



## **Fuse boxes**

Our expertise for the networks  
of today and tomorrow



**Our expertise for the networks of  
today and tomorrow**



[www.langmatz.de](http://www.langmatz.de)

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# Langmatz –

Our expertise for the networks of today and tomorrow

## The specialist for technical system solutions

Langmatz technical system solutions are considered the gold standard of modern infrastructure in telecommunications and energy networks. Langmatz customers include energy providers, local councils, public utilities, and telecommunication companies.

“Made in Germany” is our guiding principle. One of our greatest strengths is that we carry out all processes at our sites in Germany. From design and development supported by the latest 3D printing technology, prototype and mould making, to production and installation.

Our quality management system (QMS) forms the daily basis for meeting our challenging goals. As standards are often not enough for us, we have evolved extensive testing processes and integrated special testing methods into our quality processes. These include regular checks in our material and product testing laboratory, which is equipped with a special static load hydraulic press for manholes.

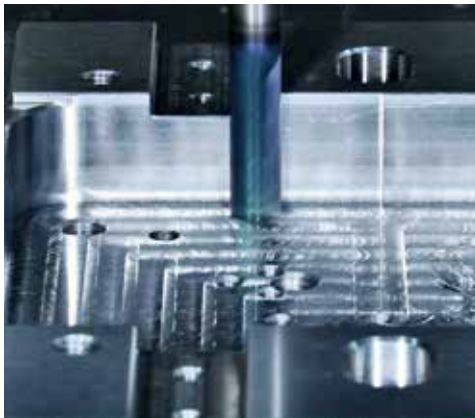
The core elements of our corporate strategy include qualified employees, national supply chains, and manufacturing in Germany with state-of-the-art production facilities.



▲ Metal processing



▲ Housing production



▲ Mould and tool making



▲ Product and materials testing laboratory

Ongoing digitalisation requires technologically mature systems for the networked city of today. We are one of the most innovative companies in Germany and, as such, we are the perfect partner to implement your projects.

## Your partner Langmatz – Individual system solutions from the German Alps

A fundamental structural transformation is taking place in towns, cities and rural areas. Digitalisation, climate protection, and the energy and mobility transition require new concepts for a functional urban infrastructure in which people enjoy living. This approach has given rise to the idea of the Smart City and the Smart Village – the vision of digitally networked environments. Langmatz has looked into

these requirements in detail and developed pioneering solutions for energy and data connectivity, as well as transport infrastructure. In doing so, we have placed great importance on ensuring that our systems boast a high level of security, can be integrated seamlessly into the townscape, and are particularly user-friendly.

**We offer a broad-based portfolio of high-quality products for the many different requirements of the cities and towns of today and tomorrow:**

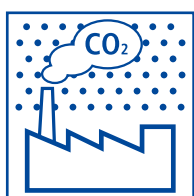
- ▲ Polycarbonate manholes
- ▲ Underground distribution systems
- ▲ Outdoor cabinets and outdoor pedestals
- ▲ Building cable & pipe entry systems
- ▲ Fuse boxes
- ▲ Signal requesting devices
- ▲ Radio ripple control receivers



# Your partner Langmatz – For pioneering solutions

## Smart City – What drives us

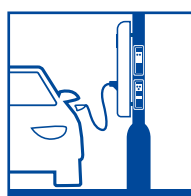
Cities, municipalities and utilities wish to improve the quality of life of citizens with new digital solutions. However, digital infrastructures and smart technologies require cabinets and housings that meet specific requirements. Together, we will find the right solution for your application.



Air quality monitoring



Data communication



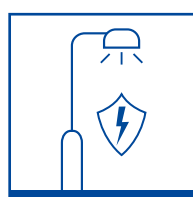
Charging infrastructure



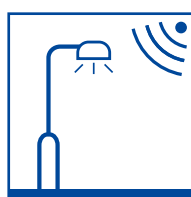
Public security



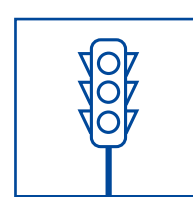
Intelligent parking



Lighting protection



Lighting control



Traffic control

## The housings – For standard and custom solutions

### ESIPHA housings make the difference

Discover the versatile ESIPHA portfolio. Our housings provide reliable protection for your power and data transmission components against moisture, dust, vandalism and other environmental influences.

High-quality materials and durable designs are at the heart of our products, which together with ingenious functions ensure extremely smooth system operation. The uncomplicated installation of our housings further simplifies the process and contributes to efficiency.

Rely on Langmatz housings for reliable protection and smooth system operation. Our solutions are designed for the highest quality and ease of use to meet your needs.

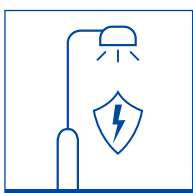


# Smart housing solutions – For your pole applications

Our housings are versatile and can be used flexibly in poles of various sizes. They reliably protect your power and data transmission components from moisture, dust, vandalism and other environmental influences. High-quality materials, durable designs and ingenious functions ensure cost-efficient operation of the installation, while easy assembly further simplifies the process.

