

**PERFECT ALL ROUND –  
CYLINDRICAL PHOTOELECTRIC  
SENSORS IN M18 HOUSINGS**



# M18 – IN THREE VERSIONS FOR YOUR APPLICATION

## VL18 SERIES – THE “COMFORT LINE” WITH MANY FEATURES

### ENCLOSURE TYPES

Straight and right-angled models integral to the housing



### ROBUST ENCLOSURE

M18 metal enclosure, nickel-coated brass

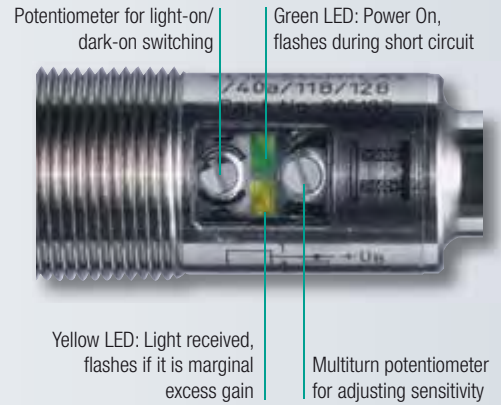


### ELECTRICAL CONNECTION

Quick-connect technology with M12 4-pin Vario-Quick plug reduces mounting and maintenance costs

### INTUITIVE OPERATING ADJUSTMENTS

with extremely bright status LEDs



## 18GM60 SERIES – THE “BASIC LINE” WITH ROBUST AND RELIABLE FEATURES

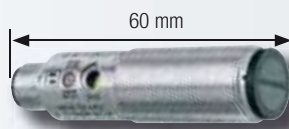
### ELECTRICAL CONNECTION

Two connection options available:  
M12 plug, 4-pin  
or 2 m fixed cable

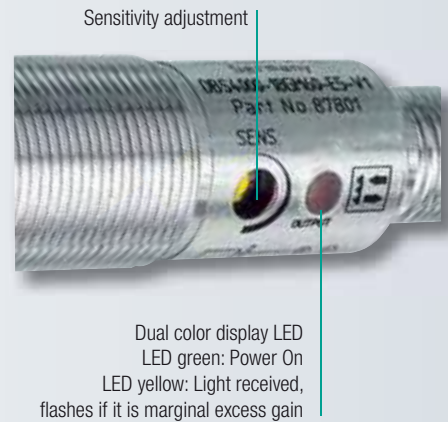


### COMPACT DESIGN

Robust M18 metal enclosure, nickel-coated brass



### INTUITIVE OPERATING ADJUSTMENTS



## GLV18/GLK18 SERIES – THE “EFFICIENT LINE” WITH AN ECONOMICAL COMPACT HOUSING

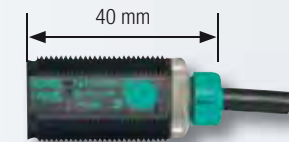
### ENCLOSURE TYPES

Straight and right-angled models can be flush mounted



### VERY COMPACT DESIGN

Housing length less than 40 mm



### ELECTRICAL CONNECTION

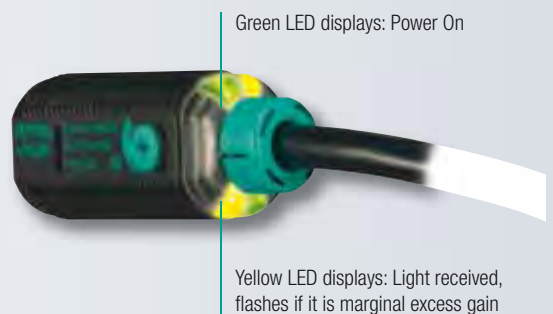
Versions with M12 plug, or 2 m fixed cable

### SUPPLY VOLTAGE

10 ... 30 V DC or 20 ... 250 V AC/DC

### FOUR BRIGHT LEDS FOR 360° VISIBILITY

Optimum detection even at the longest distances



**SENSOR TYPES**

Background suppression sensor – detection range up to 120 mm

Diffuse mode sensor (with red light or laser) – detection range up to 400 mm

Retro-reflective sensor with polarization filter – range up to 4 m

Retro-reflective sensor with polarization filter and laser light – range up to 20 m

Thru-beam laser sensor – range up to 85 m

Fiber optic sensor for glass fiber optics

**SENSOR TYPES**

Diffuse mode sensors – detection range up to 500 mm

Retro-reflective sensor with polarization filter – range up to 4 m

Thru-beam sensor – range up to 10 m

**SENSOR TYPES**

Background suppression sensor – detection range up to 120 mm

Diffuse mode sensors – detection range up to 450 mm

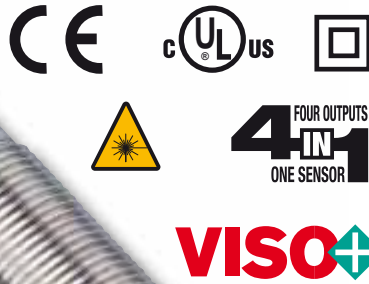
Retro-reflective sensor for clear glass detection – range up to 6.5 m

