

## 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



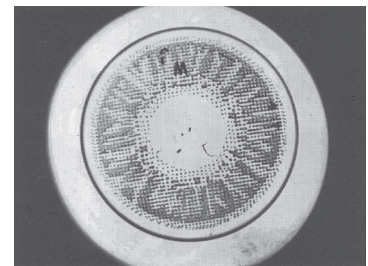
## HIGHLIGHTS

- 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

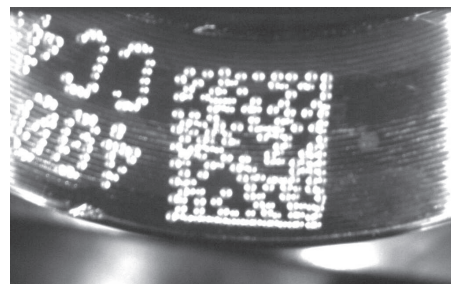
## APPLICATIONS

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

Machine vision



Code reading



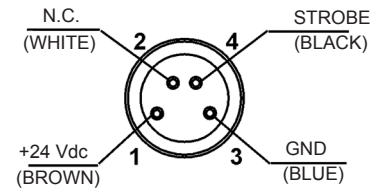
# SIL LINE

## TECHNICAL DATA

<b>Description:</b>	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.				
<b>Applications:</b>	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.				
<b>Power supply:</b>	24 Vdc $\pm$ 20%				
<b>Strobe signal (required):</b>	5-24 Vdc				
<b>Colour:</b>	Red Infrared White On demand: blue, green				
<b>Light intensity:</b>	<b>LED:</b>	<b>@250mm</b>	<b>@500mm</b>	<b>@750mm</b>	<b>@1000mm</b>
	Red (Lux)	2,550	1,050	520	305
	White (Lux)	6,962	2,888	1,427	847
	Infrared (W/m <sup>2</sup> )	35,3	14,8	7,3	4,3
<b>Emission angle:</b>	25° 45° (only for white and red LEDs) On demand: 6°, 45°, 10x30°				
<b>Housing dimensions:</b>	252x46x54 mm				
<b>Housing material:</b>	Black anodized aluminium				
<b>Connections:</b>	M8 4-pole male connector				
<b>Mechanical protection:</b>	IP65				
<b>Operating temperature:</b>	-10°...+40°				
<b>Storage temperature:</b>	-25°...+70°				

