

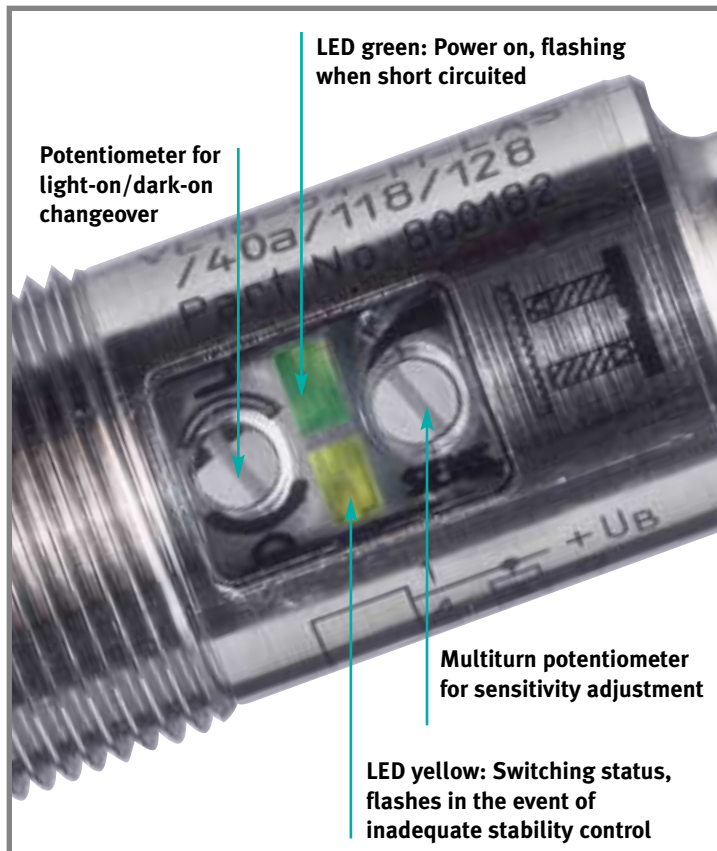
# PERFECT ALL AROUND – THREADED LIGHT BARRIERS M18



