

SIL SERIES

The solid-state illuminator **SIL** series of Datalogic Automation has been developed to offer a complete range of industrial lighting solutions for machine vision or general harsh environment industrial lighting applications. The illuminators of the **SIL** series are fully integrated devices: optics, electronics and LED driver unit are built inside the same housing, thus easing the device installation. Many different **SIL** models are available according to the format (Line, Area, Ring, Spot and Backlight), the LEDs (red, white, IR, blue, green) and the emission angle (Spot, Flood, Diffuse, Line). Easy electrical connections are ensured thanks to standard M8 4 pole male connectors.



VISION

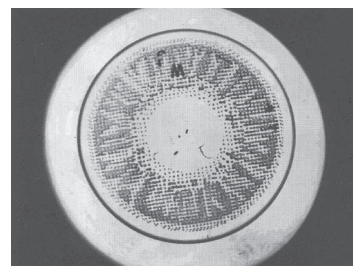
HIGHLIGHTS

- Sturdy aluminium industrial IP65 housing with M8 connector
- Different versions available (Line, Area, Ring, Spot and Backlight)
- Built-in LED driver (350mA) with strobe option or external led driver
- Different beam angles and colours available on demand

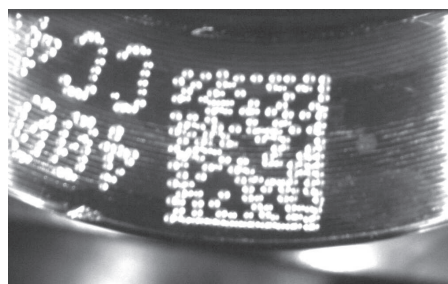
APPLICATIONS

The **SIL** illuminators are particularly suitable for machine vision applications, barcode and datamatrix readers, microscope lightening.

Machine vision



Code reading



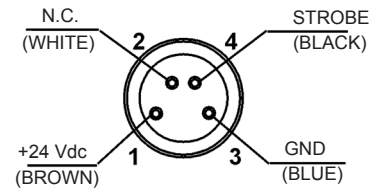
SIL LINE

TECHNICAL DATA

Description:	Designed to provide low angle of incidence illumination over a long, wide area, SIL LINE delivers very high intensity, non-diffused illumination. Built-in power LED driver (350mA) current regulator.				
Applications:	Dark-field (creating shadows and reflection) or bright-field lighting for diffused surfaces. Illumination of large areas for robot guiding. Packaging & Package sorting. Strobe option for fast moving objects.				
Power supply:	24 Vdc $\pm$ 20%				
Strobe signal (required):	5-24 Vdc				
Colour:	Red Infrared White On demand: blue, green				
Light intensity:	LED: Red (Lux) White (Lux) Infrared (W/m ²)	@250mm 2.550 6.962 35,3	@500mm 1.050 2.888 14,8	@750mm 520 1.427 7,3	@1000mm 305 847 4,3
Emission angle:	25° 45° (only for white and red LEDs) On demand: 6°, 45°, 10x30°				
Housing dimensions:	252x46x54 mm				
Housing material:	Black anodized aluminium				
Connections:	M8 4-pole male connector				
Mechanical protection:	IP65				
Operating temperature:	-10°...+40°				
Storage temperature:	-25°...+70°				

