

IBLP catalogue





ISCON - LED Illumination for Machine Vision

ISCON products feature high light intensity, a wide array of available models and sizes as well as excellent build quality. Thanks to many years of experience in the machine vision industry, ISCON provides consultancy in terms of selecting the best illuminator model. ISCON also ensures user safety by adhering to stringent standards concerning electrical device safety. In order to guarantee high light intensity and long operation time, ISCON illuminators exclusively use the highest quality LEDs. A durable aluminium casing ensures increased resistance to mechanical damage and fire protection. Beside the highest quality and safety, ISCON also ensures express order processing. To maintain high quality of our illuminators, each product is subjected to many hours of stress tests before being delivered to the customer. ISCON products are fully manufactured within the European Union and bear the CE certificate.

ISCON illuminators are designed to operate in industrial machine vision systems. Using the correct illuminator in a machine vision system allows any physical property of an object to be inspected, including size, shape or inscription. Thanks to high light intensity, ISCON illuminators perform excellently in vision systems with a short illumination time of the inspected object. A wide array of models, light colour and additional accessories ensures versatility of ISCON illuminators, which allows them to perform perfectly in all types of vision systems. At the client's request, it is possible to design and manufacture custom illuminators, tailored to specific requirements of a machine vision system.

Selecting the correct ISCON illuminator for a vision system ensures:

- > maximising the contrast between the inspected object and the background
- > stable operating conditions of the machine vision system
- > minimising the impact of the surrounding ambient light.




Scope of services:

- > consultancy in terms of selecting the correct illuminator model
- > custom builds at the customer's request
- > free equipment rental for testing in actual conditions
- > technical documentation for products
- > warranty service and technical support.

- Very high illumination efficiency
- Durable, aluminium casing
- Optional overdrive mode (quadruple light intensity)
- Easy to connect and install



Product specifications

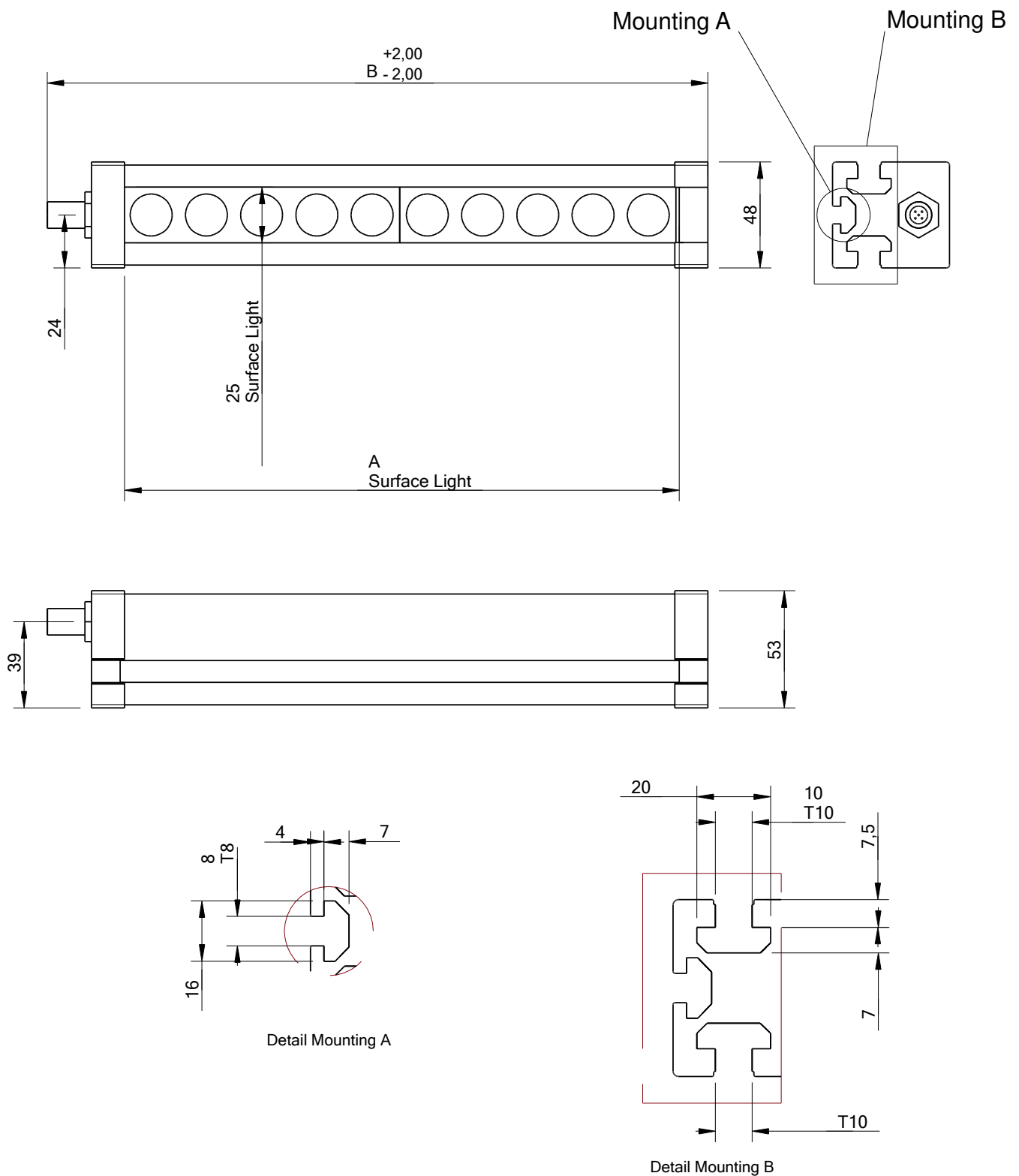
Supply voltage	24-30 VDC
Operating temperature	0-40 °C
Protection rating	IP40
Connector	M12, 5 pin
Cooling	Convection
Certificates	  
Casing	Anodised aluminium
Casing colour	Blue