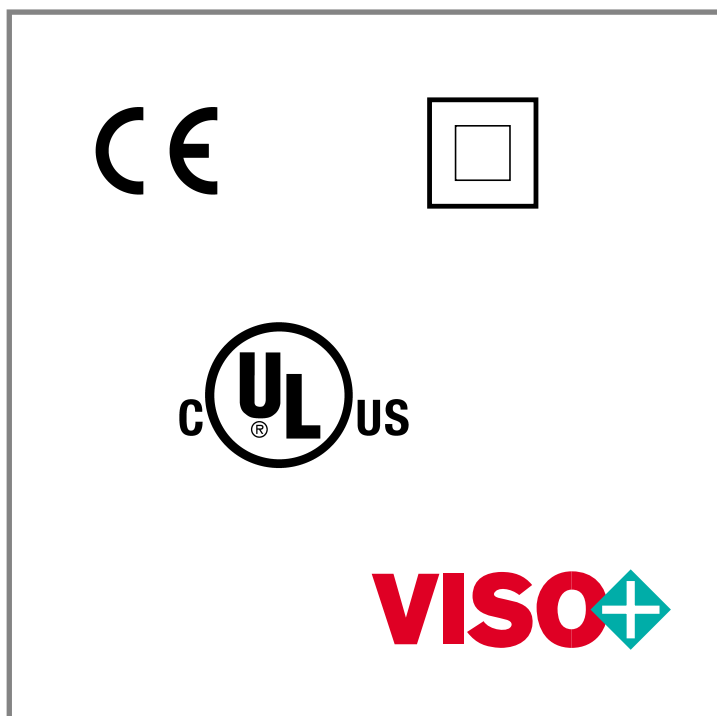


## THREADED LIGHT BARRIERS M18 TECHNICAL HIGHLIGHTS AT A GLANCE

### CLEAR CONTROL PANEL WITH SPECIAL BRIGHT LED INDICATORS



### LIGHT OUTLET - FRONT OR SIDE



### VERSIONS WITH RED OR LASER LIGHT

### INCREASED RESISTANCE TO EXTRANEIOUS LIGHT

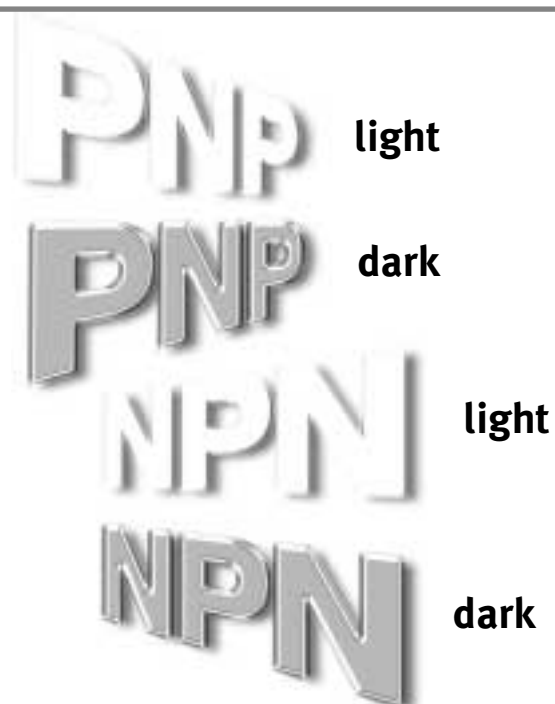
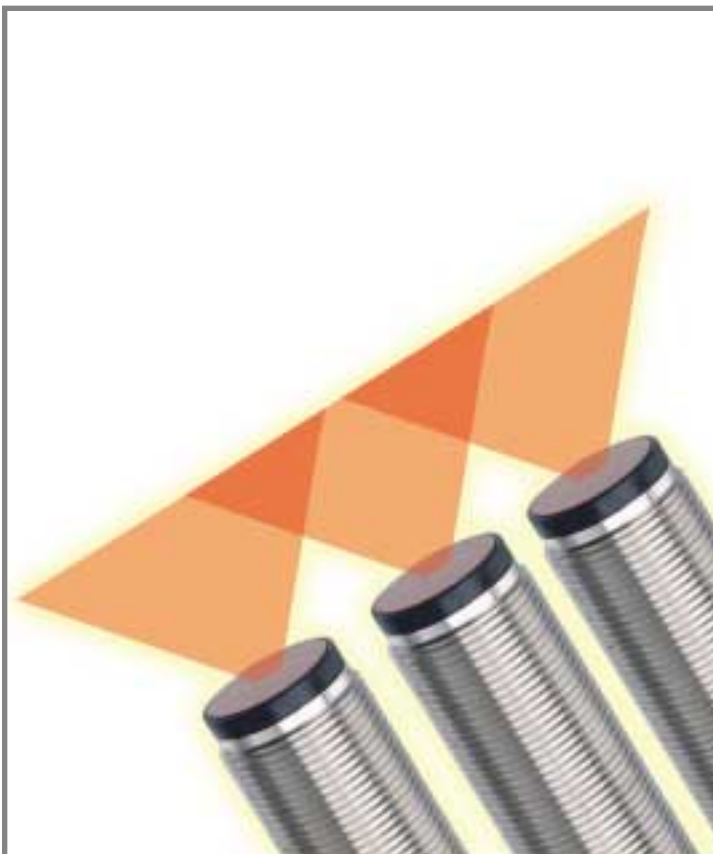
... even in areas with frequency-regulated fluorescent lamps

## ADJUSTABLE FOCUS FOR SINGLE-PATH LIGHT BEAM SWITCHES

For precise detection of small parts less than 50  $\mu\text{m}$



## NO MUTUAL INTERFERENCE



## POWERFUL PUSH-PULL OUTPUT - 200 mA FOR HIGH INTERFERENCE IMMUNITY

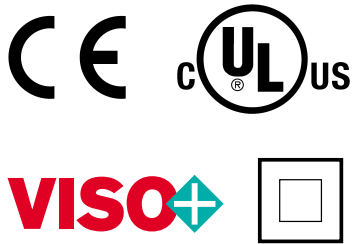
Enable the light/dark switch, allows the free configuration of the output.

Each of the four possible signal types will be at the same pin afterwards.

