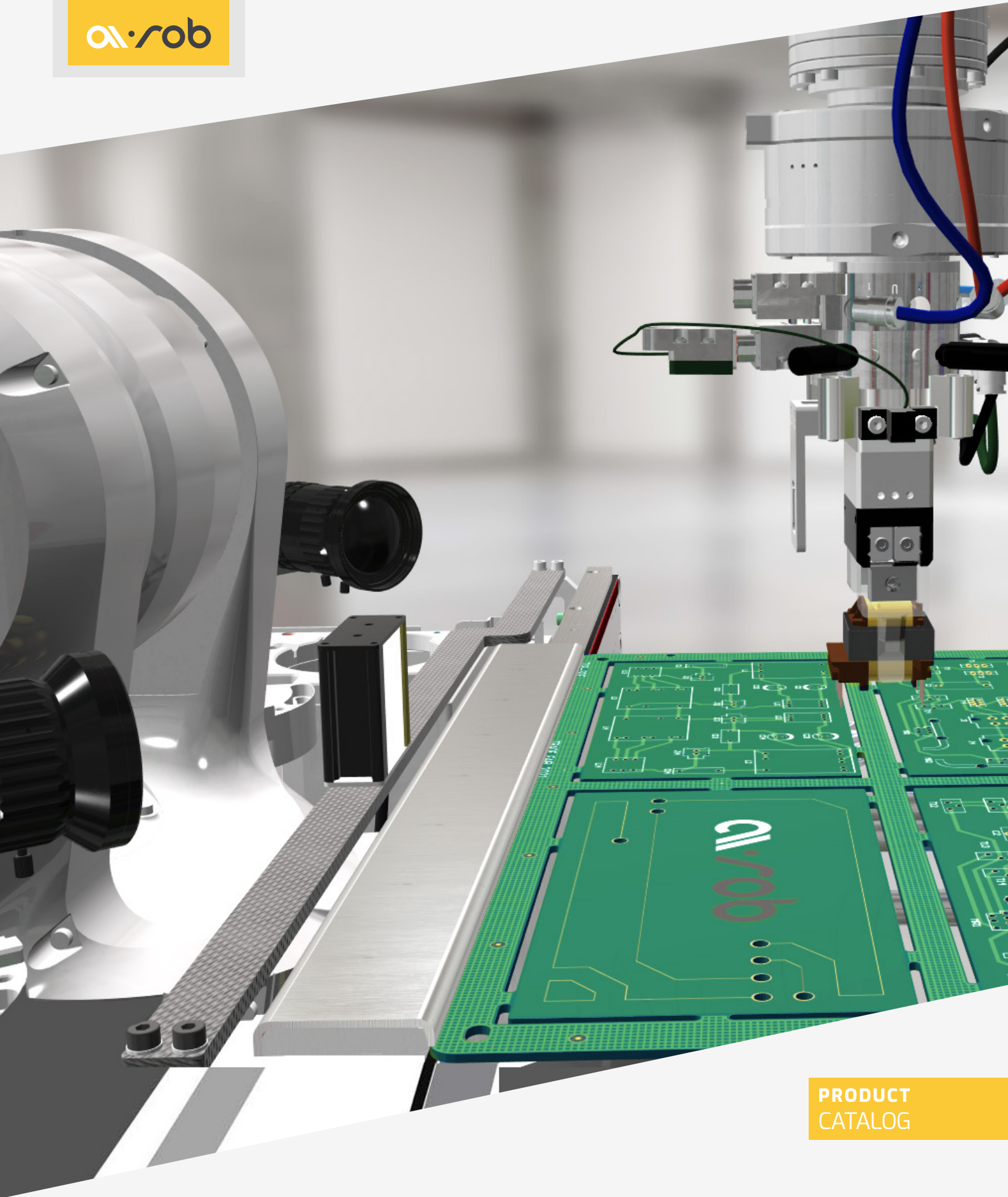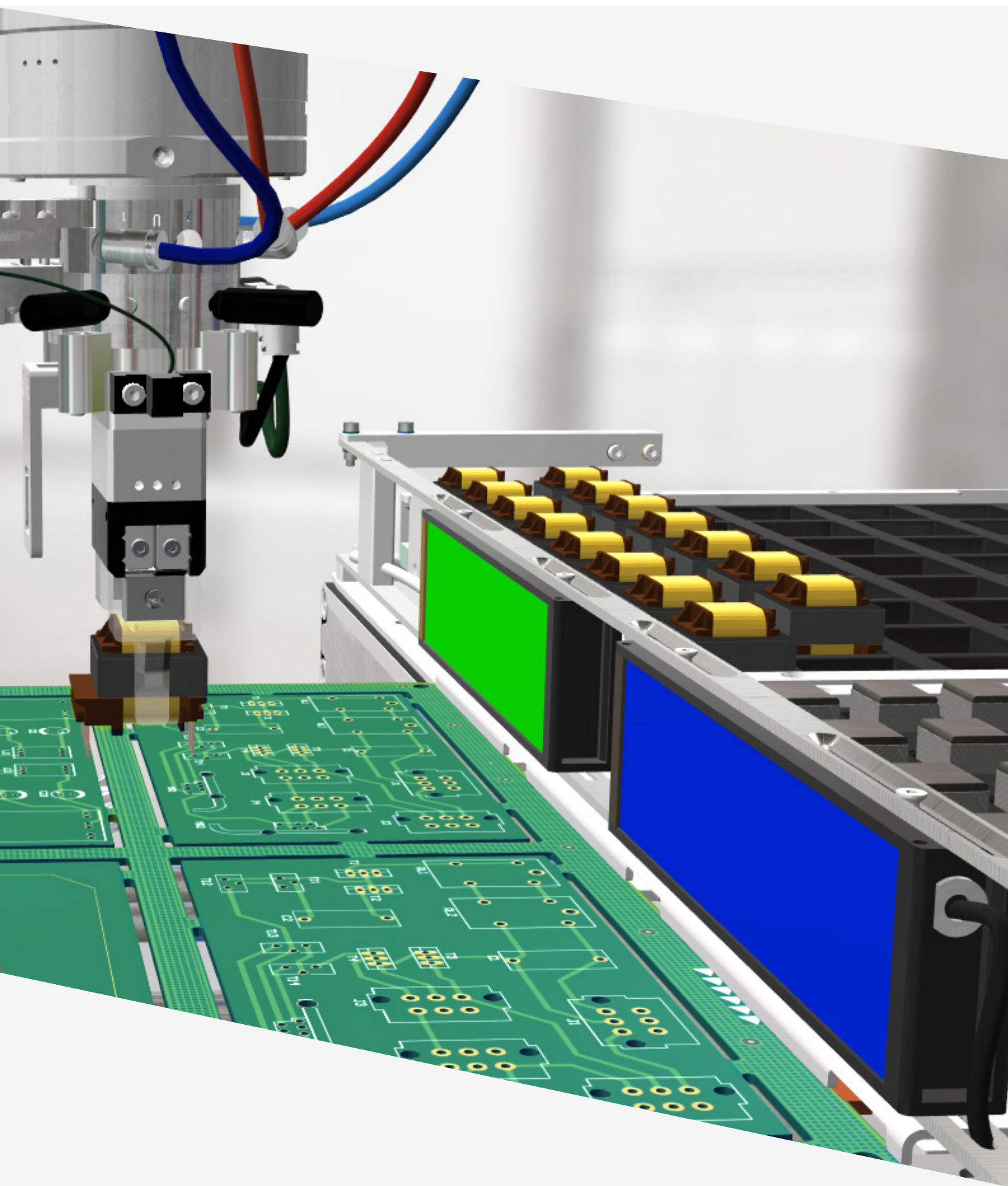# INDUSTRIAL LED LIGHTS SYSTEM OPTIMIZED FOR YOUR APPLICATIONS

