

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 hight	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

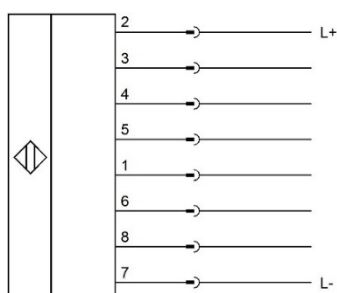
Spectrum: 0.1 g2/Hz for 20 – 1,000Hz, 30 minutes / axis (>10gRMS)

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
impact resistance	IEC 60068-2-27 100g / 2ms, 4,000 shocks in each axis and each direction

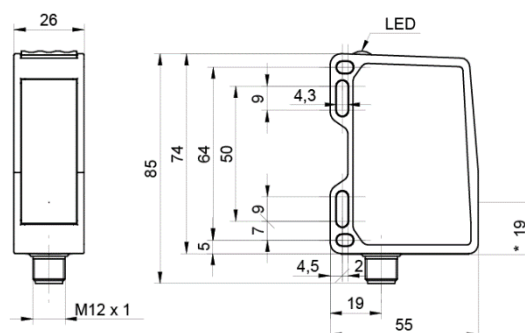
OPTICAL DATA

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.