



Ultrasonic sensors UM18 Double Sheet Detector

UM18-20012



Model Name > [UM18-20012](#)
Part No. > [6025670](#)

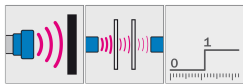


At a glance

- Double-sheet detection of foils, metal sheets and corrugated cardboard with F, N and G flute sizes
- Installation distance 37 mm ... 43 mm
- Automatic adjustment, plug and play operation
- Color-independent detection
- Two switching outputs for double and miss-fed sheets

Your benefits

- Increased quality and productivity through reliable double sheet detection
- Fast commissioning since sensor does not require calibration or teaching
- Reliable detection of transparent foils, various paper types and thin metal sheets provide application flexibility



Performance

Resolution:	Double sheets not completely glued together
Response time:	2.5 ms/6.5 ms
Ultrasonic frequency (typical):	400 kHz
Installation distance:	37 mm ... 43 mm
Blind zone:	7 mm from sender and receiver
Permissible angle deviation:	± 45 ° perpendicular to sheet
Detectable material:	Metal-laminated sheets and films: ≤0.4 mm, Paper grams per square meter: 20 ... 1,200 g/m ² , Self-adhesive films, metal sheets: ≤0.3 mm, Corrugated cardboard: single wall F, N and G flute sizes:

¹⁾ Approximate values: should be qualified in the application

Interfaces

Switching output ¹⁾ , ²⁾ , ³⁾ :	2 x PNP (500 mA)
Off delay:	10 ms
Control input:	1 x

¹⁾ Output Q short-circuit protected ²⁾ Q₁: switching output double sheet, Q₂: switching output mis-fed sheet, normally closed ³⁾ PNP: HIGH = V_S - (< 2 V)/LOW = 0 V

Mechanics/electronics

Supply voltage V_s ¹⁾ :	DC 20 V ... 30 V
Power consumption ²⁾ :	≤ 1.35 W
Initialization time:	< 300 ms
Design:	Cylindrical, M18
Housing material:	nickel-plated brass
Connection type:	Connection cable: 5-pin, 2 m, PVC Sender: cable with connector, 2-pin, 1 m, PVC Receiver: cable with connector, 2-pin, 1.2 m, PVC
Indication:	1 x dual LED
Weight:	280 g ³⁾

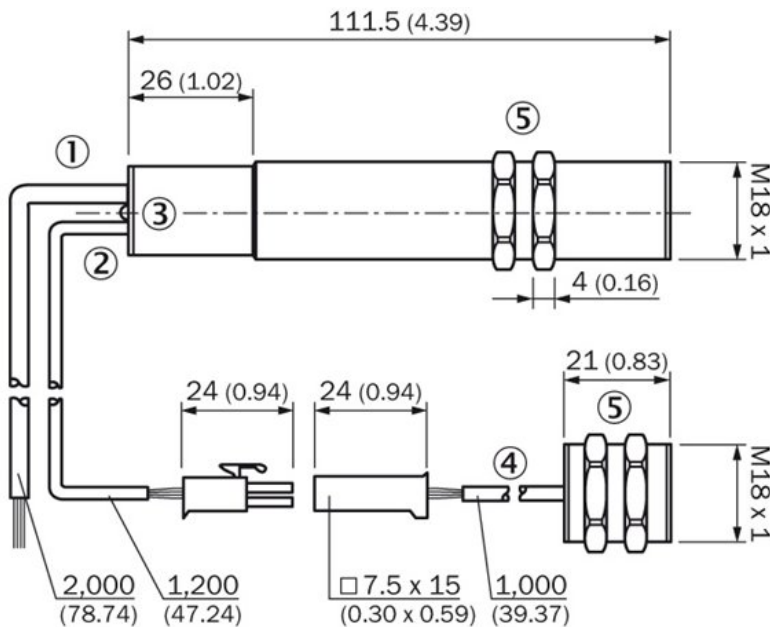
¹⁾ Limit values, reverse-polarity protected, operation in short-circuit protected network: max. 8 A ²⁾ Without load ³⁾ Incl. cable

Ambient data

Enclosure rating:	IP 67 ¹⁾
Ambient temperature:	Operation: +5 ... +60 °C Storage: -40 ... +85 °C

¹⁾ Connector of connection cable between sender and receiver complies with IP 20

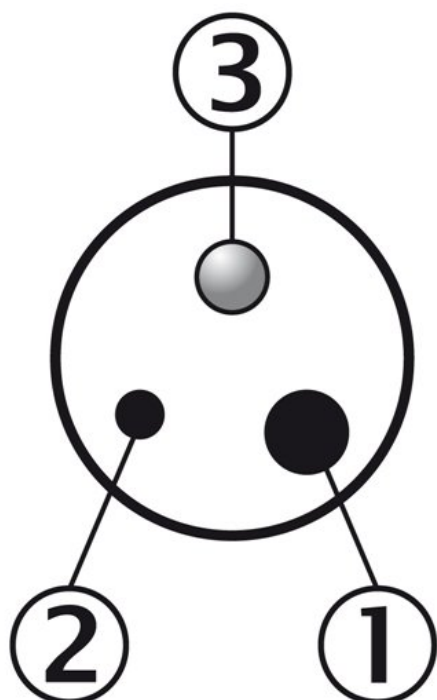
Dimensional drawing



- [1] Connection cable: 5-pin, 2 m, PVC
- [2] Receiver: cable with connector, 2-pin, 1.2 m, PVC
- [3] Status indicator of the switching outputs
- [4] Sender: cable with connector, 2-pin, 1 m, PVC
- [5] Mounting nuts, SW 24 mm

