

Metal Switch Medium Stroke, Switching Voltage up to 250 VAC



Single-color



RGB



RGB

See below:

#### **Approvals and Compliances**

#### **Description**

- Momentary action switch available in version: Standard (ST), with Lettering (LE), with Point Illumination (PI) and with Ring Illumination (RI)
- Single color or RGB illumination
- Choice from 7 colors for RGB variants
- Assembly method: clip micro-switch into the saddle, secure switch using mounting nut
- Equipped with flat-pin plugs to permit fast connection

#### **Unique Selling Proposition**

- Attractive tactile feedback
- High quality materials
- Long life span
- Single color or homogeneous RGB illumination

#### **Characteristics**

- Housing and actuator material: high-quality stainless steel
- Variety of design options regarding size, colour, illumination, connection or lettering
- Switching voltage from 30 VDC to 250 VAC, switching current from 0.1 A to 10 A
- IP-Protection: IP67 from front side to contact area, Micro-Switch is available in versions IP40 or IP67
- For use in harsh environments (see technical data)

#### **References**

Alternative: Push button with impulse function: [PSE IV 30](#)

Alternative: Other diameter [MSM 16](#); [MSM 19](#); [MSM 22](#); [MSM 24](#)

Alternative: switch with ring illumination: [PSE IV 30](#)

#### **Weblinks**

[pdf data sheet](#), [html datasheet](#), General Product Information, CAD-Drawings, [Product News](#), [Detailed request for product](#)

**Technical Data****Electrical Data**

Switching Function	momentary
Number of Poles	SPDT
Supply Voltage	24 VDC Ring Illumination, Point Illumination without series resistor, LED operating data are listed in separate table
	5 VDC and 12 VDC RI variants (except for RGB) on request (MOQ 500 pieces)
Impulse Withstand Voltage (ESD)	2 kV with Ring Illumination 4 kV without Illumination

**Micro Switch 5 A / 125 VAC or 3 A / 250 VAC, IP40**

Contact Material	Ag
Switching Voltage	max. 125/250 VAC
Switching Current	max. 5 / 3 A
Rated Switching Capacity	750 W
Lifetime	0.2 million actuations at Rated Switching Capacity
Contact Resistance	< 30 mΩ
Insulation Resistance	> 100 MΩ
Duration of Bounce	< 5 ms

**Micro Switch 0,1 A / 30 VDC, IP40**

Contact Material	Au
Switching Voltage	max. 30 VDC
Switching Current	max. 0.1 A
Rated Switching Capacity	3 W
Lifetime	0.2 million actuations at Rated Switching Capacity
Contact Resistance	< 50 mΩ
Insulation Resistance	> 100 MΩ
Duration of Bounce	< 5 ms

**Micro Switch for Electrical Rating 10 A / 250 VAC (Protection Class IP40)**

Contact Material	Ag
Switching Voltage	max. 250 VAC
Switching Current	max. 10 A
Rated Switching Capacity	2500 W
Lifetime	0.05 million actuations at Rated Switching Capacity
Contact Resistance	< 30 mΩ
Insulation Resistance	> 100 MΩ
Duration of Bounce	< 5 ms

**Micro Switch 6 A / 250 VAC, IP67**

Switching Voltage	max. 250 VAC
Switching Current	max. 5
Rated Switching Capacity	1250 W
Lifetime	0.05 million actuations at Rated Switching Capacity

**Micro Switch 0,1 A / 250 VAC, IP67 - on request**

Switching Voltage	max. 250 VAC
Switching Current	max. 0.1
Rated Switching Capacity	25 W
Lifetime	0.05 million actuations at Rated Switching Capacity

**Micro Switch 10 A / 250 VAC, IP67 - on request**

Switching Voltage	max. 250 VAC
Switching Current	max. 10 A
Rated Switching Capacity	2500 W
Lifetime	0.01 million actuations at Rated Switching Capacity