airob

ABOUT LIGHTING SYSTEM

AI.Rob's LED industrial lighting is suitable for a wide range of vision and industrial applications, such as inspection, identification, testing, machine vision and robotics. LED lighting features excellent light intensity and smooth illumination combined with a long lifetime. The AI.Rob product family is modular and can be used in various combinations to optimise lighting.

Different types of LED colours: green, red, blue, white or infrared, as well as the different types of diffusers mean that the light can be selected exactly according to the requirements of the application.

In addition to a range of standard products, we also make custom-designed LED arrays, lighting and control units. Customer-specific developments and adaptations are a core part of AI.Rob's business.

All lamps and controllers are designed for industrial applications. For this reason, they are delivered in solid aluminium housings. All lamps can be operated in continuous or strobe mode. The lamps are robust, compact and easy to install. Simply connect the LED light to the controller and set the desired light intensity.

CONTENTS

OUR LED LIGHTS FAMILY

RING LIGHTS
45X75 MM

FRONT / BACK LIGHTS
345X100 MM

SPOT LIGHTS
50X48 MM

FRONT / BACK LIGHTS
185X100 MM

FRONT / BACK LIGHTS
100X65 MM

MULTI-CHANNEL CONTROLLER
- MCC DIN 8

FRONT / BACK LIGHTS
180X95 MM

FRONT / BACK LIGHTS
180X50 MM
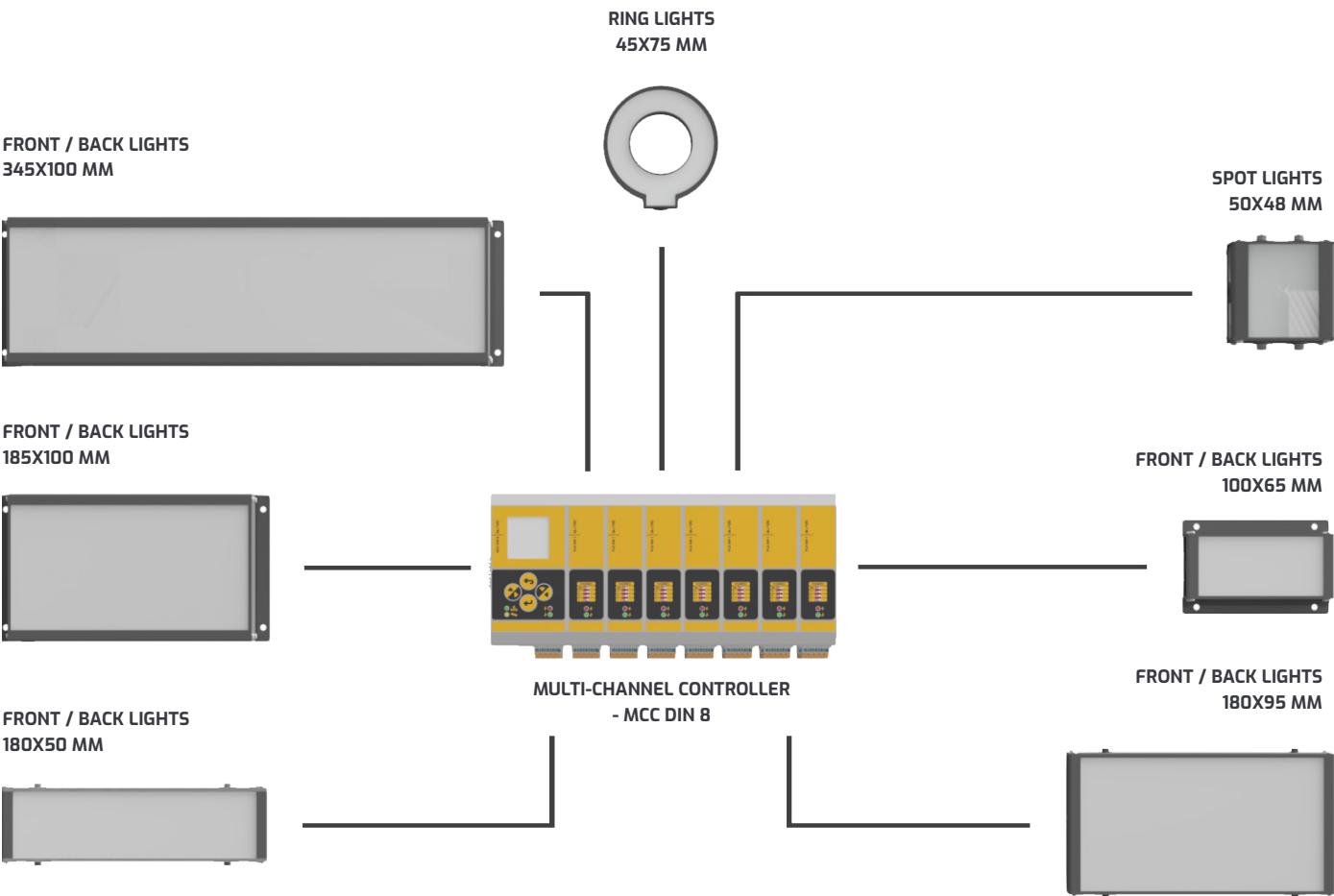
MULTICHANNEL CONTROLLER - MCC DIN 8