## CONNECTIONS

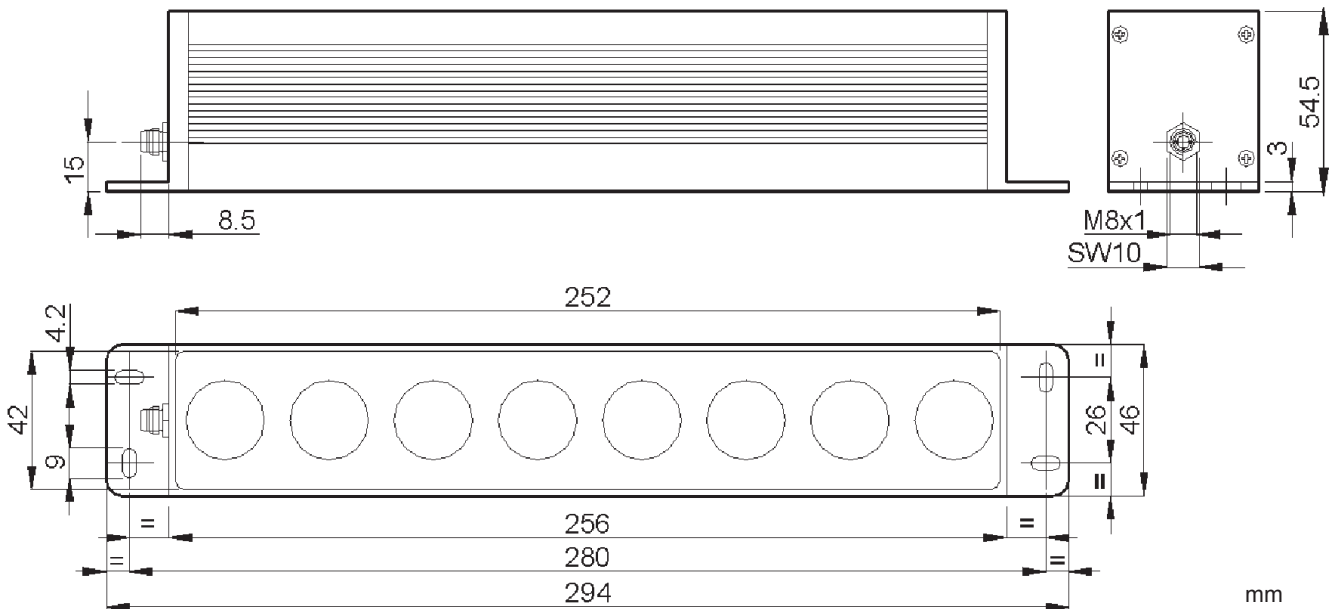
### M8 4-POLE CONNECTOR



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



## DIMENSIONS



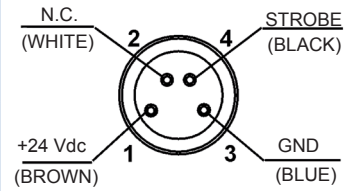
**SIL AREA**

**TECHNICAL DATA**

<b>Description:</b>	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.				
<b>Applications:</b>	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.				
<b>Power supply:</b>	24 Vdc ± 20%				
<b>Strobe signal (required):</b>	5-24 Vdc				
<b>Colour:</b>	Red Infrared White On demand: blue, green				
<b>Light intensity:</b>	<b>LED:</b>	<b>@250mm</b>	<b>@500mm</b>	<b>@750mm</b>	<b>@1000mm</b>
	Red (Lux)	2.050	550	245	138
	White (Lux)	6.878	1.837	807	456
	Infrared (W/m <sup>2</sup> )	33,6	8,8	3,9	2,2
<b>Emission angle:</b>	25° On demand: 6°, 45°, 10x30°				
<b>Housing dimensions:</b>	84x84x55 mm				
<b>Housing material:</b>	Black anodized aluminium				
<b>Connections:</b>	M8 4-pole male connector				
<b>Mechanical protection:</b>	IP65				
<b>Operating temperature:</b>	-10°...+40°				
<b>Storage temperature:</b>	-25°...+70°				

