



**Model Number**

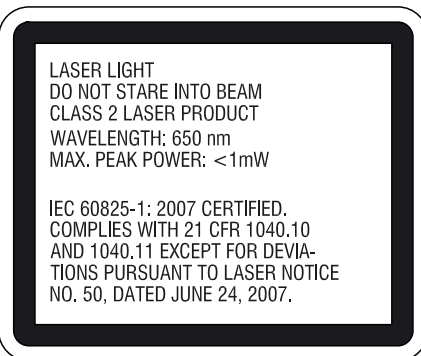
**MS32-LAS-3453/105/145**

Motion Sensor  
with 5-pin, M12 x 1 connector

**Features**

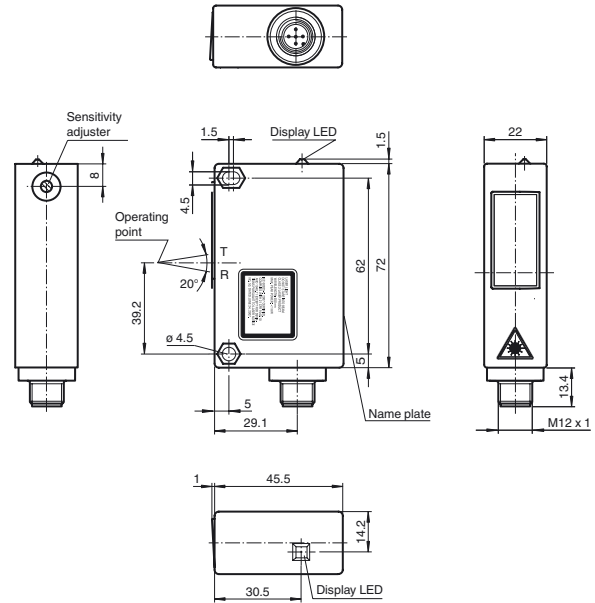
- Zero contact detection of movements in the object plane
- Works on the surface of the object
- 3 switch outputs:
- - Velocity exceeds limiting value
- - Forward and rearward motion/standstill
- - Displacement sensor
- Scratch-resistant optical covering made of glass

**Laserlabel**

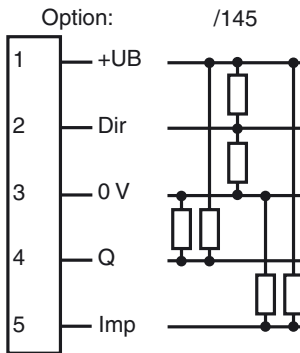


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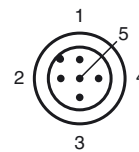
**Dimensions**



**Electrical connection**



**Pinout**



**Technical data****General specifications**

Sensor range	20 mm +/- 3 mm
Light source	laser diode
Light type	red
Laser nominal ratings	
Note	LASER LIGHT , DO NOT STARE INTO BEAM
Laser class	2
Wave length	650 nm
Beam divergence	< 1.5 mrad
Maximum optical power output	< 1 mW
Target velocity	max. 1 m/s
Detection direction	Crossways to longitudinal direction
Ambient light limit	5000 Lux

**Indicators/operating means**

Function display	LED yellow: lights up when limit value exceeded, based on the set velocity of movement , flashes when the speed and/or operating distance is outside the measuring range
Controls	Potentiometer for setting the limiting velocity for output 1

**Electrical specifications**

Operating voltage	$U_B$	10 ... 30 V DC
Ripple		max. 10 %
No-load supply current	$I_0$	< 100 mA

**Output**

Signal output	3 Push-pull outputs, short-circuit proof, reverse polarity protected
Switching voltage	max. 30 V DC
Switching current	max. 100 mA

**Output 1**

Output type	Limit value exceeded, based on the set velocity of movement
Signal output	PNP, active on overshoot of limit value

**Output 2**

Output type	Forward and standstill/reverse motion
Signal output	PNP, active on detected forward motion, NPN, active on stop and detected reverse motion

**Output 3**

Output type	Position sensor
Signal output	1 pulse per mm object movement. (type. 150 $\mu$ s, pnp active)
Accuracy	$\leq 1$ % at 1 m measurement path and constant speed of 1 m/s at nominal distance
Repeat accuracy	$\leq 0.5$ %

**Ambient conditions**

Ambient temperature	0 ... 40 °C (32 ... 104 °F)
Storage temperature	-10 ... 60 °C (14 ... 140 °F)

**Mechanical specifications**

Protection degree	IP65
Connection	5-pin plastic M12 connector without cable
Material	
Housing	Plastic terluran GV15
Optical face	glass
Mass	approx. 85 g

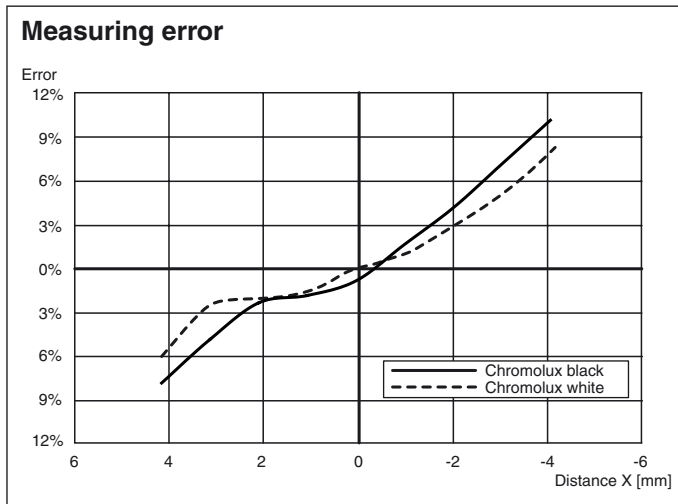
**Compliance with standards and directives**

Directive conformity	EMC Directive 2004/108/EC
Standard conformity	
Product standard	EN 60947-5-2:2007 IEC 60947-5-2:2007
Laser class	IEC 60825-1:2007 Complies with 21 CFR 1040.10 and 1040.11 except for deviations pursuant to Laser Notice No. 50, dated June 24, 2007

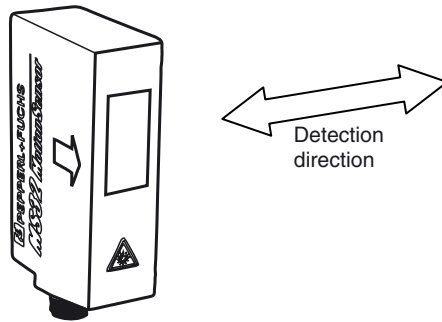
**Approvals and certificates**

UL approval	cULus
CCC approval	Products with a maximum operating voltage of $\leq 36$ V do not bear a CCC marking because they do not require approval.

## Curves/Diagrams

**Detection direction**

Crossways to longitudinal housing direction

**Laser notice laser class 2**

- The irradiation can lead to irritation especially in a dark environment. Do not point at people!
- Caution: Do not look into the beam!
- Maintenance and repairs should only be carried out by authorized service personnel!
- Attach the device so that the warning is clearly visible and readable.
- Caution – Use of controls or adjustments or performance of procedures other than those specified herein may result in hazardous radiation exposure.