This unit is a comprehensive control device built for compatibility with standard LED lighting systems. Thanks to its modular design, the Multi-channel Controller - MCC DIN 8 provides independent, continuous control of up to eight LED loads with a continuous DC current of up to 5 amps and a maximum output power of 100 watts per channel.

Specifications	
Output channels	Max 8, indepedently controlled
Voltage Input	24 V DC +/- 10%
Voltage Output	3 V to 21 V
DC Current	30mA min to 5A max
Power Output	100 W per channel
Compliance	RoHs
Mounting	Din-rail
Controller Weight	235 grams
Module Weight	130 grams

SPOT LIGHT
50X48 MM

SOLID BODY
BLACK ANODIZED ALUMINIUM

M12 CONNECTOR
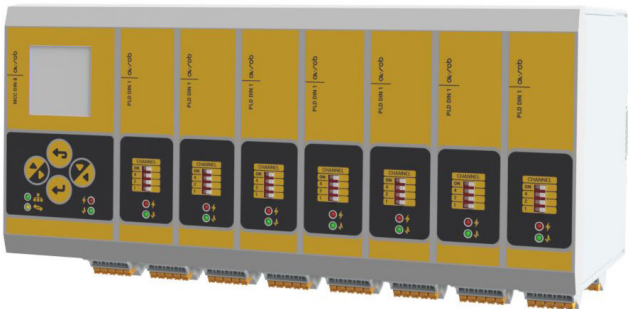
This highly powerful spot light, is your camera's best partner to get an optimized control, in continuous or strobe mode. This spot light is really appropriate wherever space is a real constraint.

- Compact and powerful
- Illuminates objects at long distances
- High quality electronic components from the best manufacturers
- Continuous or strobe modes
- Various types of diffusers

ORDER INFORMATION

Diffuser information		
Replace „Y" in order number by one character*	Type	Transparency (%)
30	Satin	30
70	Satin	70
100	Clear	99

Order number of light: VIS1M1x2-R17-Y

*Example for light with satin diffuser of 70% transparency: VIS1M1x2-R17-70

CONNECTOR PINOUT
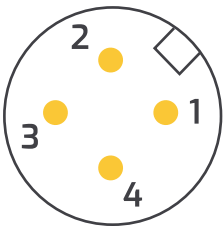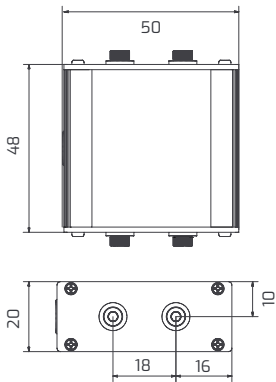
PIN	Meaning
1	V+
2	V-
3	NC
4	NC