CONNECTIONS

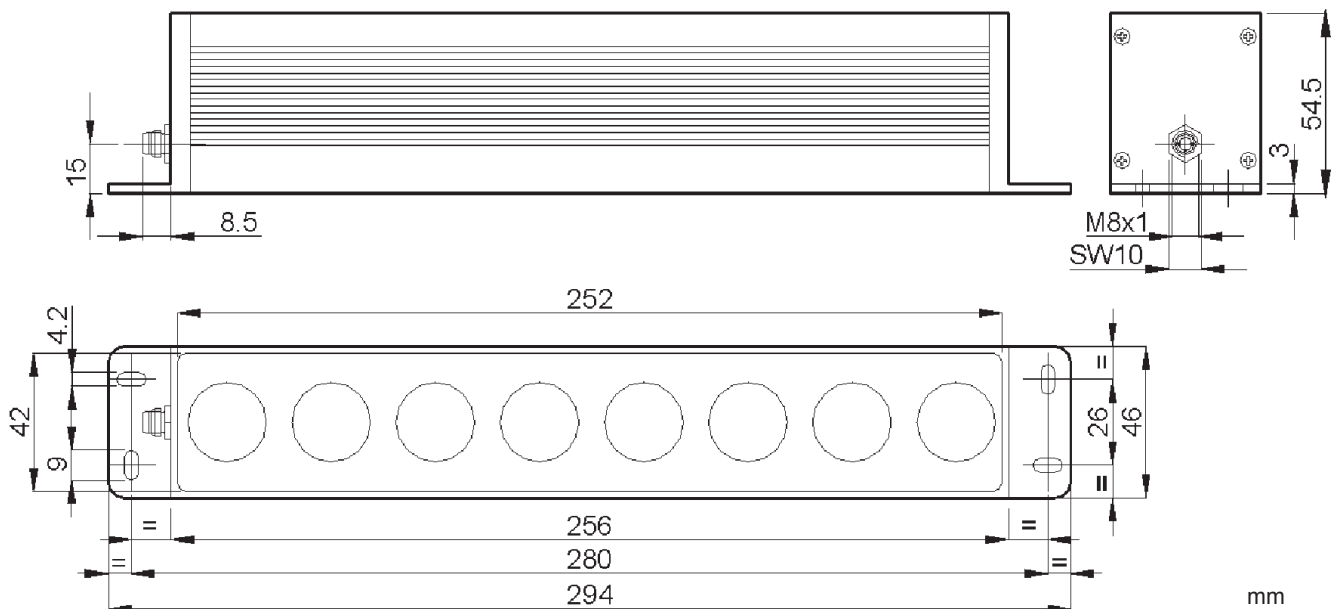
M8 4-POLE CONNECTOR



1	=	brown	=	+24Vdc
2	=	white	=	Not connected
3	=	blue	=	GND
4	=	black	=	Strobe TTL signal



DIMENSIONS



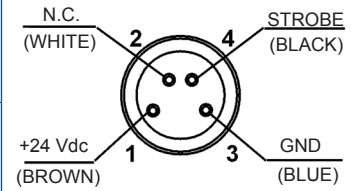
SIL AREA

TECHNICAL DATA

Description:	Designed to provide low angle incidence illumination over a wide rectangular area, SIL AREA delivers very high intensity, non-diffused illumination. Built-in power LED driver (350mA) current regulator.				
Applications:	Dark-field (creating shadows and reflection) or bright-field lighting for diffused surfaces. Illumination of large areas for robot guiding. Packaging & Package sorting. Strobe option for fast moving objects.				
Power supply:	24 Vdc ± 20%				
Strobe signal (required):	5-24 Vdc				
Colour:	Red Infrared White On demand: blue, green				
Light intensity:	LED: Red (Lux) White (Lux) Infrared (W/m²)	@250mm 2.050 6.878 33,6	@500mm 550 1.837 8,8	@750mm 245 807 3,9	@1000mm 138 456 2,2
Emission angle:	25° On demand: 6°, 45°, 10x30°				
Housing dimensions:	84x84x55 mm				
Housing material:	Black anodized aluminium				
Connections:	M8 4-pole male connector				
Mechanical protection:	IP65				
Operating temperature:	-10°...+40°				
Storage temperature:	-25°...+70°				