**CONNECTIONS**

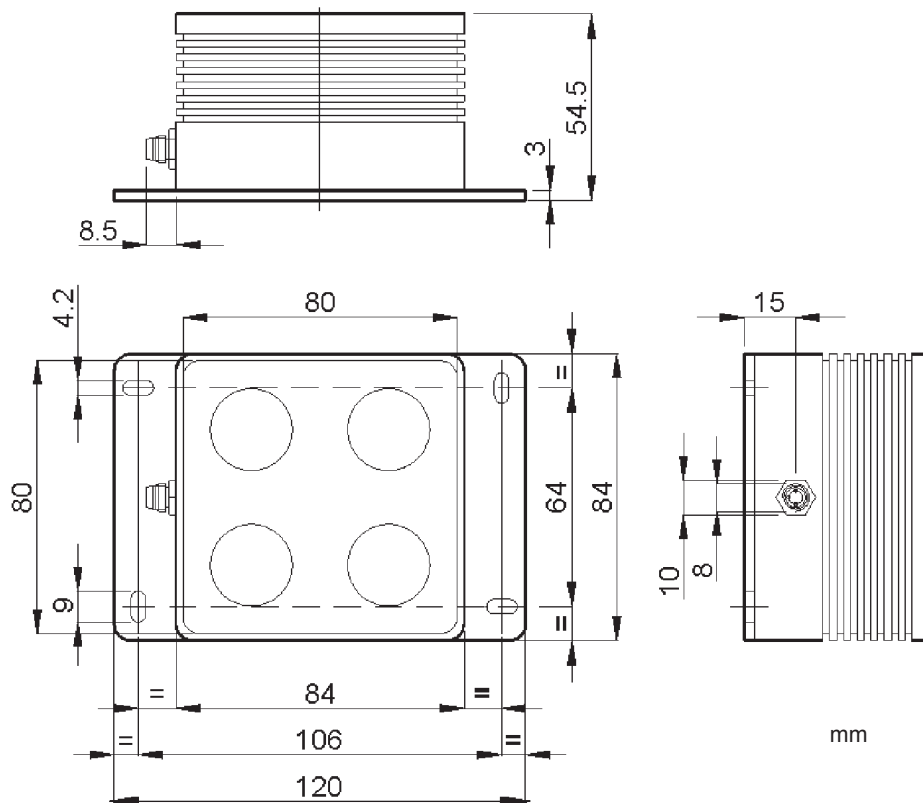
**M8 4-POLE CONNECTOR**



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



**DIMENSIONS**



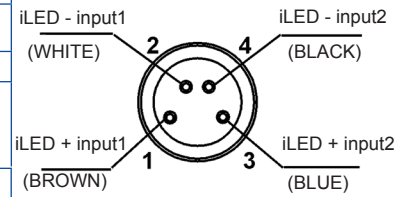
## SIL RING

### TECHNICAL DATA

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

### CONNECTIONS

#### M8 4-POLE CONNECTOR

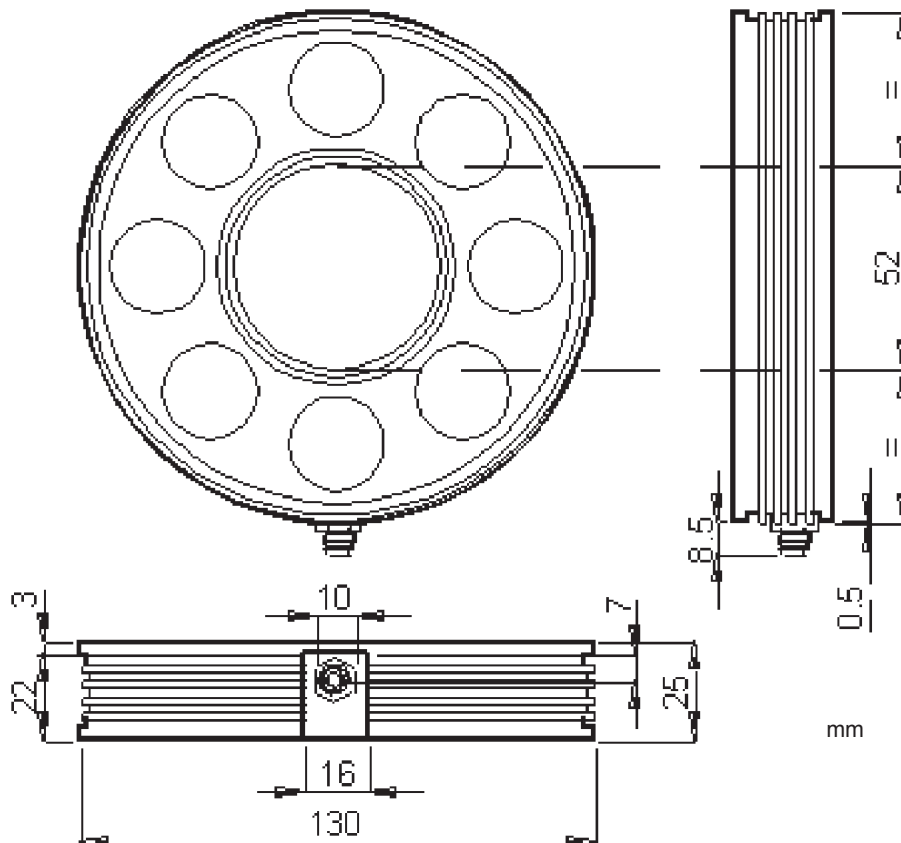


1	=	brown	=	iLED+ input1
2	=	white	=	iLED- input1
3	=	blue	=	iLED+ input2
4	=	black	=	iLED- input2

EXTERNAL LD2 LED DRIVER REQUIRED



### DIMENSIONS



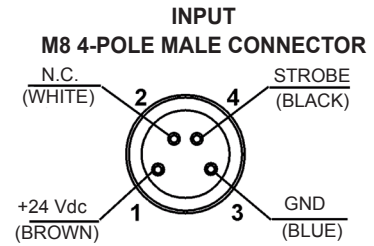
## LD2 LED DRIVER

### TECHNICAL DATA

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

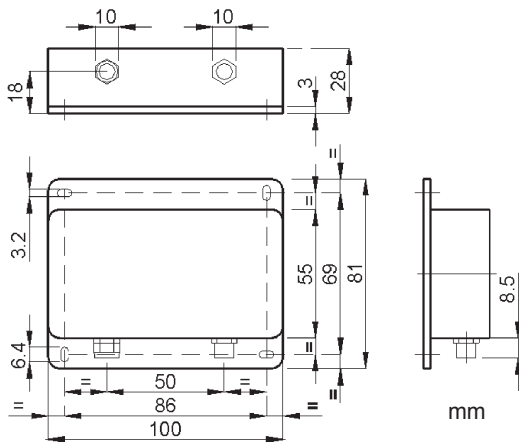


### CONNECTIONS



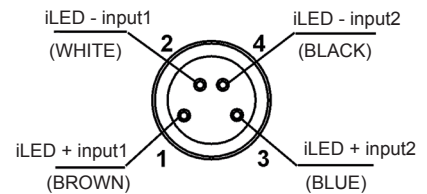
1	=	brown	=	+24Vdc
2	=	white	=	Not connected
3	=	blue	=	GND
4	=	black	=	Strobe TTL signal