DIMENSIONS AND FIXING

ENVIRONMENT

Parameter	Value
Operating temperature	0 - 40°C
Storage temperature	0 - 60°C
IP protection	IP 40
Labels	RoHS-CE-WEEE

TECHNICAL SPECIFICATIONS

MECHANICS

Parameter	Value
Dimensions of the lamp	50 x 48 x 20 mm
Weight (with cable)	60 g (90 g)
Body materials	Black anodized aluminium
Fixing	4 holes for M3 screws (included)
Cable length	900 mm

ELECTRONICS

Parameter	Value
Functioning mode	Continuous or strobe
Nominal current – continous mode	2 A
Maximum current – strobe mode	3 A
Nominal voltage	8,5 V
Nominal power	17 W
Maximum power	25,5 W
Wiring	Plug; M12; PIN: 4; male connector; A code, cable 900 mm
Power connector manufacturer	Amphenol
Power connector P/N	M12A-04BMMM-SL8D01
Power supply	Requires an external power supply

OPTICS

Parameter	Value
Color	White
Number od LEDs	2
LED spacing on the module – pitch (horizontal)	17 mm
Size of the active light field	45 x 33 mm
LED Manufacturer	CREE
LED P/N	XPLAWT-00-0000-0000V30E2
LED color temperature	5700 K
Luminous flux for 1 LED	420 lm
Diffuser	YES

FRONT / BACK LIGHTS 100X65 MM

SOLID BODY
BLACK ANODIZED ALUMINIUM

M12 CONNECTOR

This series of lamps can be used as a front or backlight. For front lighting, the best diffuser would be an acrylic clear glass cover or satin with 70% transparency. As a backlight settled under the objects to be controlled it highlights the objects' global shape, which enables the verification of possible material lacks and outlines defects.

- Front or back light
- Available in different colors: white, red, green, blue and infrared
- High quality electronic components from the best manufacturers
- Continuous or strobe modes
- Various types of diffusers

ORDER INFORMATION

Color information		
Replace „X" in order number by one character*	Color	Wavelenght (nm)
W	White	Color temperature 5700 K
R	Red	625
G	Green	525
B	Blue	470
I	Infrared	940

Diffuser information		
Replace „Y" in order number by one character*	Type	Transparency (%)
70	Satin	70
30	Satin	30
100	Transparent	99

Order number of light: VIS1M16x8-R5-X-Y

*Example for red light with satin diffuser of 70% transparency: VIS1M16x8-R5-R-70

CONNECTOR PINOUT

PIN	Meaning
1	V+
2	V-
3	NC
4	NC
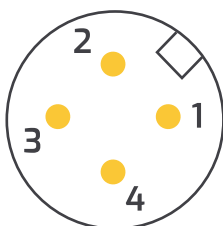
LED Color	Voltage (V)	Nominal current – continous mode/ Maximum current – strobe mode (A)	Nominal Power / Maximum Power (W)
White	15,5	1,0/2,5	15,5/38,7
Red	8,0	0,5/1,0	4,0/8,0
Green	11,3	0,5/1,0	5,6/11,3
Blue	12,0	0,5/1,0	6,0/12,0
Infrared	5,6	1,0/2,2	5,6/12,3

DIMENSIONS AND FIXING
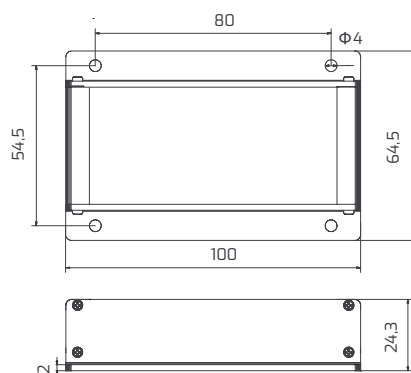
ENVIRONMENT

Parameter	Value
Operating temperature	0 - 40°C
Storage temperature	0 - 60°C
IP protection	IP 40
Labels	RoHS-CE-WEEE

TECHNICAL SPECIFICATIONS

MECHANICS

Parameter	Value
Dimensions of the light with handles	100 x 65 x 24 mm
Weight (with cable)	70 g (110 g)
Body materials	Black anodized aluminium
Fixing	4 holes Ø 4 mm
Cable length	880 mm

ELECTRONICS

Parameter	Value
Functioning mode	Continuous or strobe
Wiring	Plug; M12; PIN: 4; male connector; A code, cable 880 mm
Power connector Manufacturer	Amphenol
Power connector P/N	M12A-04BMMM-SL8D01
Power supply	Requires an external power supply

OPTICS

Parameter	Value
Number of LEDs	16 x 8
LED spacing on the module – pitch (horizontal)	5 mm
Size of the active light field	80 x 40 mm
Diffuser	YES

LED Color	LED Manufacturer	LED P/N	LED Wavelenght	Luminous Flux for 1 LED
White	CREE	CREE PLCC4 SMD LED WHITE CLA1B-WKW-XD0F0E23	Color temperature 5700 K	3177 mcd
Red	Wurth Elektronik	LED RED 150141RS73100 SMD-3528 (1411), water clear	625 nm	300 mcd
Green	Wurth Elektronik	LED GREEN 150141GS73100 SMD-3528 (1411), water clear	525 nm	1000 mcd
Blue	Wurth Elektronik	LED BLUE 150141BS73100 SMD-3528 (1411), water clear	470 nm	270 mcd
Infrared	Wurth Elektronik	LED InfraRED 15414194BA210 SMD-3528 (1411), water clear	940 nm	Radiant intensity 8 mW/sr

FRONT / BACK LIGHTS 185X100 MM

SOLID BODY
BLACK ANODIZED ALUMINIUM

M12 CONNECTOR

This series of lamps can be used as a front or backlight. For front lighting, the best diffuser would be an acrylic clear glass cover or satin with 70% transparency. As a backlight settled under the objects to be controlled, it highlights the objects' global shape, which enables the verification of possible material lacks and outlines defects.