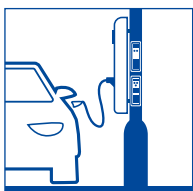
## Lighting protection

To optimise the longevity and reliability of the lighting systems in use, our housings provide effective protection for both conventional and LED lighting against potentially damaging influences such as over-current, overvoltage and residual current. This ensures a longer service life and reliable performance of your lighting systems.



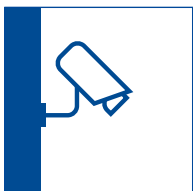
## Charging infrastructure

The ESIPHA product line enables the protection and precise measurement of charging station infrastructure. Thanks to unobtrusive integration in lamp posts, they ensure invisible security that can be installed effortlessly.



## Video surveillance on poles

The housings enable customised integration and protection for video surveillance technology, including secure accommodation of data connections, power supplies and converters.



## More solutions – For the smart city

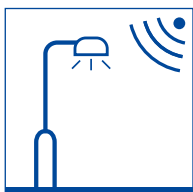
### Data communication on poles

In addition to pole video monitoring, the ESIPHA housings can also be used for seamless integration of operating equipment such as power supplies, optical distribution and termination boxes and LoRaWAN modules for optimised data communication.



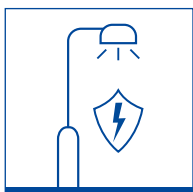
### Lighting control

The integration of various communication devices enables precise control of lighting. This includes technologies such as radio ripple control receivers, DALI and LoRaWAN.



### Supply and fuse protection for electrical operating equipment and consumers

ESIPHA housings ensure a safe power supply for various applications such as Christmas lights, marketplace sockets, power supply units and more. With the highest safety standards, we ensure continuous power supply to various consumers.



## ESIPHA EK480 –

### Product features of the standard and base units

The EK480 fuse box is specially designed for poles. We offer it in two models: ready-to-install as a standard variant or the base device for custom configuration. Both meet the requirements for high-quality electronics in lighting systems. Our patented design includes replaceable overvoltage protection elements. These protect against surge voltages and extend the life of the electronics.

Continuous development ensures that the EK480 fulfils the latest standards. In this way, we offer a reliable solution that combines functionality and safety.

### Product features of the standard and base units

#### ▲ Easy to install

- Spring clamp technology (plug-in technology; fast, tool-free & reliable installation of the cores to the light)
- For light connection – maintenance-free
- Optimum installation due to large terminal compartment

- Can be opened without tools – simple piercing of the sealing skin with the cable

