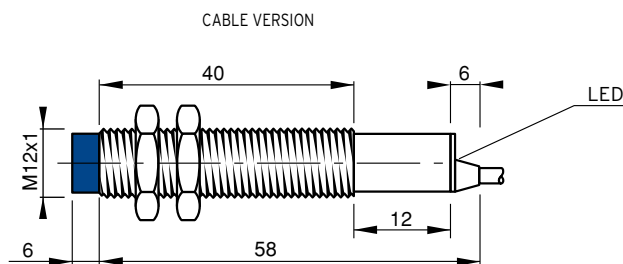
|                                      | SHIELDED                                    | UNSHIELDED |
|--------------------------------------|---|------------|
| OPERATING DISTANCE (S <sub>n</sub> ) | 4 mm  | 8 mm       |
| POWER SUPPLY                         | 10 ÷ 30 Vdc (-15 / +10%)                    |            |
| RIPPLE                               | ≤ 10%                                       |            |
| HYSTERESIS                           | < 10%                                       |            |
| OUTPUT CURRENT                       | 100 mA max.                                 |            |
| OUTPUT CURRENT                       | > 1,6 mA min.                               |            |
| CONSUMPTION                          | < 1,6 mA @ 24 Vdc                           |            |
| SATURATION VOLTAGE                   | < 6,5 V (I = 100 mA)                        |            |
| INDICATORS                           | Yellow LED                                  |            |
| SWITCHING FREQUENCY                  | 500 Hz                                      |            |
| DELAY AT POWER ON                    | ≤ 50 ms                                     |            |
| REPEATABILITY                        | ≤ 3%  |            |
| SHORT CIRCUIT PROTECTION             | Present (self-resetting)                    |            |
| PROTECTIONS CIRCUIT                  | Against polarity reversal - inductive loads |            |
| OPERATING TEMPERATURE                | - 25 ÷ +70 °C                               |            |
| MECHANICAL PROTECTION                | IP67  |            |
| CONNECTIONS                          | 2 m cable (2 x 0.25 mm <sup>2</sup> )       |            |
| HOUSING MATERIAL                     | Nickel-plated brass                         |            |
| WEIGHT                               | 110 g cable version                         |            |

## CONNECTIONS



**WARNING:** The load can be connected in series to the blue wire or to the brown wire to simulate the NPN or PNP functioning logic.

## DIMENSIONS (mm)



**Note:** the front part in blue is valid only for unshielded models



### MODEL SELECTION TABLE

| DIAMETER   | CONSTRUCTION  | OUTPUT                        | CONNECTION        |
|------------|---|-------------------------------|-------------------|
| 04 = 4 mm  | A= shielded standard housing                              | 1 = 10-30 Vdc PNP NO          | 02 = 500 mm CABLE |
| 05 = 5 mm  | B= shielded short housing                                 | 2 = 10-30 Vdc PNP NC          | 03 = 2 m CABLE    |
| 08 = 8 mm  | C= unshielded standard housing                            | 3 = 10-30 Vdc NPN NO          | S1 = M8 CONN.     |
| 12 = 12 mm | D= unshielded short housing                               | 4 = 10-30 Vdc NPN NC          | S2 = M12 CONN.    |
| 18 = 18 mm | E= shielded standard housing, double operating distance   | 5 = 10-30 Vdc PNP NO-NC       |                   |
| 30 = 30 mm | F= unshielded standard housing, double operating distance | 6 = 10-30 Vdc NPN NO-NC       |                   |
|            | G= shielded short housing, double operating distance      | 7 = 24-230 Vac - 2 wires NO   |                   |
|            | H= unshielded short housing, double operating distance    | 8 = 24-230 Vac - 2 wires NC   |                   |
|            | I= shielded standard metal housing                        | 9 = 10-30 Vac - 2 wires NO-NC |                   |
|            | L= unshielded standard metal housing                      | 0 = 12-30 Vac - 4 wires       |                   |

### PRODUCT TABLE

| DESCRIPTION | CONNECTION | SHIELDED | HOUSING  | ORDER CODE |
|-------------|------------|----------|----------|------------|
| IS-12-E9-03 | CABLE      | yes      | standard | 95B063800  |



# INDUCTIVE SENSORS

Ø 12

24 ÷ 230 Vac - 2 WIRES NO OR NC OUTPUT

- 2 mm to 4 mm operating distance - shielded, unshielded
- Cable or M12 connector models
- Very low consumption < 0,7 mA
- Inrush current (20ms) 1.5A
- 350 mA max output