- Available in different colors: white, red, green, blue and infrared
- High quality electronic components from the best manufacturers
- Continuous or strobe modes
- Various types of diffusers

ORDER INFORMATION

Color information		
Replace „X" in order number by one character*	Color	Wavelenght (nm)
W	White	Color temperature 5700 K
R	Red	625
G	Green	525
B	Blue	470
I	Infrared	940

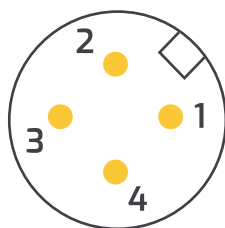| Diffuser information		
Replace „Y" in order number by one character*	Type	Transparency (%)
70	Satin	70
30	Satin	30
100	Transparent	99

Order number of light: **VIS4M16X8-R5-X-Y**

*Example for red light with satin diffuser of 70% transparency: **VIS2M32x9-R5-X-Y**

CONNECTOR PINOUT

PIN	Meaning
1	V+
2	V-
3	NC
4	NC

LED Color	Voltage (V)	Nominal current – continous mode/ Maximum current – strobe mode (A)	Nominal Power / Maximum Power (W)
White	15,5	3,0/10,0	46,5/155,0
Red	8,0	2,0/4,0	16,0/32,0
Green	11,3	2,0/4,0	22,6/45,2
Blue	12,0	2,0/4,0	24,0/48,0
Infrared	5,6	4,0/8,0	22,4/44,8

DIMENSIONS AND FIXING
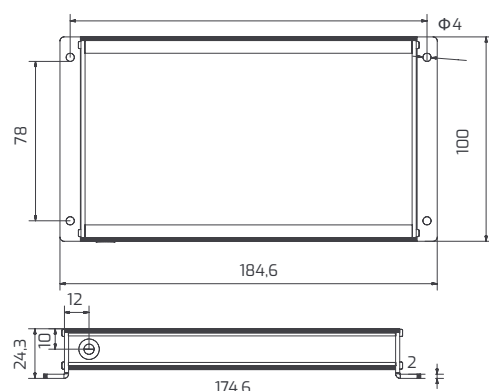
ENVIRONMENT

Parameter	Value
Operating temperature	0 - 40°C
Storage temperature	0 - 60°C
IP protection	IP 40
Labels	RoHS-CE-WEEE

TECHNICAL SPECIFICATIONS

MECHANICS

Parameter	Value
Dimensions of the light with handles	185 x 100 x 24 mm
Weight (with cable)	190 g (235 g)
Body materials	Black anodized aluminium
Fixing	4 holes Ø 4 mm
Cable length	880 mm

ELECTRONICS

Parameter	Value
Functioning mode	Continuous or strobe
Wiring	Plug; M12; PIN: 4; male connector; A code, cable 880 mm
Power connector Manufacturer	Amphenol
Power connector P/N	M12A-04BMMM-SL8D01
Power supply	Requires an external power supply

OPTICS

Parameter	Value
Number of LEDs	16 x 32
LED spacing on the module – pitch (horizontal)	5 mm
Size of the active light field	80 x 160 mm
Diffuser	YES

LED Color	LED Manufacturer	LED P/N	LED Wavelenght	Luminous Flux for 1 LED
White	CREE	CREE PLCC4 SMD LED WHITE CLA1B-WKW-XD0F0E23	Color temperature 5700 K	3177 mcd
Red	Wurth Elektronik	LED RED 150141RS73100 SMD-3528 (1411), water clear	625 nm	300 mcd
Green	Wurth Elektronik	LED GREEN 150141GS73100 SMD-3528 (1411), water clear	525 nm	1000 mcd
Blue	Wurth Elektronik	LED BLUE 150141BS73100 SMD-3528 (1411), water clear	470 nm	270 mcd
Infrared	Wurth Elektronik	LED InfraRED 15414194BA210 SMD-3528 (1411), water clear	940 nm	Radiant intensity 8 mW/sr

FRONT / BACK LIGHTS 345X100 MM

SOLID BODY
BLACK ANODIZED ALUMINIUM

M12 CONNECTOR

This series of lamps can be used as a front or backlight. For front lighting, the best diffuser would be an acrylic clear glass cover or satin with 70% transparency. As a backlight settled under the objects to be controlled, it highlights the objects' global shape, which enables the verification of possible material lacks and outlines defects.