CONNECTIONS

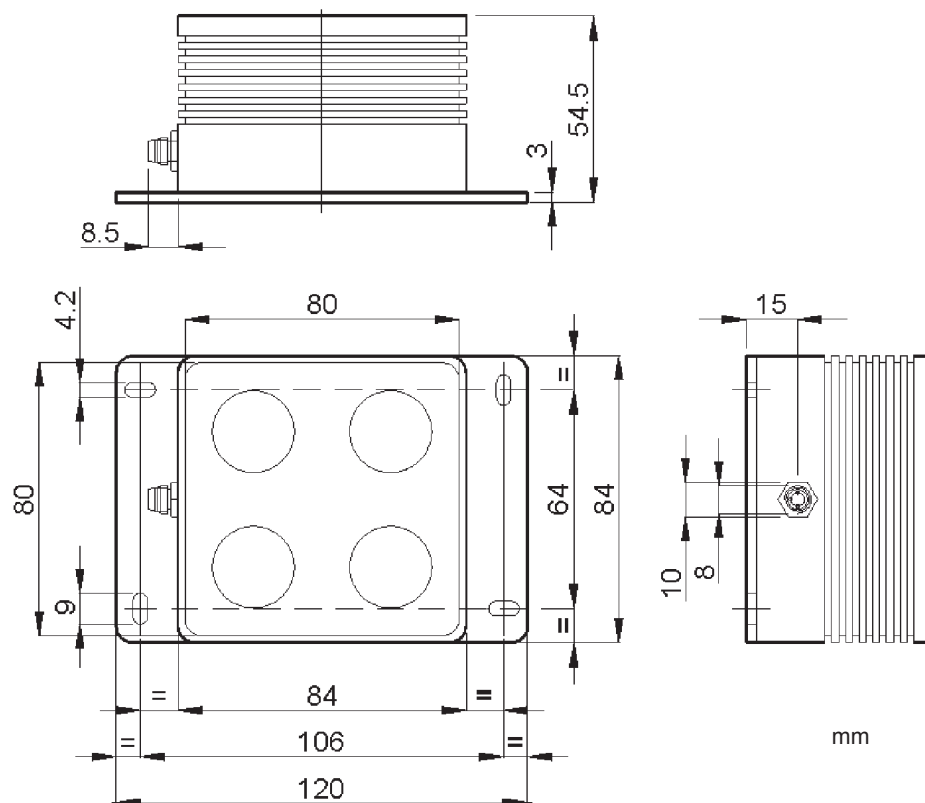
M8 4-POLE CONNECTOR



1	=	brown	=	+24Vdc
2	=	white	=	Not connected
3	=	blue	=	GND
4	=	black	=	Strobe TTL signal



DIMENSIONS



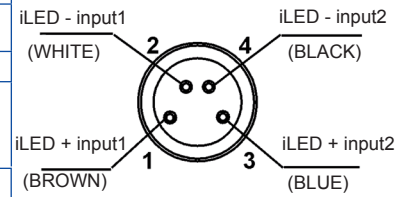
SIL RING

TECHNICAL DATA

Description:	Axial light source for general purpose applications.				
Applications:	Bright-field lighting for non-specular objects. Strobe option for fast moving objects.				
Power supply:	External LED driver current regulator 2x350 mA±5%				
Colour:	Red Infrared White On demand: blue, green				
Light intensity:	LED: Red (Lux) White (Lux) Infrared (W/m²)	@250mm 1.965 4.600 35	@500mm 746 1.770 12	@750mm 371 943 6	@1000mm 193 480 3
Emission angle:	25° 45° (only for white LEDs) On demand: 6°, 45°, 10x30°				
Housing dimensions:	Ø 130x25 mm				
Housing material:	Black anodized aluminium				
Connections:	M8 4-pole male connector				
Mechanical protection:	IP65				
Operating temperature:	-10°...+40°				
Storage temperature:	-25°...+70°				

