

Diffuse mode sensor

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

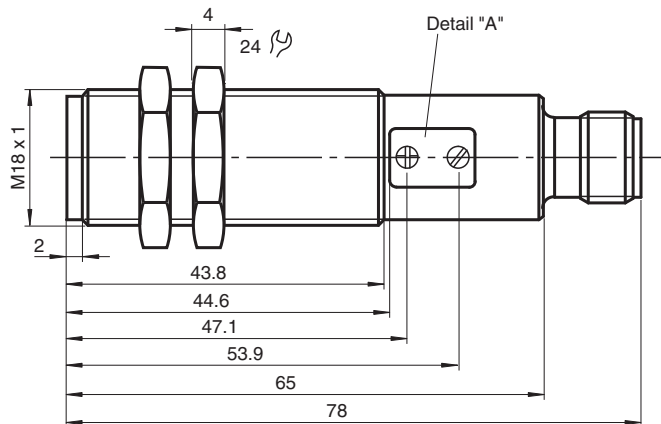


- M18 threaded housing made of brass, nickel plated
- Visible red light, pulsed LASER light
- Array control panel with highly visible LED display
- Flashing power on LED in case of short-circuit
- Multiple device installation possible, no mutual interference (no cross-talk)
- Not sensitive to ambient light, even with switched energy saving lamps
- Protection class II

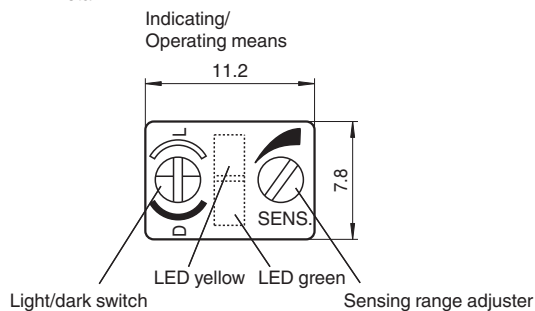
Diffuse mode sensor, M18 threaded housing design, metal housing, 400 mm detection range, red laser diode, sensitivity adjuster, light/dark on, PNP output, M12 plug



Dimensions



Detail "A"



Technical Data

General specifications

| | |
|----------------------------|--|
| Detection range | 0 ... 400 mm , adjustable |
| Detection range min. | 0 ... 25 mm |
| Detection range max. | 0 ... 400 mm |
| Light source | laser diode |
| Light type | modulated visible red light |
| Laser nominal ratings | |
| Note | LASER LIGHT , DO NOT STARE INTO BEAM |
| Laser class | 1 |
| Wave length | 655 nm |
| Beam divergence | 31.5 mrad |
| Pulse length | 4 µs |
| Repetition rate | 11.91 kHz |
| max. pulse energy | 4.95 nJ |
| Diameter of the light spot | approx. 0.5 mm at a distance of 120 mm |
| Optical face | frontal |
| Ambient light limit | 30000 Lux |
| Hysteresis | H < 15 % |

Functional safety related parameters

| | |
|--------------------------------|-------|
| MTTF _d | 700 a |
| Mission Time (T _M) | 20 a |
| Diagnostic Coverage (DC) | 0 % |

Indicators/operating means

| | |
|---------------------|--|
| Operation indicator | LED green, flashes in case of short-circuit |
| Function indicator | LED yellow, lights up with receiver lit |
| Control elements | Sensing range adjuster, light-on/dark-on changeover switch |

Electrical specifications

| | | |
|------------------------|----------------|---|
| Operating voltage | U _B | 10 ... 30 V DC , class 2 |
| No-load supply current | I ₀ | < 25 mA |
| Protection class | | II , rated voltage ≤ 50 V AC with pollution degree 1-2 according to IEC 60664-1 |

Output

| | |
|---------------------|---|
| Switching type | light/dark on, switchable |
| Signal output | 1 PNP output, short-circuit protected, reverse polarity protected, open collector |
| Switching voltage | 30 V DC |
| Switching current | max. 200 mA |
| Switching frequency | f 500 Hz |
| Response time | 1 ms |

Conformity

| | |
|------------------|--------------|
| Product standard | EN 60947-5-2 |
|------------------|--------------|

Compliance with standards and directives

| | |
|---------------------|--|
| Standard conformity | |
| Laser class | IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007 |