Room and costs for storage can be minimised



# SERIES VL18 WITH LASER



## VS18/VSE18-M-LAS

SINGLE PATH LIGHT BEAM  
SWITCH



## VL18-54-M-LAS

REFLEX LIGHT BEAM SWITCH  
WITH POLARISATION FILTER

M18 metal housing, nickel plated brass • Highly visible display LEDs for power-on, st  
Multiple arrangement possible, no mutual interference • Quick-con

Adjustable focus

SENSOR  
PRINCIPLE

HIGH-  
LIGHTS

TECHNICAL DATA

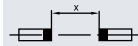
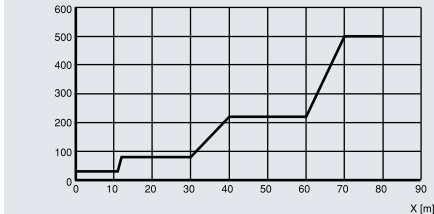
|                            |                                        |                                        |
|----------------------------|----------------------------------------|----------------------------------------|
| Detection / scanning range | 85 m                                   | 18 m                                   |
| Light spot diameter        | 100 mm x 100 mm at 85 m                | Approx. 150 mm x 100 mm at 12 m        |
| Light emitter              | Laser diode red light, 660 nm          | Laser diode red light, 660 nm          |
| Light outlet               | Front                                  | Front                                  |
| Operating voltage          | 10 V DC ... 30 V DC                    | 10 V DC ... 30 V DC                    |
| Switching voltage/current  | 30 V/200 mA                            | 30 V/200 mA                            |
| Switching frequency        | 5000 Hz                                | 500 Hz                                 |
| Response time              | 100 µs                                 | 1 ms                                   |
| Switching type             | Mechanical light-on/dark-on changeover | Mechanical light-on/dark-on changeover |
| Operating temperature      | -25 °C ... 60 °C                       | -25 °C ... 60 °C                       |
| Connection type            | M12 plug, 4-pin, Vario quick           | M12 plug, 4-pin, Vario quick           |
| Dimensions                 | ø18 mm, length 78 mm                   | ø18 mm, length 78 mm                   |

### Performance curves

#### Object detection

VS18/VSE18-M-LAS

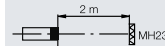
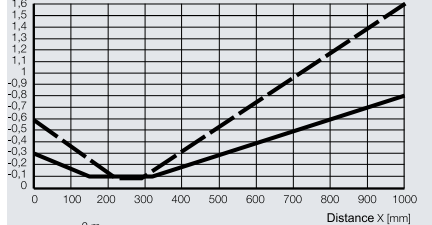
Minimum object size [µm] / Stability control factor 2



#### Object detection

VL18-54-M-LAS  
VL18-54-MS-LAS

Minimum object size [mm]



Stability control = 1  
Stability control = 2

ORDER CODE

|                  |                          |                                      |                               |
|------------------|--------------------------|--------------------------------------|-------------------------------|
| Push-pull output | -----                    | VS18/VSE18-M-LAS/40a/76a/118/128     | VL18-54-M-LAS/40a/118/128     |
| Signal output    | Stability control output |                                      |                               |
| 1 PNP            | 1 PNP                    | VS18/VSE18-M-LAS/32/40a/76a/82b/118  | VL18-54-M-LAS/32/40a/82b/118  |
|                  | -----                    |                                      | VL18-54-M-LAS/32/40a/118      |
| 1 NPN            | 1 NPN                    | VS18/VSE18-M-LAS/30/40a/76a/118/126b | VL18-54-M-LAS/30/40a/118/126b |
|                  | -----                    |                                      | VL18-54-M-LAS/30/40a/118      |



## VT18-8-400-M-LAS

### DIRECT DETECTION LIGHT SCANNER

ability control and switching status, flashing power-on in the event of short-circuit  
nect system using Vario quick plugs

400 mm

Approx. 0.5 mm at 170 mm

Laser diode red light, 660 nm

Front

10 V DC ... 30 V DC

30 V/200 mA

500 Hz

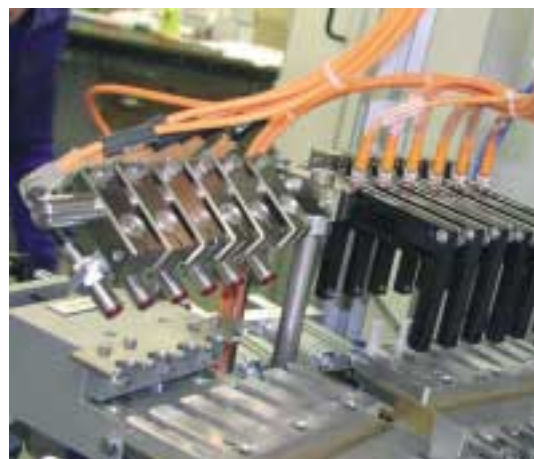
1 ms

Mechanical light-on/dark-on changeover

-25 °C ... 60 °C

M12 plug, 4-pin, Vario quick

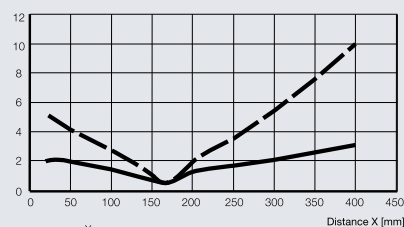
ø18 mm, length 78 mm



**Light spot diameter**

VT18-8-M-LAS

Light spot diameter [mm]