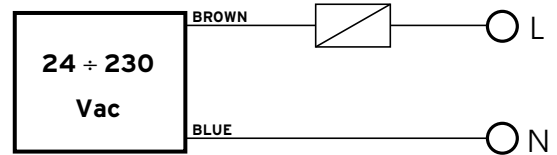
IS Series



## TECHNICAL DATA

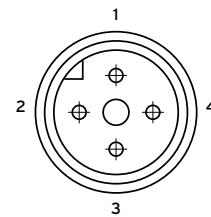
|                          | SHIELDED  | UNSHIELDED |
|--------------------------|---|------------|
| OPERATING DISTANCE (Sn)  | 2 mm  | 4 mm       |
| POWER SUPPLY             | 24 ÷ 230 Vac (-15/+10%)                         |            |
| RIPPLE                   | 50 ÷ 60 Hz                                      |            |
| HYSTERESIS               | < 10%   |            |
| OUTPUT CURRENT           | 350 mA max.                                     |            |
| OUTPUT CURRENT           | 20 mA min.                                      |            |
| INRUSH CURRENT           | 1,5 A max. (20 ms)                              |            |
| CONSUMPTION              | < 0,7 mA  |            |
| SATURATION VOLTAGE       | < 5 V (I = 100 mA)                              |            |
| INDICATORS               | Yellow LED                                      |            |
| SWITCHING FREQUENCY      | 12 Hz   |            |
| DELAY AT POWER ON        | ≤ 300 ms  |            |
| REPEATABILITY            | ≤ 3%  |            |
| SHORT CIRCUIT PROTECTION | -25 ÷ +70 °C                                    |            |
| MECHANICAL PROTECTION    | IP67  |            |
| CONNECTIONS              | 2 m cable (2 x 0.25 mm <sup>2</sup> )           |            |
| HOUSING MATERIAL         | Nickel-plated brass                             |            |
| WEIGHT                   | 110 g cable version<br>60 g M12 connector cable |            |

## CONNECTIONS



**Warning:** Output short circuit are not possible. Wrong supply cable connections can damage the sensor. Therefore sensors whose output status is short-circuited will not be replaced under warranty.

## M12 CONNECTOR



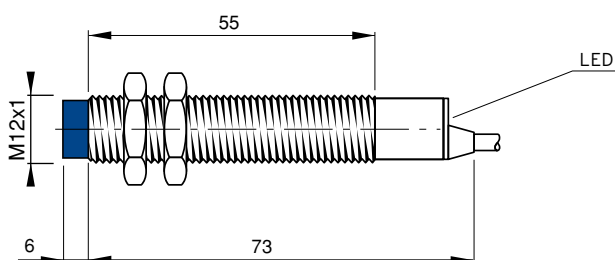
View of quadripole male connector.

## CONFIGURATION

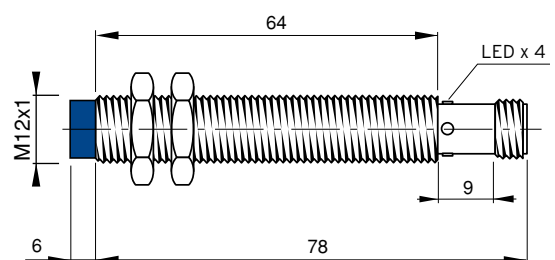
| Outputs    | PIN numbers |   |   |   |
|------------|-------------|---|---|---|
|            | 1           | 2 | 3 | 4 |
| (NO or NC) | L           |   | N |   |