**Mechanical Data**

Actuating Force	4.5 N
Actuating Travel	1.2 mm
Lifetime	1.5 million actuations
Shock Protection	IK07
Mounting screw torque Plastic Nut	max. 8 Nm
Mounting screw torque Stainless Steel Nut	max. 50 Nm

**Climatical Data**

Operating Temperature	-25 to 85 °C
Storage Temperature	-25 to 85 °C
Protection Class	IP67
Switching Unit	IP40
	IP67 optional
Salt Spray Test (acc. to DIN 50021-SS)	24 h / 48 h / 96 h Residence Time

**Material**

Housing	Stainless Steel
Actuator	Stainless Steel
Light Conductor (Point Illumination)	PC
Illuminated Ring (Ring Illumination)	PA for dotted single color variants
	PMMA for RGB and homogeneous single color variants
Seal Ring	NBR70
Switcher Collet	PA
Plastic Nut	PA, UL94

**Approvals and Compliances**

Detailed information on product approvals, code requirements, usage instructions and detailed test conditions can be looked up in [Details about Approvals](#)

SCHURTER products are designed for use in industrial environments. They have approvals from independent testing bodies according to national and international standards. Products with specific characteristics and requirements such as required in the automotive sector according to IATF 16949, medical technology according to ISO 13485 or in the aerospace industry can be offered exclusively with customer-specific, individual agreements by SCHURTER.

## Product standards

#### Product standards that are referenced

Organization	Design	Standard	Description
<b>DIN</b>	Designed according to	DIN EN 61058-1	Switches for appliances. Part 1. General requirements
	Designed according to	UL 1054	UL standard for safety special-use switches

## Application standards

Application standards where the product can be used

Organization	Design	Standard	Description
 IEC	Designed for applications acc.	IEC/UL 62368-1	Audio/video, information and communication technology equipment - Part 1: Safety requirements

## Compliances

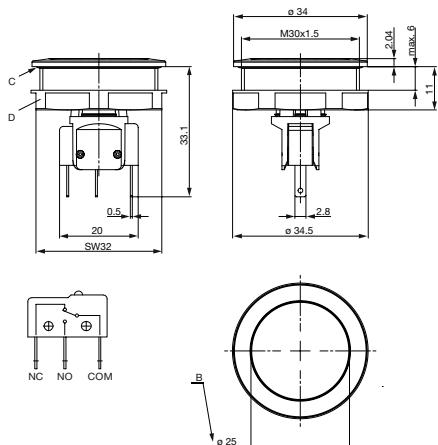
The product complies with following Guide Lines

Identification	Details	Initiator	Description
 <b>RoHS</b>	<a href="#">RoHS</a>	SCHURTER AG	Directive RoHS 2011/65/EU, Amendment (EU) 2015/863
 <b>REACH</b>	<a href="#">REACH</a>	SCHURTER AG	On 1 June 2007, Regulation (EC) No 1907/2006 on the Registration, Evaluation, Authorization and Restriction of Chemicals 1 (abbreviated as "REACH") entered into force.