\*Note: The light spot is in the form of a dash

VT18-8-400-M-LAS/40a/118/128

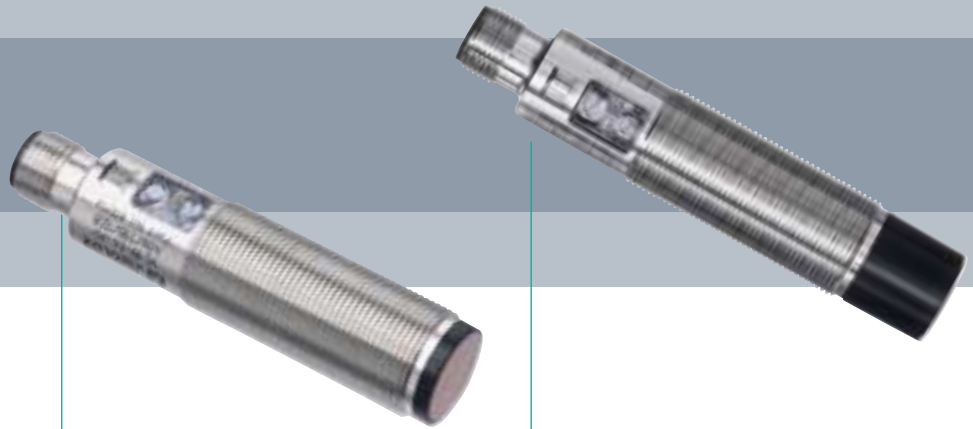
VT18-8-400-M-LAS/32/40a/118

VT18-8-400-M-LAS/30/40a/118

# SERIES VL18



**VISO**



## VL18-54-M

REFLEX LIGHT BEAM SWITCH  
WITH POLARISATION FILTER

## VL18-54-MS

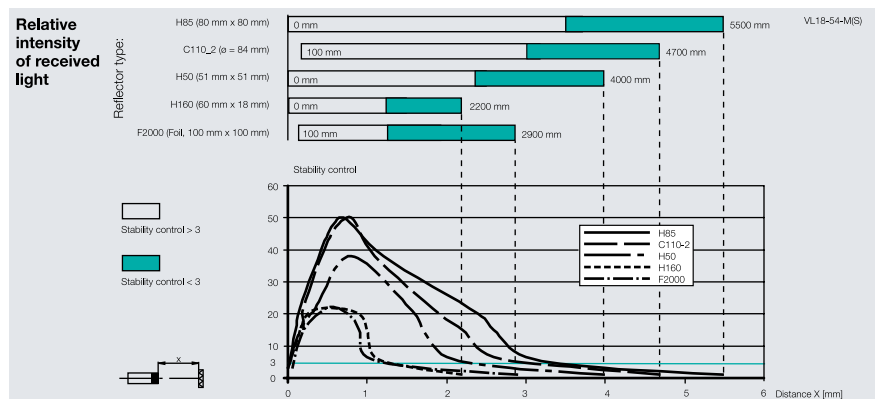
REFLEX LIGHT BEAM SWITCH  
WITH POLARISATION FILTER

M18 metal housing, nickel plated brass • Highly visible display LEDs for power-on, flashing power-on in the event of short-circuit • Multiple arrangement possible, Quick-connect system using Vario quick plugs

