

SENSICK ICL 20 S ICL 40 S

Safety Specifications

- ▶ Read the operating instructions before starting operation.
- ▶ Connection, assembly, and settings only by competent technicians.
- ▶ Protect optical edge areas against soiling and damages.
- ▶ Protect the device against moisture and soiling when operating.
- ▶ No safety component in accordance with EU machine guidelines.
- ▶ Install the lights in such a way that no unpleasant working conditions are created.
- ▶ Persons with dispositions to photosensitive epilepsy should not look directly into the illuminated area and keep a distance more than 1 meter if the lighting is operated in flash operation with 4 to 30 hertz.

Proper Use

The direct lights ICL 20 S und ICL 40 S are designed for use in industrial image processing.

Usage with SICK sensors type "ICS".

The image processing components are adjusted optimally to each other and can be connected easily via plug connections. This way the lights are controlled correctly via the trigger output of the ICS.

Usage with components from other manufacturers:

The lights offer all advantages, such as high irradiance, homogeneity, sturdiness, etc. The lights must be controlled pulsed. Customers should provide a plug (M12, 8-pin) connector.

Starting Operation

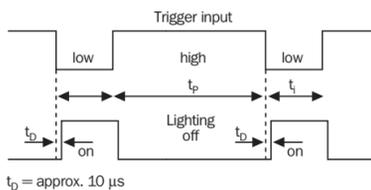
1 Connection to SICK sensors type "ICS".

Connect ICL using an 8-pin connecting cable with T-distributor and that with the ICS (see drawing 1). Connect ICS connecting cable with T-distributor.

Connection to image processing systems of other manufacturers:

Pay attention to the connection diagram in 1. Trigger = Trigger input; lighting on at LOVV level. Pulse/pause ratio $\leq 20\%$ ($t_p/t_s \geq 4$ and $30\text{ ms} \leq t_s \leq 1.3\text{ ms}$).

Connect ICL with connecting cable. Connect voltage supply, green LED "Power on" lights. The red LED (trigger overload) lights as soon as a trigger impulse is determined with $t_s > 1.3\text{ ms}$ or an impulse/pulse ratio of $t_p/t_s > 0.2$ (20%). If the trigger input is not connected, only the green LED lights and the lighting is off.



We reserve the right to make changes without prior notification

2 Installation:

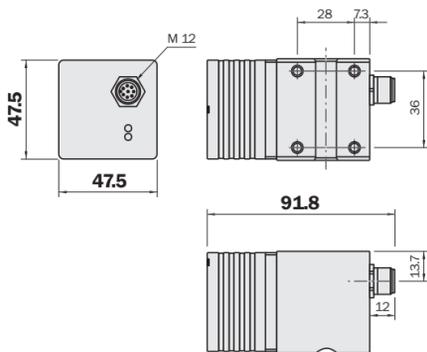
Attach ICL with bracket (e.g., SICK mounting arm; see accessories). Avoid vibrations. Select an appropriate geometric arrangement of the ICL to the camera (for example, very flat for projection of shadows). Very homogenous illumination is achieved at the nominal distance with irradiation that is as vertical as possible.

Maintenance

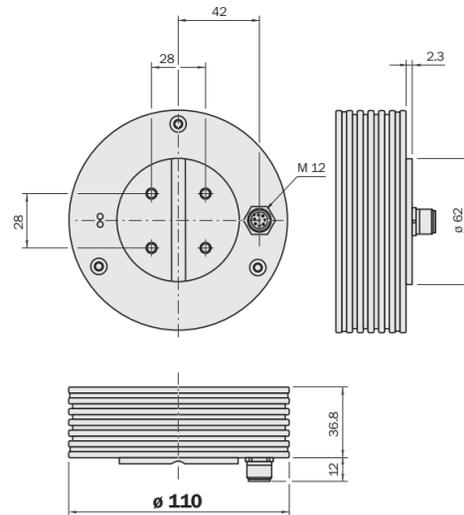
SICK direkt lights do not require any maintenance. We recommend that you clean the optical surfaces and check the screw connections and plug-in connections at regular intervals.

