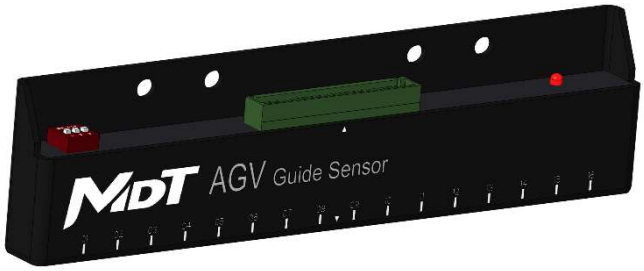
AGV-TMR15XN (NPN output)



AGV Magnetic Guide Sensors

DESCRIPTION

AGV-TMR15XN is a 16-channel NPN output magnetic guide sensor with 10 mm detection accuracy. It is available as standard with N pole, S pole and N/S pole magnetic operating modes including corresponding LED indicators.

AGV-TMR15XN sensor is adaptive to installation height and tape width with excellent protection against magnetic material interference. Incorporating tunneling magnetoresistance (TMR) technique, AGV-TMR15XN sensors are designed to provide excellent temperature characteristics, good consistency, fast frequency response, high sensitivity and low power consumption performance.

FEATURES AND BENEFITS

- Adaptive installation height
- Adaptive magnetic tape width
- Superior protection against magnetic material interference
- Excellent temperature characteristics
- Magnetic tape/marker detection
- N pole, S pole and N/S poles detection modes
- LED indicators for operating modes

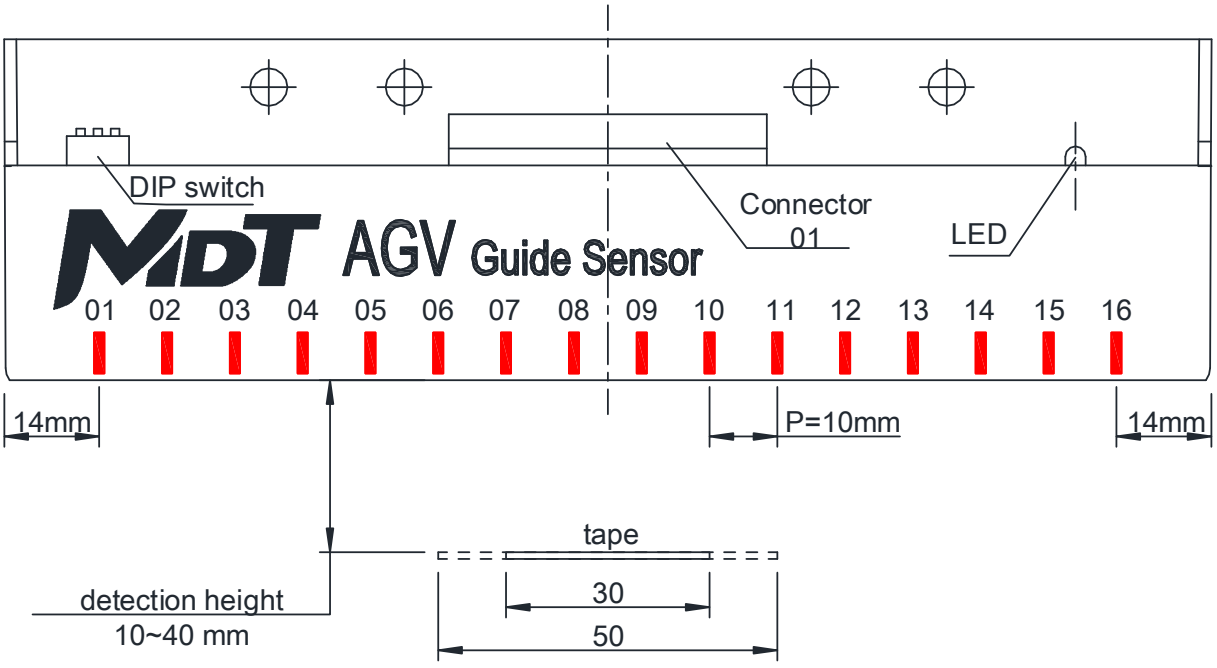
APPLICATIONS

- Automated guided vehicle (AGV)
- Automated guided cart (AGC)
- Trackless mobile shelving
- Logistics sortation

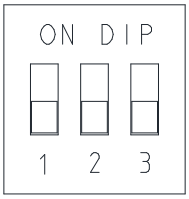
SPECIFICATIONS

Parameters	Value
Supply voltage	10 Vdc ~ 30 Vdc
Supply current	50 mA
Output type	NPN
Communication type	Switch ON/OFF
Accuracy	10 mm
Resolution	5 mm
Detection height	10 mm~50 mm
Optimum Installation Height	30 mm
Detection channel	16-channel
Operating mode	N pole, S pole, N/S pole
LED indicator	N: green stay lit, S: red stay lit, N/S: red/green alternating blink
Magnetic field	5 Gs~25 Gs
Operating temperature	-25℃~80℃
Operating humidity	35%~95%
Response time	1 ms
Dimensions	178 mm*17 mm*50 mm
Potting material	AB glue
Housing material	Metal, Epoxy Resin
Ingress Protection	IP65
Supply voltage	10 Vdc ~ 30 Vdc

