

SPECIFICATIONS

White light source	Broad spectrum LED, min. 100,000 hours
Sensing distance	28mm
Spot size (dia.)	3mm
Depth of field	+/-3 mm from focal point (approx. 28mm)
Response time	25uS
Switching Frequency	40kHz
LED Intensity	3 levels
Gray-scale	00 to 50
Controls	MARK and BKGD keys
Digital Output	Auto-Detect PNP / NPN
Analog output	0...5V (20mV resolution)
Power indicator	Green LED
Detect indicator	Yellow LED
Programming indicator	Yellow/green LED
Data retention	EEPROM non-volatile memory
Dimensions	2.0"(51mm) x 2.4"(61mm) x 1.0"(25mm)
Weight	0.21 lbs. (95 g)
Supply Voltage	10...24 VDC
Operating Current	60 mA
Short Circuit Protection	Discrete output
Overload / Reverse Polarity Protection	Supply voltage
Operating temperature	-20°C...55°C
Storage temperature	-20°C...70°C
Housing	Plastic
Mechanical protection	IP65
Cable	4-wire

CAUTIONS AND WARNINGS

CAUTION: The discrete output must not be connected to outputs from other sensors (i.e. outputs from multiple sensors must not be connected in parallel). Parallel connections may damage sensor output circuitry.

CAUTION: Sensor is not suitable for wash down or hazardous environments; a separate enclosure with the appropriate ratings is recommended for these applications.

IMPORTANT:

This product is an accessory or part of a system. Always read and follow the manufacturer's instructions for the equipment before connecting this product. Comply with all applicable codes and safety regulations. Failure to do so may result in damage, injury or death.



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CNTX-30-TP-2M

CONTRAST SENSOR



OPERATING INSTRUCTIONS

MATERIALS SUPPLIED

- Operating Instructions
- CNTX-30-TP-2M sensor
- Bracket 130-10140362

GENERAL DESCRIPTION

The CNTX-30-TP-2M sensor combines small spot size and fast response to achieve high-speed contrast detection capable of detecting a wide variety of marks and objects. The CNTX effectively detects contrast differences between many colors on various surfaces over a range of 50 grayscale levels. The modulated white light source in the CNTX is focused to a 2.5 to 3mm spot and directed toward a target. The diffused light returning to the sensor is measured. When the level is equal to or exceeds the threshold the discrete output changes state. Due to the fast response of the sensor, it is suitable for use in high-speed applications. The sensor provides a discrete output that automatically configures to NPN and PNP. A PLC or a computer can be used to monitor the status of the discrete output signal.

TEACH-IN

Two keys are provided, MARK and BKGD, which are used to set the sensor's detection level. The sensor output will activate when the MARK is detected. The mark may be lighter or darker than the background.

To set the sensor:

1. Place the MARK or BKGD in the sensor's light spot and press the appropriate key. Flashing yellow LED indicates proceed with MARK setting, flashing green LED indicates proceed with BKGD setting.
2. Place the other, MARK or BKGD in the sensor's light spot and press the appropriate key. Flashing yellow /green LED indicates insufficient contrast error. Repeat from step 1.
3. Verify that the Yellow led indicates the presence of the mark.

effective date January 1, 2002