LED wavelength

W (white)	R (red)	G (green)	B (blue)	IR (infrared)	UV (ultraviolet)
CRI=75	620-650nm	520-540nm	460-480nm	850-865nm	390-410nm

*UV LED's lifespan - 1000 hours. Other wavelength LED's lifespan - 50000 hours.

Overview drawing IBLP



Tolerance of ± 0.5 mm applies to all of the dimensions given (unless otherwise indicated).

Basic references

IBLP	125	250	375	500	625	750	875	1000	1125	1250
Number of LEDs	5	10	15	20	25	30	35	40	45	50
LED Colour	W - White R - Red G - Green B - Blue IR - Infrared UV - Ultraviolet									
Max current [A]	0.4	0.8	1.2	1.6	2	2.4	2.8	3.2	3.6	4.0
Max power consumption [W]	10	20	30	40	50	60	70	80	90	100
Weight [kg]	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
A - lighting area's length [mm]	125	250	375	500	625	750	875	1000	1125	1250
B - total length [mm]	169	294	419	544	669	794	919	1044	1169	1294
Lighting area's width [mm]	25									
Total width [mm]	48									
Height [mm]	53									

Tolerance of ± 0.5 mm applies to all of the dimensions given (unless otherwise indicated).

IBLP with overdrive driver	125	250	375	500	625	750	875	1000	1125	1250
Number of LEDs	5	10	15	20	25	30	35	40	45	50
LED Colour	W - White R - Red G - Green B - Blue IR - Infrared UV - Ultraviolet									
Max current [A]	1.5	3	4.5	6	7.5	9	10.5	12	13.5	15
Max power consumption [W]	40	80	120	160	200	240	280	320	360	400
Weight [kg]	0.3	0.6	0.9	1.2	1.5	1.8	2.1	2.4	2.7	3.0
A - lighting area's length [mm]	125	250	375	500	625	750	875	1000	1125	1250
B - total length [mm]	169	294	419	544	669	794	919	1044	1169	1294
Lighting area's width [mm]	25									
Total width [mm]	48									
Height [mm]	53									

