More Precision

optoCONTROL CLS-K // Fiber optic sensors
Features:
- Scanning distance up to 180mm*
- Range of up to 2m*
  * depending on the fiber bundle diameter
- Switching output: NPN, PNP, optocoupler
  and relay
- Adjustable drop-out delay 5-100ms (optional)

Applications:
- Powerful infrared emitter
- Test & measurement tasks
- Position recognition of small parts
- Position and assembly monitoring on automatic
  assembly machines and feeding systems
- Presence monitoring
- Checking length and diameter

Advantages:
- Precise and reliable object detection
- Low drift due to transmission monitoring, making
  it particularly suitable for measuring tasks
- High switching frequency and short response time
- Sensor monitoring via analog signal
- Stable long-term behavior by monitoring and regulating
  the emission of the transmitter diode
- High light power in the non-visible infrared range
Type CLS-K 10 11 20 30 31 40 50 51
Order No. 10010023 10010024 10040025 10040027 10020028 10022468 10040029 10040030 10040031
Residual ripple ≤10%
Current consumption ~ 50mA
Switching delay ≤ 500ms
Response time ≤ 120μs
Temperature drift ≤ (-)0.5%/K
Reproducibility ≤ 1% with Δ = 2K
Switching state LED display red and green
Operating mode light and dark switch output switchable light/dark switching
Sensitivity adjustable via 10-level potentiometer P1
Range switching 1:100 (Short range : Long range)
Hysteresis 4% of the measuring range
Protection class IP65 (with mounted optical fiber)
Operating temperature 0°C to +50°C
Storage temperature -25°C to +70°C
Housing material Makrolon® 8035/UL94V1, transparent cover, black lower part
Weight, Dimensions approx. 215g / 135g, 125x42x45mm
Switching output (*short-circuit protected) Transistor* 2x NPN O.C. Relays 1x changeover contact Optocoupler* PNP* Relays 1x changeover contact Optocoupler* PNP*
Switching voltage 30VDC 0.01-250VAC 0.01-220VDC 30VDC 30VDC 0.01-250VAC 0.01-220VDC 30VDC 30VDC
Switching current 5-100mA 50μA-2 A 5-100mA 5-100mA 50μA-2 A 5-100mA 5-100mA 5-100mA
Switching power 5 μW-60W 125VA 5 μW-60W 125VA 5 μW-60W 125VA
Max. switching frequency 4kHz 60Hz 4kHz 4kHz 60Hz 4kHz 4kHz 4kHz
Saturation voltage ≤ 2.0V ≤ 2.0V ≤ 2.0V ≤ 2.0V ≤ 2.0V ≤ 2.0V ≤ 2.0V ≤ 2.0V
Pulse stretching 5-100ms adjustable with potentiometer P2
Analog output 0.1-1.5VDC, output resistance 1kOhm adjustable with potentiometer P2
Type of connection 2m cable screw clamps 1.5mm² screw clamps 1.5mm² connector screw clamps 1.5mm² for PC1200-x plug
Connection cable approx. 215g / 135g, 125x42x45mm

Dimensions in mm, not to scale

Control and display interface

Connections:

Terminal block

All light/dark switch versions

Connection cable CLS-K-10

Output: CLS-K-10: NPN O.C.

*1 dark switching *2 light switching
High performance sensors made by Micro-Epsilon

- Sensors and systems for displacement and position
- Sensors and measurement devices for non-contact temperature measurement
- 2D/3D profile sensors (laser scanner)
- Optical micrometers, fiber optic sensors and fiber optics
- Color recognition sensors, LED analyzers and color online spectrometer
- Measurement and inspection systems