Retro-reflective sensor – range up to 8 m

Thru-beam sensor – range up to 25 m



# VL18 SERIES – THE “COMFORT LINE”



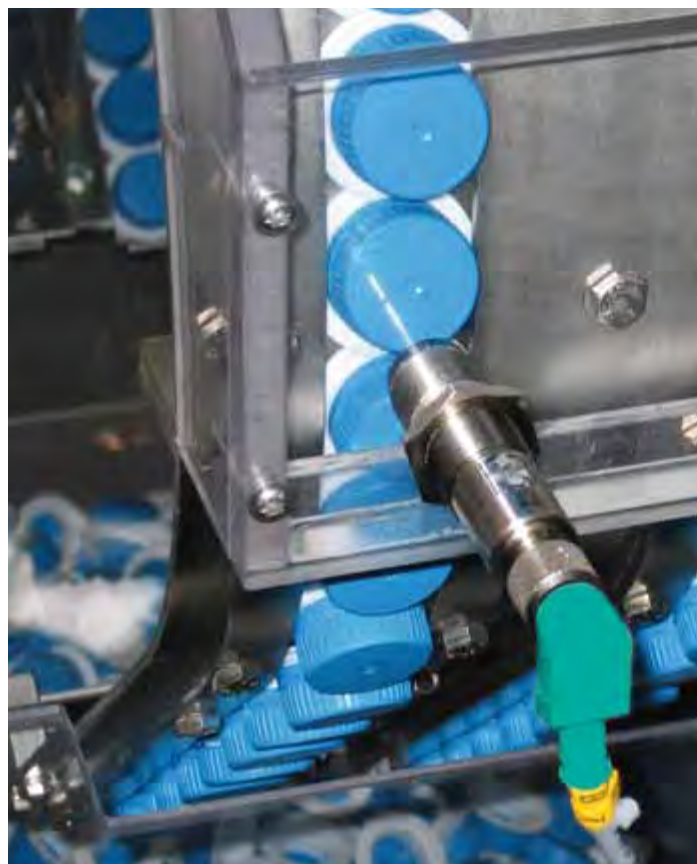
## VL18 SERIES – THE “COMFORT LINE” WITH MANY FEATURES

- Robust M18 metal enclosure, nickel-coated brass
- Straight and right-angled versions
- Multiturn potentiometer for adjusting sensitivity
- Powerful push-pull output for high noise immunity
- Versions with red or laser light
- Adjustable background suppression
- Multiple assignment possible as there is no mutual interference
- Insensitive to ambient light, even around energy-saving fluorescent lighting
- Degree of protection IP67, protection class 2
- Thru-beam sensor with adjustable focus for precise small part detection smaller than 50 µm



## TECHNICAL DATA

<b>Sensing or detection range</b>	
Thru-beam	85 m
Retro-reflective with polarization filter	Laser: 20 m; Red light: 4 m
Sensor, diffuse	0 mm ... 400 mm, adjustable
Sensor with background suppression	0 mm ... 120 mm, adjustable
Fiber optic amplifier	depends on the fiber optic cable used
<b>Diameter of the light spot</b>	
Thru-beam	~100 mm x 100 mm at 85 m
Retro-reflective with polarization filter, laser	~150 mm x 100 mm at 12 m
Retro-reflective with polarization filter, red light	~200 mm at 3.5 m
Sensor, diffuse	~4 mm at 120 mm
Sensor, diffuse with laser light	~0.5 mm at 170 mm
Sensor with background suppression	~6 mm at 120 mm
<b>General</b>	
Operating voltage	10 V DC ... 30 V DC
Switching voltage/current	30 V DC / max. 200 mA
Switching frequency	500 Hz, Thru-beam: 5 kHz
Response time	1 ms, Thru-beam: 100 µs
Operating mode	Light on/dark on modes, switchable
Signal output	Push-pull; 1 NPN or 1 PNP
Ambient light resistance	30,000 Lux



# 18GM60 SERIES – THE “BASIC LINE”



## 18GM60 SERIES – THE “BASIC LINE” WITH ROBUST AND RELIABLE FEATURES

- Robust M18 metal enclosure, nickel-coated brass
- Compact design: 60 mm
- Electronic light-on/dark-on
- Sensitivity adjustment
- Dual color display
- Versions with red or infrared light
- High switching frequency: 500 Hz
- Simple to connect using 2 m fixed cable or M12 plug, 4-pin
- Degree of protection IP67



