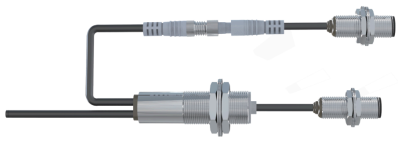
M12 Ultrasonic Double Sheet Detection Sensor

BUDS-M12-4.0-Z8 series · Sensing Distance: 20...40mm · Transducer Freq.: 500k Hz

IP65
Ingress Protection



KEY SPECIFICATIONS

SENSING DISTANCE	20...40mm
TRANSDUCER FREQ.	500k Hz
AMBIENT TEMP.	+5°C...+60°C
HOUSING	M12*1mm
INGRESS PROTECTION	IP65

MODEL CODES

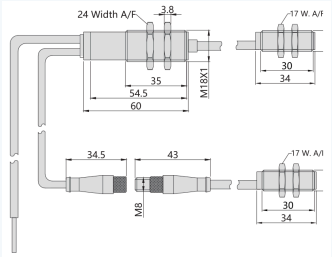
Output Type	Model Code
NPN N.O+N.C	BUDS-M12-N314.0-Z8 SKU 10105189
PNP N.O+N.C	BUDS-M12-P314.0-Z8 SKU 10105190

TECHNICAL DATA

Exterior structure	M12*1mm
Sensing distance	20...40mm
Target object range	Paper, cardboard, metal laminated board with weight 20-600g/m², films/foils and self-adhesive films up to 0.2mm thickness
Design	Cylindrical M12 ultrasonic wave transducer
Operating mode	Double sheet control
Detection method	Pulse operation with amplitude evaluation
Transducer frequency	500k Hz
Blind zone	5mm in front of emitter and receiver
Operating voltage	20...30VDC, reverse polarity protection
Ripple voltage	±10%
No-load current consumption	≤50mA
Connection method	2m PUR cable, 7*0.25mm²
Cable	Emitter: 1.2m PVC cable, cable between M8 connector and receiver/transducer: 1.2m PVC
Output	NPN/PNP output; Imax=200mA, Voltage drop: 2V, short circuit protection
Output logic	No-paper status: white wire OFF, black wire ON; Single sheet status: white wire ON, black wire ON; Double/multiple sheets status: white wire ON, black wire OFF

Response time	Automatic running mode: 2.5ms
Power-on delay	<750ms
Gap between emitter and receiver	20...40mm; optimal: 20mm±2mm
Permissible tilting angle	Within ±45° from the sheet perpendicular
Housing material	Brass, nickel-plated
Ultrasonic transducer	PU foam, glass filled epoxy resin
Max. tightening torque of nuts	M18: 15Nm M12: 3Nm
Ingress protection (EN 60529)	IP65
Operating temperature	+5°C...+60°C
Storage temperature	-40°C...+85°C
Control input	Control input: C1 to C3
Control description	←V +6V:logic 1(control input terminal connect -V or idle)
Range setting	Teaching by control input
Indicator light	Green: single sheet; green flash: teaching; red: double/multiple sheets; red flash: no paper

DIMENSIONAL DRAWINGS



All dimensions in mm.