SENSOR INSTALLATION SCHEMATIC DIAGRAM



DIP SWITCH OPERATING MODES



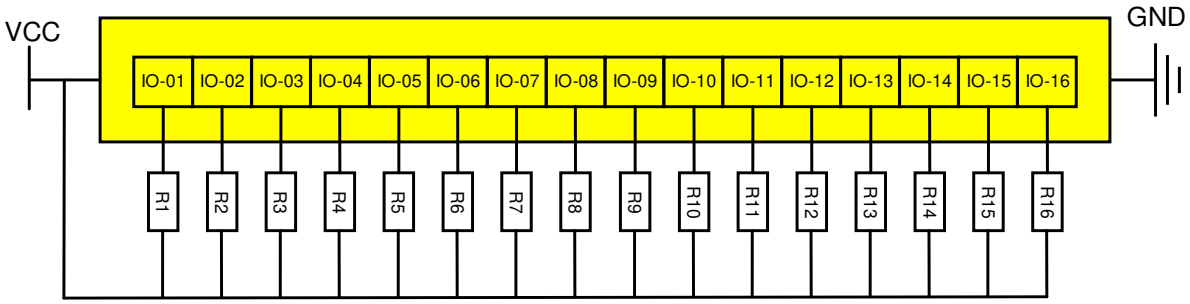
0	**0**	**0**
1	**1**	**1**

Operating Modes	Dialing Logic	LED indicator
N/S pole	000	red/green LED alternating blink, low rate
S pole only	100	red LED stay lit constantly
N pole only	010	green LED stay lit constantly
Zero field calibration	XX1	high rate alternating blink during calibration, off when completed

Note

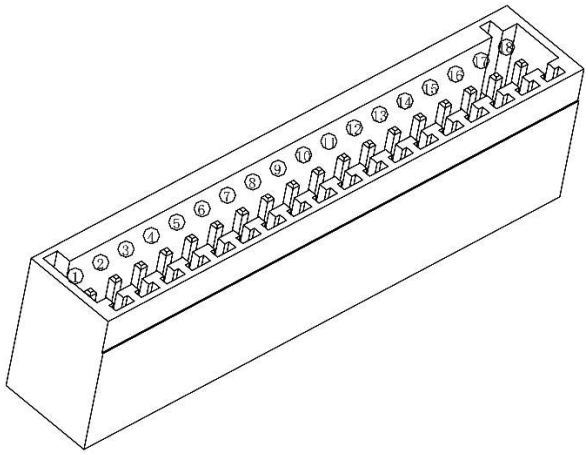
1. Keep any magnetic materials at least 50 mm away from AGV sensor detection surface during calibration
2. Switch the third digit back to zero to enter the normal operation mode after calibration

NPN OUTPUT INSTRUCTIONS



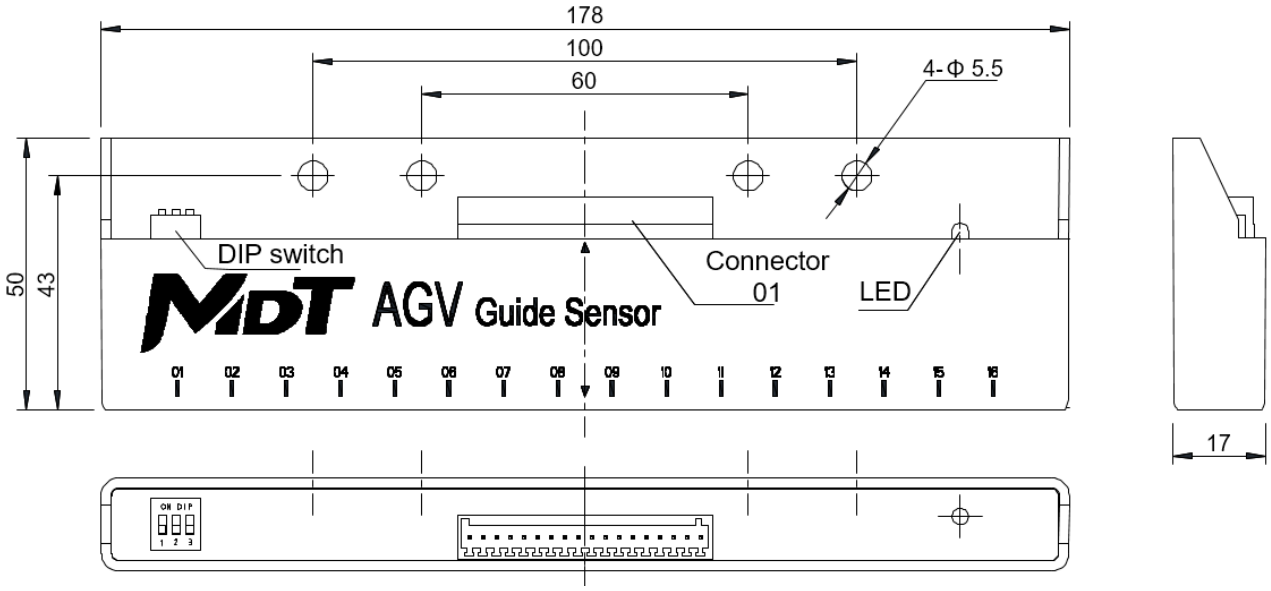
1. A pull-up load resistor is required between VCC and each detects corresponding IO channel. DO NOT connect sensor IO to power supply positive directly.
2. VCC of load resistor: 10 Vdc~36 Vdc.
3. Resistance of load resistor: 300 ohm~100 kohm.
4. IO-01 to IO-16 stands for the signal from the corresponding channel of sensor.
5. The voltage level of load resistor is high when sensor of corresponding channel detects signals, and the voltage level of load resistor is zero when no magnetic field is detected.
6. NPN collector conducting voltage drop <1V.

PIN CONFIGURATION



1	VCC	10	IO-08
2	GND	11	IO-09
3	IO-01	12	IO-10
4	IO-02	13	IO-11
5	IO-03	14	IO-12
6	IO-04	15	IO-13
7	IO-05	16	IO-14
8	IO-06	17	IO-15
9	IO-07	18	IO-16

DIMENSIONS (mm)



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