

Cable entries for railway technology applications



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Because the future needs intelligent solutions

Inside the smartest workflows: being at the heart of every smart connection, the driving force for improved workflows and productivity, that is our global commitment. That is why we are developing and manufacturing products for almost all industrial sectors. Whether it's mechanical and facility engineering, traffic and process engineering, clean room technology or renewable energy: in all these industries we are the perfect partner and expert in electrical and electronic connection technology and cable management systems.

In addition to developing and creating new products, we invest in modern, efficient manufacturing processes. Ensuring the highest quality is our top priority. Our top-class products are supported by this interplay between our top-class personnel and machinery. And our services are just as outstanding as our products. Your wishes and requirements are what motivate our customised solutions.

Living sustainably and taking responsibility

At CONTA-CLIP, we focus our thoughts and actions to successfully implement our ecological, economic and social goals.

We promote economic sustainability in the form of healthy growth, together with financial strength and consistent re-investment within the company. Our stable management, low staff turnover and employees involved in decision-making processes all provide a guarantee for social sustainability.

Our actions are also ecologically sustainable throughout the entire value chain. This is reflected in the selection of our materials and our use of energy within the company. We work with materials that contain no hazardous substances and support regenerative heat recovery. This enables us to take responsibility for future generations.



CONTA-CLIP product overview:

Large assortment for your applications



CONTA-CONNECT

Terminal blocks with Push-in, screw, tension-spring, and stud connection systems | installation materials and accessories

When it comes to precise connections, the extensive range of terminal blocks – available in a variety of connection types – always offers the right solution. The product ranges are rounded off with matching installation materials and accessories.



CONTA-LABEL

Marking components for thermal transfer and ink-based marking systems

An extensive range of markers made of PC, PVC or PC/HF materials as well as labels in the card format for the thermal transfer printer TTPCardMAX are available for the professional and permanent labelling of terminals, devices, wires, cables, installations and electrical cabinets.

There are also polyamide markers in the classic Maxicard format MC for self-printing or as ready-to-use customized printed markers in the PMC Pocket-Maxicard format.



CONTA-BOX

The wide variety of housing options

Our wide variety of housings made of polystyrene, polycarbonate, polyester, ABS and aluminium deliver solutions for protecting electronic circuits, integrated devices and terminal blocks. On request, these housings can be custom-processed and assembled with our CONTA-CABLE, CONTA-CONNECT, CONTA-ELECTRONICS and CONTA-CON product lines.





CONTA-CABLE

KDS cable entries, KES cable entries, SAB/SSAB/SABK shielding solutions

The KDS and KES cable entries enable tool-free, up to IP66-rated sealing for un-assembled and assembled cables and hoses. The feedthrough openings can be adapted at any time to meet your requirements. The SAB shield-connection clips can be used to provide a reliable shield contact with wire diameters from 3 mm to 35 mm.



CONTA-ELECTRONICS

Electrical and electronic cabinet components

Our CONTA-ELECTRONICS product line offers you a variety of active and passive components for transmitting and converting analogue and digital signals at the coupling level. This product line includes power supplies, multi-function timing relays, coupling relays, digital switching modules, interface modules, opto-couplers, signal converters, GSM communication modules and much more. With over 40 years of experience in electronics development, we are also a competent and reliable partner for implementing customised requirement – guiding your project from the initial idea to the finished product.



CONTA-CON

PCB terminals and connectors

In the area of CONTA-CON, CONTA-CLIP offers a wide range of PCB terminals and PCB plug-in connector systems. The modular components can be configured for any required number of poles. They are available in the wire connection types: wire protection, eccentric, clamping yoke, and (for demanding operating conditions) with tension-spring or Push-in wire terminations.



Advantage online: the CONTA-CLIP Online Catalogue

No matter where you are, as long as you're online you can access our digital catalogue to look at our services and quickly identify suitable solutions for your requirements.

Fast results Use the full-text search, enter an order number or use the convenient "step-by-step" feature search function.

Project planning at a glance: After you've selected the products, all the master data for the materials (sales data, technical data, drawings, connection diagrams, classifications and approvals) are made available as a data sheet or export file.

Detailed inquiries about components can be sent via the shopping cart directly to our headquarters. Upon request, you will receive an e-mailed copy of your inquiry.