### DIMENSIONS



### 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

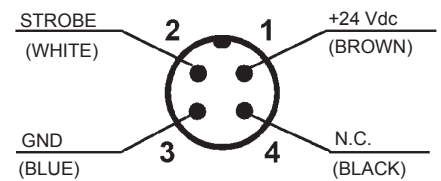
<b>Description:</b>	Laser line illuminator
<b>Applications:</b>	Profiling Metal working Wood working
<b>Power supply:</b>	24 Vdc ± 10%
<b>Laser class:</b>	Red Laser Class 3A
<b>Emission angle:</b>	90°
<b>Housing dimensions:</b>	Ø18 x 81,5 mm
<b>Housing material:</b>	Black anodized aluminium
<b>Connections: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



Class 3A

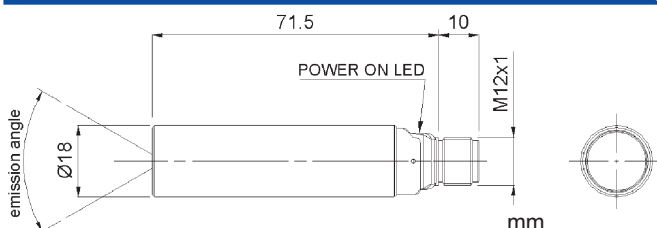
### CONNECTIONS

#### M12 4-POLE MALE CONNECTOR



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

### DIMENSIONS



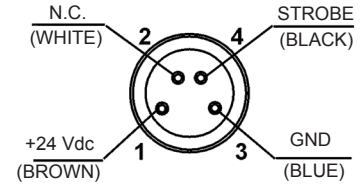
# SIL SPOT

## TECHNICAL DATA

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

## CONNECTIONS

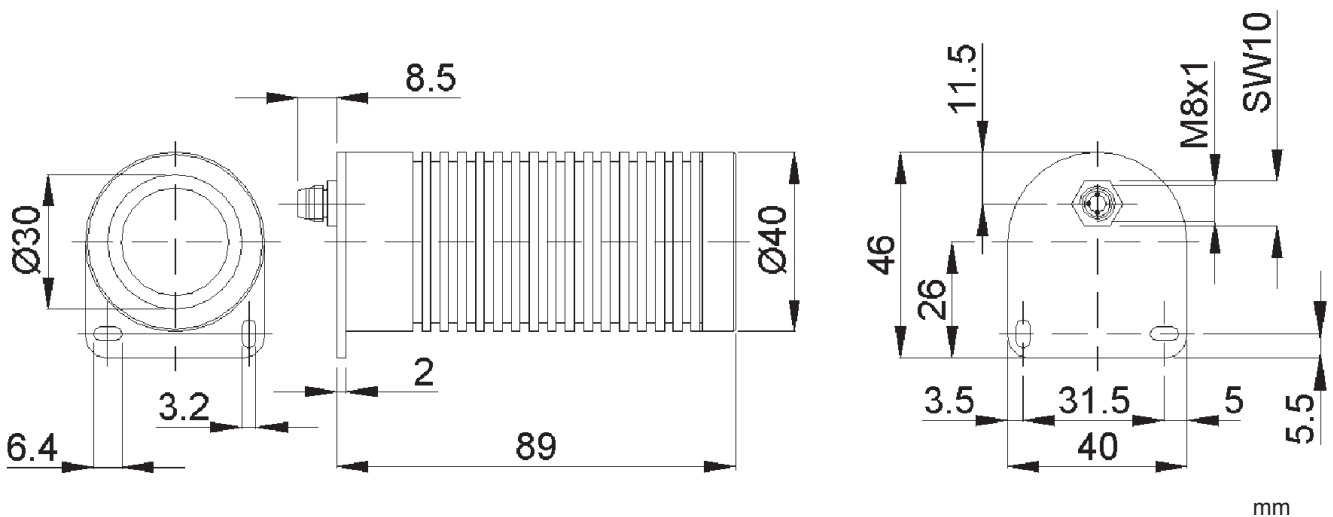
### M8 4-POLE CONNECTOR



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