SENSOR PRINCIPLE  
HIGH-LIGHTS  
TECHNICAL DATA

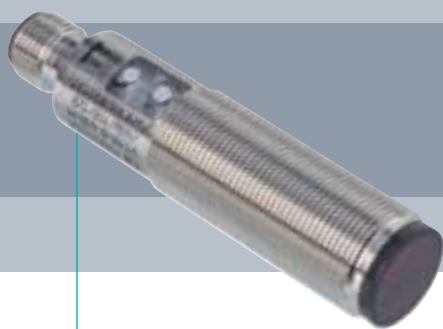
|                            |                                        |                                        |
|----------------------------|----------------------------------------|----------------------------------------|
| Detection / scanning range | 4 m                                    | 4 m                                    |
| Light spot diameter        | Approx. 200 mm at 3.5 m                | Approx. 160 mm at 3.5 m                |
| Light emitter              | Red light, 660 nm                      | Red light, 660 nm                      |
| Light outlet               | Front                                  | Side                                   |
| Operating voltage          | 10 V DC ... 30 V DC                    | 10 V DC ... 30 V DC                    |
| Switching voltage/current  | 30 V/200 mA                            | 30 V/200 mA                            |
| Switching frequency        | 500 Hz                                 | 500 Hz                                 |
| Response time              | 1 ms                                   | 1 ms                                   |
| Switching type             | Mechanical light-on/dark-on changeover | Mechanical light-on/dark-on changeover |
| Operating temperature      | -25 °C ... 60 °C                       | -25 °C ... 60 °C                       |
| Connection type            | M12 plug, 4-pin, Vario quick           | M12 plug, 4-pin, Vario quick           |
| Dimensions                 | ø18 mm, length 78 mm                   | ø18 mm, length 91 mm                   |

### Performance curves



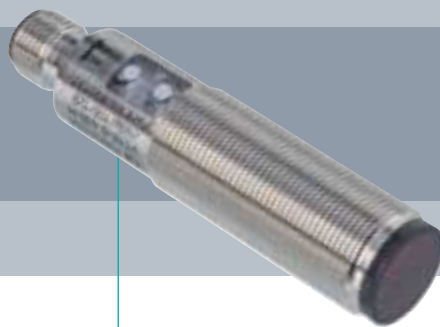
ORDER CODE

|                  |                          |                           |                            |
|------------------|--------------------------|---------------------------|----------------------------|
| Push-pull output | -----                    | VL18-54-M/40a/118/128     | VL18-54-MS/40a/118/128     |
| Signal output    | Stability control output |                           |                            |
| 1 PNP            | 1 PNP                    | VL18-54-M/32/40a/82b/118  | VL18-54-MS/32/40a/82b/118  |
|                  | -----                    | VL18-54-M/32/40a/118      | VL18-54-MS/32/40a/118      |
|                  | 1 NPN                    | VL18-54-M/30/40a/118/126b | VL18-54-MS/30/40a/118/126b |
| 1 NPN            | -----                    | VL18-54-M/30/40a/118      | VL18-54-MS/30/40a/118      |