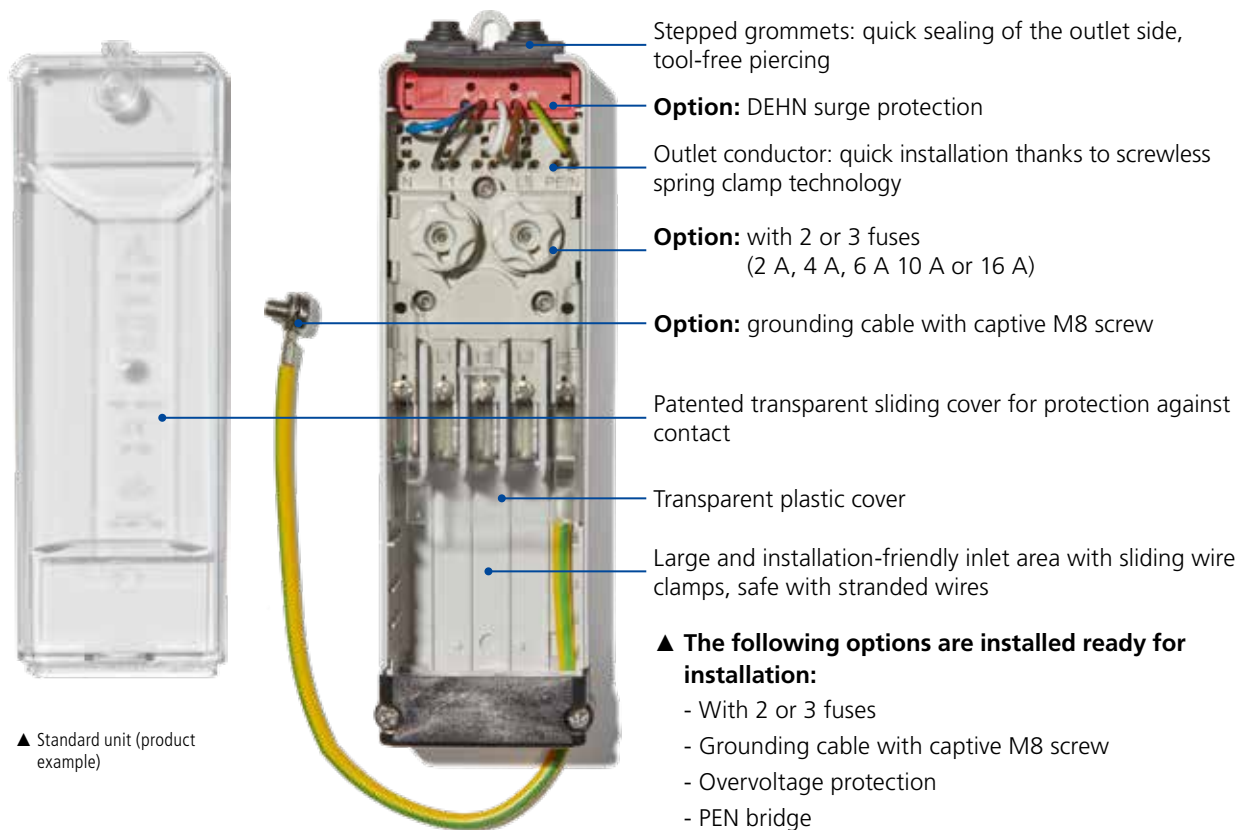
#### ▲ Stability and reliability

- Thanks to the sliding cover; captive, transparent protection against contact – for simplified wiring check
- Sturdy housing made of impact-resistant, solid-coloured polyamide

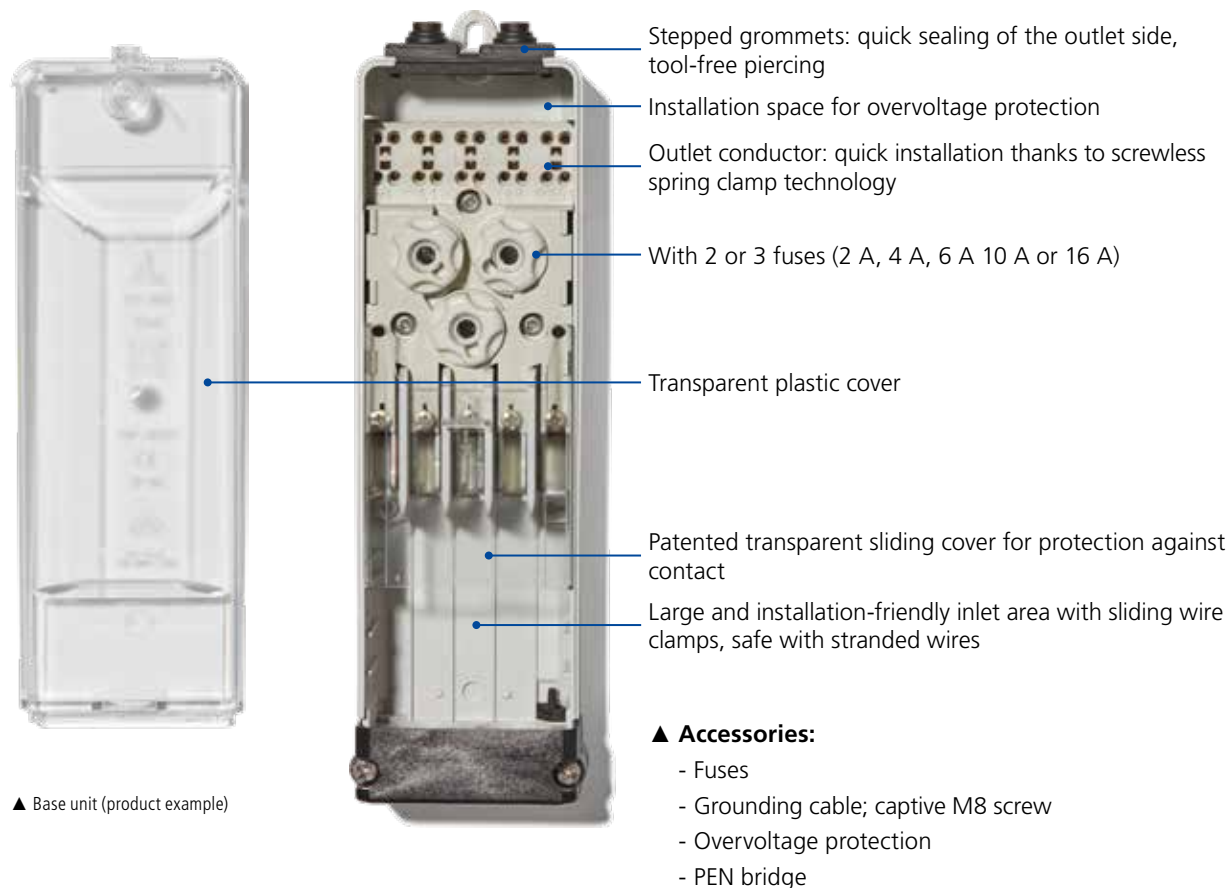
### General technical data

<b>Designation</b>	ESIPHA EK480 fuse box
<b>Dimensions</b>	Housing length: 277 mm, fastening length: 265 mm, housing width: 80 mm, installation depth: 66 mm
<b>Inner pole diameter from</b>	89 mm
<b>Cabinet material</b>	Polyamide
<b>Cabinet colour</b>	RAL 7035 light grey
<b>Design</b>	DIN 43628, VDE 0660 Part 505
<b>Protection rating</b>	IP 54 according to DIN VDE 0470
<b>Protection class</b>	II
<b>Cover</b>	Transparent or grey
<b>Clamping technology</b>	Sliding/spring clamp technology
<b>Cable connection</b>	1 – 3 cables (5 x 6 – 16 mm <sup>2</sup> ) TN-S or TN-C system
<b>Strain relief</b>	For 1 – 3 cables (diameter 16 – 24 mm)
<b>Outlet terminals</b>	1 – 2 cables / 5 x 1 – 2.5 mm <sup>2</sup>
<b>Fuses</b>	1 – 3 fuses D01 / E14 – max. 16 A / 400 V
<b>Network configurations</b>	TT / TNC / TNS

## Design of standard units – Supplied ready for installation



## Design of base units – Empty units, for custom configuration



## Cabinet functions in detail

Our engineers have developed persuasive solutions for functions. Thanks to many years of experience, our products are easy to install and flexible in use.



