## Model Number

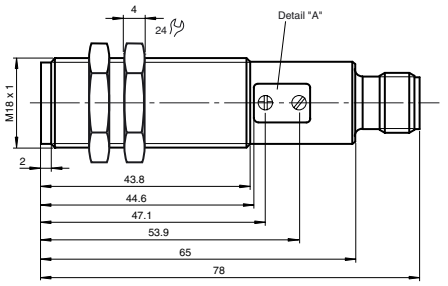
**VT18-8-400-M/40a/118/128**

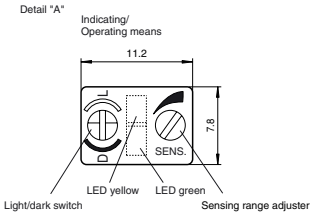
Diffuse mode sensor
with 4-pin, M12 x 1 connector

## Features

- 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

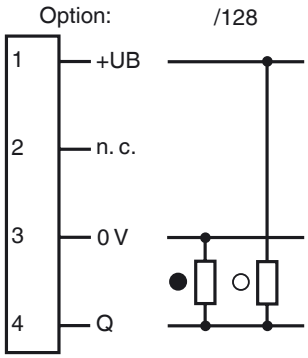
## Dimensions




Unit connector

## Electrical connection




○ = Light on
● = Dark on

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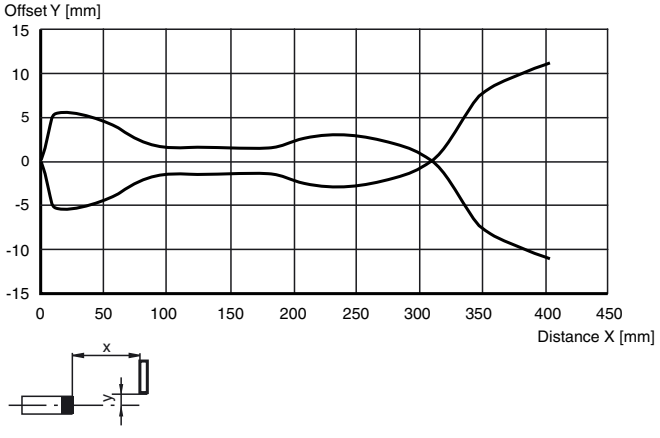
## Technical data

| | | |
|---|---|---|
| **General specifications** | | |
| Detection range | | 0 ... 400 mm , adjustable |
| Detection range min. | | 0 ... 25 mm |
| Detection range max. | | 0 ... 400 mm |
| Light source | | LED |
| Light type | | modulated visible red light 660 nm |
| Diameter of the light spot | | approx. 4 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 |
| Ripple | | 10 % |
| No-load supply current | $I_0$ | < 30 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 | | Push-pull output, short-circuit protected, reverse polarity protected |
| Switching voltage | | 30 V DC |
| Switching current | | max. 200 mA |
| Switching frequency | f | 500 Hz |
| Response time | | 1 ms |
| **Ambient conditions** | | |
| Ambient temperature | | -25 ... 70 °C (-13 ... 158 °F) |
| Storage temperature | | -30 ... 70 °C (-22 ... 158 °F) |
| **Mechanical specifications** | | |
| Degree of protection | | IP67 |
| Connection | | 4-pin, M12 x 1 connector |
| Material | | |
| Housing | | brass, nickel-plated |
| Optical face | | PMMA |
| Mass | | 60 g |
| **Compliance with standards and directives** | | |
| Directive conformity | | EMC Directive 2004/108/EC |
| Standard conformity | | |
| Product standard | | EN 60947-5-2 |
| **Approvals and certificates** | | |
| CE conformity | | yes |
| UL approval | | cULus Listed, Type 1 enclosure |
| CCC approval | | CCC approval / marking not required for products rated ≤36 V |

## Curves/Diagrams

### Characteristic response curve

VT18-8-400

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Refer to “General Notes Relating to Pepperl+Fuchs Product Information”.
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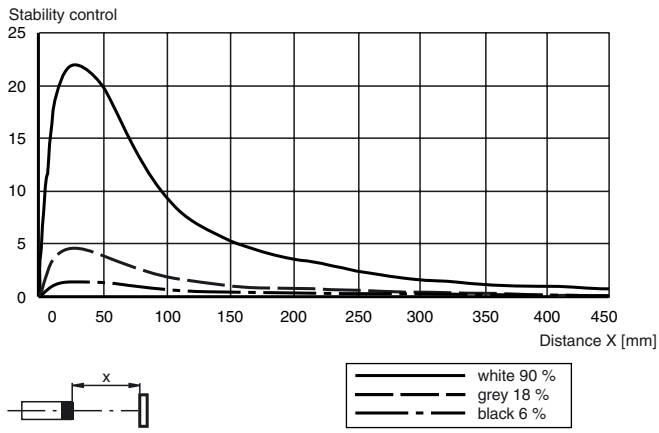
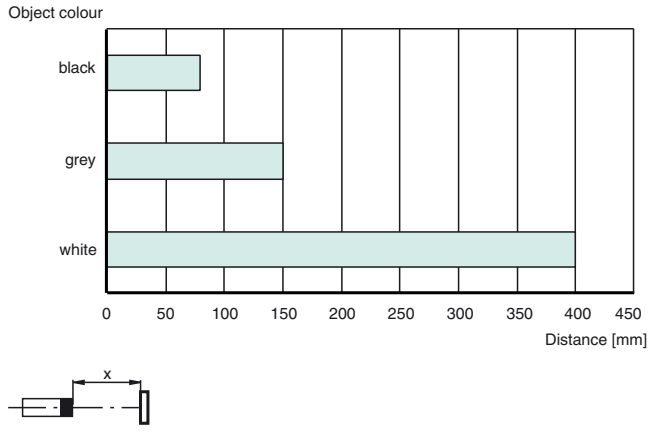
## Relative received light strength

VT18-8-400



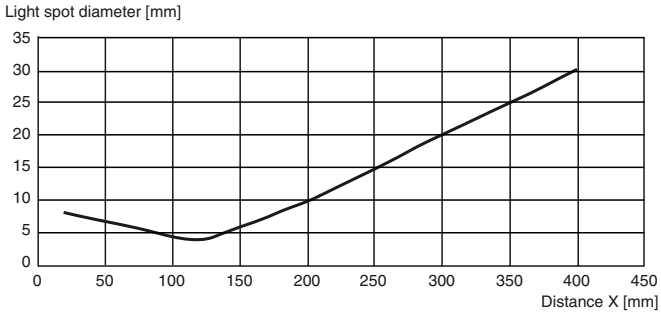

## Detection ranges

VT18-8-400




## Emission divergence

VT18-8-400




## Adjustment

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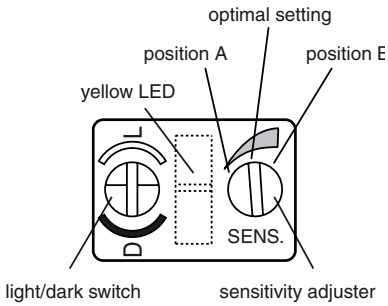
**Sensitivity adjustment**

- 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.

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