

TL Series Contrast Sensors

Contrast Sensor



- Datalogic contrast print mark sensor
- RGB light emission
- Vertical or horizontal spot orientation
- 6–12mm sensing distance
- 10 to 30 VDC operating voltage
- Selectable light-on / dark-on
- NPN / PNP
- 0 – 5 VDC analog output models
- 15, 20, or 50kHz switching frequency
- Aluminum housing
- Teach-in sensitivity adjustment
- 5-pin M12 quick-disconnect with adjustable exit angle
- Purchase cable separately
- IP67

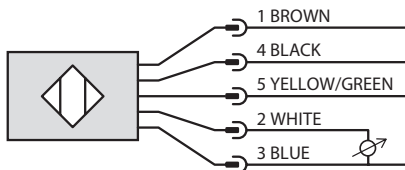


TL Series Contrast Sensors Selection Chart

TL Series Contrast Sensors Selection Chart									
Part Number	Price	Sensing Range	Spot Orientation	Switching Frequency	Output State	Logic	Connection	Wiring	Dimensions
TL46-W-815	\$152.00	6–12mm [0.2–0.5 in]	Vertical	15kHz	Selectable Light-on/Dark-on plus analog output 0 – 5 VDC	NPN / PNP	M12 connector	Diagram 1	Figure 1
TL46-W-815L	\$152.00		Horizontal					Diagram 2	
TL46-WL-815	\$179.00		Vertical	20kHz					
TL46-WL-815L	\$179.00		Horizontal						
TL46-WJ-815	\$385.00		Vertical	50kHz	Selectable Light-on/Dark-on	PNP		Diagram 3	
TL46-WJ-815L	\$385.00		Horizontal						

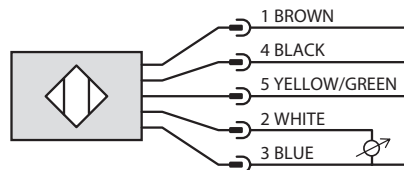
Wiring Diagrams

Diagram 1



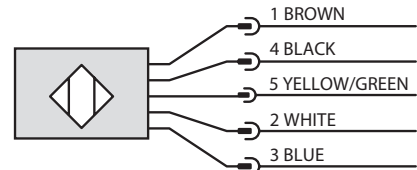
Pin 1 – Supply Voltage
Pin 4 – NPN/PNP Output
Pin 5 – Delay Setting Input
Pin 2 – Analog Output
Pin 3 – 0 VDC

Diagram 2



Pin 1 – Supply Voltage
Pin 4 – NPN/PNP Output
Pin 5 – Remote Acquisition
Pin 2 – Analog Output
Pin 3 – 0 VDC

Diagram 3

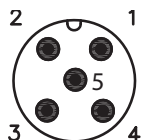


Pin 1 – Supply Voltage
Pin 4 – PNP Output
Pin 5 – Remote Acquisition
Pin 2 – Light/Dark Input
Pin 3 – 0 VDC

Note: Wiring Objects are based on AutomationDirect 5-pole cable assemblies.

Connectors

M12 connector

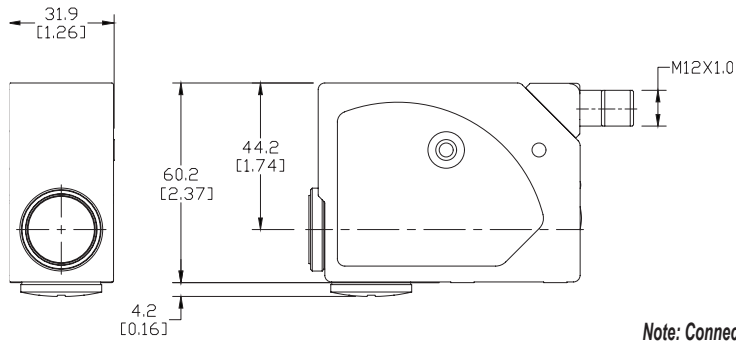


Note: Class 2 power supply required

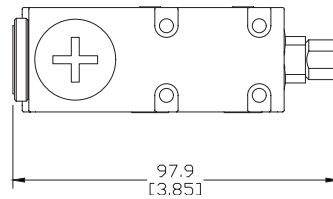
TL Series Contrast Sensors

Dimensions

mm [inches]

Figure 1

Note: Connector can be rotated to 5 different orientations.



See our website: www.AutomationDirect.com for complete Engineering drawings.

TL Series Contrast Sensors

Specifications			
TL Series	TL46-W	TL46-WL	TL46-WJ
Sensing Distance	6–12 mm [0.2–0.5 in]		
Spot Dimension	1.5 x 5 mm		0.8 x 4 mm
Spot Orientation	815 - Vertical and 815L - Horizontal		
Emission	RGB LEDs: Blue (465nm)/ Green (520nm)/Red (630nm) with automatic selection		
Sensitivity	Yes via teach-in button/remote signal		No
Output Type	NPN or PNP; Light-On/Dark-On selectable		PNP Light -on/Dark-on Selectable
Delay	0 – 20ms selectable via delay input		NA
Operating Voltage	10 – 30 VDC		
No-load Supply Current	≤ 50mA	≤ 85mA (bargraph on) ≤ 55mA (bargraph off)	≤ 50mA
Operating (Load) Current	≤ 100mA		
Off-state (Leakage) Current	< 5μA		
Voltage Drop	≤ 2V		
Switching Frequency	15kHz	20kHz	50kHz
Response Time	33μs	25μs	10μs
Differential Travel	< 20mV		
Jitter	< = 33μs	< = 25μs	< 7μs
Ripple	≤ 2Vpp		
Time Delay Before Availability (tv)	N/A		
Reverse Polarity Protection	Yes		
Short-Circuit Protection	Yes		
Operating Temperature	-10 to 55°C [14 to 131°F]		
Protection Degree (DIN 40050)	IP67		
Indication/Switch Status	Output LED (yellow) / Ready LED (green)	Out LED (yellow) Ready LED (green) Delay and Keylock LED (orange) 5-segment Bar graph	Output LED (yellow) / Ready LED (green)
Housing Material	Aluminum		
Sensing Face Material	PMMA	Glass	PMMA
Shock	EN60068-2-27		
Vibration	EN60068-2-6		
Weight	170g [5.99 oz]		
Connectors	M12 5-pole connector		
Agency Approvals	CE cULus E227487		

Note: To obtain the most current agency approval information– see the Agency Approval Checklist section on the specific part number's web page.