▲ Spring clamp technology



▲ Sliding wire clamps



▲ Sliding cover

## Inlet and outlet flexibility

With our various solutions, it is possible to feed 1 to 3 cables in and out, of course protected against dust and splash water.



▲ Standard strain relief for 1 – 3 cables; cross-section from 7.5 – 19 mm



▲ Stepped grommets



▲ Practical example – ESIPHA EK480

# ESIPHA EK480 –

## Overview of standard units

### Standard models with overvoltage protection

Units – No. of fuses	Description	Article number	Packaging unit
2 fuses (G2S)	For TNC network with overvoltage protection and 2x 6 A Neozed fuses, with screw caps and grounding cable with captive M8 screw	044802504	20
2 fuses (G2S)	For TNS network with overvoltage protection and 2x 6 A Neozed fuses, with screw caps and grounding cable with captive M8 screw	044802500	20
3 fuses (G3S)	For TNS network with overvoltage protection and 3x 6 A Neozed fuses, with screw caps and grounding cable with captive M8 screw	044803500	20

### Standard models without overvoltage protection (assembled)

Units – No. of fuses	Fuse	PEN bridge	Grounding wire	Article number	Packaging unit
2 fuses (G2S)	4 A	No	No	044802900/004	20
		No	Yes	044802900/014	20
		Yes	No	044802900/104	20
		Yes	Yes	044802900/114	20
	6 A	No	No	044802900/006	20
		Yes	No	044802900/106	20
		No	Yes	044802900/016	20
		Yes	Yes	044802900/116	20
3 fuses (G3S)	4 A	No	No	044803900/004	20
		No	Yes	044803900/014	20
		Yes	No	044803900/104	20
		Yes	Yes	044803900/114	20
	6 A	No	No	044803900/006	20
		No	Yes	044803940	20
		Yes	No	044803900/106	20
		Yes	Yes	044803900/116	20

# ESIPHA EK480 –

## Overview of base units

### Base units without overvoltage protection or fuses

Units – No. of fuses	Description	Article number	Packaging unit
2 fuses (G2S)	All network configurations, without overvoltage protection or fuses, with screw caps, no grounding cable	044802900	1
3 fuses (G3S)	All network configurations, without overvoltage protection or fuses, with screw caps, no grounding cable	044803900	1
3 fuses (G3S) with grey cover and cover screw	All network configurations, without overvoltage protection or fuses, with screw caps, no grounding cable, with grey cover and cover screw, cannot be combined with overvoltage protection	044803901	1

