



## Scanning Range

50 mm  
80 mm  
300 mm

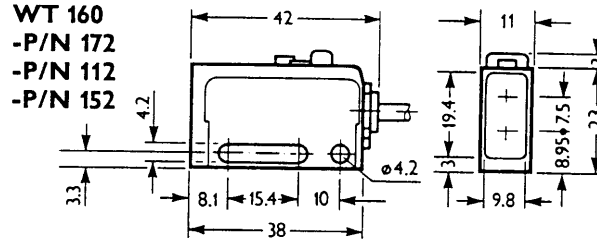


## Features:

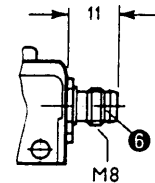
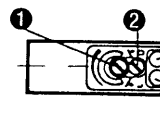
- 3 different optics
  - Energetic sensor for standard applications
  - Focussed sensor with high sensitivity, background non-detected
  - Sensor with large aperture angle for big tolerances of target position
- Horizontal or vertical design
- Connecting cable or M8 plug, 4-pin
- Adjustable sensitivity (two-turn)
- Red and green indicator LEDs for ease of alignment
- Red LED to show system reserves
- Alarm output
- Light/Dark-switching selector
- Test input to test the device and the complete system
- Transistor output short-circuit and overload protected
- Reverse-polarity protection
- CE / /

## WT 160

WT 160  
-P/N 172  
-P/N 112  
-P/N 152

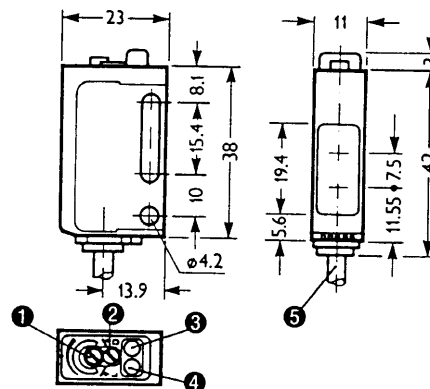


Dimensions in mm

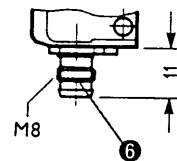


WT 160  
-P/N 470  
-P/N 410  
-P/N 450

WT 160  
-P/N 182  
-P/N 122  
-P/N 162

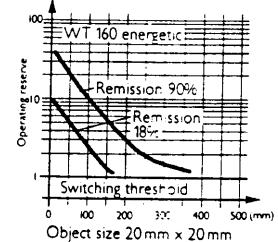
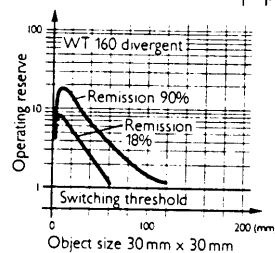
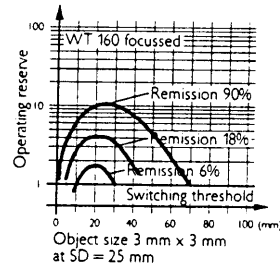


WT 160  
-P/N 480  
-P/N 420  
-P/N 460



- 1 Sensitivity control
- 2 Light/Dark-switching selector
- 3 Red reception indicator

- 4 Green reception indicator
- 5 Connecting cable
- 6 Equipment plug



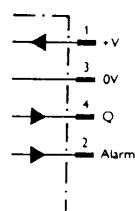
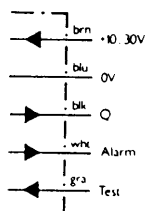
Mounting bracket included. Order and cable receptacles separately, see accessories (page 238).

## Connection Diagram

WT 160

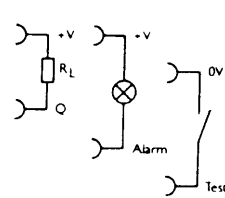
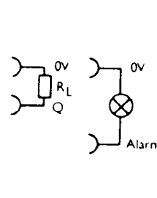
-P/N 172      -P/N 470  
-P/N 112      -P/N 410  
-P/N 152      -P/N 450  
-P/N 182      -P/N 480  
-P/N 122      -P/N 420  
-P/N 162      -P/N 460

| brn   | blu  | blk   | wht   | gra  |
|-------|------|-------|-------|------|
| brown | blue | black | white | gray |