## DIMENSIONS



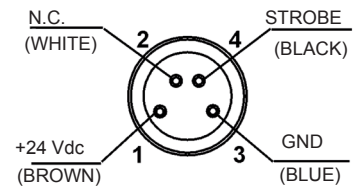
**SIL BACK**

**TECHNICAL DATA**

**CONNECTIONS**

<b>Description:</b>	Small and versatile rectangular backlight that provides high output diffused illumination.
<b>Applications:</b>	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.
<b>Power supply:</b>	24 Vdc ± 20%
<b>Colour:</b>	Red White On demand: blue, green, IR
<b>Light intensity:</b>	150 cd/m2
<b>Housing dimensions:</b>	131x116x32 mm
<b>Housing material:</b>	Black anodized aluminium
<b>Connections:</b>	M8 4-pole male connector
<b>Mechanical protection:</b>	IP65
<b>Operating temperature:</b>	-10°...+40°
<b>Storage temperature:</b>	-25°...+70°

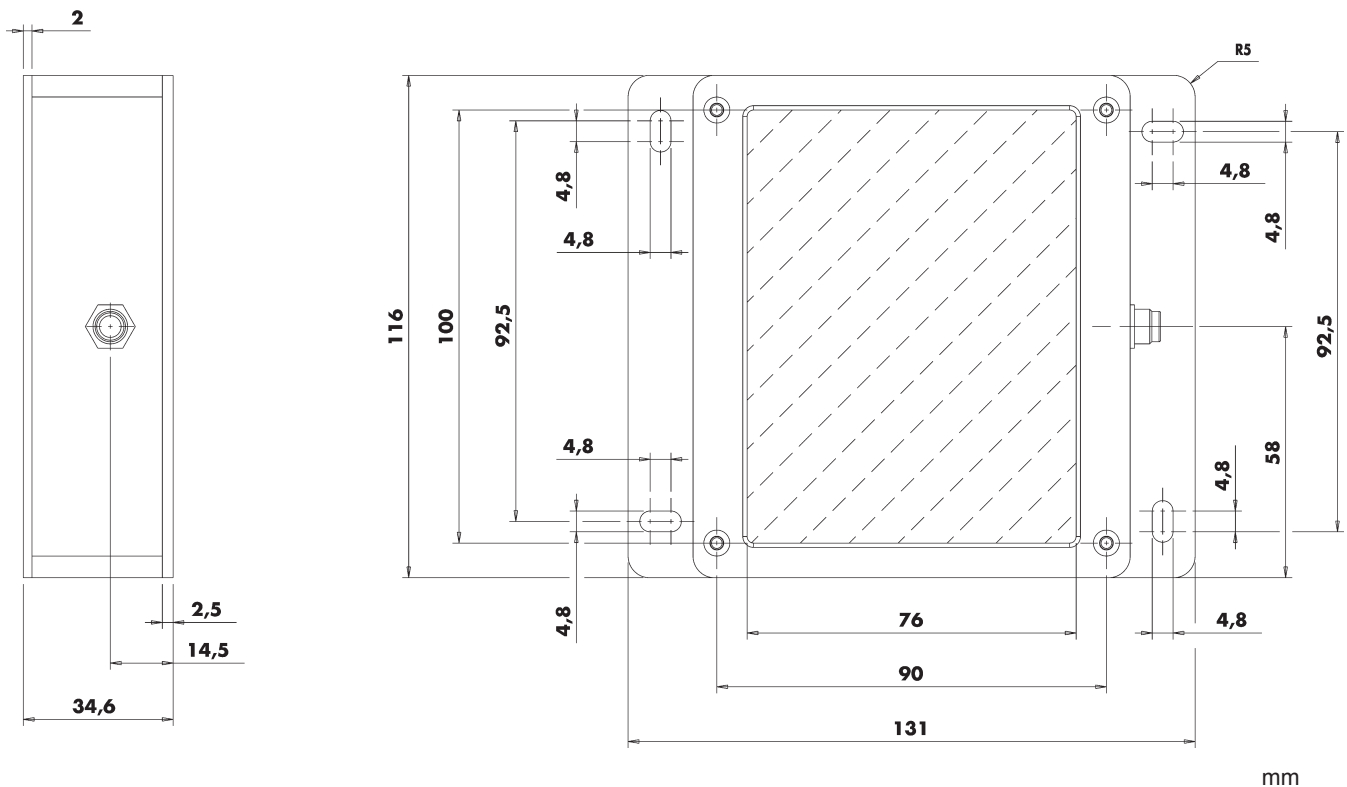
**M8 4-POLE CONNECTOR**



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



**DIMENSIONS**



mm

## 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
<b>LED Drivers</b>			
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.