### Base units with overvoltage protection and fuses

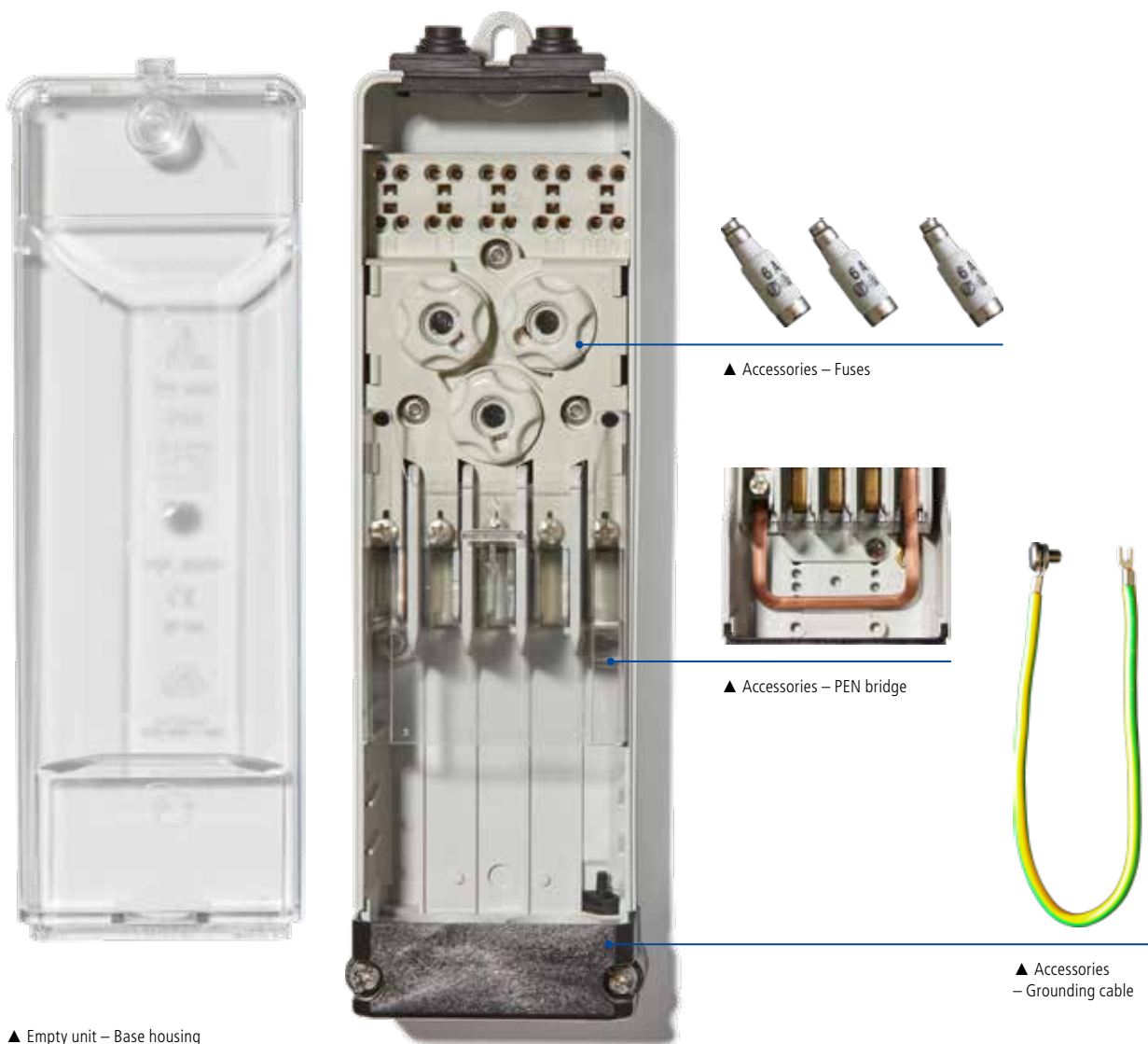
Units – No. of fuses	Description	Article number	Packaging unit
2 fuses (G2S)	For TNS network with overvoltage protection without fuses, with screw caps and grounding cable with captive M8 screw	044802910	1
3 fuses (G3S)	For TNS network with overvoltage protection without fuses, with screw caps and grounding cable with captive M8 screw	044803910	1
2 fuses (G2S)	For TT network with overvoltage protection without fuses, with screw caps	044802920	1
3 fuses (G3S)	For TT network with overvoltage protection without fuses, with screw caps	044803920	1
2 fuses (G2S)	For TNC network with overvoltage protection without fuses, with screw caps and grounding cable with captive M8 screw	044802930	1
3 fuses (G3S)	For TNC network with overvoltage protection without fuses, with screw caps and grounding cable with captive M8 screw	044803930	1

# ESIPHA EK480 –

## Modular principle for custom configuration

Our modular system allows you to put together the equipment you require yourself. You can select the fuse sets and accessories as separate order items.

### Accessories for base units



# ESIPHA EK580 – Empty cabinet details

The EK580 cabinet builds on its existing features and introduces a number of innovations. It is characterised by flexible expansion options and offers a range of inlet and cable outlet options. But that is not all: The EK580 cabinet is now also taller to perfectly fit standard circuit breaker housings. By doing so, we are setting new benchmarks for adaptability and benefit-led innovation.

## Product features – Cabinet

- ▲ 6 versions  
(3 cabinet lengths & 2 cover heights)
- ▲ Degree of protection: IP54
- ▲ Protection class II
- ▲ Standard-compliant design: DIN 43628
- ▲ Suitable for pole door openings of 300 x 100 mm and 400 x 100 mm
- ▲ Cabinet base with 5 mm grid for the flexible positioning of top hat rails



▲ Cabinet size **S**  
for up to 4 horizontal pitches  
depending on the overall  
height



▲ Cabinet size **M**  
for up to 8 horizontal pitches  
depending on the overall height