## Dimension [mm]

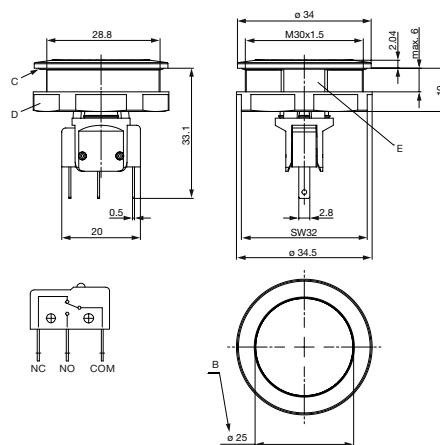
MSM 30 ST

MSM 30 LE

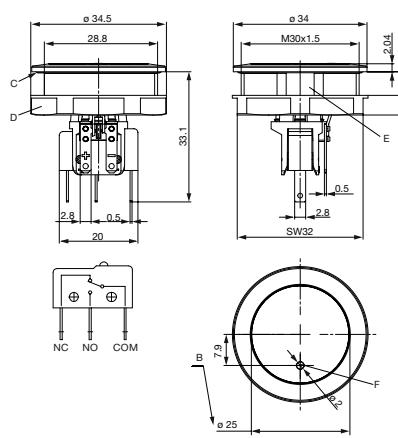


MSM 30 PI

### MSM 30 RI Single color



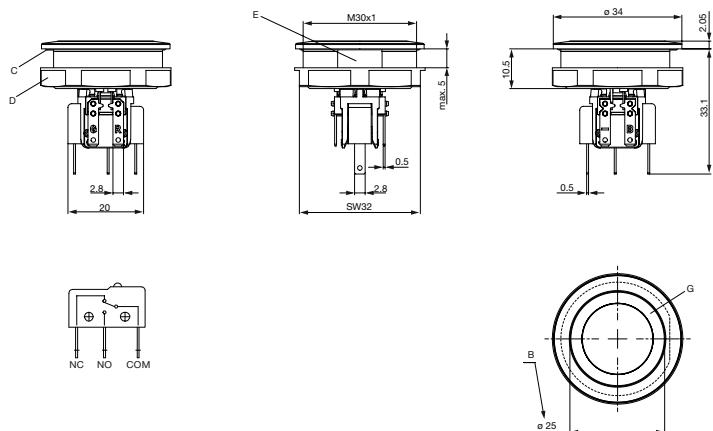
MSM 30 RI Single color



The technical drawing illustrates a solenoid assembly with the following dimensions and features:

- Top View:** Shows a rectangular base with a central vertical slot. The width of the base is 34.5 mm, and the height is 33.1 mm. The slot width is 28.8 mm. The assembly is labeled with points C and D.
- Bottom View:** Shows the internal structure of the solenoid. The distance between the two mounting holes is 20 mm. The distance between the top of the mounting holes and the top of the solenoid body is 2.8 mm. The distance between the bottom of the mounting holes and the bottom of the solenoid body is 0.5 mm.
- Side View:** Shows the solenoid body with a height of 34 mm. The stroke length is 2.04 mm. The maximum stroke length is indicated as 2.04 mm. The solenoid body is labeled with point E.
- Connection Diagram:** Shows the electrical connections with symbols for Normally Closed (NC), Normally Open (NO), and Common (COM).
- Bottom View:** Shows the base with a diameter of 25 mm. The base is labeled with point B.
- Top View:** Shows the top of the solenoid body with a diameter of 34 mm. The top is labeled with point G.

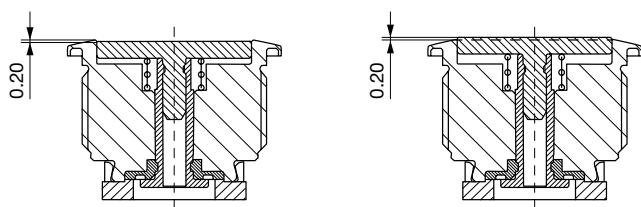
## MSM 30 RI RGB

**Legend**

- B = Actuating Area
- C = Sealing
- D = Nut
- E = Anti-rotation protection
- F = Point illumination
- G = Illumination ring

**Tolerance Range**

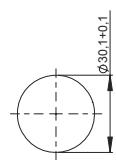
## Actuator Tolerance Range



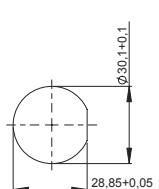
The mounting tolerance range of the actuator varies from 0.2 mm projection length and 0.2 mm short length to the housing edge. The slanting position of the actuator can range within this tolerance.