PNP

NPN



# WT 160

## Photoelectric Proximity Switch

|                                                  | WT 160                                                | -N                        | -P                                  |
|--------------------------------------------------|-------------------------------------------------------|---------------------------|-------------------------------------|
| <b>Part No.</b>                                  | see selection table                                   |                           |                                     |
| <b>Scanning Distance, adjustable</b>             | 15 ... 25 mm <sup>1)</sup> , 8 to 50 mm <sup>2)</sup> | 0 ... 80 mm <sup>2)</sup> | 0 ... 300 mm <sup>2)</sup>          |
| Light spot diameter <sup>3)</sup>                | approx 3 mm; 25 mm                                    | 70 mm; 80 mm              | 25 mm; 300 mm                       |
| Aperture angle                                   | Focus 25 mm                                           | approx. 40°               | approx. 4,8°                        |
| <b>Light sender</b>                              | LED, red                                              | LED, IR                   | LED, red                            |
| <b>Supply voltage V<sub>S</sub><sup>4)</sup></b> | 10 ... 30 V DC                                        |                           |                                     |
| Current consumption (without load)               | ≤ 30 mA                                               |                           |                                     |
| Ripple, max. <sup>5)</sup>                       | ≤ 5 V <sub>pp</sub>                                   |                           |                                     |
| Light receiver switching mode                    | Light/Dark-switching, selectable                      |                           |                                     |
| <b>Switching outputs</b> open collectors         | NPN                                                   |                           | PNP                                 |
| Signal voltage HIGH                              | approx. V <sub>S</sub>                                |                           | V <sub>S</sub> - (≤ 1,5 V)          |
| Signal voltage LOW                               | ≤ 1,5 V                                               |                           | approx. 0 V                         |
| Output current max.                              | ≤ 100 mA                                              |                           |                                     |
| Alarm output (statical)                          | ≤ 100 mA                                              |                           |                                     |
| Test input <sup>6)</sup>                         | Sender deactivated 0 V                                |                           | Sender deactivated + V <sub>S</sub> |
| Response time, switching frequency max.          | 0.9 ms; 550/s                                         |                           |                                     |
| <b>VDE protection class<sup>7)</sup></b>         | □                                                     |                           |                                     |
| <b>Enclosure rating</b>                          | IP 67                                                 |                           |                                     |
| Circuit protections <sup>8)</sup>                | A, B, C, D                                            |                           |                                     |
| Ambient operating temperature                    | - 25 ... + 55 °C                                      |                           |                                     |
| Storage temperature                              | - 40 ... + 70 °C                                      |                           |                                     |
| Connecting cable                                 | 2 m, 5 x 0.2 mm <sup>2</sup> , Ø 4.2 mm               |                           |                                     |
| Equipment plug                                   | M 8, 4-pin                                            |                           |                                     |
| Weight                                           | 20 g with plug, 60 g with connecting cable            |                           |                                     |

- 1) Target with 6% remission (acc. to DIN 5033)  
 2) Target with 90% remission (acc. to DIN 5033)  
 3) Referred to scanning distance  
 4) Limit values

- 5) Must be within V<sub>S</sub> tolerances  
 6) Not test input on models with plug  
 7) Withstand voltage 50 V

- 8) A = Supply connections reverse-polarity protected  
 B = In/Outputs reverse-polarity protected  
 C = Interference pulse suppression  
 D = Outputs overload and short-circuit protected

**Selection Table**

|                   |                            | WT 160 focussed<br>Scanning distance<br>50 mm<br>Switching output<br>NPN   PNP |              | WT 160 divergent<br>Scanning distance<br>80 mm<br>Switching output<br>NPN   PNP |              | WT 160 energetic<br>Scanning distance<br>300 mm<br>Switching output<br>NPN   PNP |              |
|-------------------|----------------------------|--------------------------------------------------------------------------------|--------------|---------------------------------------------------------------------------------|--------------|----------------------------------------------------------------------------------|--------------|
| Horizontal design | with connecting cable      |                                                                                |              |                                                                                 |              |                                                                                  |              |
|                   | Model                      | WT 160-N 112                                                                   | WT 160-P 112 | WT 160-N 152                                                                    | WT 160-P 152 | WT 160-N 172                                                                     | WT 160-P 172 |
|                   | Part No.                   | 6008 819                                                                       | 6009 511     | 6008 823                                                                        | 6009 515     | 6008 825                                                                         | 6009 517     |
|                   | with equipment plug, 4-pin |                                                                                |              |                                                                                 |              |                                                                                  |              |
| Vertical design   | Model                      | WT 160-N 410                                                                   | WT 160-P 410 | WT 160-N 450                                                                    | WT 160-P 450 | WT 160-N 470                                                                     | WT 160-P 470 |
|                   | Part No.                   | 6008 827                                                                       | 6009 519     | 6008 831                                                                        | 6009 523     | 6008 833                                                                         | 6009 525     |
|                   | with connecting cable      |                                                                                |              |                                                                                 |              |                                                                                  |              |
|                   | Model                      | WT 160-N 122                                                                   | WT 160-P 122 | WT 160-N 162                                                                    | WT 160-P 162 | WT 160-N 182                                                                     | WT 160-P 182 |
|                   | Part No.                   | 6008 820                                                                       | 6009 512     | 6008 824                                                                        | 6009 516     | 6008 826                                                                         | 6009 518     |
|                   | with equipment plug, 4-pin |                                                                                |              |                                                                                 |              |                                                                                  |              |
|                   | Model                      | WT 160-N 420                                                                   | WT 160-P 420 | WT 160-N 460                                                                    | WT 160-P 460 | WT 160-N 480                                                                     | WT 160-P 480 |
|                   | Part No.                   | 6008 828                                                                       | 6009 520     | 6008 832                                                                        | 6009 524     | 6008 834                                                                         | 6009 526     |

**Diagram of Functions**