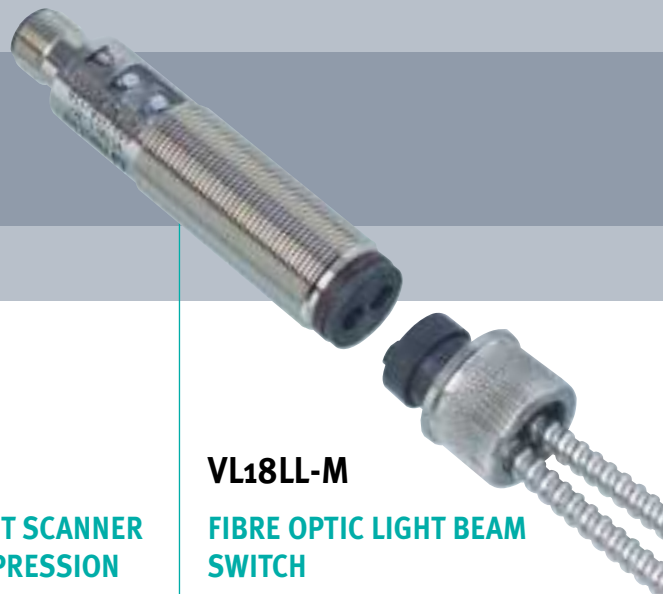
## VT18-8-400-M

### DIRECT DETECTION LIGHT SCANNER



## VT18-8-H-120-M

### DIRECT DETECTION LIGHT SCANNER WITH BACKGROUND SUPPRESSION



## VL18LL-M

### FIBRE OPTIC LIGHT BEAM SWITCH

stability control and switching status,  
no mutual interference

400 mm

Approx. 4 mm at 120 mm

Red light, 660 nm

To front

10 V DC ... 30 V DC

30 V/200 mA

500 Hz

1 ms

Mechanical light/dark switch

-25 °C ... 60 °C

M12 plug, 4-pin, Vario quick

ø18 mm, length 78 mm

20 mm ... 120 mm

Approx. 6 mm at 120 mm

Red light, 660 nm

To front

10 V DC ... 30 V DC

30 V/200 mA

500 Hz

1 ms

Mechanical light/dark switch

-25 °C ... 60 °C

M12 plug, 4-pin, Vario quick

ø18 mm, length 78 mm

Depends on optical fibre used

—

Red light, 660 nm

To front

10 V DC ... 30 V DC

30 V/200 mA

500 Hz

1 ms

Mechanical light/dark switch

-25 °C ... 60 °C

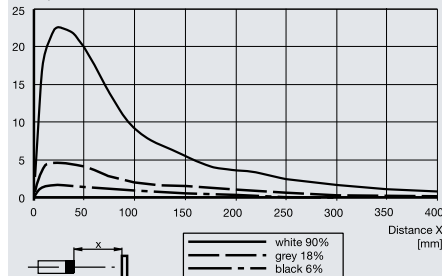
M12 plug, 4-pin, Vario quick

ø18 mm, length 78 mm

#### Relative intensity of received light

VT18-8-400-M

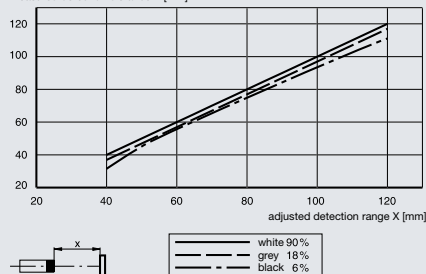
Stability control



#### Difference in detection distance

VT18-8-H-120-M\*\*\*

measured detection distance X [mm]



#### Glass optical fibre, length 0.5 m

#### Scanning/detection range

|                                 |                   |        |
|---------------------------------|-------------------|--------|
| Single path with PVS covering   | LCE18-2.3-0.5-K2  | 400 mm |
| Single path with Metal covering | LME18-2.3-0.5-K3  | 400 mm |
| Reflex with PVS covering        | LCR18-2.3-0.5-K1  | 95 mm  |
| Reflex with Metal covering      | LMR18-2.3-0.5-K3  | 60 mm  |
| Reflex with Silicon covering    | LSR18-2.3-0.5-K12 | 25 mm  |

Other optical fibres available on request

VT18-8-400-M/40a/118/128

VT18 8-H-120-M/40a/65b/118/128

VL18LL-M/40a/118/128

VT18-8-400-M/32/40a/118

VT18-8-H-120-M/32/40a 65b/118

VL18LL-M/32/40a/118

VT18-8-400-M/30/40a/118

VT18-8-H-120-M/30/40a/65b/118

VL18LL-M/30/40a/118



SERIES 18GM60



OBE10M-18GM60

SINGLE PATH LIGHT BEAM SWITCH

OBS4000-18GM60

REFLEX LIGHT BEAM SWITCH WITH POLARISATION FILTER

SENSOR PRINCIPLE

HIGH-LIGHTS

M18 metal housing, short design:  
Dual colour display LED, flashes in the event of

TECHNICAL DATA

|                            |                                        |                                        |
|----------------------------|----------------------------------------|----------------------------------------|
| Detection / scanning range | 10 m                                   | 4 m                                    |
| Light spot diameter        | Approx. 600 mm at 10 m                 | Approx. 200 mm at 4 m                  |
| Light type                 | Infrared, 880 nm                       | Red, 660 nm                            |
| Working voltage            | 10 V DC ... 30 V DC                    | 10 V DC ... 30 V DC                    |
| Switching voltage/current  | 30 V/100 mA                            | 30 V/100 mA                            |
| Switching frequency        | 500 Hz                                 | 500 Hz                                 |
| Response time              | 1 ms                                   | 1 ms                                   |
| Switching type             | Electronic light-on/dark-on changeover | Electronic light-on/dark-on changeover |
| Operating temperature      | -25 °C ... 55 °C                       | -25 °C ... 55 °C                       |

ORDER CODE

| Connection      | Signal output |                      |                      |
|-----------------|---------------|----------------------|----------------------|
| 2 m fixed cable | PNP           | OBE10M-18GM60-SE5    | OBS4000-18GM60-E5    |
|                 | NPN           | OBE10M-18GM60-SE4    | OBS4000-18GM60-E4    |
| M12 plug, 4-pin | PNP           | OBE10M-18GM60-SE5-V1 | OBS4000-18GM60-E5-V1 |
|                 | NPN           | OBE10M-18GM60-SE4-V1 | OBS4000-18GM60-E4-V1 |