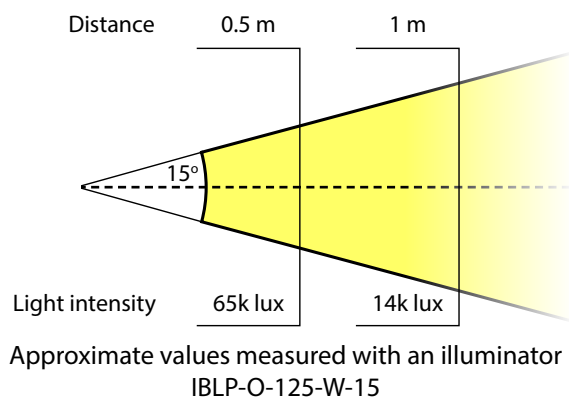
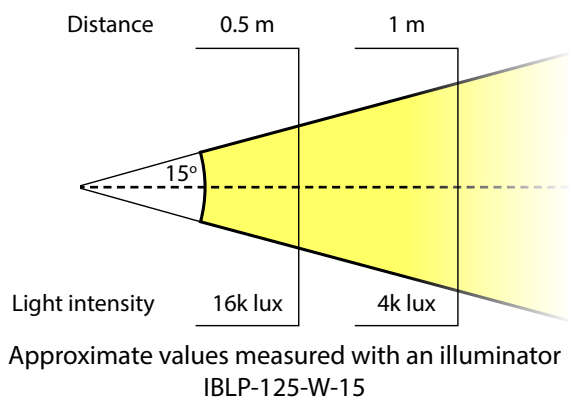
At the customer's request, illuminators can also be manufactured with custom dimensions.
In case of further questions please contact us at: iscon@iscon.pl.

Tolerance of ± 0.5 mm applies to all of the dimensions given (unless otherwise indicated).

Lenses

Approximate lighting area [mm x mm]

				Illuminator's length [mm]									
				125	250	375	500	625	750	875	1000	1125	1250
Distance	0.5 meter	Lens angle	15°	391 x 291	516 x 291	641 x 291	766 x 291	891 x 291	1016 x 291	1141 x 291	1266 x 291	1391 x 291	1516 x 291
			25°	591 x 491	716 x 491	841 x 491	966 x 491	1091 x 491	1216 x 491	1341 x 491	1466 x 491	1591 x 491	1716 x 491
			40°	963 x 863	1088 x 863	1213 x 863	1339 x 863	1463 x 863	1588 x 863	1713 x 863	1838 x 863	1963 x 863	2088 x 863
	1 meter	Lens angle	15°	659 x 559	784 x 559	909 x 559	1034 x 559	1159 x 559	1284 x 559	1409 x 559	1534 x 559	1659 x 559	1784 x 559
			25°	1057 x 957	1182 x 957	1307 x 957	1432 x 957	1557 x 957	1682 x 957	1807 x 957	1932 x 957	2057 x 957	2182 x 957
			40°	1803 x 1703	1928 x 1703	2053 x 1703	2178 x 1703	2303 x 1703	2428 x 1703	2553 x 1703	2678 x 1703	2803 x 1703	2928 x 1703



Reference coding

IBLP	-	Type	-	Lighting area's length		-	Light colour		-	Lens angle	
	-	Standard		125	125mm		W	White		15	±15°
	0	Overdrive		250	250mm		R	Red		25	±25°
				375	375mm		G	Green		40	±40°
				500	500mm		B	Blue		NL	No Lens
				625	625mm		IR	Infrared			
				750	750mm		UV	Ultraviolet			
				875	875mm						
				1000	1000mm						
				1125	1125mm						
				1250	1250mm						

