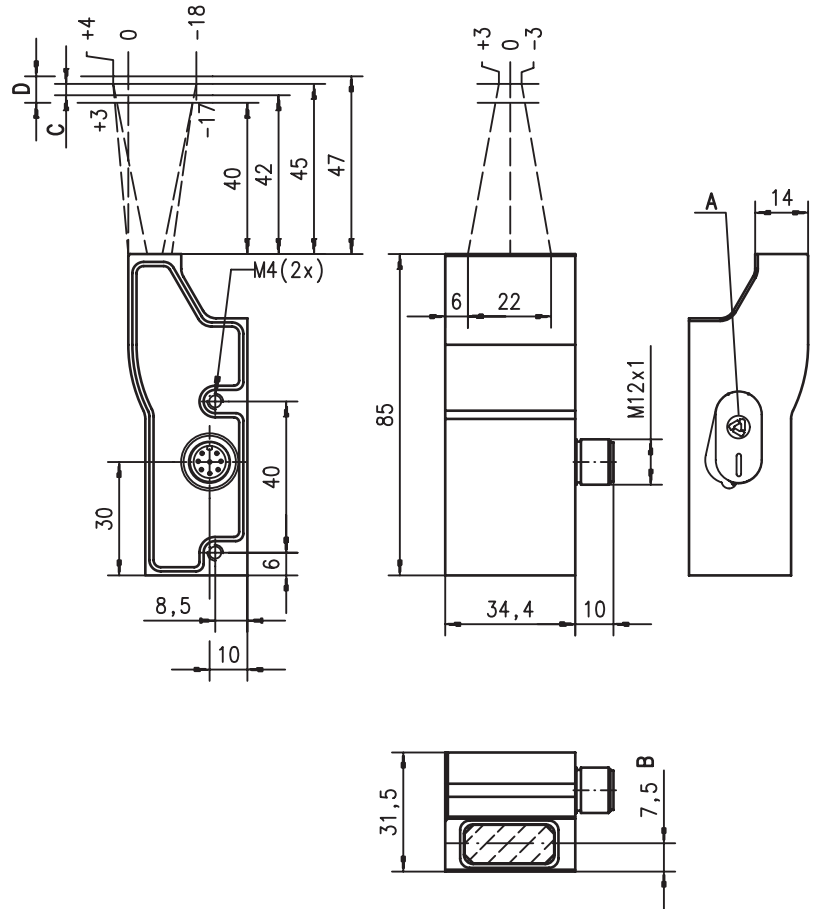
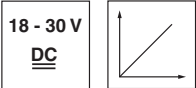




Dimensioned drawing



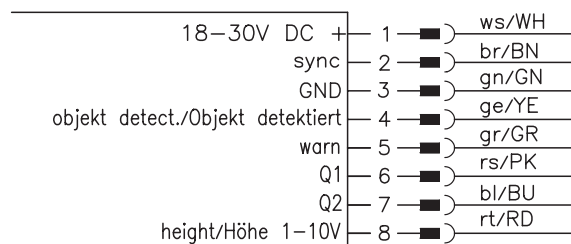
- A Diagnostics plug
- B Optical axis
- C Recommended scanning range
- D Typ. scanning range limit



- 20mm line length at the object (for a scanning distance of 40mm)
- +5mm depth of field
- Reflection-independent height measurement of stack front edges
- Height measurement of stack front edges with a luminosity coefficient between 10 and 90%
- Two switching outputs for the stack height
- Warning output if the gap in the stack is too large
- Switching output "object detected"
- Synchronisation input
- Metal housing with glass cover, protection class IP 67



Electrical Connection



Accessories:

- (available separately)
- M12 connectors (KD ...)

We reserve the right to make changes • ka\_03e.fm

## Specifications

### Optical data

Recommended scanning range	42 ... 45mm
Typ. scanning range limit	40 ... 47 mm
Line length at object	20 ... 21.7 mm
Resolution	0.2mm
Light source	LED (modulated light)
Wavelength	665nm (red light)

### Error limits

Stack height measurement	±0.5mm (40mm scanning range)
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### Timing

Measurement frequency	16Hz
Measurement value output	approx. 60ms
Cycle time sync	approx. 100 ms
Response time	≤ 100ms
Delay before start-up	≤ 600ms

### Electrical data

Operating voltage $U_B$	18 ... 30VDC (incl. residual ripple)
Residual ripple	≤ 15% of $U_B$
Bias current	≤80 mA

### Inputs/outputs

sync (trigger input)	active on signal change low/high (edge triggered) or ≥ no signal change for 3s
Object detected	PNP transistor output
Function characteristics	light switching from object position > -13.9mm
warn (warning output)	PNP transistor output
Function characteristics	Transistor activated if gap in the detection range > than about 1.3mm
Q1, Q2	PNP transistor output
Function characteristics	Q1 light switching from object position of about -0.3mm Q2 light switching from object position of about -3.3 mm
Signal voltage high/low	≥ ( $U_B - 2V$ ) / ≤ 2V
Output current	max. 200mA per output
height (analogue output)	analogue voltage 1 ... 10V $R_L \geq 2k\Omega$

### Mechanical data

Housing	aluminium
Weight	100g
Optics cover	glass
Connection type	M12 connector, 8-pin

### Environmental data

ambient temp. (operation/storage)	+10°C ... +40°C/-30°C ... +70°C
Ambient light limit	≤ 5klux
Protective circuit <sup>1)</sup>	1, 2, 3
VDE safety class	III
Protection class	IP 67
Standards applied	IEC 60947-5-2

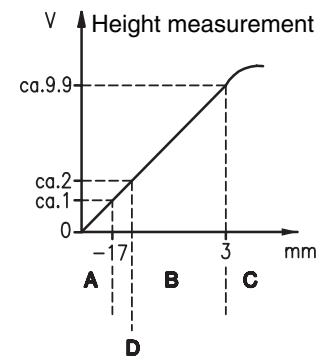
1) 1=transient protection, 2=polarity reversal protection, 3=short circuit protection for all outputs

## Order guide

	Designation	Part No.
CCD line sensor	KA 958	500 33597

## Tables

## Diagrams



- A** Wire break
- B** Stack height
- C** Stack too high
- D** Object detected (pin 4)

## Remarks

- Clean lenses regularly or provide device for blowing off dirt.
- Optimum distance is achieved when the two light dashes form a single line.
- The measured edge position of the material may change depending on the material's luminosity coefficient.
- **Recommendation**  
Clean with a lens cleaning cloth (microfibre), in case of heavy soiling dampen with ISOPROPANOL.