SICK

ICS 100, 101, L02

Intelligent Camera Sensor with coaxial ring light

Fields of view
20 x 20, 40 x 40 and 80 x 80 mm²

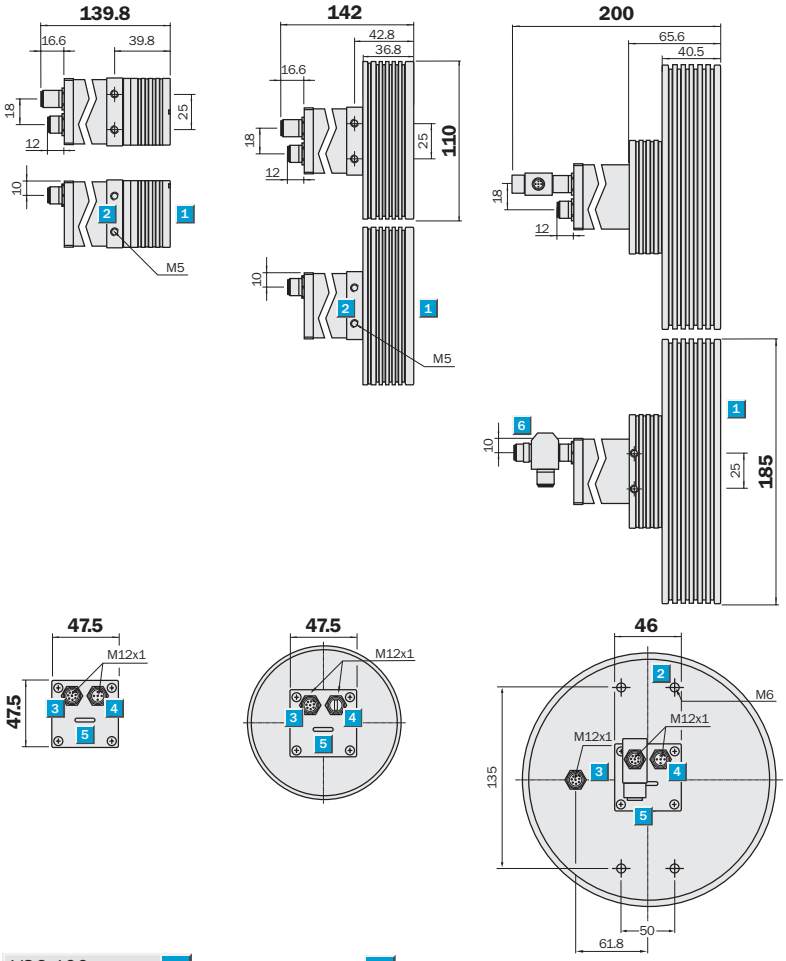
Intelligent Camera Sensor

- Suitable for very fast operations
- Reliable detection of shiny objects/surfaces
- Teach Data selectable via PLC
- Flexible use through:
  - four different evaluation methods
  - robust, durable industrial design
- Simple setup with LCD image display

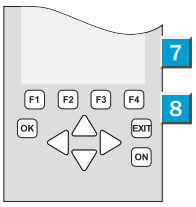
CE

Dimensional drawing

ICS 100 | ICS 101 | ICS L02



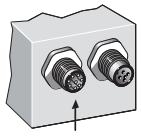
VSC 100 **9**

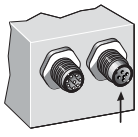


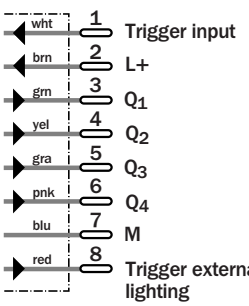
1 Ring light/green lens combination
2 Mounting hole M5/M6 at ICS L02, 4-times
3 Output, 8-pin, M12
4 Operating unit connection, 5-pin, M12
5 Display of output switching state
6 T-Piece Connector
7 LC Display
8 Keyboard
9 VSC 100: W x H x D = 150 x 82 x 31 mm³