**Dimension**

MSM 30 ST / MSM 30 RI

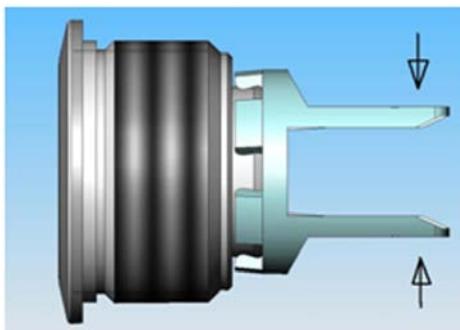
MSM 30 LE / MSM 30 PI / MSM 30  
RI optional

Drilling diagram

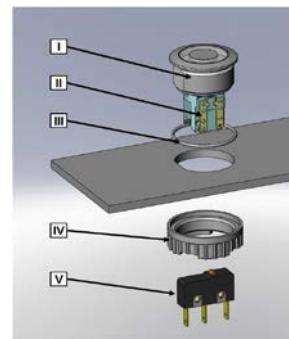


Drilling diagram

### Assembly Instructions



During assembly, the protruding bars of the holder should not be pressed together.



I Housing

II Flat Pin Terminal (Illumination)

III Gasket

IV Nut (Nut type see Dimensions)

V Module Switching Contact

#### Installation Instruction:

- 1.) Place the gasket accurately on the actuator housing. Then mount the actuator housing assembly into the panel.
- 2.) Tighten the screw nut according to the torque instructions.
- 3.) Clasp the module switching contact into the micro switch holder of the actuator housing.

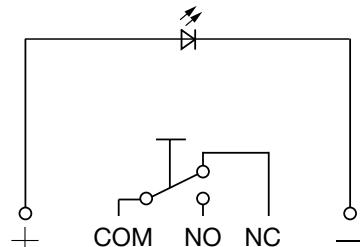
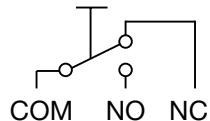
#### Installation information:

- 1.) The power supply and the configuration of the flat pin terminals have to be installed correctly for the illumination and micro switch function.
- 2.) Insulate the terminals as required. Fully insulated plug-in sleeves are recommended.
- 3.) Installation instructions according to VDE-standard DIN VDE 0100-100 or alternatively IEC 60354 standard.

## Diagrams

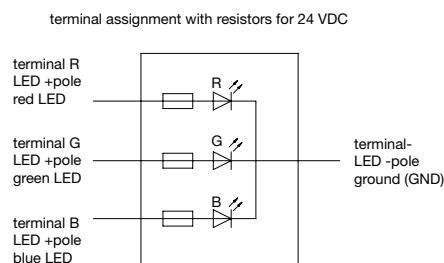
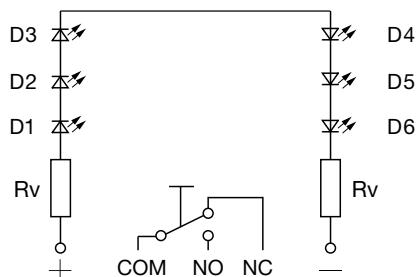
MSM ST / MSM LE

MSM PI



MSM RI / 24 V Single color

MSM RI / 24 V RGB



Lighting type	Active terminal R) ●	Active terminal G) ●	Active terminal B) ●	Resulting Color
Singlecolor	x			Red ●
Singlecolor		x		Green ●
Singlecolor			x	Blue ●
RGB Additive 2	x	x		Yellow ●
RGB Additive 2	x		x	Magenta ●
RGB Additive 2		x	x	Cyan ●
RGB Additive 3	x	x	x	White ○

Illumination options for RGB

## Point Illumination

Operating Data	Forward Current max.	Forward Voltage at 10 mA	Forward Voltage max.
LED red	30 mA	1.9 VDC	3.0 VDC
LED green	30 mA	2.4 VDC	3.0 VDC
LED yellow	30 mA	2.4 VDC	3.0 VDC
LED blue	20 mA	3.8 VDC	4.5 VDC
LED red/green	25 mA	2.0 VDC	2.5 VDC

Attention: Switches are delivered without series resistor.

