

Connection Boxes for Lighting Applications

Concept

Connection boxes are intended to be used inside lighting poles and outdoor as a connection between earth cables and the lighting equipment and therefore have to have a high degree of reliability.

Additional attributes of ingress protection (IP) and insulation protection (class II) provide important operation and maintenance safety features.

Connection boxes can be split into 3 functional areas:

1. Earth cable break-out and connection area
2. Fuse area or DIN-rails
3. Lamp cable connection area

With respect to the size and sturdiness of the earth cable cores, all terminals allow radial assembly. They are designed either as mantle terminals or as sliding terminals.

The fuse area allows to place 1 to 3 fuses for protection of luminaire components and selective protection without influencing other parts of the lighting system. As alternative to fuses, boxes with DIN-rails allow the installation of additional components like timers, MCBs or other electronic devices.

The lamp cable area consists of the terminals, either pillar or lug type, and the cable sealing, rubber grommet or compression glands.

Technology

The closures are made from impact resistant, flame retardant thermoplastic materials. All metal parts are either stainless steel or galvanised copper alloys. Fuse sockets are either from ceramics or integrated in high strength glasfiber reinforced thermoplastics. Depending on the type, the connection boxes have a ingress protection degree of IP 43 to IP 54. Types rated IP 54 are also suitable to be mounted on walls outside. All connection boxes fulfill protection class II.

The connection boxes fit easily in lighting columns with door openings acc. to EN 40-2 (lighting columns – dimensions and tolerances) and with brackets acc. to DIN 49778 (lighting columns; brackets with sliding nuts for mounting of devices). For different designed mounting means, hooks are available as accessories.

Tests

The connection boxes are designed and manufactured in accordance with applicable IEC- and DIN-VDE-standards as:

- IEC-60439 (Low-voltage switchgear and controlgear assemblies – Part 1: Type tested assemblies),
- VDE 0660-505 (Switchgear and control gear; Low-voltage switchgear and controlgear assemblies; Specification for house fuseboxes and connection boxes),
- DIN 43628 (Fuseboxes for cable protection fuses).

Test certificates are available upon request.

Selection overview

Product Name	Selection Criteria	Application Range of Cables (cross section mm ²)			Fuse Carrier	Terminals	Ingress Protection	Dimens. of Pole (mm)	
		one	two	three				Door	Inside Diameter
EKM 2045	very small poles and cables / outdoor	5x1,5-4	5x1,5-4	–	1xE14 pre-wired, with fuse	box terminal	IP 55	58x150	59
EKM 2020	small poles and cables	5x2,5-16	5x2,5-16	5x2,5-10	2xE14 pre-wired, with fuse caps	mantle terminals	IP 44	70x240	84
EKM 2050	medium poles and cables / outdoor / 2 and 3 x E14	5x2,5-25	5x2,5-25	5x2,5-16	2/3xE14 pre-wired, with caps / DIN-rail	sliding-terminals	IP 54	85x270	90
EKM 2051	medium poles and cables / outdoor / special applications	5x2,5-25	5x2,5-25	5x2,5-16	2/3/4xE14 / DIN-rails	sliding-terminals	IP 54	85x350	100
EKM 1271	medium poles / small cables / 1xE27	4/5x6-16	4/5x6-16	–	1xE27	mantle terminals	IP 43	80x210	90
EKM 1272	medium poles and cables / 2xE27	4x6-25	4x6-25	–	2xE27	mantle terminals	IP 43	80x260	90
EKM 1261	outdoor / small cables	4x6-16	4x6-16 5x10	– 5x10	1/2xE27 / DIN-rail	mantle terminals	IP 54	80x250	100
EKM 2072	medium poles / large cables	5x4-16, 5x25-35	5x4-16, 5x16-35	–	1/2xE27	mantle terminals	IP 43	80x280	90
EKM 1281	outdoor / large cables	5x25 4x35 5x25	5x16-25, 4x16-35 5x16	– 5x16	1/2xE27 / DIN rail	mantle terminals	IP 54	100x300	120
EKM 2035	large poles and cables	4x4-50	4x4-50	4x4-35	1/2xE27 / DIN-rail	sliding-terminals	IP 43	90x300	110

A wide range of additional connection boxes for other cable dimensions, fuses or accessories is available on request.