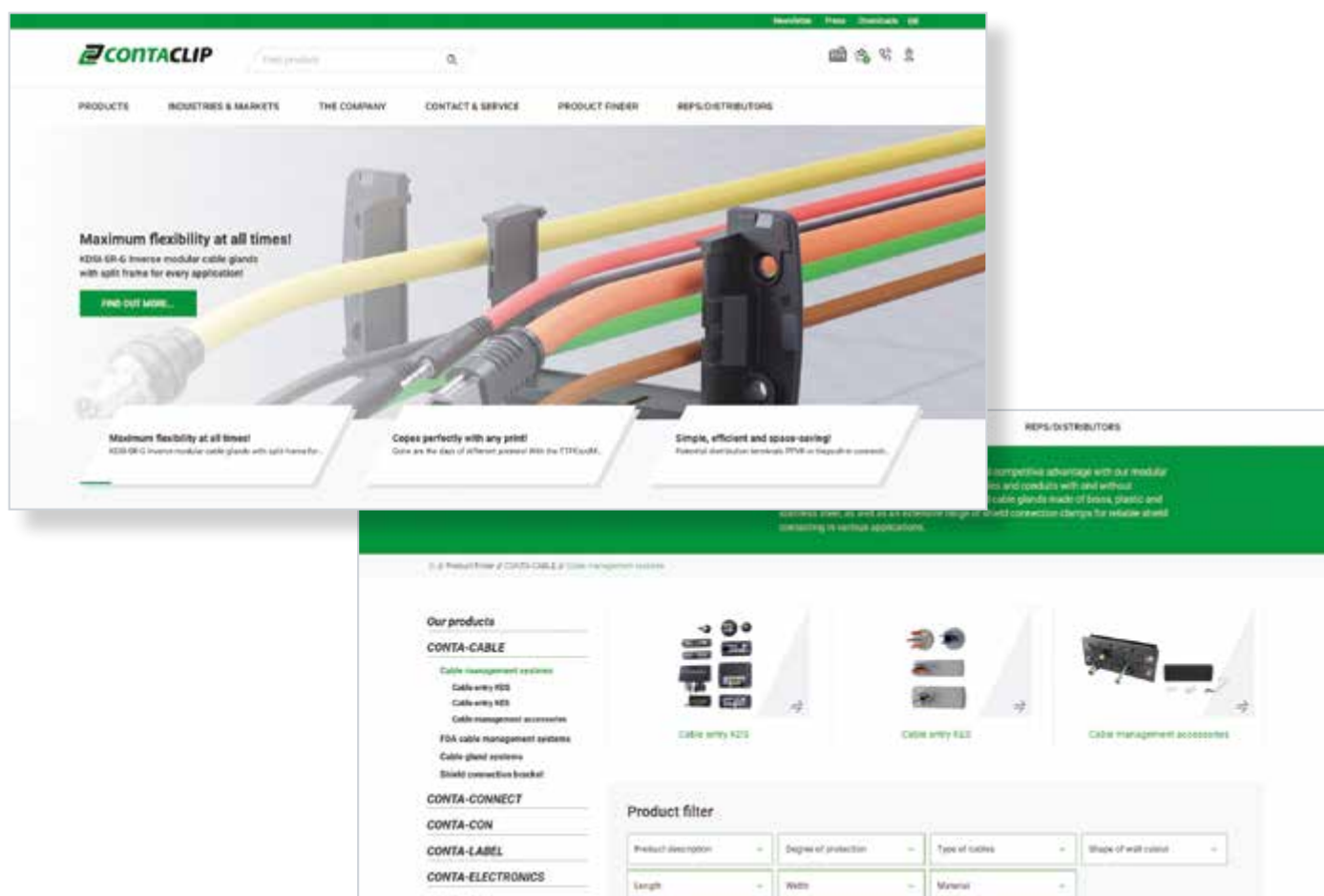
Application films: Complex functions be explained easily and clearly with sounds and images.

Printed catalogue: Would you like an offline overview? Please ask for our free printed catalogues.

Industry-specific: You will find the solutions that are relevant for your industry, according to your expertise.

Newsletter: Do you want to stay up to date? Subscribe to our newsletter! Simply register, confirm our authentication e-mail, and you'll be regularly informed about all CONTA-CLIP news.

Discover how the world of CONTA-CLIP and our website can deliver added value for you and your projects!