## TECHNICAL DATA

<b>Sensing or detection range</b>	
Thru-beam	10 m
Retro-reflective with polarization filter	4 m
Sensor, diffuse	0 mm ... 200 mm, adjustable 0 mm ... 500 mm, adjustable
<b>Diameter of the light spot</b>	
Thru-beam	~600 mm at 10 m
Retro-reflective with polarization filter	~200 mm at 4 m
Sensor, diffuse	~40 mm at 200 mm ~80 mm at 500 mm
<b>General</b>	
Supply voltage	10 V DC ... 30 V DC
Switching voltage/current	30 V DC / max. 100 mA
Switching frequency	500 Hz
Response time	1 ms
Operating mode	Light on/dark on modes, switchable
Signal output	1 NPN or 1 PNP
Ambient light resistance	10,000 Lux

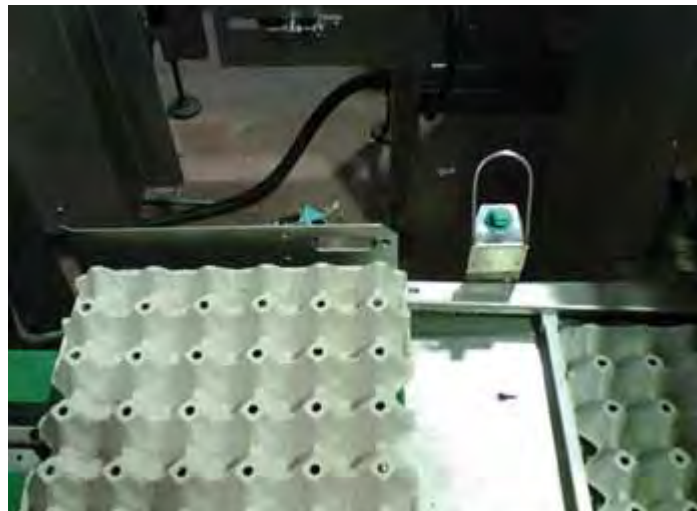


# GLV18/GLK18 SERIES – THE “EFFICIENT LINE”



## GLV18/GLK18 SERIES – THE “EFFICIENT LINE” WITH AN ECONOMICAL COMPACT HOUSING

- Sturdy plastic M18 housing
- Very compact design: min. 40 mm
- Straight and right-angled configurations
- Red light
- Operating voltage 10 ... 30 V DC or 20 ... 250 V AC/DC
- Potentiometer design optimized for better visibility in the application
- 4 status LEDs for 360° visibility
- Insensitive to ambient light, even around energy-saving fluorescent lighting
- Degree of protection IP67, protection class 2
- Simple to connect using 2 m fixed cable or M12 plug or micro AC plug 1/2"
- Mounting accessories included with delivery
- Flush installation mounting accessory available



## TECHNICAL DATA

Sensing or detection range		
Thru-beam	25 m front	17.5 m side
Retro-reflective	8 m front	6.5 m front
Retro-reflective for glass detection	2.5 m in glass detection mode	6.5 m in normal mode
Sensor	50 mm ... 200 mm, adjustable	50 mm ... 450 mm, adjustable
Sensor with background suppression	10 mm ... 120 mm, adjustable	
Diameter of the light spot		
Thru-beam	~1000 mm at 25 m	
Retro-reflective	~300 mm at 8 m	
Retro-reflective for glass detection	~50 mm at 1 m	
Sensor	~15 mm at 200 mm	
Sensor with background suppression	~6 mm at 120 mm	
General		
Operating voltage	10 V DC ... 30 V DC; 20 V AC/DC ... 250 V AC/DC	
Switching voltage/current	30 V DC / max. 10 mA; 250 V AC/DC / max. 200 mA	
Switching frequency	500 Hz; 50 Hz	
Response time	1 ms; 10 ms	
Operating mode	Light-on/dark-on switching	
Signal output	2 PNP; 1 PNP; 1 NPN; N-channel MOSFET	
Ambient light resistance	30,000 Lux	



## NEW MODELS WITHIN THE GLV18 "EFFICIENT LINE"

- Very compact design
- Simplest alignment and commissioning via PowerBeam
- Very clear visible display and controls
- Operating voltage 10 ... 30 V DC
- Flush enclosure mounting possible
- Mounting materials included in delivery



### GLV18-8-H

#### M18 BACKGROUND SUPPRESSION SENSOR

- Mechanically adjustable background suppression
- Excellent black-white difference – 6% at a detection range of 120 mm



### GLV18-55-G

#### M18 RETRO-REFLECTIVE SENSOR FOR CLEAR OBJECT DETECTION

- 2 devices in one:
  - Normal mode with very long sensing range
  - 18% contrast detection mode for clear glass bottles
- Automatic tracking of the switching threshold during contamination or temperature change in contrast mode