CONNECTIONS

M8 4-POLE CONNECTOR

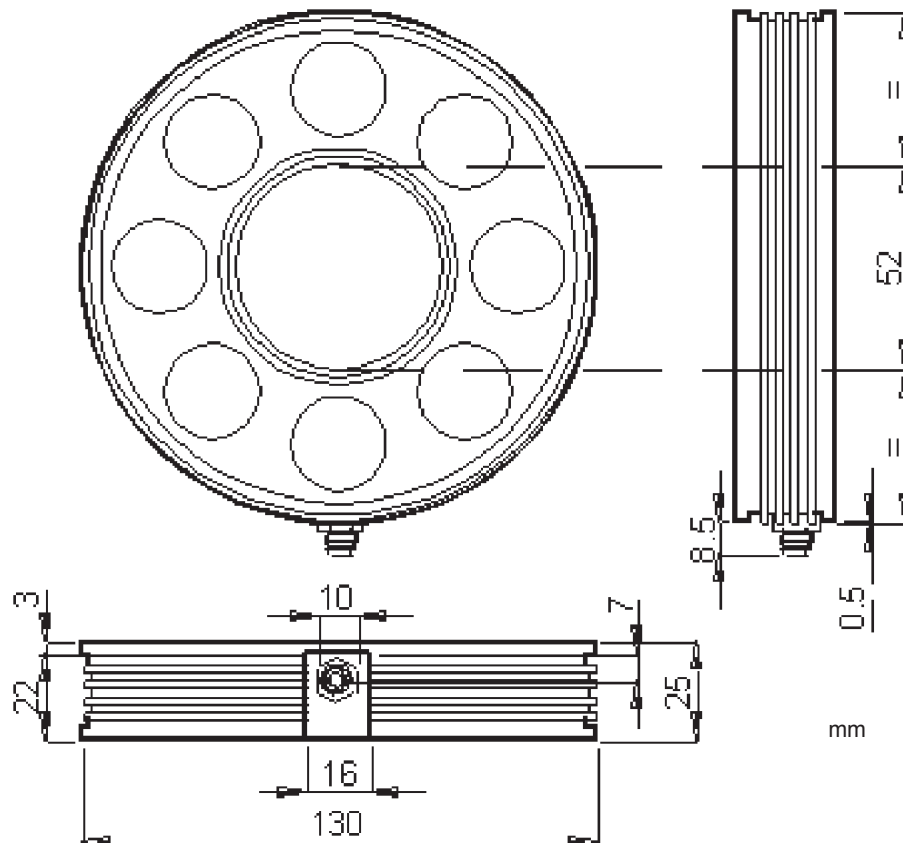


1	=	brown	=	iLED+ input1
2	=	white	=	iLED- input1
3	=	blue	=	iLED+ input2
4	=	black	=	iLED- input2

EXTERNAL LD2 LED DRIVER REQUIRED



DIMENSIONS



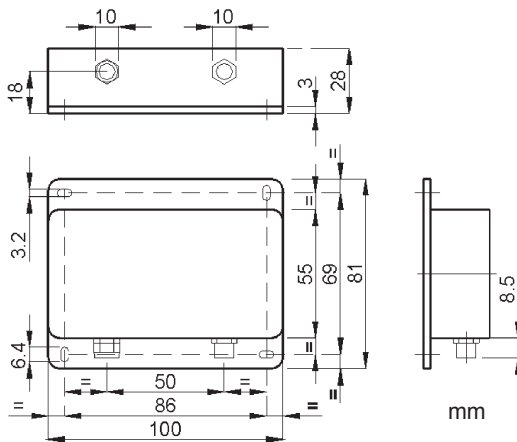
LD2 LED DRIVER

TECHNICAL DATA

Description:	External LED driver suitable for SIL-RING (8 power LEDs)
Input power supply voltage:	24 Vdc $\pm$ 20%
Output power supply current:	2x350 mA $\pm$ 5% constant current
Strobe signal	5-24 Vdc
Housing dimensions:	100x81x28 mm
Connections:	2 M8 4-pole connectors
Operating temperature:	-10°...+40°
Storage temperature:	-25°...+70°



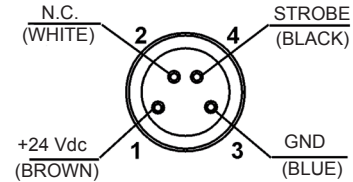
DIMENSIONS



CONNECTIONS

INPUT

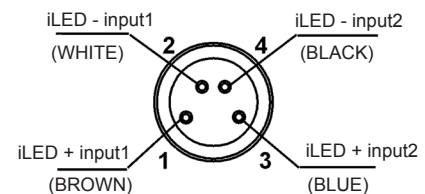
M8 4-POLE MALE CONNECTOR



1	=	brown	=	+24Vdc
2	=	white	=	Not connected
3	=	blue	=	GND
4	=	black	=	Strobe TTL signal

OUTPUT

M8 4-POLE FEMALE CONNECTOR



1	=	brown	=	iLED+ output1
2	=	white	=	iLED- output1
3	=	blue	=	iLED+ output2
4	=	black	=	iLED- output2