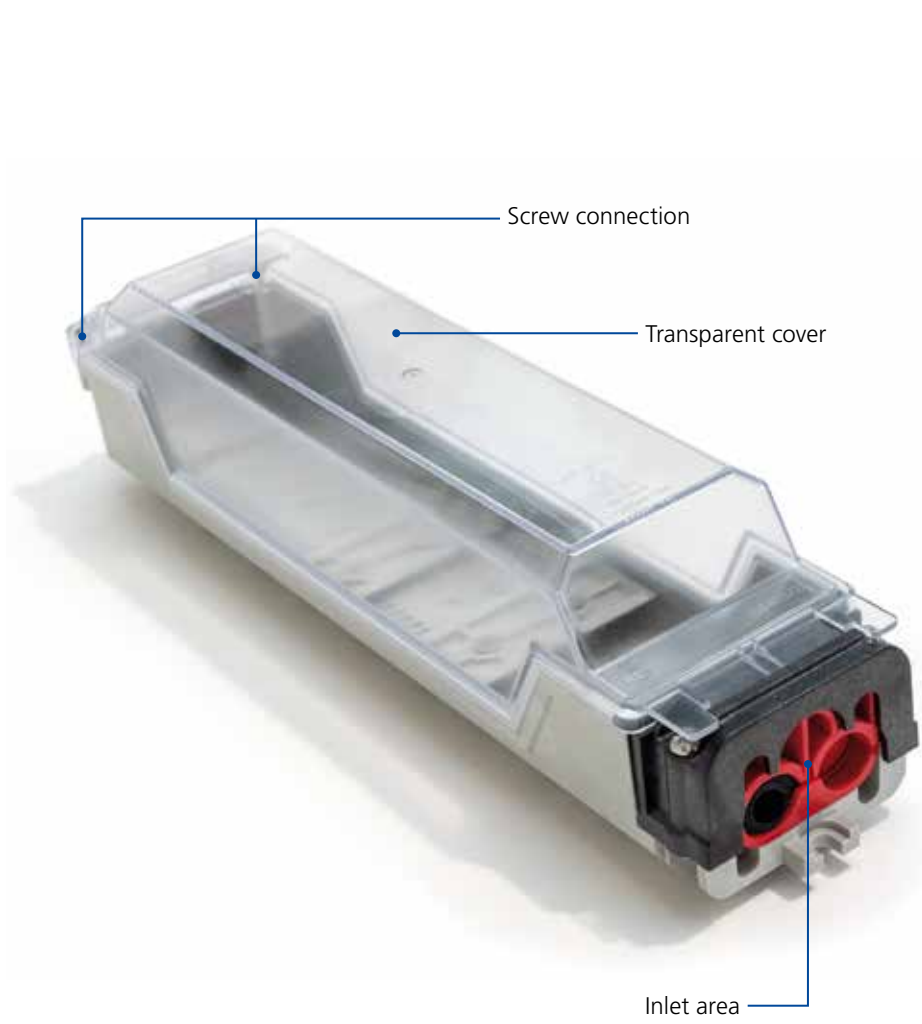
▲ Cabinet size **L**  
for up to 12 horizontal pitches  
depending on the overall height

## Cabinet sizes

Size	Overall length	Fastening length	Cabinet length	Width	Height	Pole internal ø	Horizontal pitches
S	243	232	208	82	77/82	100/106	S = up to 4
M	288	277	253	82	77/82	100/106	M = up to 8
L	368	357	333	82	77/82	100/106	L = up to 12

## Cabinet functions in detail

Our engineers have developed persuasive solutions for functions. Many years of experience and intensive dialogue with our customers ensure that our products are easy to install and flexible to use.



▲ Transverse top hat rail installation



▲ Lightweight reinforcements on the back provide additional stability for the cabinet



▲ Screw connection for quick opening and secure closure of the cover (can be sealed)

## Inlet and outlet flexibility

The flexible installation space also requires flexibility in the inlet and outlet area. Our various solutions enable 1 to 3 cables to be fed in and out as standard (protected against dust and splash water).



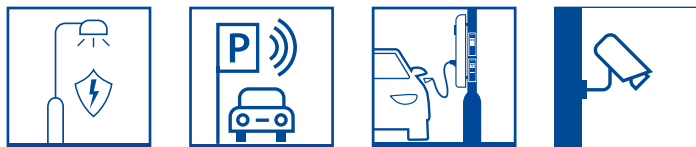
▲ Our standard strain relief for 1 – 3 cables - cross-section of from 7.5 – 19 mm



▲ We also offer 2 to 4 standard openings on the outlet side (with stepped grommets and cable glands) as well as the option of inserting individual openings into the front plate.



# ESIPHA EK580 – Fuse box application examples



## Applications

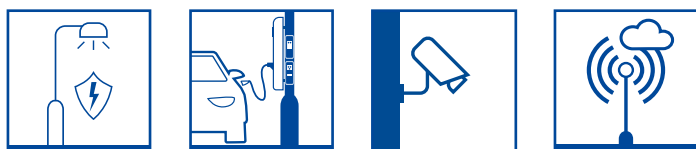
- ▲ EK580 for street lighting and additional RCD for fuse protection of a pole socket

## Technical details

- ▲ Input terminal block with sliding wire clamps for connecting and looping up to three 5 x 16 m<sup>2</sup> input cables
  - Optional: Input and output terminals individually adaptable
- ▲ Fuse protection of the light with DO1 6 A
- ▲ RCBO for fusing an additional pole socket (e.g. Christmas lights)
- ▲ Outlet terminals N and PE (standard)



▲ ESIPHA EK580 – Application example



## Application examples

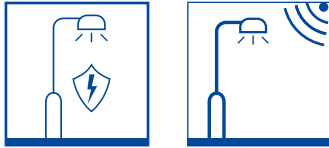
- ▲ EK580 for street lighting and additional consumption metering and fuse protection of a pole socket

## Technical details

- ▲ Input terminal block with sliding wire clamps for connecting and looping up to three 5 x 16 m<sup>2</sup> input cables
  - Optional: Input and output terminals individually adaptable
- ▲ Fuse protection of the light with DO1 6 A
- ▲ Outlet terminals N and PE (standard)



▲ ESIPHA EK580 – Application example



## Applications

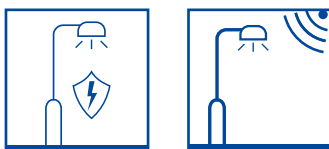
- ▲ EK580 for fuse protection of street lighting with overvoltage protection
  - 1-phase + control phase -
- ▲ Contacts for DALI control integrated

