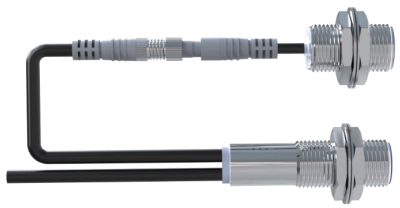
# M18 Ultrasonic Double Sheet Detection Sensor

BUDS-M18-4.0-Z8 series · Sensing Distance: 20...40mm · Transducer Freq.: 400k Hz

**IP65**
Ingress Protection



## KEY SPECIFICATIONS

| | |
|---|---|
| SENSING DISTANCE<br>**20...40mm** | TRANSDUCER FREQ.<br>**400k Hz** |
| AMBIENT TEMP.<br>**+5°C...+60°C** | HOUSING<br>**M18*1mm** |
| INGRESS PROTECTION<br>**IP65** | |

## MODEL CODES

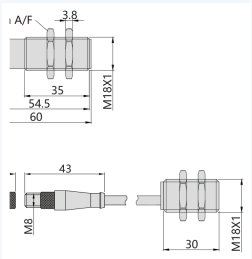
| Output Type | Model Code |
|---|---|
| NPN N.O+N.C | **BUDS-M18-N314.0-Z8**<br>SKU 10105193 |
| PNP N.O+N.C | **BUDS-M18-P314.0-Z8**<br>SKU 10105194 |

## TECHNICAL DATA

| | |
|---|---|
| **Exterior structure** | M18*1mm |
| **Sensing distance** | 20...40mm |
| **Target object material** | Paper, cardboard, metal laminated board with weight 20-1200g/m², films/foils and self-adhesive films up to 0.4mm thickness |
| **Design** | Cylindrical M18 ultrasonic wave transducer |
| **Operating mode** | Double sheet control |
| **Detection method** | Pulse operation with amplitude evaluation |
| **Transducer frequency** | 400k Hz |
| **Blind zone** | 5mm in front of emitter and receiver |
| **Operating voltage** | 20...30VDC, reverse polarity protection |
| **Ripple voltage** | ±10% |
| **No-load current consumption** | ≤60mA |
| **Connection method** | 2m PUR cable, 7*0.25mm² |
| **Emitter 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 OFF; Single status: white wire ON, black wire OFF; Double/multiple status: white wire OFF, black wire ON |

| | |
|---|---|
| **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 |
| **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-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.*