## DIMENSIONS (mm)

CABLE VERSION



M12 CONNECTOR VERSION



**Note:** the front part in blue is valid only for unshielded models



### MODEL SELECTION TABLE

| DIAMETER   | CONSTRUCTION  | OUTPUT                        | CONNECTION        |
|------------|---|-------------------------------|-------------------|
| 04 = 4 mm  | A= shielded standard housing                              | 1 = 10-30 Vdc PNP NO          | 02 = 500 mm CABLE |
| 05 = 5 mm  | B= shielded short housing                                 | 2 = 10-30 Vdc PNP NC          | 03 = 2 m CABLE    |
| 08 = 8 mm  | C= unshielded standard housing                            | 3 = 10-30 Vdc NPN NO          | S1 = M8 CONN.     |
| 12 = 12 mm | D= unshielded short housing                               | 4 = 10-30 Vdc NPN NC          | S2 = M12 CONN.    |
| 18 = 18 mm | E= shielded standard housing, double operating distance   | 5 = 10-30 Vdc PNP NO-NC       |                   |
| 30 = 30 mm | F= unshielded standard housing, double operating distance | 6 = 10-30 Vdc NPN NO-NC       |                   |
|            | G= shielded short housing, double operating distance      | 7 = 24-230 Vac - 2 wires NO   |                   |
|            | H= unshielded short housing, double operating distance    | 8 = 24-230 Vac - 2 wires NC   |                   |
|            | I= shielded standard metal housing                        | 9 = 10-30 Vac - 2 wires NO-NC |                   |
|            | L= unshielded standard metal housing                      | 0 = 12-30 Vac - 4 wires       |                   |

### PRODUCT TABLE

| DESCRIPTION | CONNECTION    | SHIELDED | HOUSING  | ORDER CODE |
|-------------|---------------|----------|----------|------------|
| IS-12-A7-03 | 2 m CABLE     | yes      | standard | 95B062820  |
| IS-12-A7-S2 | M12 CONNECTOR | yes      | standard | 95B062830  |
| IS-12-A8-03 | 2 m CABLE     | yes      | standard | 95B062840  |
| IS-12-A8-S2 | M12 CONNECTOR | yes      | standard | 95B062850  |
| IS-12-C7-03 | 2 m CABLE     | no       | standard | 95B062940  |
| IS-12-C7-S2 | M12 CONNECTOR | no       | standard | 95B062950  |
| IS-12-C8-03 | 2 m CABLE     | no       | standard | 95B062960  |
| IS-12-C8-S2 | M12 CONNECTOR | no       | standard | 95B062970  |



# INDUCTIVE SENSORS

## Ø 12 DOUBLE OPERATING DISTANCE 24÷230 Vac/dc - 2 WIRES WIRES NO OR NC OUTPUT

- 4 mm to 8 mm operating distance - shielded, unshielded
- Short circuit protection AC/DC
- Cable models
- Inrush current (20ms) 2.5A
- 350mA max output

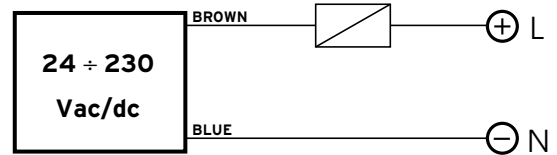
IS Series



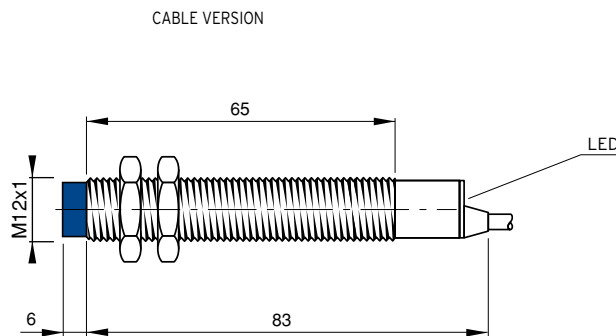
### TECHNICAL DATA

|                                      | SHIELDED                              | UNSHIELDED |
|--------------------------------------|---------------------------------------|------------|
| OPERATING DISTANCE (S <sub>n</sub> ) | 4 mm                                  | 8 mm       |
| POWER SUPPLY                         | 24 ÷ 230 Vca/dc (-15/+10%)            |            |
| RIPPLE                               | 50 ÷ 60 Hz                            |            |
| HYSTERESIS                           | < 10%                                 |            |
| OUTPUT CURRENT                       | 350 mA max.                           |            |
| OUTPUT CURRENT                       | 4 mA min.                             |            |
| INRUSH CURRENT                       | 2,5 A max. (20 ms)                    |            |
| CONSUMPTION                          | < 1,5 mA                              |            |
| SATURATION VOLTAGE                   | < 6 V (I=100mA)                       |            |
| INDICATORS                           | Yellow LED                            |            |
| SWITCHING FREQUENCY                  | 12 Hz                                 |            |
| DELAY AT POWER ON                    | ≤ 300 ms                              |            |
| REPEATABILITY                        | Present (manual resetting)            |            |
| OPERATING TEMPERATURE                | ≤ 3%                                  |            |
| SHORT CIRCUIT PROTECTION             | -25 ÷ +70 °C                          |            |
| MECHANICAL PROTECTION                | IP67                                  |            |
| CONNECTIONS                          | 2 m cable (2 x 0.25 mm <sup>2</sup> ) |            |
| HOUSING MATERIAL                     | Nickel-plated brass                   |            |
| WEIGHT                               | 110 g cable version                   |            |