- Available in different colors: white, red, green, blue and infrared
- High quality electronic components from the best manufacturers
- Continuous or strobe modes
- Various types of diffusers

ORDER INFORMATION

Color information				Diffuser information		
Replace „X" in order number by one character*	Color	Wavelenght (nm)		Replace „Y" in order number by one character*	Type	Transparency (%)
W	White	Color temperature 5700 K		70	Satin	70
R	Red	625		30	Satin	30
G	Green	525				
B	Blue	470				
I	Infrared	940		100	Transparent	99

Order number of light: **VIS8M16x8-R5-X-Y**

*Example for red light with satin diffuser of 70% transparency: **VIS8M16x8-R5-R-70**

CONNECTOR PINOUT

PIN	Meaning
1	V+
2	V-
3	NC
4	NC
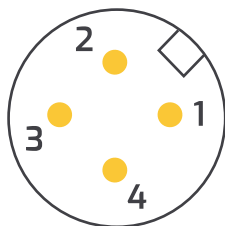
LED Color	Voltage (V)	Nominal current – continous mode/ Maximum current – strobe mode (A)	Nominal Power / Maximum Power (W)
White	15,5	6,0/20,0	93,0/310,0
Red	8,8	4,0/8,0	32,0/64,0
Green	11,3	4,0/8,0	45,2/90,4
Blue	12,0	4,0/8,0	48,0/96,0
Infrared	5,6	8,0/16,0	44,8/89,6

DIMENSIONS AND FIXING
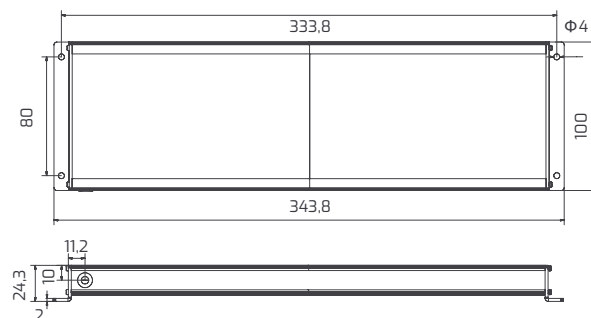
333,8
Φ4
80
100
343,8
11,2
24,3
10
2

ENVIRONMENT

Parameter	Value
Operating temperature	0 - 40°C
Storage temperature	0 - 60°C
IP protection	IP 40
Labels	RoHS-CE-WEEE

TECHNICAL SPECIFICATIONS

MECHANICS

Parameter	Value
Dimensions of the light with handles	345 x 100 x24 mm
Weight (with cable)	360 g (390 g)
Body materials	Black anodized aluminium
Fixing	4 holes Ø 4 mm
Cable length	880 mm

ELECTRONICS

Parameter	Value
Functioning mode	Continuous or strobe
Wiring	Plug; M12; PIN: 4; male connector; A code, cable 880 mm
Power connector manufacturer	Amphenol
Power connector P/N	M12A-04BMMM-SL8D01
Power supply	Requires an external power supply

OPTICS

Parameter	Value
Number of LEDs	16 x 64
LED spacing on the module – pitch (horizontal)	5 mm
Size of the active light field	80 x 320 mm
Diffuser	YES

LED Color	LED Manufacturer	LED P/N	LED Wavelenght	Luminous Flux for 1 LED
White	CREE	CREE PLCC4 SMD LED WHITE CLA1B-WKW-XD0F0E23	Color temperature 5700 K	3177 mcd
Red	Wurth Elektronik	LED RED 150141RS73100 SMD-3528 (1411), water clear	625 nm	300 mcd
Green	Wurth Elektronik	LED GREEN 150141GS73100 SMD-3528 (1411), water clear	525 nm	1000 mcd
Blue	Wurth Elektronik	LED BLUE 150141BS73100 SMD-3528 (1411), water clear	470 nm	270 mcd
Infrared	Wurth Elektronik	LED InfraRED 15414194BA210 SMD-3528 (1411), water clear	940 nm	Radiant intensity 8 mW/sr

FRONT / BACK LIGHTS 180X50 MM

SOLID BODY
BLACK ANODIZED ALUMINIUM

M12 CONNECTOR

This series of lamps can be used as a front or backlight. For front lighting, the best diffuser would be an acrylic clear glass cover or satin with 70% transparency. Thanks to its thin borders, this light perfectly fits confined spaces. As a backlight settled under the objects to be controlled, it highlights the objects' global shape, which enables the verification of possible material lacks and outlines defects.

- Available in different colors: red, green, blue
- High quality electronic components from the best manufacturers
- Continuous or strobe modes
- Various types of diffusers

ORDER INFORMATION

Color information		
Replace „X" in order number by one character*	Color	Wavelenght (nm)
R	Red	625
G	Green	470
B	Blue	525

Diffuser information		
Replace „Y" in order number by one character*	Type	Transparency (%)
30	Satin	30
70	Satin	70
100	Transparent	99

Order number of light: VIS1M32x9R5-X-Y

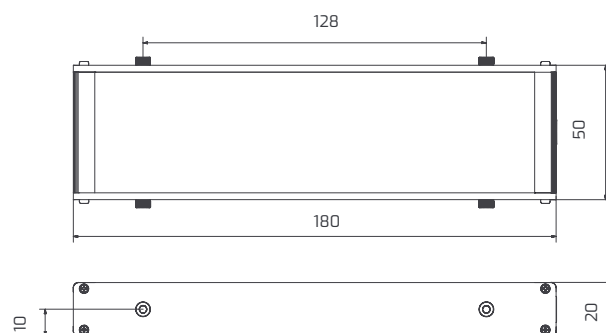*Example for red light with satin diffuser of 70% transparency: **VIS1M32x9R5-R-70**

