

PT740020

Light section sensors

- / distance measurement
- / detection of glossy surfaces possible
- / with touch display
- / aluminum housing



laser cutting procedure
laser protection class 1



GENERAL DATA

dimensions	26 x 55 x 85mm
sensing range	100 to 150mm
function	distance measurement
function: MEASURING FIELD	yes
measuring range (distance)	100 ... 150mm
start of measuring range	100mm
end of measuring range	150mm
measuring field size (width)	48 ... 72mm
measuring field width right @ end of measuring range	+36mm
measuring field width left @ end of measuring range	-36mm
blind range	0 ... 100mm
measuring frequency	
- OBJECT light (approx. 90% refl.)	244 ... 570Hz
- OBJECT dark (approx. 6% refl.)	192 ... 342Hz
response time	
- OBJECT light (approx. 90% refl.)	3.5 ... 8.2ms
- OBJECT dark (approx. 6% refl.)	5.8 ... 10.4ms
resolution AVG DIST (max. measuring field width)	8 ... 16µm (w/o filter) 4 ... 8µm (with filter precision high) 2 ... 4µm (with filter precision very high)
resolution MIN / MAX DIST	23 ... 48µm (w/o filter) 12 ... 24µm (with filter precision high) 6 ... 12µm (with filter precision very high)
repeat accuracy AVG DIST (max. measuring field width)	8µm (w/o filter), 4µm (with filter precision high) 2µm (with filter precision very high)
repeat accuracy MIN / MAX DIST	16µm (w/o filter), 8µm (with filter precision high) 4µm (with filter precision very high)
linearity deviation	± 20µm
temperature drift	± 0.04% Sde/K
PRECISION filter values:	Median Average
standard	Off Off

high	Off	3
very High	16	3
smallest detectable object	0.7 ... 1.1mm	
laser class	1	
max. unevenness reference surface (rms)	0.25mm	
min. length reference surface	24mm	
LIVE MONITOR:		
minimum object high	4mm	
minimum object width	4mm	
digital output hysteresis	0.5 % of Sd (switching point)	
operating display	LED green	
output display	LED yellow / LED red	
light source	laser diode red, pulsed	
adjustment	touch display	

MECHANICAL DATA

width / height / length	26 / 74 / 55 mm	
design	cuboid, frontal optics	
housing material	aluminum	
front screen	glass	
connection	M12-connector, 8-pin	
weight	130g	

ELECTRICAL DATA

operating voltage range +Vs	15 ... 28V DC	
current consumption max. (w/o load)	120mA	
output circuit	analog	
output signal	4 ... 20mA / 0 ... 10V DC (adjustable)	
switching output	push-pull	
switching function	out 1 / alarm	
output current	< 100 mA	
reverse polarity protection	yes, +VS to GND	
operating voltage range +Vs	15 ... 28V DC	
current consumption max. (w/o load)	120mA	
output circuit	analog	
output signal	4 ... 20mA / 0 ... 10V DC (adjustable)	
switching output	push-pull	

AMBIENT CONDITIONS

ambient light immunity	< 35kLux	
operating temperature	-10 ... +50°C	
storage temperature	-25 ... +75°C	
degree of protection	IP 67	
vibration resistance (sinusoidal)	IEC 60068-2-6:2008 7.5mm p-p for f = 2 - 8Hz, 2g for f = 8 – 200Hz, or 4g for 200 – 500Hz	
resonance test	IEC 60068-2-6:2008 1.5mm p-p for f = 10 - 57Hz , 10 cycles for each axis 10g for f = 58 -2,000Hz, 10 cycles for each axis	
vibration resistance (coincidence)	IEC 60068-2-64:2008	

Spectrum: 0.1 g2/Hz for 20 – 1,000Hz, 30 minutes / axis (>10gRMS)

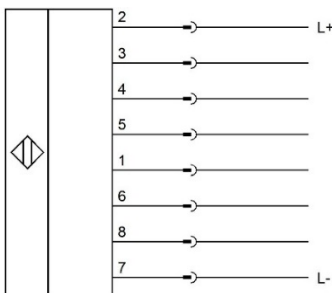
shock resistance	IEC 60068-2-27:2009 50g / 11ms or 100g / 6ms, 10 shocks in each axis and each direction 100g / 2ms, 5,000 shocks in each axis and each direction
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impact resistance	IEC 60068-2-27 100g / 2ms, 4,000 shocks in each axis and each direction
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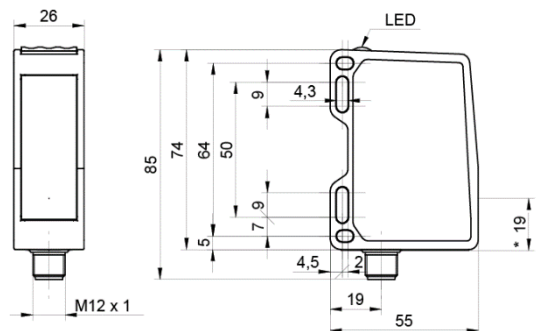
OPTICAL DATA

light source	AlGaInP laser diode
wave length	656nm
operating mode	pulsed
pulse duration	
mode light objects	0.6ms
mode dark objects	1.8ms
pulse period	
mode light objects	>1.7ms
mode dark objects	>2.9ms
emitted total pulse power	3mW
beam shape	elliptical (focused to laser line)
focal distance df	125mm
beam size @ window	
vertical	2.5mm
parallel	7.5mm
beam size @ focus point	
vertical	< 0.1mm
parallel	L = 73mm
beam divergence	
vertical	16.0mrad
parallel	30.2°
nominal ocular hazard distance (NOHD)	NA
laser classification (per IEC 60825-1/2014)	laser class 1

Connection



Dimensional drawing



*optical axis

Functions: 1 = n. c., 2 = L+, 3 = 4-20mA/0-10V, 4 = push-pull, 5 = alarm push-pull, 6 = n. c., 7 = L-, 8 = hold

Colors: 1 = WH (white), 2 = BN (brown), 3 = GN (green), 4 = YE (yellow), 5 = GY (gray), 6 = PK (pink), 7 = BU (blue), 8 = RD (red)

Safety warnings: Before initial operation, please make sure to follow all safety instructions that may be provided in the product information.

Never use these articles in applications where the safety of a person depends on their functionality.

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