Example 1

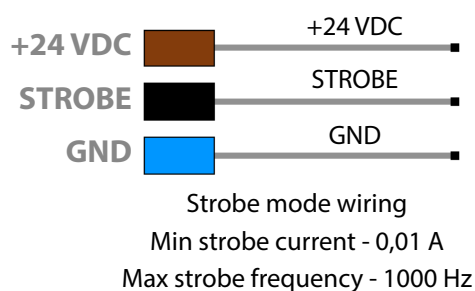
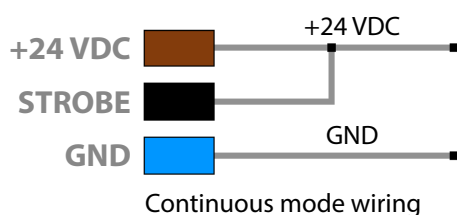
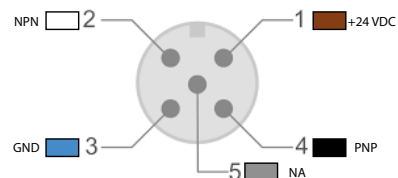
IBLP-375-IR-NL - an illuminator without overdrive driver, lighting area's length of 375 mm, infrared light colour, no lens

Example 2

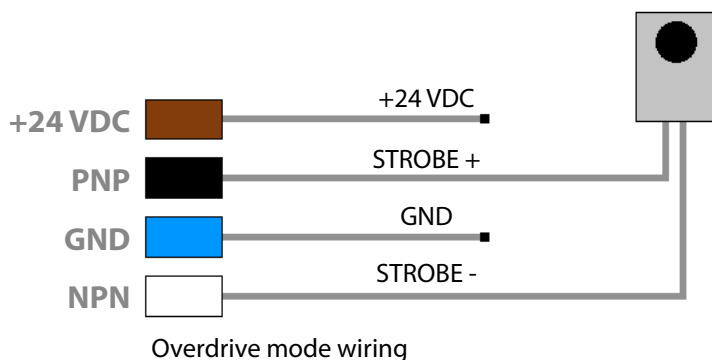
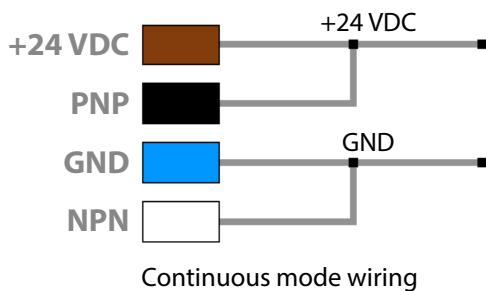
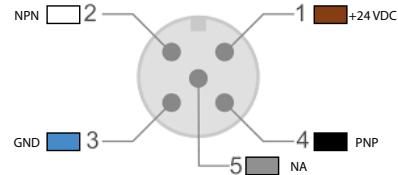
IBLP-O-500-R-15 - an illuminator with overdrive driver, lighting area's length of 500 mm, red light colour, lens angle 15°

Connection Diagrams

IBLP - illuminator without overdrive driver	
1 Brown (BN)	+24VDC
2 White (WH)	NA
3 Blue (BU)	GND
4 Black (BK)	STROBE
5 Gray (GR)	NA



IBLP-0 - illuminator with overdrive driver	
1 Brown (BN)	+24VDC
2 White (WH)	NPN Strobe-
3 Blue (BU)	GND
4 Black (BK)	PNP Strobe+
5 Gray (GR)	NA