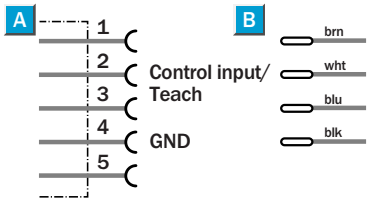
Connection type

ICS 100-B1111 | 8-pin, M12 (Output) | 5-pin, M12 setup unit/teach input









Cable, 2 m with receptacles M12, 8-pin	
Part no.	6 020 633

A	Cable ICS–VSC, 2 m with plug M12, 5-pin	
	Part no.	6 022 349

B	Cable–control input, 2 m, M12, 4-pin	
	Part no.	6 028 077

TECHNICAL INFORMATION

Technical data		ICS 100 -B1111	ICS 101 -B1111	ICS L02 -B1111	VSC 100
Nominal scanning distance/	70 mm/20 x 20 mm²	■			
Field of view	140 mm/40 x 40 mm²		■		
	330 mm/80 x 80 mm²			■	
Flash time for LED lighting [1]	Adjustable, 50 µs to 1300 µs	■	■	■	
Colour of light/Filters	Green (Filter: 450 ... 550 nm)	■	■	■	
Image sensor	CMOS; 512 x 512 pixels	■	■	■	
Supply voltage V_S [2]	24 V DC	■	■	■	
Ripple [3]	< 5 V_{PP}	■	■	■	
Current consumption [4]	< 450 mA	■			
	< 600 mA		■		
	< 1.2 A			■	
Switching outputs	4 x B (NPN/PNP)	■	■	■	
Output currents I_A max. [5]	< 100 mA	■	■	■	
Response time/cycle time [6]	≥ 2.5 ms	■	■	■	
Switching frequency max. [7]	200/s	■	■	■	
Trigger input [8]	Falling edge;	■	■	■	
	High corresp. ≥ 10 V ... 28.8 V	■	■	■	
Control Input	For external Teach function and selection	■	■	■	
	of saved Teach data, high ≥ 10 V ... 28.8 V	■	■	■	
I/O + U_V connection	M12, 8-pin	■	■	■	
VSC – ICS connection [9]	M12, 5-pin	■	■	■	■
Teach field, Search field	Adjustable size and position	■	■	■	
Autoform Teach field [10]	Pixel selectable by arrow	■	■	■	
Number of Teach fields (objects)	4 simultan + max. 12 in memory	■	■	■	
Ambient temperature	Operation: 0 °C ... +50 °C	■	■	■	■
	Storage: –25 °C ... +75 °C	■	■	■	
	Storage: –20 °C ... +60 °C				■
Shock load	15 g, 6 directions	■	■	■	■
Protection type	IP 64	■	■	■	
	IP 40				■
Weight	240 g				■
	350 g	■			
	780 g		■		
	2,200 g			■	

1) Average service life 50,000 h at T_A = +25 °C
2) Limit values ±20 %
3) Must be within U_V tolerances
4) Without load
5) Amount total for all four outputs
6) With resistive load
7) With light/dark ratio 1:1
8) Trigger pulse ≥ 2.5 ms
9) Cable length 2 m, PVC, Ø 5 mm, do not distort cable below 0 °C
10) Contour of Teach field = contour of object selected

Check Mode	Procedure [11]
Shape check (pattern matching)	The patterns taught are sought in the image being checked, even when shifted
Multi-area-evaluation	Pixels are compared with respect to number and area
Minimum pixel sum	Checking pixel number exceeding a limit
Pixel sum	Comparison of the absolute number of white and black pixels

11) All procedures are used in the binary image. A comparison is made each time between the taught-in reference image and the image to be checked.

Ordering information

Intelligent Camera Sensor

Type	Part no.
ICS 100-B1111	1 025 401
ICS 101-BL111	1 024 221
ICS L02-B1111	1 025 547
VSC 100	2 025 857

Mounting technology

Type	Part no.
Bracket mounting (set) ICS 100	2 027 839
Universal rod mount clamp ICS 100	2 022 464
Angle bracket mounting, ICS 101	2 029 925

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