## Technical details

- ▲ Input terminal block with sliding wire clamps for connecting and looping up to three 5 x 16 m<sup>2</sup> input cables
  - Optional: Input and output terminals individually adaptable
- ▲ Fuse protection of street lighting with DO1 fuse & overvoltage protection
- ▲ Fuse protection of the control phase with DO1 and additional overvoltage protection
- ▲ Outlet terminals with push-in technology



▲ ESIPHA EK580 – Application example



## Applications

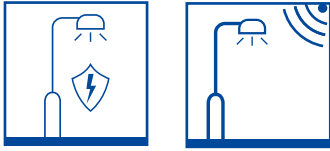
- ▲ EK580 with 3-phase fuse protection and additional 3-phase overvoltage protection
- ▲ Contacts for DALI control integrated

## Technical details

- ▲ Input terminal block with sliding wire clamps for connecting and looping up to three 5 x 16 m<sup>2</sup> input cables
  - Optional: Input and output terminals individually adaptable
- ▲ Fuse protection via 3-phase DO1 fuse switch disconnecter
- ▲ 3-phase overvoltage protection
- ▲ Outlet terminals with push-in technology



▲ ESIPHA EK580 – Application example



## Applications

- ▲ EK580 with fuse protection and radio ripple control receiver (RRCR) for lighting control

## Technical details

- ▲ Input terminal block with sliding wire clamps for connecting and looping up to three 5 x 16 m<sup>2</sup> input cables
  - Optional: adaptable input terminals
- ▲ Miniature fuses
- ▲ Radio ripple control receiver can be equipped with up to 3 mechanical relays (25 A or 40 A)

## Accessories

- ▲ **Remote antenna – EK295**
  - Mountable on top hat rail
  - Steel strip mountable on pole
  - Holes for wall installation



▲ Remote antenna – EK295



▲ ESIPHA EK580 – Product example



We are here for you! We will stand by you and your partners with commitment and a wide assortment of products – no matter what your requirements are. Together we will find the right ESIPHA EK580 fuse box for you.

Please do not hesitate to contact us to benefit from our experience.



**Our expertise for  
the networks of today  
and tomorrow**

# DEHN surge protection – Suitable for ESIPHA EK480 / EK580

## DEHNcord (EK480 and EK580)

- ▲ Two- or three-pole surge protection with monitoring device and disconnecter
- ▲ Visual error display
- ▲ Versions with function to switch off the load circuit in the event of a fault & protection of the control phase
- ▲ Use in cable terminal boxes, underground systems, cable ducts and device installation boxes

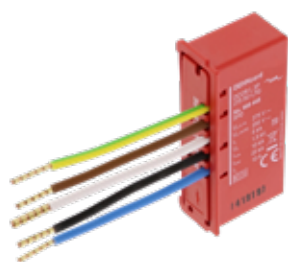
### Type

**DEHNcord L 3P 275 SO LTG**  
(with protected control phase)

**DEHNcord L 2P 275 SO LTG**

**DEHNcord 3P TT 275 FM**

DEHN website



▲ DCOR L 3P 275 SO LTG



▲ DCOR L 2P 275 SO LTG



▲ DCOR 3P TT 275 FM

### Alternative:

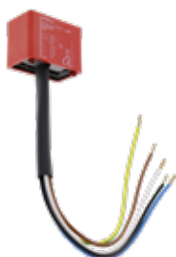
- ▲ Universal retrofit version in IP 65 design
- ▲ Wiring from outside into any cable terminal box via sheathed cable
- ▲ Compact design also for outdoor use

### Type

**DCOR L 3P 275 SO IP**  
(with protected control phase)

**DCOR L 2P 275 SO IP**

DEHN website



▲ DCOR L 3P 275 SO IP



▲ DCOR L 2P 275 SO IP

## DEHNshield (for ESIPHA EK580)

- ▲ Ready-to-connect, application-optimised combined arrester type 1 + type 2 (spark gap basis)
- ▲ Space-saving spark gap technology with only 1 TE / pole enables compact design
- ▲ Meets minimum requirements for lightning current discharge capacity in accordance with VDE 0100-534
- ▲ Enables compact lightning equipotential bonding including end device protection
- ▲ Discharge capacity up to 50 kA (10 / 350  $\mu$ s)
- ▲ Function / defect indication via green and red marking in the inspection window
- ▲ High follow current extinguishing capability ( $I_{ff} = 25 \text{ kA}_{eff}$ )