## Marking

The last three digits in the order number define the lettering:

000 No Lettering

001-074 Standard Lettering

101- Customized Lettering

### Lettering Colour of Laser Lettering

Material	Lettering Colour
Stainless Steel	black Filled letters

### Order Index Lettering

Laser Marking			
001 = <b>A</b>	021 = <b>U</b>	041 = <b>÷</b>	061 = <b>EIN</b>
002 = <b>B</b>	022 = <b>V</b>	042 = <b>*</b>	062 = <b>AUS</b>
003 = <b>C</b>	023 = <b>W</b>	043 = <b>=</b>	063 = <b>AUF</b>
004 = <b>D</b>	024 = <b>X</b>	044 = <b>#</b>	064 = <b>AB</b>
005 = <b>E</b>	025 = <b>Y</b>	045 = <b>↔</b>	065 = <b>ON</b>
006 = <b>F</b>	026 = <b>Z</b>	046 = <b>↑</b>	066 = <b>OFF</b>
007 = <b>G</b>	027 = <b>0</b>	047 = <b>→</b>	067 = <b>UP</b>
008 = <b>H</b>	028 = <b>1</b>	048 = <b>←</b>	068 = <b>DOWN</b>
009 = <b>I</b>	029 = <b>2</b>	049 = <b>↓</b>	069 = <b>HIGH</b>
010 = <b>J</b>	030 = <b>3</b>	050 = <b>↑</b>	070 = <b>LOW</b>
011 = <b>K</b>	031 = <b>4</b>	051 = <b>%</b>	071 = <b>ON/OFF</b>
012 = <b>L</b>	032 = <b>5</b>	052 = <b>√</b>	072 = <b>START</b>
013 = <b>M</b>	033 = <b>6</b>	053 = <b>CTRL</b>	073 = <b>RESET</b>
014 = <b>N</b>	034 = <b>7</b>	054 = <b>RETURN</b>	074 = 
015 = <b>O</b>	035 = <b>8</b>	055 = <b>SHIFT</b>	075 = 
016 = <b>P</b>	036 = <b>9</b>	056 = <b>LOCK</b>	076 = 
017 = <b>Q</b>	037 = <b>+</b>	057 = <b>STOP</b>	077 = 
018 = <b>R</b>	038 = <b>-</b>	058 = <b>ENTER</b>	
019 = <b>S</b>	039 = <b>.</b>	059 = <b>BACK</b>	
020 = <b>T</b>	040 = <b>x</b>	060 = <b>LINE</b>	

Please note that the font size depends on the number of characters

### All Variants

IP Switching Unit	Switching Current	Switching Voltage	Illumination, LED	Housing Material, Torsion Protection	Actuator Material, Torsion Protection	Config. Code	Order Number
<b>[A]</b>		<b>[VAC/ VDC]</b>					
IP40	100 mA	30 VDC	Point Illumination, blue	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 Pl blue	1241.6663.1114000
IP40	5 / 3 A	125/250 VAC	Point Illumination, blue	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 Pl blue	1241.6663.1124000
IP40	5 / 3 A	125/250 VAC	Point Illumination, white	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 Pl white	1241.6663.1125000
IP40	100 mA	30 VDC	Point Illumination, red	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 Pl red	1241.6663.1111000
IP40	5 / 3 A	125/250 VAC	Point Illumination, red	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 Pl red	1241.6663.1121000
IP40	5 / 3 A	125/250 VAC	Point Illumination, red	Alu red ,yes	Alu red ,yes	MSM 30 Pl red	1241.6663.3121
IP40	5 / 3 A	125/250 VAC	Point Illumination, green	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 Pl green	1241.6663.1122000
IP40	10 A	250 VAC	Point Illumination, green	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 Pl green	1241.6663.1132000
IP40	100 mA	30 VDC	non-illuminated	Stainless Steel ,no	Stainless Steel ,no	MSM 30 Pcs	1241.6661.1110000
IP40	5 / 3 A	125/250 VAC	non-illuminated	Stainless Steel ,no	Stainless Steel ,no	MSM 30 Pcs	1241.6661.1120000
IP40	10 A	250 VAC	non-illuminated	Stainless Steel ,no	Stainless Steel ,no	MSM 30 Pcs	1241.6661.1130000
IP67	100 mA	30 VDC	non-illuminated	Stainless Steel ,no	Stainless Steel ,no	MSM 30 Pcs	1241.6661.1170000
IP40	100 mA	30 VDC	RI dotted, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI blue	1241.6664.1114000
IP40	5 / 3 A	125/250 VAC	RI dotted, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI blue	1241.6664.1124000
IP40	10 A	250 VAC	RI dotted, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI blue	1241.6664.1134000
IP40	100 mA	30 VDC	RI homogeneous, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI blue	3-108-977
IP40	5 / 3 A	125/250 VAC	RI homogeneous, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI blue	3-108-978
IP40	10 A	250 VAC	RI homogeneous, blue, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI blue	3-108-979
IP40	5 / 3 A	125/250 VAC	RI dotted, white, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI white	1241.6664.1125000