**OBT200-18GM60**

**DIRECT DETECTION LIGHT SCANNER**



**OBT500-18GM60**

**DIRECT DETECTION LIGHT SCANNER**

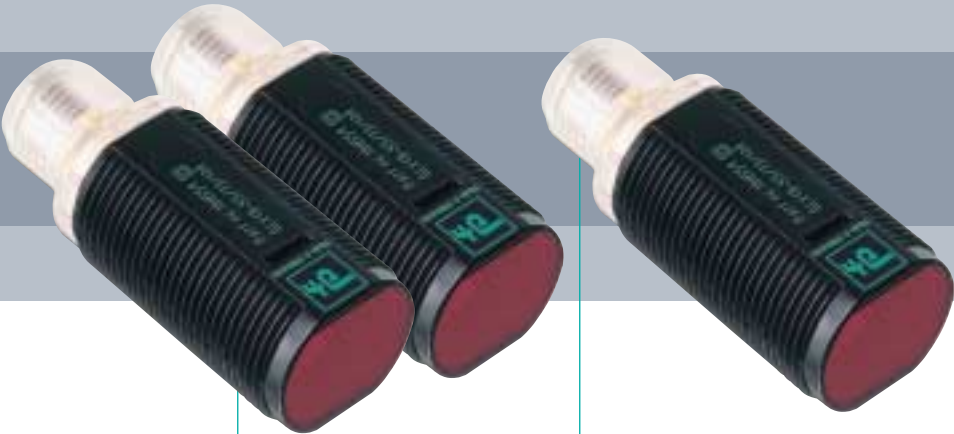
**Length 60 mm • High range  
inadequate stability control • High switching frequency**

|  |                                        |                                        |
|--|----------------------------------------|----------------------------------------|
|  | 200 mm                                 | 500 mm                                 |
|  | Approx. 40 mm at 200 mm                | Approx. 80 at 500 mm                   |
|  | Infrared, 880 nm                       | Infrared, 880 nm                       |
|  | 10 V DC ... 30 V DC                    | 10 V DC ... 30 V DC                    |
|  | 30 V/100 mA                            | 30 V/100 mA                            |
|  | 500 Hz                                 | 500 Hz                                 |
|  | 1 ms                                   | 1 ms                                   |
|  | Electronic light-on/dark-on changeover | Electronic light-on/dark-on changeover |
|  | -25 °C ... 55 °C                       | -25 °C ... 55 °C                       |
|  | <b>OBT200-18GM60-E5</b>                | <b>OBT500-18GM60-E5</b>                |
|  | <b>OBT200-18GM60-E4</b>                | <b>OBT500-18GM60-E4</b>                |
|  | <b>OBT200-18GM60-E5-V1</b>             | <b>OBT500-18GM60-E5-V1</b>             |
|  | <b>OBT200-18GM60-E4-V1</b>             | <b>OBT500-18GM60-E4-V1</b>             |





SERIES GLV18



GD18/GV18

SINGLE PATH LIGHT  
BEAM SWITCH

GLV18-6

REFLEX LIGHT BEAM SWITCH  
WITH POLARISATION FILTER

SENSOR  
PRINCIPLE

TECHNICAL DATA

ORDER CODE

M18 plastic housing · Short design: 40 mm ·

|                            |                             |                           |
|----------------------------|-----------------------------|---------------------------|
| Detection / scanning range | 25 m (front), 17.5 m (side) | 8 m (front), 6.5 m (side) |
| Light spot diameter        | Approx. 500 mm at 10 m      | Approx. 250 mm at 4 m     |
| Light type                 | Red LED                     | Red LED                   |
| Working voltage            | 10 V DC ... 30 V DC         | 10 V DC ... 30 V DC       |
| Switching voltage/current  | 30 V/100 mA                 | 30 V/100 mA               |
| Switching frequency        | 500 Hz                      | 500 Hz                    |
| Response time              | 1 ms                        | 1 ms                      |
| Operating temperature      | -25 °C ... 60 °C            | -25 °C ... 60 °C          |

| Signal output | Light outlet | Switching type           | Connection      |                       |                     |
|---------------|--------------|--------------------------|-----------------|-----------------------|---------------------|
| NPN           | Front        | Light switching          | 2 m fixed cable | GD18/GV18/25/102/115  | GLV18-6/25/102/115  |
| NPN           | Front        | Dark switching           | 2 m fixed cable | GD18/GV18/59/102/115  | GLV18-6/59/102/115  |
| NPN           | Side         | Light switching          | M12 plug, 4-pin | GD18/GV18-S/25/73/102 | GLV18-6-S/25/73/102 |
| NPN           | Side         | Dark switching           | M12 plug, 4-pin | GD18/GV18-S/59/73/102 | GLV18-6-S/59/73/102 |
| PNP           | Front        | Light and dark switching | 2 m fixed cable | GD18/GV18/115/120     | GLV18-6/115/120     |
| PNP           | Side         | Light and dark switching | M12 plug, 4-pin | GD18/GV18-S/73/120    | GLV18-6-S/73/120    |