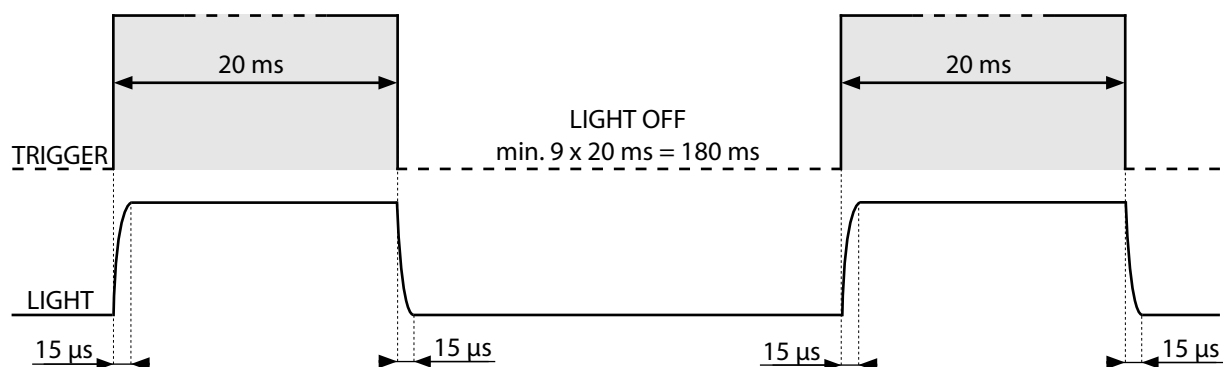
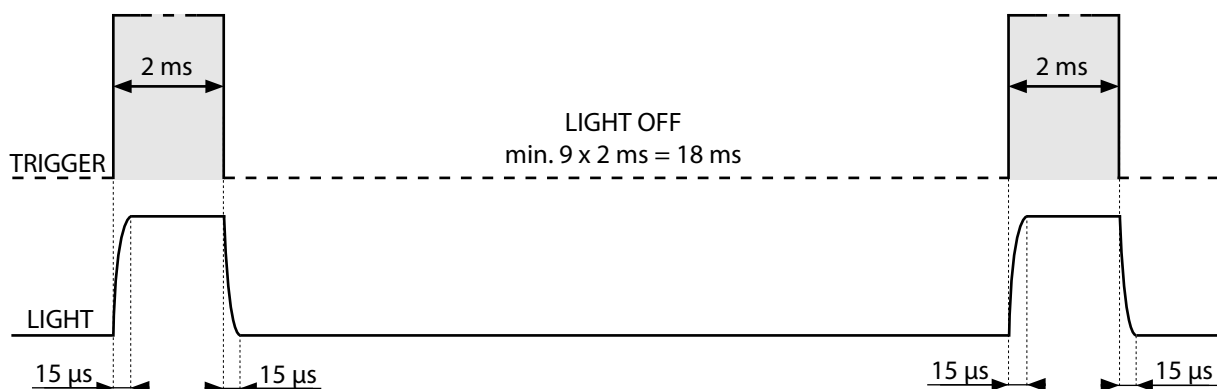


PNP voltage 5-24 VDC
Min strobe current 0,01 A
Max strobe frequency 1000 Hz
NPN voltage below 1 VDC

Control

TRIGGER - light control signal from controller or camera

LIGHT - illuminator's light intensity



Illuminator in overdrive mode is controlled by trigger input coming from external controller or camera. Rest time between consecutive trigger inputs must be at least 9 times longer than trigger time. During rest time any additional trigger inputs will be ignored.

Max trigger time in overdrive mode - 100 ms. In order to set longer trigger time than 100 ms connect an illuminator in continuous mode.

