



Double sheet sensor

UDB-18GS-2E1-0,2M-V15

- Ultrasonic system for reliable detection of no, one, or two overlapping sheet materials
- Insensitive to printing, colors, and shining surfaces
- Perpendicular or inclined sensor mounting relative to the sheet plane possible
- Simplified commissioning
- Integrated alignment aid
- No TEACH-IN required
- Short version



Function

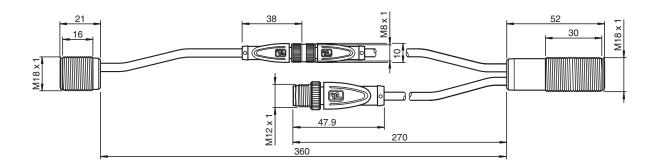
The ultrasonic double-sheet detector is used wherever automatic differentiation between single and double sheets is necessary to protect machines or prevent rejects. The double sheet detection is based on the ultrasonic thru-beam principle.

The following situations can be detected:

- · No sheet, i. e. air
- · Single sheet
- Double sheet or multiple sheets (a statement on the number of sheets is not possible here)

The signals are evaluated by a microprocessor system. As a result of the evaluation, corresponding switching outputs are set.

Dimensions



Technical Data

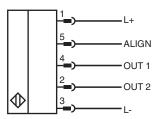
General specifications	
Sensing range	20 60 mm, optimal distance: 45 mm
Transducer frequency	approx. 255 kHz
Memory	
Non-volatile memory	EEPROM
Write cycles	300000
Indicators/operating means	
LED green	indication: single sheet detected
LED yellow	indication: no sheet detected (Air)

Operating voltage UB 18 30 V DC , ripple 10 %ss No-load supply current Io ≤ 40 mA Power consumption Po ≤ 550 mW Time delay before availability tv ≤ 300 ms Input type Function input O-level: -UBUB + 1V +UB Pulse length ≥ 100 ms Pulse length ≥ 100 ms ≥ 60 kΩ Impedance Designation OUT 1, 2 Number 2 OUT 1: single sheet detected OUT 2: double sheet detected OUT 2: double sheet detected Output function OUT 1: single sheet detected Output type switching output: NPN , NC contact Rated operating current Ie 100 mA per output Voltage drop Ud ≤ 3 V Switch-on delay ton 15 ms Switch-off delay toff 15 ms Fusing reverse polarity protected , overload and short-circuit resistant	Technical Data		
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Bending radius 5 x diameter , fixed Material PUR			4.3 mm
Material PUR			

Technical Data

Length	L	approx. 200 mm
Mass		75 g
Tightening torque, fastening screws		max. 20 Nm

Connection



Connection Assignment



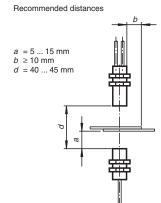
Installation

Hinweis

Only use the cables specified by Pepperl+Fuchs for this purpose to extend the connecting cable between the transmitter and receiver of the ultrasonic double sheet detectors. The use of other cables will result in impairment of the sensor function or even loss of function.

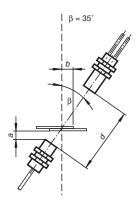
Mounting

Mounting/Adjustment



Mounting/Adjustment

(for very thick papers)



Angular misalignment

α < +/- 1°



Sensor offset

s < +/- 1 mm



Commissioning

Operating Modes

The sensor has fixed thresholds that ensure the detection of double sheet events over a very wide range of materials. Feedback on the detected state (= "air", "single sheet", or "double sheet") is provided via the two switching outputs of the sensor. Please refer to the technical data to find out which output reports which state. The third state is present if neither of the other two states is reported.

Further Documentation

For detailed information on mounting, alignment and commissioning you may refer to the commissioning instruction of the sensor.

Accessories

V15-G-BK2M-PUR-U

		suitable, torsion resistant
6	MH-UDB01	Mounting bracket for double sheet monitor
60	AA-UDB-18GM-01	alignment aid for double sheet sensor
Q\	V31-GM-1M-PUR- V31-GM-UDB/UDC	1 m cable for extension between emitter and receiver for UDB-18GS, UDC-18GS und UDC(M)-30GS
Q\	V31-GM-2M-PUR- V31-GM-UDB/UDC	2 m cable for extensionn between emitter and receiver for UDB-18GS, UDC-18GS and UDC(M)-30GS

Female cordset single-ended M12 straight A-coded, 5-pin, PUR cable black, UL approved, drag chain