SIL LASER LINE

TECHNICAL DATA

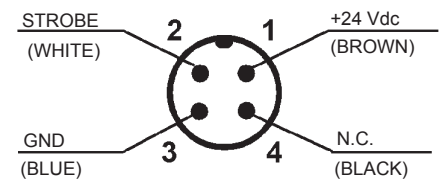
Description:	Laser line illuminator
Applications:	Profiling Metal working Wood working
Power supply:	24 Vdc $\pm$ 10%
Laser class:	Red Laser Class 3A
Emission angle:	90°
Housing dimensions:	Ø18 x 81,5 mm
Housing material:	Black anodized aluminium
Connections:	M12 4-pole male connector
Mechanical protection:	IP65
Operating temperature:	-10 ... 55°C
Storage temperature:	-25 ... 70°C



Class 3A

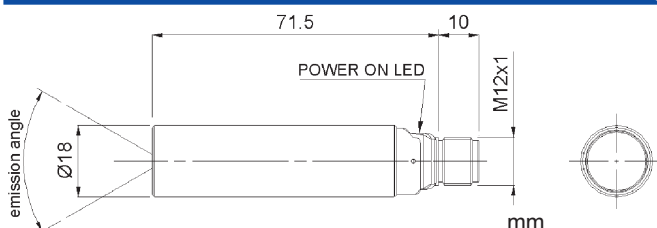
CONNECTIONS

M12 4-POLE MALE CONNECTOR



1	=	brown	=	+24Vdc
2	=	white	=	Strobe TTL signal
3	=	blue	=	GND
4	=	black	=	Not connected

DIMENSIONS



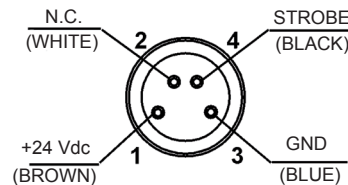
SIL SPOT

TECHNICAL DATA

Description:	High intensity focused illumination for detail enhancement.				
Applications:	Bright field and dark field applications. Non diffused illumination. Strobe option for fast moving objects.				
Power supply:	24 Vdc $\pm$ 20%				
Strobe signal (required):	5-24 Vdc				
Colour:	Red Infrared White On demand: blue, green				
Light intensity:	LED: Red (Lux) White (Lux) Infrared (W/ m ²)	@250mm 435 1.200 8	@500mm 117 326 2,1	@750mm 54 149 0,9	@1000mm 31 86 0,6
Emission angle:	25° 6° (only for red LEDs) On demand: 6°, 45°, 10x30°				
Housing dimensions:	Ø40x89 mm				
Housing material:	Black anodized aluminium				
Connections:	M8 4-pole male connector				
Mechanical protection:	IP65				
Operating temperature:	-10° ... +40°				
Storage temperature:	-25° ... +70°				