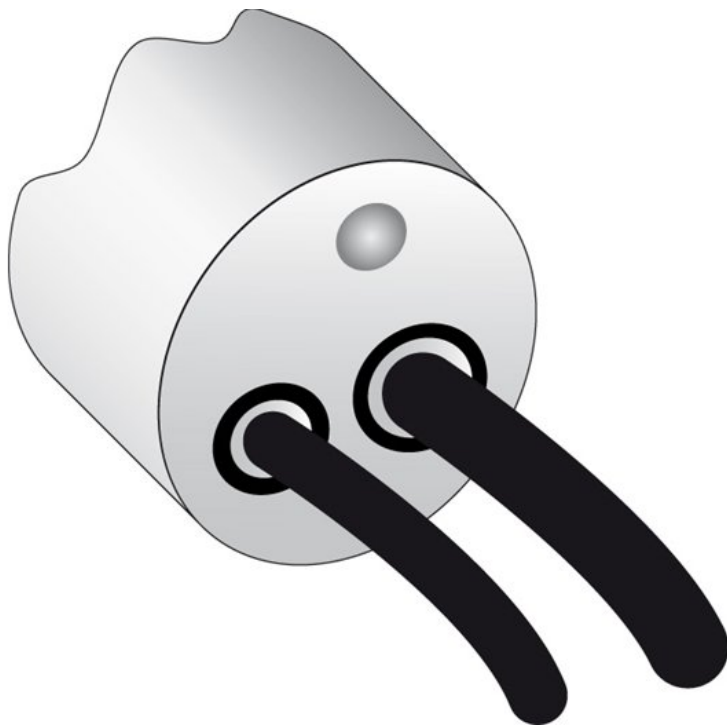
All dimensions in mm (inch)

Adjustments



- |1| Connection cable: 5-pin, 2 m, PVC
- |2| Receiver: cable with connector, 2-pin, 1.2 m, PVC
- |3| Status indicator of the switching outputs

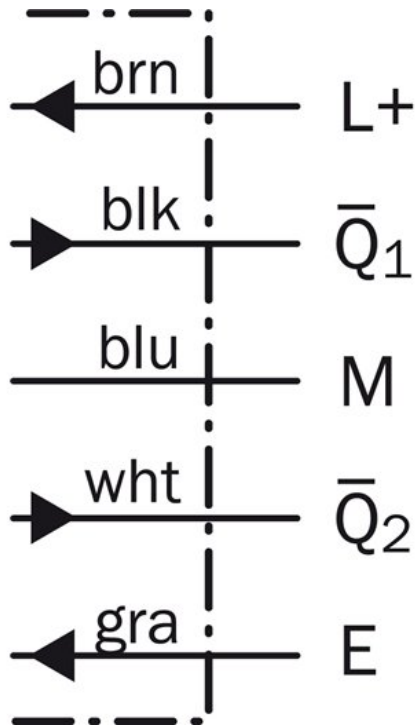
Connection type receiver



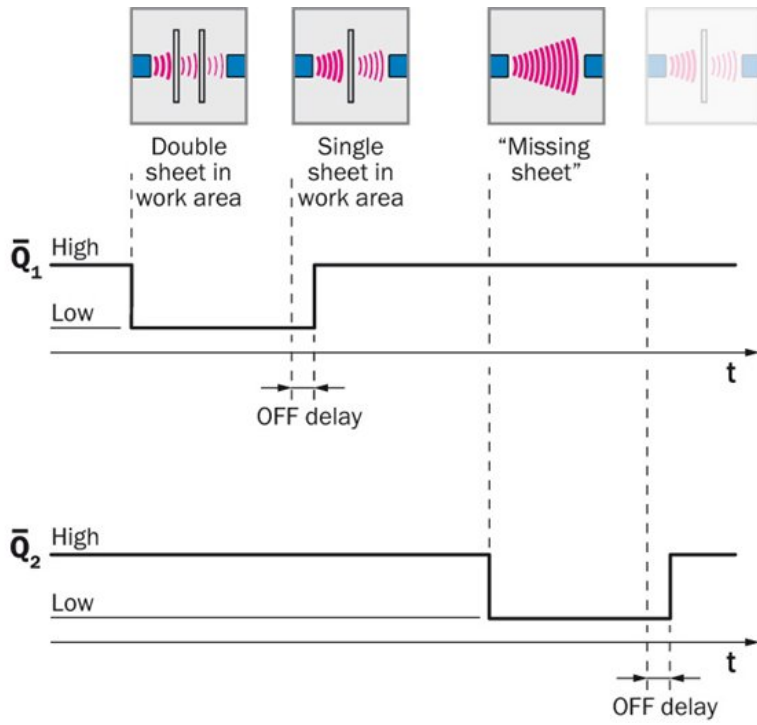
Connection type sender



Connection diagram receiver



Characteristic curve



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