

Double-sheet Detection Sensor

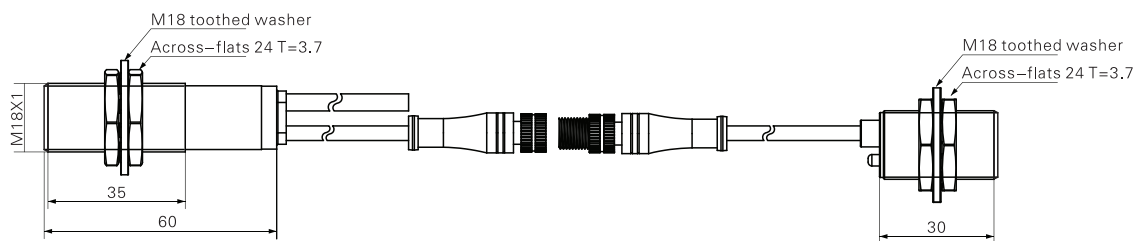
MUD Series



| | | | |
|-----------------------|---|---|--------------------|
| Appearance | | | |
| Sensing distance | 20~40mm, 20mm ± 2mm(Optimum) | 20~60mm, 40mm ± 5mm (Optimum) | |
| Blind area | In front of the transmitter and receiver 5mm | | |
| Angle deviation | ± 45° with vertical planes | | |
| Transducer frequency | 400kHz | 200kHz | |
| Operating voltage | 20~30V DC, Reverse polarity protection | | |
| Response time | The automatic operation mode is 2.5ms | The automatic operation mode is 6.5ms | |
| Power-on delay | < 750ms | < 1.9s | |
| Voltage pulsation | ± 10% | | |
| No-load current | ≤ 50mA | | |
| Probe material | Polyurethane foam, glass filled epoxy resin | | |
| Housing material | Copper nickel plating | | |
| Tightening torque | 15Nm | | |
| Protection degree | IP65 | | |
| Operating temperature | +5°C~+60°C | | |
| Storage temperature | +40°C~+85°C | | |
| Control device | Control input: C1 to C3 | | |
| Control description | <-V+6V: Logic 1 (control input terminal -V or floating);>-V+10V: Logic 0 (control input terminal +V) | | |
| Indicator | Green light: single sheet Green light flashing: teaching Red light: double/multiple sheet Red light flashing: no paper | | |
| Output | NPN/PNP Output, Lmax=200mA(-V+2V), Short circuit protection | | |
| Output logic | No paper status: White line OFF, Black line OFF | | |
| | Single sheet status: white line ON, black line OFF | | |
| | Dual/multiple sheet status: white line OFF, black line ON | | |
| Scope of application | Paper and paper of 20~1200g/m ² in unit area, alloy laminates and film thickness up to 0.4mm, self-adhesive film | Paper and paper of 50~1200g/m ² in unit area, alloy laminate, self-adhesive film | |
| Model No. | NPN | MUD-60N-400 | MUD-60N-200 |
| | PNP | MUD-60P-400 | MUD-60P-200 |

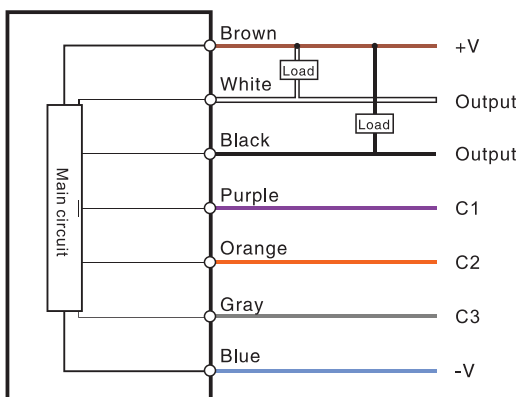
Dimensions

Unit: mm

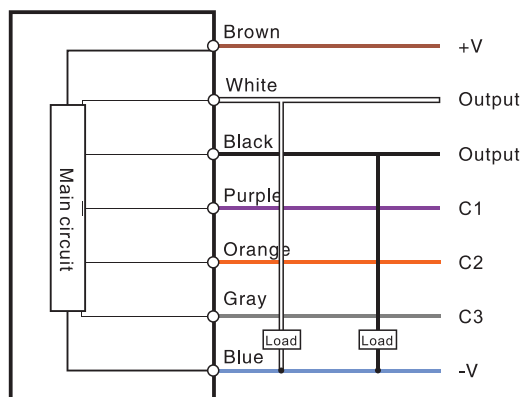


Circuit Diagram

NPN



PNP

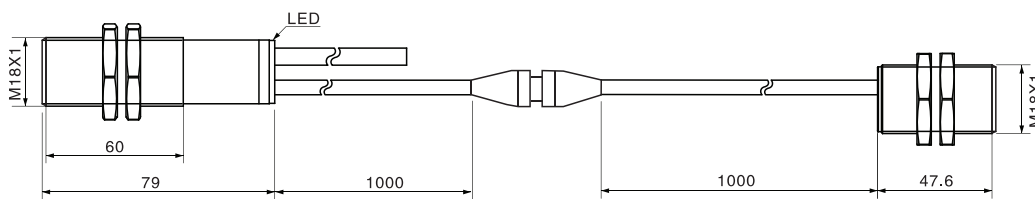




| | |
|----------------------|---|
| Appearance | |
| Scope of detection | 30~60mm |
| Transducer frequency | Approx. 200kHz |
| Working voltage | 18~30V DC, 10%V |
| Refreshment rate | 1ms |
| Detection methods | Non-Contact |
| Testing materials | Ideal for reliable detection of no, single or multiple overlapping sheets of material |
| Output mode | three NPN/PNP |
| Calibration mode | With calibration mode |
| Display | LED green, single sheet detected; LED yellow, no target (air); LED red, double sheet detected |
| No-load current | < 50mA |
| Pulse width | > 100ms |
| impedance | > 4kΩ |
| Output | Three NPN/PNP normally open for air, single and multiple; 100mA short-circuit protection, overload protection; voltage drop <2V |
| Learning line | Used to calibrate the energy of a single sheet when different materials are used |
| Response delay | Approx. 15ms |
| Judgement | Approx. 15ms |
| Working temperature | -20°C~+70°C (253~343K) |
| Storage temperature | -40°C~+70°C(233~343K) |
| EMC | GB/T17626.2-2006 / GB/T17626.4-2008 |
| Protection level | IP65 |
| Connection mode | WITH SIX-CORE CABLE VC, 2 M |
| Shell material | Copper nickel plating |
| Weight | 170g |
| Model | NPN MUD-60N-18 PNP MUD-60P-18 |

Dimensions

单位: mm



G
U
C
S
I
F
I

Circuit Diagram