Globally available for you

Are you working abroad? No problem. Our worldwide sales and distribution partners help us to be globally networked and provide on-time reliable deliveries. Simply scan the QR code shown and you'll learn on our website about the sales partner responsible for your country.



Our locations in Africa

Algeria
Morocco
South Africa

Our locations in Asia

Bahrain
China
Hong Kong
India
Israel
Japan
Jordan
Qatar
Malaysia
Oman
Pakistan
Saudi Arabia
Singapore
South Korea
Taiwan
Turkey
United Arab Emirates

Our locations in Oceania

Australia
New Zealand

Our locations in Europe

Belgium
Bulgaria
Denmark
Germany
Finland
France
Greece
Great Britain
Ireland
Iceland
Italy
Croatia
Latvia
Netherlands
Norway
Austria
Poland
Portugal

Romania
Sweden
Switzerland
Serbia
Slovakia
Slovenia
Spain
Czech Republic
Ukraine
Hungary

Our locations in North America

Canada
Mexico
United States

Our locations in South America

Bolivia
Brazil
Chile
Ecuador
Columbia

Cable entries for railway technology applications



In modern rail transport, passenger safety is the top priority. Our cable entry systems are therefore tested and certified in accordance with the strictest industry-specific standards:

Fire protection is a central component of this. The European standard DIN EN 45545 ("Railway applications - Fire protection on railway vehicles") is the Europe-wide harmonised set of regulations that has replaced older national standards (such as the German DIN 5510-2). Its primary objective: In the event of a fire, the spread of fire and the generation of toxic smoke must be delayed to such an extent that passengers and staff can safely

evacuate the train. The standard is complex and is divided into seven parts, ranging from general definitions (Part 1) and design requirements (Part 4) to electrical equipment (Part 5). For suppliers of components and materials, Part 2 (DIN EN 45545-2) is of crucial importance.

Requirements in railway technology – Standards guide

The requirement sets: R22 and R23

To ensure test procedures remain realistic, EN 45545-2 divides products into different categories (known as requirement sets, R1 to R28). A large-surface wall cladding must be tested differently to a small cable entry. Sets R22 and R23 are primarily relevant for seals, hoses, and electrotechnical components:

R22 (Interior)

Applies to components located inside the vehicle. Since smoke and toxic gases directly pollute the passengers' breathing air here in the event of a fire, the limit values for R22 are extremely strict.

R23 (Exterior)

Applies to components mounted on the outside of the vehicle (e.g. on the underbody or on the roof). Since smoke can dissipate outwards here, the specifications for smoke development and toxicity are slightly less stringent, but nevertheless remain at a very high safety level.

To obtain approval in accordance with R22 or R23, the material is tested in certified laboratories for three critical parameters:

1. Oxygen index (OI)

This value measures flammability. It indicates the minimum percentage of oxygen that must be present in the ambient air for the material to continue burning on its own. Since our breathing air only contains around 21% oxygen, the following applies: The higher the OI value of the plastic, the more flame-retardant it is.

2 Smoke gas density (Ds max)

This value measures how much smoke the material generates during combustion. Dense smoke blocks the view of escape routes and emergency exits. Here, the lower the value, the better for safe evacuation.

3. Toxicity (CIT)

The "Conventional Index of Toxicity" measures the concentration of life-threatening gases (such as carbon monoxide or hydrogen cyanide) in the resulting smoke. A low value is crucial to prevent smoke gas poisoning.

DIN EN 45545-2: Fire behaviour of materials and components

Not every material in the train has to undergo exactly the same test. The standard differentiates heavily according to where a component is installed and what type of train it is. This is where the so-called Hazard Levels (HL) come into play. The hazard level of a railway vehicle is calculated from two factors:

1. Design category

Is it a standard train, an automatic train, a double-decker carriage, or a sleeping car?

2 Operation category

Does the train only run above ground, does it pass through short tunnels, or does it operate on routes with tunnels over 5 km in length without lateral possibilities to escape?

This combination results in three levels:

HL1 (Low risk)

Usually applies to standard trains in purely above-ground local transport.

HL2 (Medium risk)

The standard for many regional and long-distance trains that also pass through shorter tunnel routes.