IP Switching Unit	Switching Current	Switching Voltage	Illumination, LED	Housing Material, Torsion Protection	Actuator Material, Torsion Protection	Config. Code	Order Number
	[A]	[VAC/ VDC]					
IP40	100 mA	30 VDC	RI dotted, red, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI red	1241.6664.1111000
IP40	5 / 3 A	125/250 VAC	RI dotted, red, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI red	1241.6664.1121000
IP40	100 mA	30 VDC	RI homogeneous, red, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI red	3-108-964
IP40	5 / 3 A	125/250 VAC	RI homogeneous, red, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI red	3-108-965
IP40	10 A	250 VAC	RI homogeneous, red, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI red	3-108-966
IP40	100 mA	30 VDC	RI dotted, green, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI green	1241.6664.1112000
IP40	5 / 3 A	125/250 VAC	RI dotted, green, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI green	1241.6664.1122000
IP40	10 A	250 VAC	RI dotted, green, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI green	1241.6664.1132000
IP40	100 mA	30 VDC	RI homogeneous, green, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI green	3-108-967
IP40	5 / 3 A	125/250 VAC	RI homogeneous, green, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI green	3-108-968
IP40	10 A	250 VAC	RI homogeneous, green, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI green	3-108-969
IP40	100 mA	30 VDC	RI dotted, yellow, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI yellow	1241.6664.1113000
IP40	5 / 3 A	125/250 VAC	RI dotted, yellow, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI yellow	1241.6664.1123000
IP40	100 mA	30 VDC	RI homogeneous, RGB, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI RGB	3-102-785
IP40	10 A	250 VAC	RI homogeneous, RGB, 24 VDC	Stainless Steel ,yes	Stainless Steel ,yes	MSM 30 RI RGB	3-102-787

IP-Protection: IP67 from front side to contact area, Micro-Switch is available in versions IP40 or IP67, see Technical Data Micro-Switch

Variants with 6 A micro switch have IP67

The MOQ for standard laser lettering on standard variants is a packing unit.

5 VDC and 12 VDC RI variants (except for RGB) on request (MOQ 500 pieces)

Customer-specific versions available on request.

Special materials for use in salt and chlorinated environment on request.

The nut with gasket and micro switch are enclosed in the box.

■ Most Popular.

Availability for all products can be searched real-time: <https://www.schurter.com/en/Stock-Check/Stock-Check-SCHURTER>

5 VDC and 12 VDC RI variants (except for RGB) on request (MOQ 500 pieces)

#### Packaging unit

10 in box with insert or packed in air cushion bags



## Accessories

### Description



#### Power Supply

Power Supply IP42 for LED- and Illumination applications indoor 90~264 VAC => 24 VDC 0.34 A 8 W