







# More Precision

opto**CONTROL** CLS-K // Fiber optic sensors





	<b>Response time <math>\leq 120\mu\text{s}</math></b>
	<b>Switching frequency <math>\leq 4\text{kHz}</math></b>
	<b>Analog display</b>
	<b>Analog output 0 - 10VDC; 0 - 20mA; 4 - 20mA</b>

**Features:**

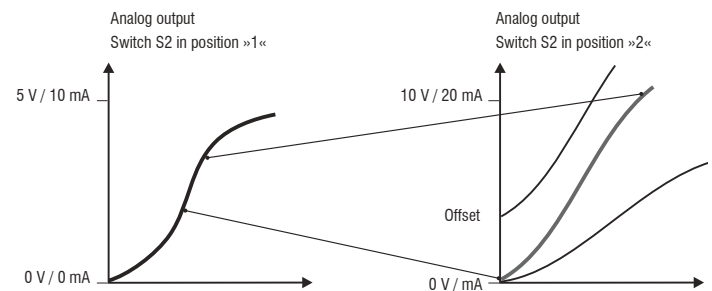
- Scanning distance up to 180mm\*
- Range up to 2m\*
  - \* depending on the fiber bundle diameter
- Supply 12-30VDC
- NPN switching output
- Stable long-term behavior by monitoring and regulating the emission of the transmitter diode

**Applications:**

- Powerful infrared emitter
- Test & measurement tasks
- Checking length and diameter
- Production monitoring via analog output and display
- Assembly control
- Indirect displacement measurement via optical fiber with cross-section converter

**Advantages:**

- Low drift by transmission monitoring
- Fast response time
- Sensor monitoring via analog signal
- High light power in the non-visible infrared range

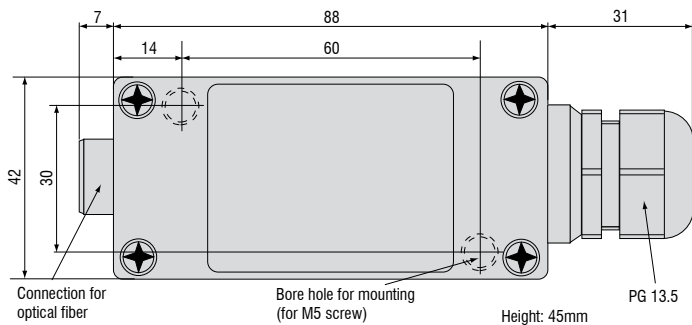
**Scaling of analog output**

The CLS-K-61/63 amplifier offers the possibility to scale the important signal range over the entire analog range. This enables to increase the sensitivity in a certain range, e.g. for the detection of small objects.

Type CLS-K	60	61	63	65
Order No.	10030032	10030033	10040035	10040036
Supply	12-30VDC			
Residual ripple	≤ 10%			
Current consumption	~ 70mA			
Switching delay	≤ 500ms			
Switching frequency	≤ 4kHz			
Response time	≤ 120μs			
Temperature drift	≤ (-)0.5% /K			
Reproducibility	≤ 1% with Δθ = 2K			
Hysteresis	4% of the measuring range value			
Analog Output	0-20mA	0-10VDC	0-20mA	4-20mA
Voltage output	load ≤ 600Ω			
Switching output	transistor 2x NPN O.C.			
Switching voltage	30VDC			
Switching current	5-100mA			
Sensitivity	adjustable via 10-level potentiometer P1			
Range switching	1:100 (Short range : Long range)			
Switching state	LED-display red/green			
Operating mode	light/dark switching output			
Protection class	IP65 (with optical fiber)			
Power supply and output	transient-protection polarity and short-circuit protection			
Operating temperature	0 to 50°C			
Storage temperature	-25°C to 70°C			
Type of connection	screw connectors	2m cable	screw connectors	screw connectors
Display	no	yes	no	no
Housing material	Makrolon® 8035 / UL94V1			
Weight	approx. 215g/135g			

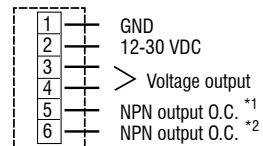
**Dimensions:**

Dimensions in mm, not to scale

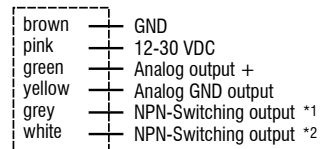


**Connections:**

**CLS-K-60/63/65**



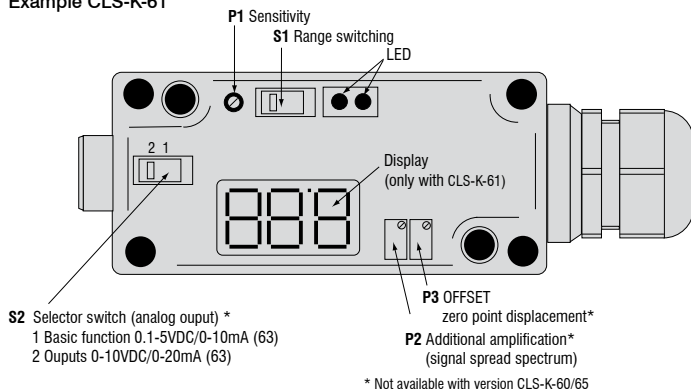
**Connection cable CLS-K-61**



\*1 dark switching  
\*2 light switching

**Control and display interface:**

**Example CLS-K-61**



## 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