A

ICL 20 S

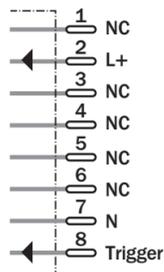
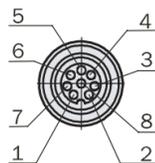


ICL 40 S

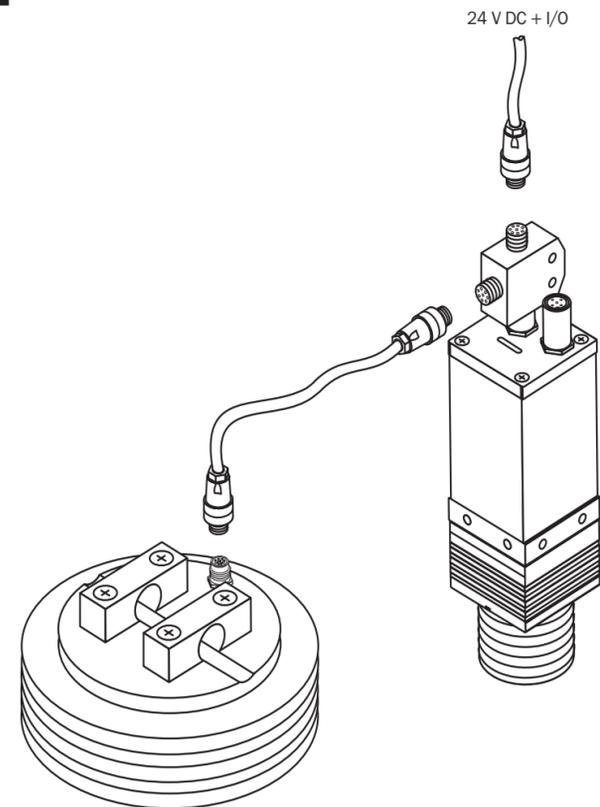


B

ICL 20 S
ICL 40 S

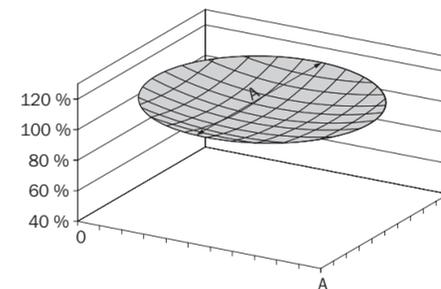


1



2

ICL 20 S A = 28 mm
ICL 40 S A = 50 mm



ICL	20 S	40 S
Optical characteristics		
Area illuminated	Ø: 28 mm; rectangle: 20 x 20 mm ²	Ø: 50 mm; rectangle: 35 x 35 mm ²
Nominal distance	70 mm	140 mm
Light source	LED, 525 nm	
Irradiance at nominal distance ¹⁾ see 2	approx. 50 W/m ²	
Higher irradiance on outer regions ²⁾	approx. 20 %	
Laser (LED) protection class according to EN 60825/IEC 825	I	
Degradation period of LEDs ³⁾	≥ 50,000 h	
Dependence of irradiance on V _S	constant at V _S = 19.2 ... 28.8 V	
Electrical characteristics		
Supply voltage V _S	19.2 ... 28.8 V DC ⁴⁾	
Ripple	5 V _{pp}	
Current consumption	max. 150 mA	max. 400 mA
Trigger input	TTL, low = active, max. 28.8 V ⁴⁾	
VDE protection class	II ⁵⁾	
Connecting cable	M12 plug, 8-pin, L = 0.8 m ⁶⁾	
Mechanical characteristics		
Enclosure rating	IP 65	
Weight	230 g	540 g
Ambient conditions		
Ambient temperature	Operation: 0 °C ... +50 °C Storage: -25 °C ... +70 °C	
Shock load	single: 15 g continuous: 10 g	
Vibration	± 0.35 mm at 10 ... 58/s 5 g, at 58 ... 150/s	
Humidity	93 %, relative	
Accessories	Part no.	
T-distributor, 8-pin, M12 (for connection to ICS)	6 026 503	
Extension cable, 8-pin, M12, 1 m	6 026 625	
Connecting cable, 2 m, female connector M12	6 020 633	
Mounting arm, rotatable with clamping pieces and screws	2 029 022	

¹⁾ Mean value over entire area illuminated
²⁾ This compensates for normal lens vignetting
³⁾ Drop in intensity to 50 %

⁴⁾ Reverse-polarity protection
⁵⁾ Reference voltage 32 V DC
⁶⁾ Assignment see 1