CONNECTIONS

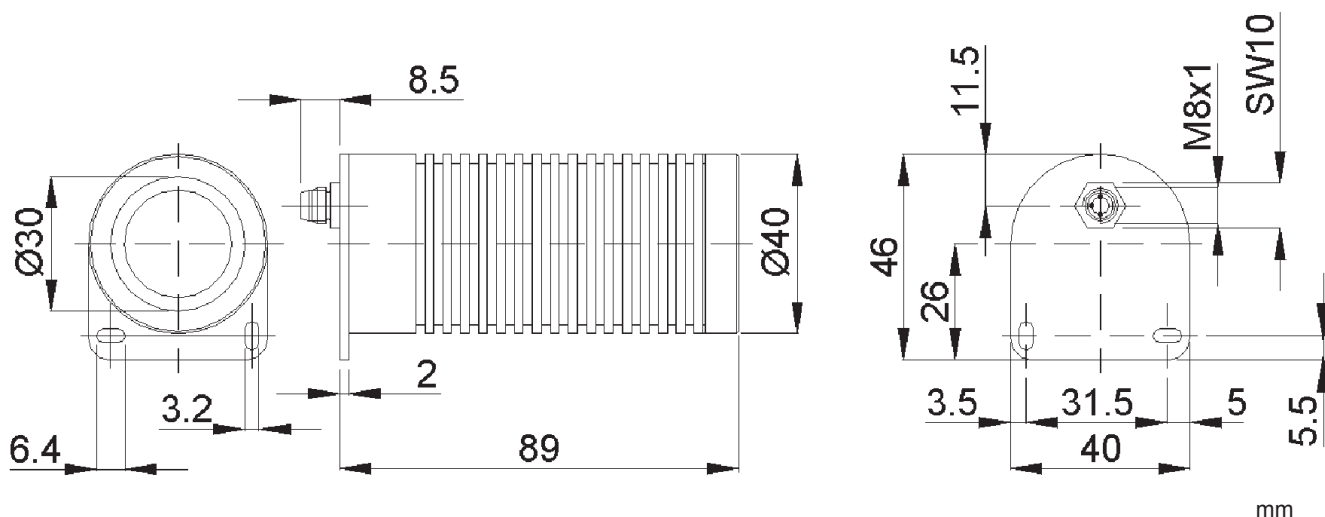
M8 4-POLE CONNECTOR



1	=	brown	=	+24Vdc
2	=	white	=	Not connected
3	=	blue	=	GND
4	=	black	=	Strobe TTL signal



DIMENSIONS

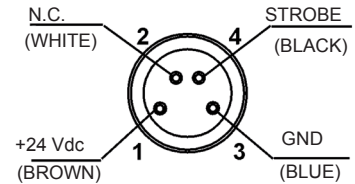


TECHNICAL DATA

Description:	Small and versatile rectangular backlight that provides high output diffused illumination.
Applications:	SIL Back provides sharp contrast to outline parts shape, hide clear housings, and view openings such as drilled holes. Strobe option for fast moving objects.
Power supply:	24 Vdc ± 20%
Colour:	Red White On demand: blue, green, IR
Light intensity:	150 cd/m2
Housing dimensions:	131x116x32 mm
Housing material:	Black anodized aluminium
Connections:	M8 4-pole male connector
Mechanical protection:	IP65
Operating temperature:	-10°...+40°
Storage temperature:	-25°...+70°