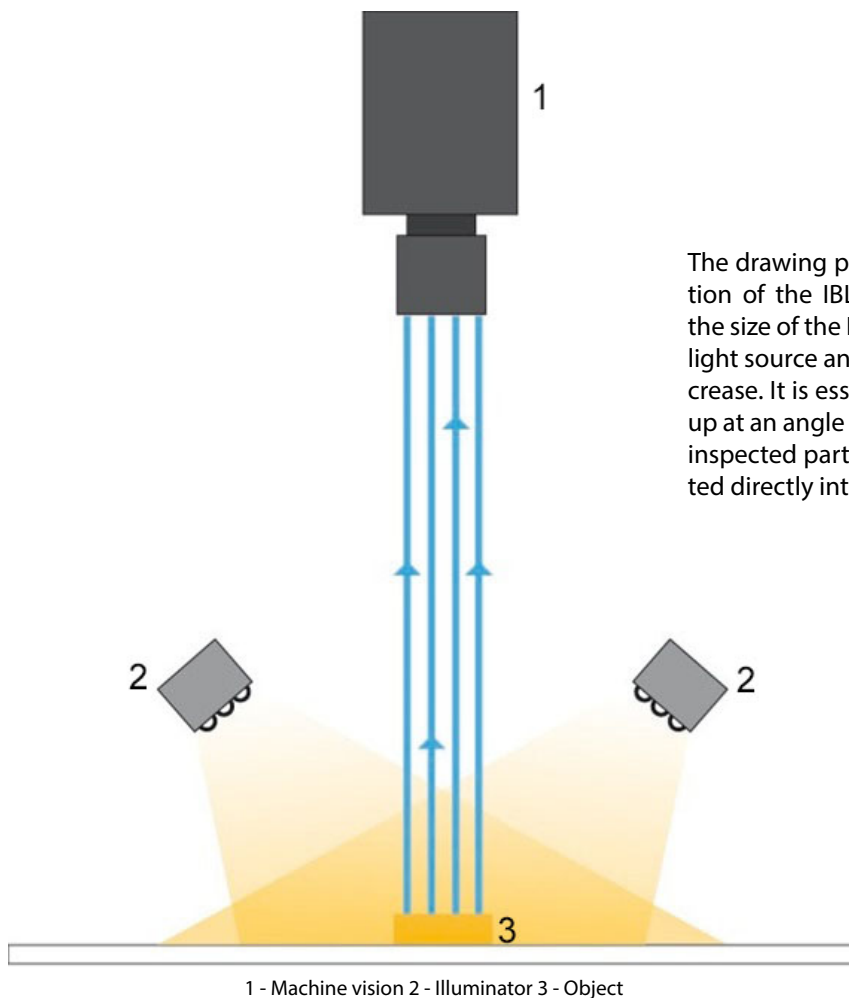
Max turn-on and turn-off delay - 15 μs.

Example:













Trigger time is set to 50 ms, so rest time must be longer than 450 ms (9 x 50 ms = 450ms).

Installation and Application

The illuminator can be installed from behind using 8mm T-slot or from both sides using 10 mm T-slot. Use 8 mm or 10 mm T-slot bolts or bolt with a washer. It is recommended to mount the illuminator on the machine's metal structure, so that its largest surface is aligned with the structure in order to dissipate the most heat.



Warnings

	The surface of the illuminator may be hot.	Do not touch during operation. HOT.
	Do not look directly into the light source.	Caution, LED radiation.
	Keep away from fire and high temperatures (above 40°C).	Keep away from fire.
	Do not touch the device with wet hands.	Risk of electric shock or short circuit.
	Do not wet clean the device or use a pressure washer.	Risk of electric shock or short circuit.
	Connecting incorrectly may cause damage to the device.	Connect according to the information on the device's casing.
	The device is designed for operation in a dry room environment.	Do not touch during operation. HOT.
	Do not alter, cut or connect additional cables.	Exclusively use the original cable.
	Incorrect usage may lead to device damage.	Installation and application exclusively in accordance with technical documentation.
		Connect the device only with the power source cut off.
	Do not dismantle the device or remove original factory-made components.	Disassembly and technical modifications are prohibited.
		Protect from fall damage, strong shocks or impact to the device casing.

WARRANTY TERMS AND CONDITIONS

All ISCON products are subject to a 24-month warranty starting from the purchase date.

The warranty is honoured under the following conditions:

- Presenting the purchase invoice as well as the device's serial number or sending the device to the ISCON company address.
- The device must not have been disassembled, modified or otherwise customised to the user's needs. Incorrect installation (drilling through the casing or installing using different screws and holes than the ones anticipated by the manufacturer) voids the warranty.
- The device is powered with a direct current voltage 24-30V. Providing a higher or lower voltage or an alternate current may damage the illuminator and is not covered by the warranty.
- The device is designed for operation inside a dry room environment. Using it outside of a closed room may lead to exposure to moisture followed by damage and is not covered by the warranty.
- The device should not be cleaned using: water, pressure washers, hot steam, mechanical components and chemical agents.
- The room in which the illuminator operates must not be air tight without any air exchange or ventilation.
- The ambient temperature must be within 5-40°C.



Contact

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