HL3 (Highest risk)

The strictest level. It applies to trains with the highest risk, such as sleeping cars in tunnels or underground trains on routes with very long tunnel systems.

The CONTA-CLIP advantages

HL3-approval

Maximum flame retardancy

Plastic components that meet HL3 specifications are extremely flame-retardant and generate virtually no toxic gases or dense smoke in the event of a fire. With the HL3 approval of our KDS-RAIL systems, you have the guarantee that they can be used without restriction in any train class and on any route.

DIN EN 62444

Reliable strain relief

If a cable is pulled or moves during travel, this mechanical force must not be transmitted to the sensitive electrical contacts inside the housing. DIN EN 62444 certifies that our cable entries provide a standard-compliant static retention value integrated into the sealing element. It protects the cable sheath and prevents cables from being pulled out.

DIN EN 61373

Maximum shock and vibration resistance

During daily operations, trains are permanently exposed to shocks, vibrations, and impacts. DIN EN 61373 defines the test procedures for railway vehicle equipment to ensure that mechanical connections do not loosen over decades. The certification of our KDS products according to this standard guarantees that cables remain securely and tightly sealed even under extreme stress (e.g., in the bogie area or gangway connections).

Ingress protection codes (according to DIN EN 60529)

Sealed against dust and water

Railway vehicles brave all weather conditions and are regularly subject to intensive cleaning. Our cable entries offer protection ratings of up to IP66. This means the system is completely dust-tight and reliably protects the vehicle interior or control cabinet against moisture ingress, even when subjected to powerful water jets (e.g., heavy rain).

KDS-RAIL

Fire protection kits

Certified fire integrity according to DIN EN 45545-3 (E30)

In addition to raw material fire behaviour (HL3), railway engineering requires reliable structural integrity at sensitive partitions, such as between the engine room and the passenger compartment. The spread of flames through the wall cut-out must be strictly prevented for a specified period of time. That is exactly why we offer our certified KDS-RAIL fire protection kits for all different frame sizes. With these customised add-on packages, your installations effortlessly achieve the E30 fire resistance rating (30-minute fire integrity) in compliance with the European standard DIN EN 45545-3.

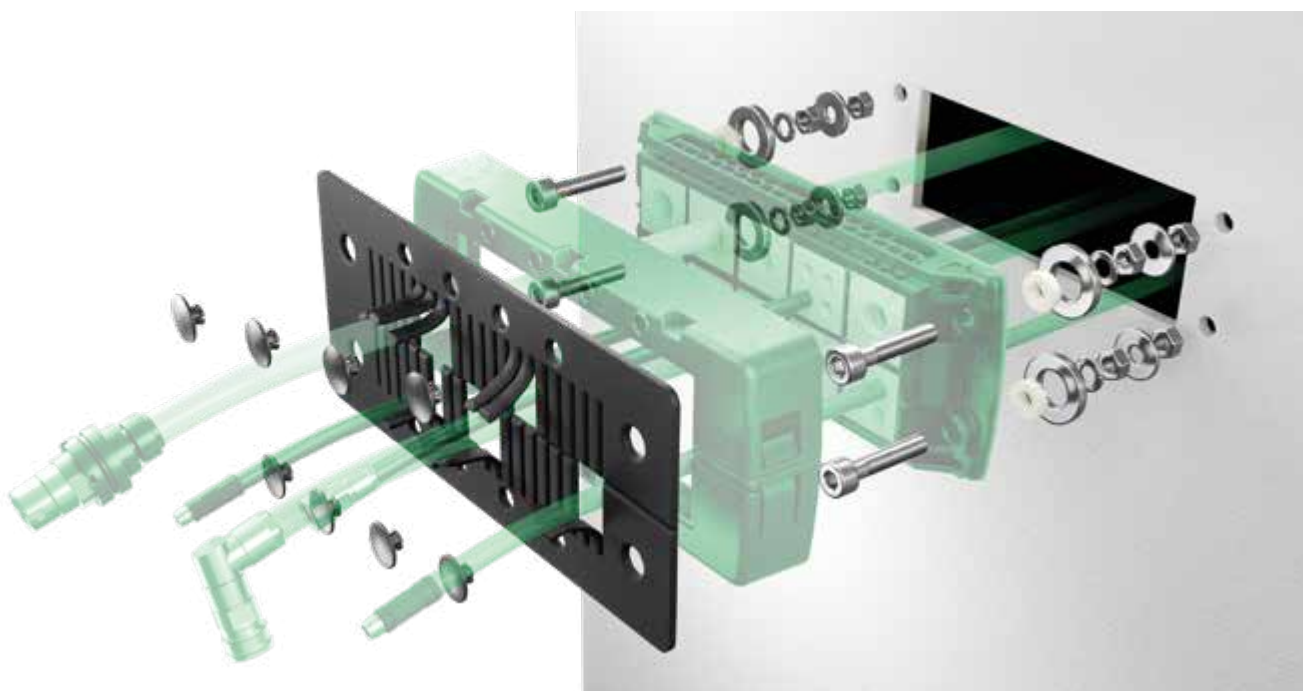
The complete package for maximum safety:

Our kits eliminate the complex task of searching for individual components. They consist of a perfectly sized, intumescent (swelling) fire protection mat, as well as special heat-resistant mounting screws and all necessary installation materials.

Functionality in the event of a fire:

During installation, the fire protection mat is mounted directly in front of the KDS frame on the side facing the potential fire. If the temperature rises above 200 °C in an emergency, the material reacts immediately: it expands rapidly, dramatically increasing its volume to form a resilient barrier. The resulting expansion pressure forces its way into all cavities and completely encloses even melting cable sheaths. The special screws included in the kit guarantee that the frame remains securely in position even under extreme heat and heavy expansion pressure. The penetration is hermetically sealed and the breakthrough of fire is reliably stopped.

IP66



Available for KDSI-SR 10/24, 8/16, 6-10, 1-4 and KDS-SR 10/24, 8/16, 6/10, 1-4

Contents and layout of the fire protection kit

Fire protection mat. Snap fasteners. Screws. Ablative fire protection material. Lock washer. Hex. nut. Washers.

The seven basic components of our fire protection kit guarantee safety according to DIN EN 45545, combined with maximum flexibility and versatility.

1. Fire protection mat

The IFPS fire protection mat with a glass-fibre fabric structure serves as a fire-resistant seal for cable entries. Thanks to its intumescent properties, it prevents fire, smoke, and heat from breaching adjacent fire compartments in the event of a fire.



2 Snap fasteners

The snap fasteners secure the fire protection mat to the outside of the KDSI frame.



3. Screws

M5x30 mounting screws are used for stable mechanical fastening and assembly of the components within the fire protection kit.



4. Ablative fire protection material

In the event of a fire, the washers made of ablative fire protection material reduce heat transfer, protect adjacent materials from thermal stress, and increase the fire resistance of the cable entry.



5. Lock washer

Thanks to its interlocking teeth, the lock washer ensures a vibration-proof connection and prevents the screw from loosening under heavy vibration.



6. Hex nut

In combination with the corresponding screws, the hexagon nut ensures robust, high-torque fastening of the mounted assemblies.



7. Washers

Washers distribute the acting forces evenly across the fastening surfaces and protect the components from damage caused by the bolting process.



Safety according to DIN EN 45545-3

With the certified KDS-RAIL fire protection kits, you easily achieve the E30 fire resistance rating according to DIN EN 45545-3, reliably preventing the passage of flames and fire for at least 30 minutes in the event of a fire.

KDS-RAIL fire protection kit

Cable entries for railway technology applications

Fire protection kit		KDS-BM 1-4-Set	KDS-BM 6/10-Set	KDS-BM 8/16-Set	KDS-BM 10/24-Set
					