### GLV18-55

REFLEX LIGHT BEAM SWITCH  
WITH POLARISATION FILTER



### GLV18-8-200

DIRECT DETECTION LIGHT SCANNER



### GLV18-8-450/GLV18-8-400S

DIRECT DETECTION LIGHT SCANNER

Modern product design · Optimised mounting accessories · Protection class IP67 · Bright, easily visible display LEDs

|                             |                         |                               |
|-----------------------------|-------------------------|-------------------------------|
| 5.5 m (front), 4.5 m (side) | 200 mm                  | 450 mm (front), 400 mm (side) |
| Approx. 20 mm at 100 mm     | Approx. 15 mm at 200 mm | Approx. 30 mm at 400 mm       |
| Red LED                     | Red LED                 | Red LED                       |
| 10 V DC ... 30 V DC         | 10 V DC ... 30 V DC     | 10 V DC ... 30 V DC           |
| 30 V/100 mA                 | 30 V/100 mA             | 30 V/100 mA                   |
| 500 Hz                      | 500 Hz                  | 500 Hz                        |
| 1 ms                        | 1 ms                    | 1 ms                          |
| -25 °C ... 60 °C            | -25 °C ... 60 °C        | -25 °C ... 60 °C              |
| GLV18-55/25/102/115         | GLV18-8-200/25/102/115  | GLV18-8-450/25/102/115        |
| GLV18-55/59/102/115         | GLV18-8-200/59/102/115  | GLV18-8-450/59/102/115        |
| GLV18-55-S/25/73/102        | GLV18-8-200-S/25/73/102 | GLV18-8-400-S/25/73/102       |
| GLV18-55-S/59/73/102        | GLV18-8-200-S/59/73/102 | GLV18-8-400-S/59/73/102       |
| GLV18-55/115/120            | GLV18-8-200/115/120     | GLV18-8-450/120/115           |
| GLV18-55-S/73/120           | GLV18-8-200-S/73/120    | GLV18-8-400-S/73/120          |



| Order code               | Explanation                                    |
|--------------------------|------------------------------------------------|
| <b>V1-G-VL18</b>         | Vario-Quick M12 connection plug, 4-pin         |
| <b>V1-G-2M-PVC</b>       | Angled M12 connector, 4-pin with 2 m PVC cable |
| <b>V1-W-2M-PVC</b>       | Angled M12 connector, 4-pin with 2 m PVC cable |
| <b>V1-G-2M-PUR</b>       | Straight M12 connector, 4-pin with 2 m cable   |
| <b>V1-W-2M-PUR</b>       | Angled M12 connector, 4-pin with 2 m cable     |
| Other lengths on request |                                                |

|               |                                                                         |
|---------------|-------------------------------------------------------------------------|
| <b>H50</b>    | Square reflector, 50 mm x 50 mm                                         |
| <b>H60</b>    | Rectangular reflector, 60 mm x 40.5 mm                                  |
| <b>H160</b>   | Rectangular reflector, 60 mm x 18 mm                                    |
| <b>C110-2</b> | Round reflector, diameter 84 mm                                         |
| <b>MH23</b>   | Microstructure reflector for laser light beam switches, 13 mm x 13.8 mm |
| <b>H85</b>    | Square reflector, 84.5 mm x 84.5 mm                                     |

|                 |                                                                           |
|-----------------|---------------------------------------------------------------------------|
| <b>OMH-VL18</b> | Support bracket with special adjuster bracket                             |
| <b>BF18</b>     | Fixing flange                                                             |
| <b>BF18-F</b>   | Fixing flange                                                             |
| <b>BF5-30</b>   | Universal holder                                                          |
| <b>OSP18A</b>   | 90° tilted mirror – window open                                           |
| <b>OSP18B</b>   | 90° directing mirror for light beam switches, with closed infrared window |



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