## MOVE YOUR OBJECTS INTO ANOTHER LIGHT: POWERBEAM – PERFECT LIGHT FOR PERFECT DETECTION

Photoelectric sensors and diffuse mode sensors with PowerBeam use the latest LED technology for transmission. These light sources are distinguished by an especially bright red light spot and a higher power density compared to standard LEDs and other popular technologies widely available on the market. While diffuse mode sensors produce small, bright, clearly differentiated spots for a high degree of switch point accuracy and reliable detection of deep black objects, photoelectric sensors have a long sensing range, high function reserve and a large, highly visible light spot in the center. The bright light spot provides excellent visibility, simple alignment and fast commissioning.



The size of the light spot on PowerBeam sensors is carefully adapted to the application or functioning principle. While diffuse mode sensors produce small, bright, clearly differentiated spots for a high degree of switch point accuracy and reliable detection of deep black objects, photoelectric sensors have a long sensing range, high function reserve and a large, highly visible light spot in the center.

# ACCESSORIES FOR M18 CYLINDRICAL SENSORS

## CORDSETS

V1-G-VL18	M12 4-pin cordset (Vario-Quick)
V1-G-2M-PVC	Straight M12 4-pin cordset with 2 m PVC cable
V1-W-2M-PVC	Angled M12 4-pin cordset with 2 m PVC cable
V1-G-2M-PUR	Straight M12 4-pin cordset with 2 m cable
V1-W-2M-PUR	Angled M12 4-pin cordset with 2 m cable
<b>Micro AC- cordset for 20 to 250 V AC/DC operating voltage</b>	
V124-G-YE10M-PUR-H/S	Straight ½" 4-pin cordset with 10 m cable
V124-G-YE2M-PVC	Straight ½" 4-pin cordset with 2 m cable
V124-G-YE5M-PVC	Straight ½" 4-pin cordset with 5 m cable
V124-W-YE10M-PUR-H/S	Angled ½" 4-pin cordset with 10 m cable
V124-W-YE2M-PVC	Angled ½" 4-pin cordset with 2 m cable
V124-W-YE5M-PVC	Angled ½" 4-pin cordset with 5 m cable

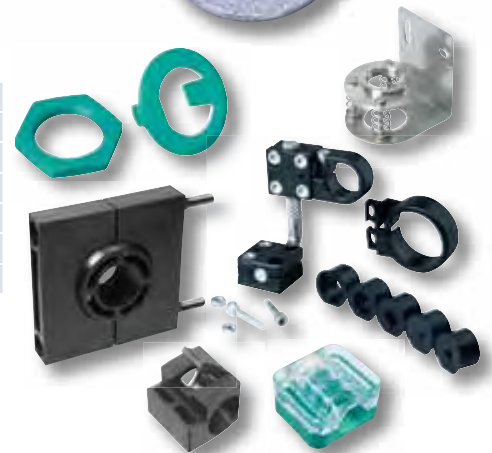
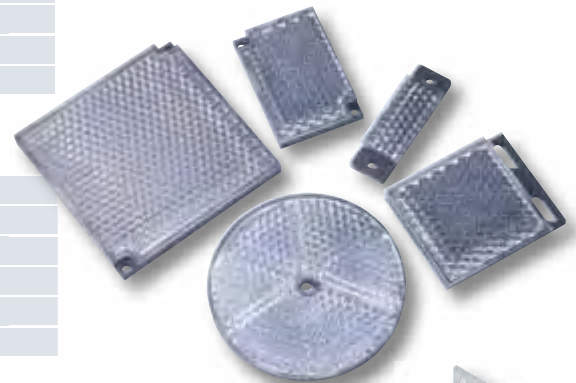
## REFLECTORS

H50	Rectangular reflector, 50 mm x 50 mm
MH23	Microstructure reflector for laser light barriers, rectangular, 13 mm x 13.8 mm
H60	Rectangular reflector, 60 mm x 40.5 mm
H85	Rectangular reflector, 84.5 mm x 84.5 mm
H160	Rectangular reflector, 60 mm x 18 mm
C110-2	Round reflector, diameter 84 mm

## MOUNTING ACCESSORIES

OMH-VL18	Mounting bracket with precision alignment for VL18 series
CPZ18B03	Mounting bracket with swivel adjustment for GLV18 series
BF18	Mounting bracket
BF18-F	Mounting bracket
BF5-30	Mounting bracket
OSP18A	90° optical deflector – window open
OSP18B	90° optical deflector for photoelectric sensors with infrared light, window closed

All sensors are delivered with two mounting nuts for individual mounting on your systems. A mounting ring for enclosure flush mounting is also included with the GLV18 series.



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