CONNECTOR PINOUT
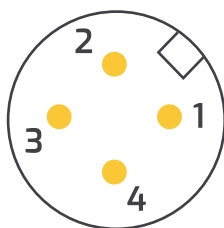
PIN	Meaning
1	V+
2	V-
3	NC
4	NC

LED Color	Voltage (V)	Nominal current – continous mode/ Maximum current – strobe mode (A)	Nominal Power / Maximum Power (W)
Red	6,0	1,5/2,9	9,0/17,4
Green	8,5	1,5/2,9	12,8/24,6
Blue	9,0	1,5/2,9	13,5/26,1

DIMENSIONS AND FIXING

128
50
180
10
20

ENVIRONMENT

Parameter	Value
Operating temperature	0 - 40°C
Storage temperature	0 - 60°C
IP protection	IP 40
Labels	RoHS-CE-WEEE

TECHNICAL SPECIFICATIONS

MECHANICS

Parameter	Value
Dimensions of the light	180 x 50 x 20 mm
Weight (with cable)	135 g (165 g)
Body materials	Black anodized aluminium
Fixing	4 holes for M3 screws (included)
Cable length	880 mm

ELECTRONICS

Parameter	Value
Functioning mode	Continuous or strobe
Wiring	Plug; M12; PIN: 4; male connector; A code, cable 880 mm
Power connector manufacturer	Amphenol
Power connector P/N	M12A-04BMMM-SL8D01
Power supply	Requires an external power supply

OPTICS

Parameter	Value
Number of LEDs	32 x 9
LED spacing on the module – pitch (horizontal)	5 mm
Size of the active light field	160 x 45 mm
Diffuser	YES

LED Color	LED Manufacturer	LED P/N	LED Wavelenght	Luminous Flux for 1 LED
Red	Wurth Elektronik	LED RED 150141RS73100 SMD-3528 (1411), water clear	625 nm	300 mcd
Green	Wurth Elektronik	LED GREEN 150141GS73100 SMD-3528 (1411), water clear	525 nm	1000 mcd
Blue	Wurth Elektronik	LED BLUE 150141BS73100 SMD-3528 (1411), water clear	470 nm	270 mcd

FRONT / BACK LIGHTS 180X95 MM

SOLID BODY
BLACK ANODIZED ALUMINIUM

M12 CONNECTOR

This series of lamps can be used as a front or backlight. For front lighting, the best diffuser would be an acrylic clear glass cover or satin with 70% transparency. Thanks to its thin borders, this light perfectly fits confined spaces. As a backlight settled under the objects to be controlled, it highlights the objects' global shape, which enables the verification of possible material lacks and outlines defects.

- Available in different colors: red, green, blue
- High quality electronic components from the best manufacturers
- Continuous or strobe modes
- Various types of diffusers

ORDER INFORMATION

Color information		
Replace „X" in order number by one character*	Color	Wavelenght (nm)
R	Red	625
G	Green	525
B	Blue	470

Diffuser information		
Replace „Y" in order number by one character*	Type	Transparency (%)
30	Satin	30
100	Transparent	99
70	Satin	70

Order number of light: **VIS2M32x9-R5-X-Y**

*Example for red light with satin diffuser of 70% transparency: **VIS2M32x9R5-R-70**

CONNECTOR PINOUT
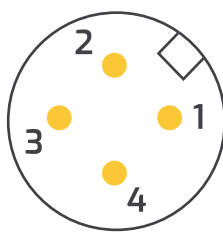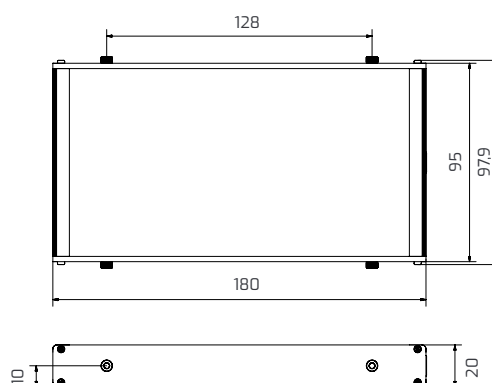
PIN	Meaning
1	V+
2	V-
3	NC
4	NC

DIMENSIONS AND FIXING

128
95
97,9
180
10
20

LED Color	Voltage (V)	Nominal current – continous mode/ Maximum current – strobe mode (A)	Nominal Power / Maximum Power (W)
Red	6,0	3,0/5,8	18,0/34,8
Green	8,5	3,0/5,8	25,5/49,3
Blue	9,0	3,0/5,8	27,0/52,2

ENVIRONMENT

Parameter	Value
Operating temperature	0 - 40°C
Storage temperature	0 - 60°C
IP protection	IP 40
Labels	RoHS-CE-WEEE

TECHNICAL SPECIFICATIONS

MECHANICS

Parameter	Value
Dimensions of the light	180 x 95 x 20 mm
Weight (with cable)	200 g (230 g)
Body materials	Black anodized aluminium
Fixing	4 holes for M3 screws (included)
Cable length	880 mm