CONNECTIONS

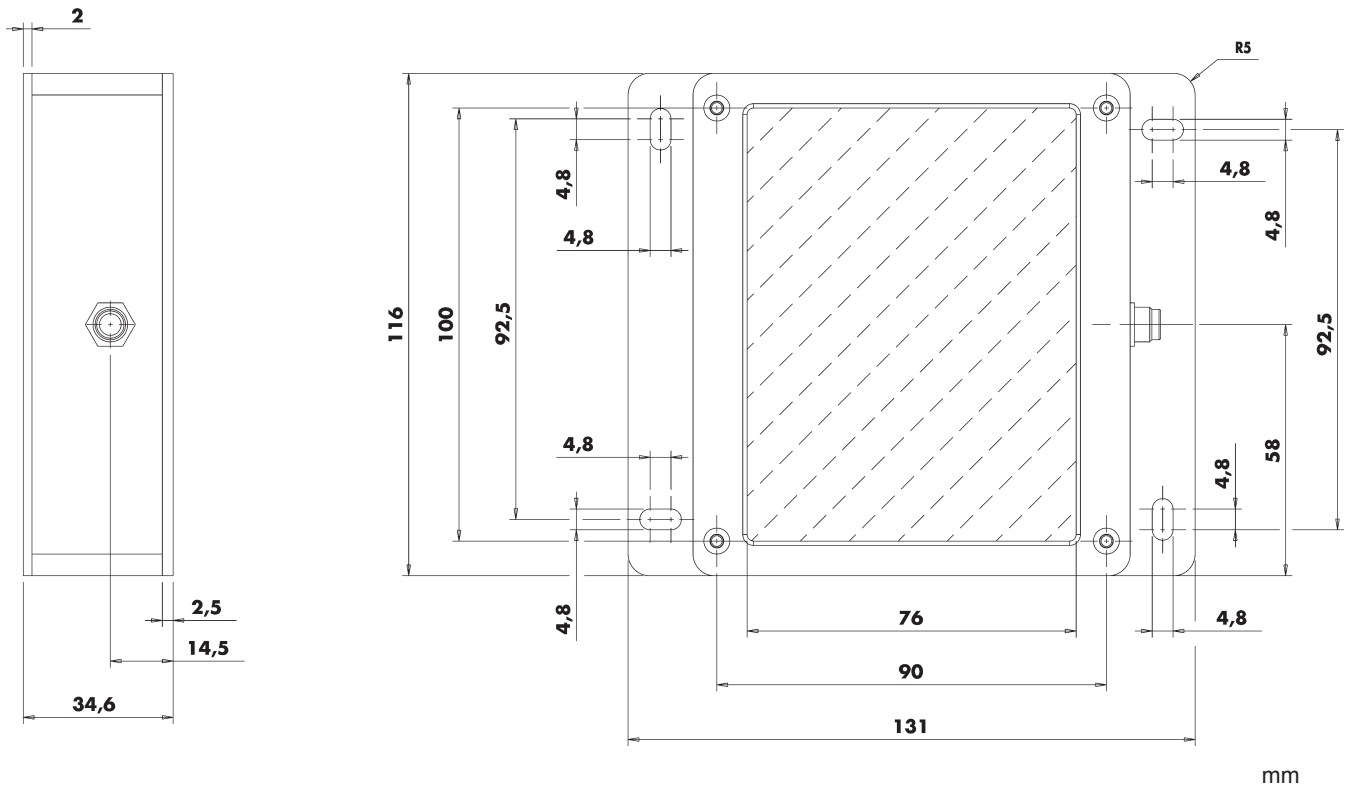
M8 4-POLE CONNECTOR



1	=	brown	=	+24Vdc
2	=	white	=	Not connected
3	=	blue	=	GND
4	=	black	=	Strobe TTL signal



DIMENSIONS



MODEL SELECTION AND ORDER INFORMATION

Description	Colour	Emission angle	Order n°
SIL-LINE-RED-FLOOD	red	25° (Flood Power Optics)	95A901180
SIL-LINE-RED-DIFFUSE	red	45° (Diffuse Power Optics)	95A901550
SIL-LINE-IR-FLOOD	infrared	25° (Flood Power Optics)	95A901500
SIL-LINE-WHITE-FLOOD	white	25° (Flood Power Optics)	95A901260
SIL-LINE-WHITE-DIFFUSE	white	45° (Diffuse Power Optics)	95A901440
SIL-AREA-RED-FLOOD	red	25° (Flood Power Optics)	95A901190
SIL-AREA-IR-FLOOD	infrared	25° (Flood Power Optics)	95A901520
SIL-AREA-WHITE-FLOOD	white	25° (Flood Power Optics)	95A901270
SIL-RING-RED-FLOOD	red	25° (Flood Power Optics)	95A901200
SIL-RING-IR-FLOOD	infrared	25° (Flood Power Optics)	95A901470
SIL-RING-WHITE-FLOOD	white	25° (Flood Power Optics)	95A901280
SIL-RING-WHITE-DIFFUSE	white	45° (Diffuse Power Optics)	95A901450
SIL-Laserline	red (Laser)	90°	95A901160
SIL-SPOT-RED-FLOOD	red	25° (Flood Power Optics)	95A901220
SIL-SPOT-RED-SPOT	red	6° (Spot Power Optics)	95A901460
SIL-SPOT-IR-FLOOD	infrared	25° (Flood Power Optics)	95A901510
SIL-SPOT-WHITE-FLOOD	white	25° (Flood Power Optics)	95A901300
SIL-BACK-RED-CONT	red	-	95A901210
SIL-BACK-WHITE-CONT	white	-	95A901290
LED Drivers			
LD2 (for SIL SPOT-RING)	-	-	95A901250

Customised illuminators can be manufactured on request according to the following options:

Emission colour (OSRAM Dragon Power LEDs)	Blue Green
Emission Angle (Datasensor Power Optics)	Spot 6° Diffuse 45° Line 10x30°

ACCESSORY SELECTION AND ORDER INFORMATION

MODEL	DESCRIPTION	ORDER N°
CS-B1-02-G-03	3 m cable with 4-pole M8 straight female connector	95A251420
CS-B1-02-G-05	5 m cable with 4-pole M8 straight female connector	95A251430
SCS-B1-02-G-01	1 m cable with two 4-pole M8 straight male/female connectors	95A901070
SCS-AB1-02-B-01	1 m M8/M12 cable for SIL Laserline	95A901130



The company endeavours to continuously improve and renew its products; for this reason the technical data and contents of this catalogue may undergo variations without prior notice. For correct installation and use, the company can guarantee only the data indicated in the instruction manual supplied with the products.