Approvals and certificates

| | |
|----------------|--|
| CE conformity | yes |
| EAC conformity | TR CU 020/2011 |
| UL approval | cULus Listed, Type 1 enclosure |
| CCC approval | CCC approval / marking not required for products rated ≤36 V |

Ambient conditions

| | |
|---------------------|--------------------------------|
| Ambient temperature | -25 ... 55 °C (-13 ... 131 °F) |
| Storage temperature | -30 ... 70 °C (-22 ... 158 °F) |

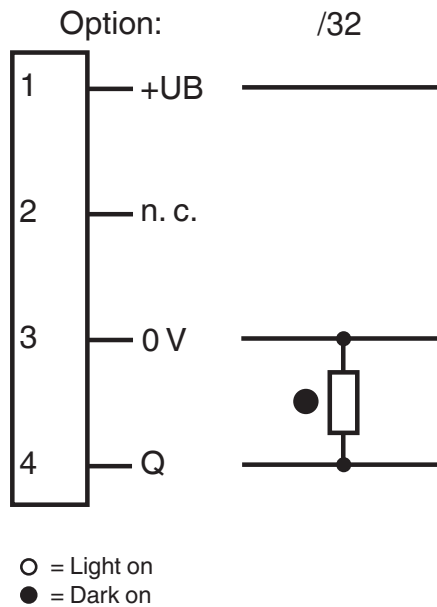
Mechanical specifications

| | |
|----------------------|------|
| Degree of protection | IP67 |
|----------------------|------|

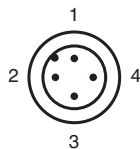
Technical Data

| | |
|--------------|--------------------------|
| Connection | 4-pin, M12 x 1 connector |
| Material | |
| Housing | brass, nickel-plated |
| Optical face | PMMA |
| Mass | 60 g |

Connection Assignment



Connection Assignment

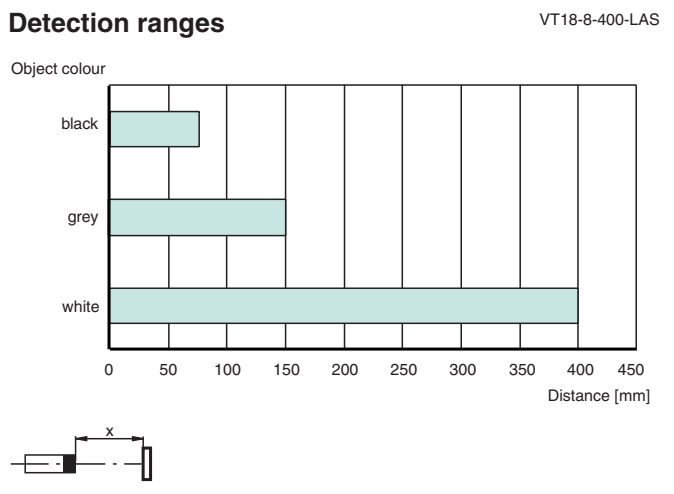
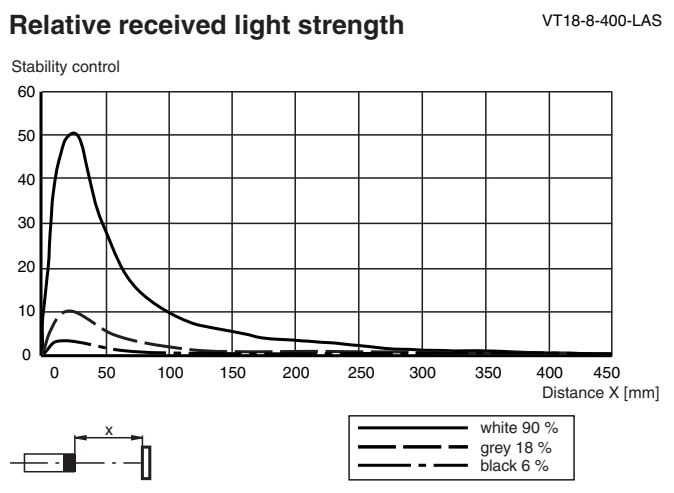
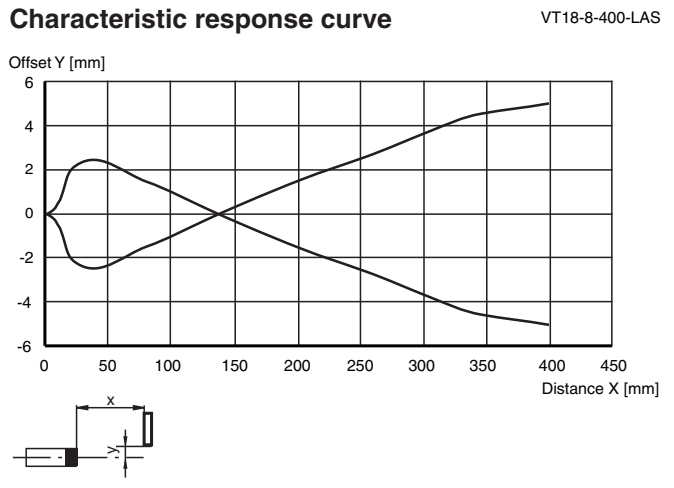


