UM 18 Double Sheet Detector

Ultrasonic Sensors

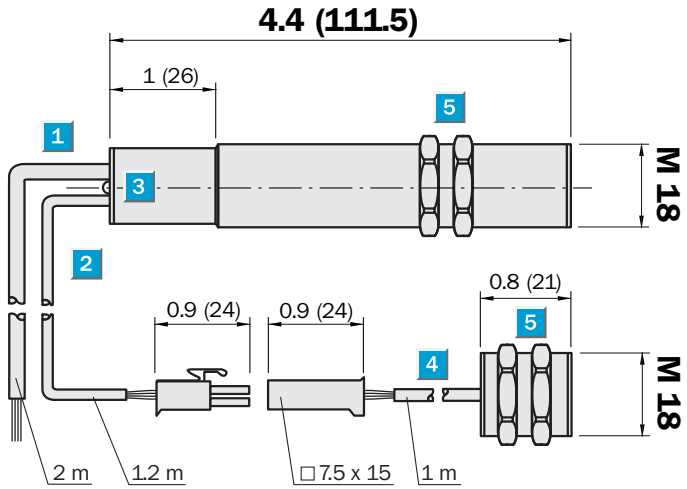
1.6 in ±0.12 in (40 mm ±3 mm)
detection range

Highlights

- Double-sheet detection of foils, metal sheets and ultra-fine corrugated cardboard
- Automatic adjustment, no Teach-in necessary
- Color-independent
- Plug & Play
- 2 PNP outputs for double and mis-fed-sheets

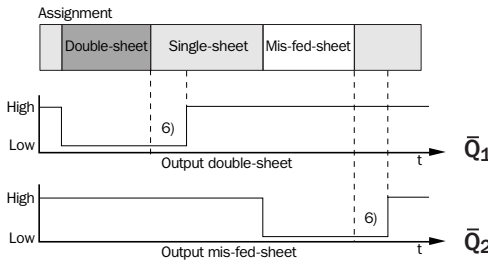
UM 18

Dimensional Drawing



dimensions in inches (mm)

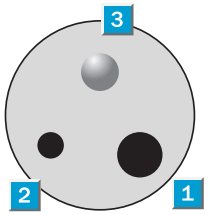
Detection Range



6) Off delay

Adjustments

UM 18-20012



1. Connection cable 2 m (receiver)
2. Connection cable 1.2 m, 2-pin sender and receiver
3. 2-color LED indicator, receiver
4. Connection cable 1 m, 2-pin sender and receiver
5. Fastening nuts, width across 24 mm

Order information

Type	Part no.
UM 18-20012	6 025 670

Accessories	page
Cables and connectors	925, 926
Mounting systems	909

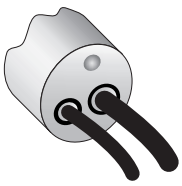
Technical Data	UM 18-	20012								
Installation distance										
sender – receiver	1.6 in ±0.12 in (40 mm ± 3 mm)									
Blind zone	0.3 in (7 mm), each time before sender									
	and receiver									
Permissible angle deviation	± 45° perpendicular to sheet									
Ultrasonic frequency	400 kHz									
Resolution	Double-sheets not completely									
	glued together									
Operational area										
Paper grams per square meter	20 ... 1200 g/m²									
Metal-laminated sheets and films	≤ 0.4 mm thickness									
Self-adhesive films, metal sheets	≤ 0.3 mm									
Ultra-fine corrugated cardboard										
Supply voltage V_S	12 ... 30 V DC [1]									
Ripple	± 10%									
Current consumption [2]	≤ 45 mA									
Double-sheet switching/Q_1 [3]	PNP, V_S –2 V, I_{max} = 500 mA									
Misfed sheet switching output/Q_2 [3]	PNP, V_S –2 V, I_{max} = 500 mA									
Response time [4]	2.5 ms or 6.5 ms									
Off delay	10 ms									
V_S at control unit [4]	Response time 6.5 ms: $V_S > 9$ V DC									
	Response time 2.5 ms: $V_S < 5$ V DC									
Standby delay	300 ms									
Connection type	Cable PVC, 2 m; 5 x 0.25 mm²									
Sender cable [5]	PVC, 1.2 m with 2-pin plug									
Receiver cable [5]	PVC, 1 m with 2-pin plug									
Enclosure rating	IP 65									
Ambient temperature	Operation 41...140°F (5...60°C)									
	Storage -40...185°F (-40...85°C)									
Approximate weight	9.9 oz (280 g)									
Housing material	Nickel-plated brass									

1) Limit values
2) Without load
3) Outputs short-circuit protected, Opener; no switching hysteresis
4) If the control line is laid against a ground, the response time is 2.5 ms. If the control line is laid against L+, the response time is 6.5 ms.
5) Not reverse-polarity protected

Connection Diagram

UM 18-20012*)

Receiver

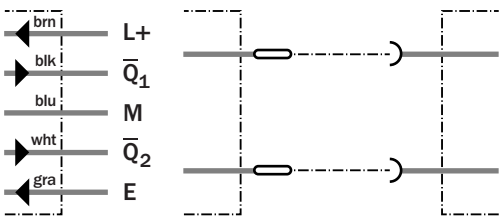


Sender

5 x 0,25 mm²

2-pin

2-pin



*) Sender/receiver pair:
Individual components on request

SICK