

KD01/ Edge counter



Characteristics:

- Detection of edges to count objects
- Typical use is the counting of printed documents (Newspapers, magazines, etc.)
- Large application range 0 ...150mm
- Suppression of ambient light disturbance
- Counts edges from a height of 0.1mm
- Counts up to 500 Copies./sec.
- Output pulse is adjustable from 0.5 to 500ms
- Multiple pulse suppression to avoid counting errors of difficult objects.
- Wide range of supply voltage 12 ...24VDC
- Option: External large 6 number display with adjustable mode (0 to 999999) and separate connectors.

Short description

The edge detector **KD01** is particularly suited to count printed documents such as newspapers, magazines and brochures. The detector is ideal to be fitted to transport bands and conveyors used to transport products in layers (stream of scales).

Using a visible laser beam the **KD01** can distinguish edges from colour differences or light/shadow differences. The detector reliably identifies and counts edges from as little as 0.1 mm thickness.

The **KD01** only counts these edges which face into the direction of material flow. This ascertains the last copy of a stream of scales is counted only once.

Because the supply voltage has a wide range of 12 to 24VDC and due to the extensive application range of 0 to 150mm, the **KD01** is best suited for use with new equipment as well as for the retrofit of existing equipment.

When detection of very small edges is required, the Laser beam is adjusted at the factory to focus at an ideal distance within the available range.

When brochures are conveyed with the open side forward instead of the back, or when edges have overlaying print or colours causing changes of the reflective properties of the surface a multiple pulse signal could be triggered. This is avoided by selection of the multiple pulse suppression mode which identifies the signal correctly as one edge only.

Optional a display counter is available which can be set to count up or down from a preset number. This allows to define and to verify the numbers of documents printed for circulation.

Technical data

KD01 / edge detector		
Supply voltage	12 ... 24	VDC
max. operating current ¹⁾	160	mA
Optical output ²⁾	< 1.0	mW
Laser class	2	-
Wavelength	670	nm
Modulation frequency ³⁾	120	kHz
Usable range	0 ... 150	mm
Smallest edge size ⁴⁾	0.1	mm
Rate of pulses for counting	0 ... 500	Ex./s
Pulse width of the output pulse signal	0.5 ... 500 (adjustable)	ms
Output voltage (Pulse)	= Supply voltage (12 ... 24V)	V
Operating temperature range	0 ... 40	°C
Weight	660	g
Connector	Escha FS 4.5; 5 poles	-
Type of output	PNP; Open-Collector	-
Sensitivity	Adjustable	-
Short circuit proof	Yes	-
Distance from edge to edge	>2	mm
Multiple pulse suppression	yes	-

Unless indicated, the data is correct at ambient room temperature and under normal use.

- 1) At 12VDC supply voltage
- 2) Average value
- 3) Typical value
- 4) At a working distance of 100mm. Other focus lengths possible. Best value over total working range = 0.3 mm

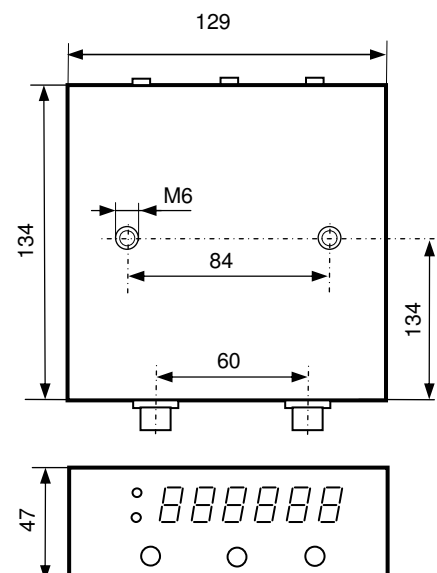
Option: Number display with separate electrical connector

The display can be used as a counter to count up or down.
In addition a desired value can be preset.

- To count up: The output signal is identical to the output signal of the KD01 (Pulse = Edge)
- To count down: Only when the value „0“ is reached an output pulse signal is provided and the display is reset to the original preset value

Number display for KD01		
Supply voltage	12 ... 24	VDC
Max. Operating current ¹⁾	100	mA
Weight	150	g
Display	6	Digit

The specification for the output and input connectors is identical to the KD01!



Electrical connections

Pole number	Description
1	Supply voltage (+12 ...+24VDC)
2	Operating mode: Multiple pulse suppression (open), without (GND)
3	GND
4	Output signal; PNP; max. 30mA; Short circuit proof
5	Not used

Dimensions