▲ DSH TT 255 FM  
▲ DSH TNS 255 FM



▲ DSH TNC 255 FM

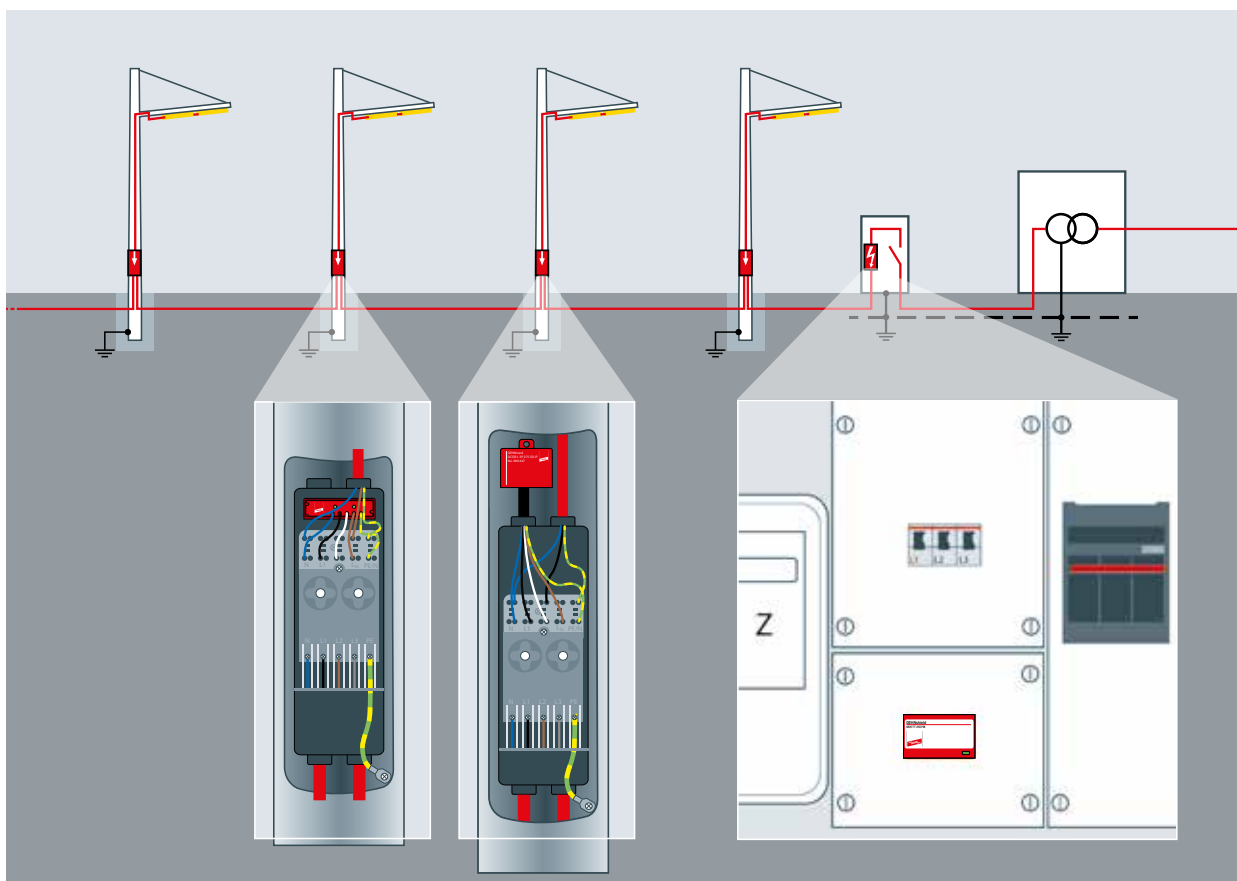
### Type

DSH TT 255 FM

DSH TNS 255 FM

DSH TNC 255 FM

DEHN website



- ▲ The surge arresters are installed in the pole fuse box and in the cable distributors of the feed

# Awards



**2009**  
German Materials Efficiency Prize  
"From vehicle roof to manhole"



**2010**  
Environmental Prize  
"From vehicle roof to manhole"



**2011**  
Bavarian Founder Award  
"Succession" category



**2012**  
Intertraffic Innovation Award  
"Charging at the light pole"



**2013**  
WPC Innovation Award  
"Product Development & Product Design" category



**2015**  
In the Top 3 – GreenTec Awards,  
"Recycling & Resources" category



**2019**  
Inno4wood Innovation Award



**2021**  
Top Employer German SMEs 2021



**2025**  
Germany's most innovative SMEs







[www.langmatz.de](http://www.langmatz.de)

**We will gladly send you further detailed product information for your initial planning and design.**

Please contact your local Langmatz representative or our head office.  
Data sheets and other information can be found on our website:

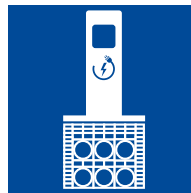
[www.langmatz.de](http://www.langmatz.de)



Polycarbonate manholes



Underground distribution systems



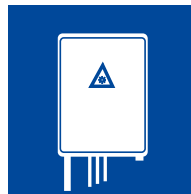
Foundations and columns



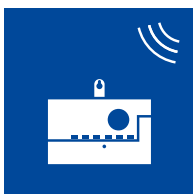
Outdoor cabinets and outdoor pedestals



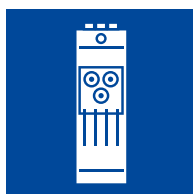
Building cable & pipe entry systems



Optical fibre distribution and termination boxes



Radio ripple control receivers



Fuse boxes



Signal requesting devices

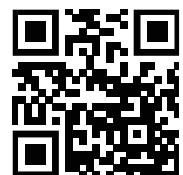
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