Wire colors in accordance with EN 60947-5-2

| | | |
|---|----|---------|
| 1 | BN | (brown) |
| 2 | WH | (white) |
| 3 | BU | (blue) |
| 4 | BK | (black) |

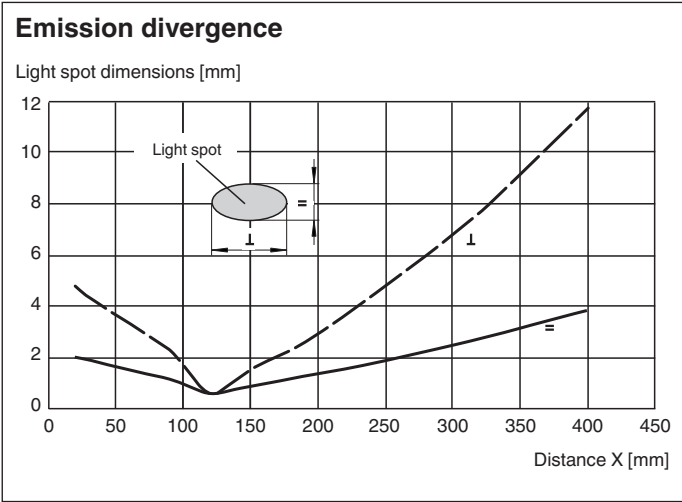
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Characteristic Curve



Release date: 2022-08-08 Date of issue: 2022-08-08 Filename: 801134_eng.pdf







Characteristic Curve



Safety Information

Laser Class 1 Information
The irradiation can lead to irritation especially in a dark environment. Do not point at people!
Maintenance and repairs should only be carried out by authorized service personnel!
Attach the device so that the warning is clearly visible and readable.
The warning accompanies the device and should be attached in immediate proximity to the device.
Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.

Accessories

| | | |
|---|-------------|---|
|  | OMH-VL18 | Mounting Bracket with swivel nut |
|  | BF 18 | Mounting flange, 18 mm |
|  | BF 18-F | Plastic mounting adapter, 18 mm |
|  | BF 5-30 | Universal mounting bracket for cylindrical sensors with a diameter of 5 ... 30 mm |
|  | V1-G-2M-PUR | Female cordset single-ended M12 straight A-coded, 4-pin, PUR cable grey |
|  | V1-W-2M-PUR | Female cordset single-ended M12 angled A-coded, 4-pin, PUR cable grey |

Configuration

Sensitivity adjustment

- Turn sensitivity adjuster (counterclockwise) to minimum position.
- Place the object to be detected in the sensing range and turn the sensitivity adjuster clockwise until the yellow indication LED lights up. This setting indicates the position A of the sensitivity adjuster.
- Remove the object. Increase the sensitivity slowly (turning the sensitivity adjuster clockwise) until the yellow LED lights up again. This setting indicates the position B of the sensitivity adjuster.

Note:

In case of no background object, the LED won't light up, even in MAX. adjustment. In that case take care, that in normal operation conditions no temporal background object can appear in the sensing range (e. g. parked pallets). If this can not be excluded, place (only for adjustment matter) an object at the appropriate location. Then repeat this adjustment step. After finishing the adjustment this temporal object should be removed.

- For optimal setting, now turn the sensitivity adjuster to the middle position between the positions A and B.