ELECTRONICS

Parameter	Value
Functioning mode	Continuous or strobe
Wiring	Plug; M12; PIN: 4; male connector; A code, cable 880 mm
Power connector manufacturer	Amphenol
Power connector P/N	M12A-04BMMM-SL8D01
Power supply	Requires an external power supply

OPTICS

Parameter	Value
Number of LEDs	36 x 2
LED spacing on the module – pitch (horizontal)	5 mm
Size of the active light field (inner/outer Ø)	45 / 75 mm
Diffuser	YES

LED Color	LED Manufacturer	LED P/N	LED Wavelenght	Luminous Flux for 1 LED
Red	Wurth Elektronik	LED RED 150141RS73100 SMD-3528 (1411), water clear	625 nm	300 mcd
Green	Wurth Elektronik	LED GREEN 150141GS73100 SMD-3528 (1411), water clear	525 nm	1000 mcd
Blue	Wurth Elektronik	LED BLUE 150141BS73100 SMD-3528 (1411), water clear	470 nm	270 mcd

RING LIGHTS
45X75 MM

SOLID BODY
BLACK ANODIZED ALUMINIUM

M12 CONNECTOR

Essential when direct lens attachment is required, ring lights provide uniform and shadow-free illumination. This directive lighting is adapted to most cameras with an outer diameter of 45 mm lens. The Ring Light reveals all its potential in the field of robotics and machine vision. This Ring Light also perfectly goes along with a camera dedicated to quality control tasks e.g. code reading, presence/absence checking, surface control and more.

- ■ Available in different colors: white, red, green and blue
- ■ High quality electronic components from the best manufacturers
- ■ Continuous or strobe modes
- ■ Various types of diffusers

ORDER INFORMATION

Color information		
Replace „X" in order number by one character*	Color	Wavelenght (nm)
W	White	Color temperature 5700 K
R	Red	625
G	Green	525
B	Blue	470

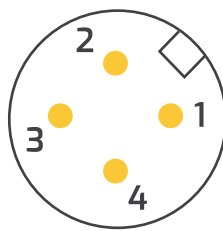| Diffuser information		
Replace „Y" in order number by one character*	Type	Transparency (%)
70	Satin	70
30	Satin	30
100	Transparent	99

Order number of light: **VIS45/75-M36x2-X-Y**

*Example for red light with satin diffuser of 70% transparency: **VIS45/75-M36x2-R-70**

CONNECTOR PINOUT

PIN	Meaning
1	V+
2	V-
3	NC
4	NC

DIMENSIONS AND FIXING

78,4

Φ40,6

84,1

12

8,5

18

LED Color	Voltage (V)	Nominal current – continous mode/ Maximum current – strobe mode (A)	Nominal Power / Maximum Power (W)
White	7,5	1,2/2.5	9,0/27,0
Red	4,0	0,4/1,0	1,6/4,0
Green	5,6	0,4/1,0	2,2/5,6
Blue	6,0	0,4/1,0	2,4/6,0
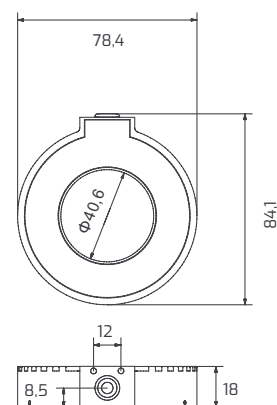
ENVIRONMENT

Parameter	Value
Operating temperature	0 - 40°C
Storage temperature	0 - 60°C
IP protection	IP 40
Labels	RoHS-CE-WEEE

TECHNICAL SPECIFICATIONS

MECHANICS

Parameter	Value
Dimensions of the light with handles	84 x 79 mm
Weight (with cable)	80 g (125 g)
Body materials	Black anodized aluminium
Fixing	2 holes for M3 screws (included)
Cable length	880 mm

ELECTRONICS

Parameter	Value
Functioning mode	Continuous or strobe
Wiring	Plug; M12; PIN: 4; male connector; A code, cable 880 mm
Power connector manufacturer	Amphenol
Power connector P/N	M12A-04BMMM-SL8D01
Power supply	Requires an external power supply

OPTICS

Parameter	Value
Number of LEDs	36 x 2
LED spacing on the module – pitch (horizontal)	5 mm
Size of the active light field (inner/outer Ø)	45 / 75 mm
Diffuser	YES

LED Color	LED Manufacturer	LED P/N	LED Wavelenght	Luminous Flux for 1 LED
White	CREE	CREE PLCC4 SMD LED WHITE CLA1B-WKW-XD0F0E23	Color temperature 5700 K	3177 mcd
Red	Wurth Elektronik	LED RED 150141RS73100 SMD-3528 (1411), water clear	625 nm	300 mcd
Green	Wurth Elektronik	LED GREEN 150141GS73100 SMD-3528 (1411), water clear	525 nm	1000 mcd
Blue	Wurth Elektronik	LED BLUE 150141BS73100 SMD-3528 (1411), water clear	470 nm	270 mcd

Warranty

The warranty period of one year applies to all LED lamps and controllers under the following operating conditions:

Operating temperature: 0 °C to +40 °C

Storage temperature: 0 °C to +60 °C

Relative humidity: max. 80%, non-condensing

Definition of a defect LED light: An LED light is defect if the brightness drops to 50% of the original brightness.

Warranty limitation: Operation without the Ai.Rob controller voids the warranty!

Features and presentations liable to modifications without prior notice.

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