Description		Fire protection kit for EN45545-3	Fire protection kit for EN45545-3	Fire protection kit for EN45545-3	Fire protection kit for EN45545-3
Type / Set		KDS-BM 1-4-Set	KDS-BM 6/10-Set	KDS-BM 8/16-Set	KDS-BM 10/24-Set
Cat. no.	Qty.	29176.01	29177.01	29178.01	29179.01
Description		Fire protection mat 1-4	Fire protection mat 6-10	Fire protection mat 8-16	Fire protection mat 10-24
Set consists of:		Snap fasteners M5 screws Ablative fire protection material Lock washer Hex nut Washers	Snap fasteners M5 screws Ablative fire protection material Lock washer Hex nut Washers	Snap fasteners M5 screws Ablative fire protection material Lock washer Hex nut Washers	Snap fasteners M5 screws Ablative fire protection material Lock washer Hex nut Washers
Accessories for frames					
Type / colour		KDSI-SR 1-4 BK	KDSI-SR 6/10 BK	KDSI-SR 8/16 BK	KDSI-SR 10/24 BK
Cat. no.	Qty.	28880.41	28881.41	28882.41	28883.41
Type / colour		KDS-SR 1-4 BK	KDS-SR 6/10 BK	KDS-SR 8/16 BK	KDS-SR 10/24 BK
Cat. no.	Qty.	28506.41	28500.41	28502.41	28504.41
Inlay			KDS-Inlay 2 BK		KDS-Inlay 2 BK
Cat. no.	Qty.		28517.45		28517.45
Description			T-shape		T-shape
Inlay		KDS-Inlay 4 BK	KDS-Inlay 4 BK	KDS-Inlay 4 BK	KDS-Inlay 4 BK
Cat. no.	Qty.	28518.45	28518.45	28518.45	28518.45
Description		For 4-way divisions	For 4-way divisions	For 4-way divisions	For 4-way divisions
Inlay			KDS-Inlay 6 BK		KDS-Inlay 6 BK
Cat. no.	Qty.		28519.45		28519.45
Description			For 6-way divisions		For 6-way divisions
Sheet-metal hole punch		BL KDS-SR 1-4	BL KDS-SR 6/10	BL KDS-SR 8/16	BL KDS-SR 10/24
Cat. no.	Qty.	28674.01	28675.01	28676.01	28677.01
Description		For sheet steel up to 2 mm; also for marking drilling hole points	For sheet steel up to 2 mm; also for marking drilling hole points	For sheet steel up to 2 mm; also for marking drilling hole points	For sheet steel up to 2 mm; also for marking drilling hole points
Actuating tool		KDS BW 1	KDS BW 1	KDS BW 1	KDS BW 1
Cat. no.	Qty.	28622.01	28622.01	28622.01	28622.01
Seals					
Small and large		See section KDS-DE-RAIL and KDS-DEG-RAIL	See section KDS-DE-RAIL and KDS-DEG-RAIL	See section KDS-DE-RAIL and KDS-DEG-RAIL	See section KDS-DE-RAIL and KDS-DEG-RAIL



Features

- Certified fire resistance according to DIN EN 45545-3 for class E30
- The ready-to-install kit consisting of a fire protection mat and special screws saves time in procurement and design
- Intelligent sealing
- Retrofitting and servicing can be done quickly and easily
- Secure hold under extreme conditions