### CONNECTIONS



### DIMENSIONS (mm)



**Note:** the front part in blue is valid only for unshielded models



### MODEL SELECTION TABLE

| DIAMETER   | CONSTRUCTION  | OUTPUT                        | CONNECTION        |
|------------|---|-------------------------------|-------------------|
| 04 = 4 mm  | A= shielded standard housing                              | 1 = 10-30 Vdc PNP NO          | 02 = 500 mm CABLE |
| 05 = 5 mm  | B= shielded short housing                                 | 2 = 10-30 Vdc PNP NC          | 03 = 2 m CABLE    |
| 08 = 8 mm  | C= unshielded standard housing                            | 3 = 10-30 Vdc NPN NO          | S1 = M8 CONN.     |
| 12 = 12 mm | D= unshielded short housing                               | 4 = 10-30 Vdc NPN NC          | S2 = M12 CONN.    |
| 18 = 18 mm | E= shielded standard housing, double operating distance   | 5 = 10-30 Vdc PNP NO-NC       |                   |
| 30 = 30 mm | F= unshielded standard housing, double operating distance | 6 = 10-30 Vdc NPN NO-NC       |                   |
|            | G= shielded short housing, double operating distance      | 7 = 24-230 Vac - 2 wires NO   |                   |
|            | H= unshielded short housing, double operating distance    | 8 = 24-230 Vac - 2 wires NC   |                   |
|            | I= shielded standard metal housing                        | 9 = 10-30 Vac - 2 wires NO-NC |                   |
|            | L= unshielded standard metal housing                      | 0 = 12-30 Vac - 4 wires       |                   |

### PRODUCT TABLE

| DESCRIPTION | CONNECTION | SHIELDED | HOUSING  | ORDER CODE |
|-------------|------------|----------|----------|------------|
| IS-12-E7-03 | CABLE      | yes      | standard | 95B063890  |

# INDUCTIVE SENSORS

Ø 12

10÷30 Vdc - 3 WIRES PNP OUTPUT

- 2 mm to 4 mm operating distance - shielded, unshielded
- Stainless steel housing
- Cable or M12 connector models
- Output status LED

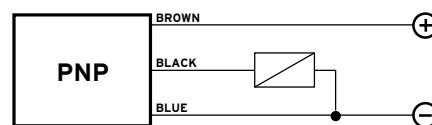
IS Series



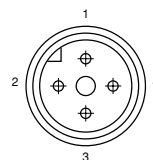
## TECHNICAL DATA

|                          | SHIELDED                 | UNSHIELDED |
|--------------------------|--------------------------|------------|
| OPERATING DISTANCE (Sn)  | 2 mm                     | 4 mm       |
| POWER SUPPLY             | 10 ÷ 30 Vdc (-15 / +10%) |            |
| RIPPLE                   | ≤ 10%                    |            |
| HYSTERESIS               | < 15%                    |            |
| OUTPUT CURRENT           | 200 mA max.              |            |
| CONSUMPTION              | < 10 mA @ 24 Vdc         |            |
| SATURATION VOLTAGE       | < 1.5 V (I = 100 mA)     |            |
| INDICATORS               | Yellow LED               |            |
| SWITCHING FREQUENCY      | 2000 Hz                  | 1000 Hz    |
| REPEATABILITY            | ≤ 1%                     |            |
| SHORT CIRCUIT PROTECTION | Present (self-resetting) |            |
| OPERATING TEMPERATURE    | - 25 ÷ +70 °C            |            |
| MECHANICAL PROTECTION    | IP67                     |            |
| ACTIVE FACE MATERIAL     | Stainless steel          |            |
| HOUSING MATERIAL         | Stainless steel          |            |
| WEIGHT                   | 60 g cable version       |            |

## CONNECTIONS



## M12 CONNECTOR



View of  
quadripole  
male  
connector.

## CONFIGURATION

| Outputs | PIN numbers |   |   |    |
|---------|-------------|---|---|----|
|         | 1           | 2 | 3 | 4  |
| NO      | +           |   | - | NO |

## DIMENSIONS (mm)