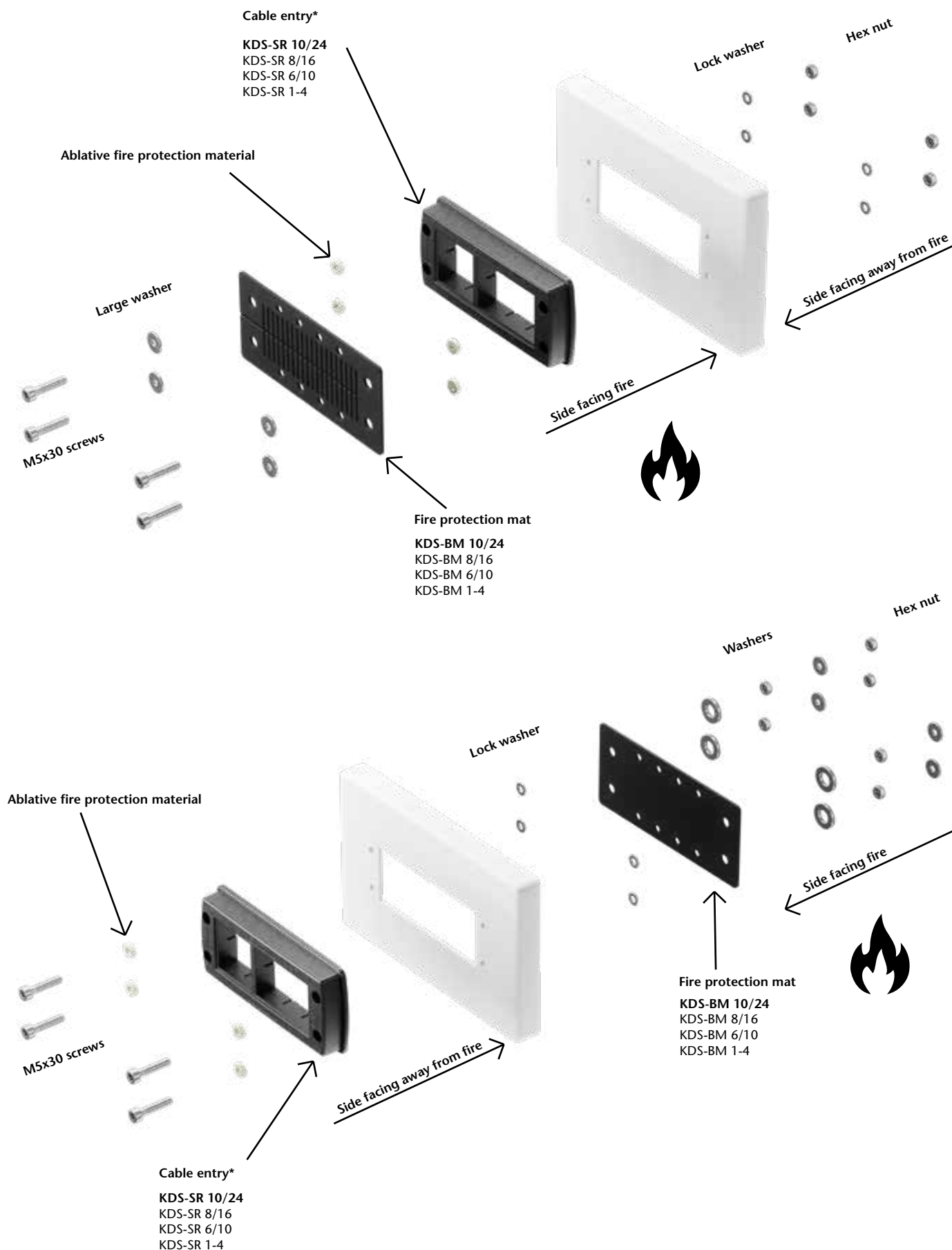
	UL TYPE Rating 12	UL TYPE* Rating 4x	
IP66	RoHS compliant	Made in Germany	



* 4x is for indoor use only

KDS-RAIL fire protection kit

Cable entries for railway technology applications | Example assembly instructions



* not included in the set

KDSI-SR

Fast, safe, easy

The **KDSI-SR** inverted, single-piece screw frames allow for complete assembly from the outside and offer flexibility and time savings in terms of cable management for electrical cabinets and machines, as well as secure sealing of cables with and without connectors.

The safe IP66 seal and reliable static strain relief, in accordance with DIN EN 62444, are ensured by the integrated frame gaskets and the conical shape of the sealing elements, which are pressed into the frame openings from the outside.

An additional two-part protective hood ensures the secure fit of the sealing elements to the outside.

As with all **KDS** cable entry systems, the modular click-and-plug design of the **KDSI-SR** allows individual cable entry openings and seals to be re-configured on the fly, entirely eliminating additional installation downtime.

IP66



KDS 
CLICK
by CONTA-CLIP



Your advantages

- Complete assembly from outside inwards
- Guarantee retained for assembled cables
- Retrofitting and servicing can be done quickly and easily
- High-density assemblies

The basic components of the modular system

Frames. Inlays. Seals. Protective hood. The modular design – with four basic components – provides more versatility, variability and variety.

1. Frame

Made from a single mould, the one-part frame is quick and easy to assemble. It is made of sturdy, glass-fibre reinforced plastic. The integrated TPE gasket guarantees an optimal seal with IP66 protection, even on painted or rough surfaces. The frames also fit the standard cut-outs for 10-, 16- and, 24-pole connectors.



2 Inlays

The click-in inlays allow flexible sizing of the frame opening to fit the seal in use. An audible "click" confirms a correct installation. You can variably configure cable entries to match various requirements (for cables, lines, hoses, pneumatic and hydraulic lines).



3. Sealing elements

The conical shape of the sealing elements allows them to be easily pressed in. This also reliably seals the gaps and provides static strain relief in accordance with DIN EN 62444. The seals are installed by pressing them from the outside inwards into the openings of the previously installed inlays.

Their wave-cut profile makes them easy to install and ensures a perfect fit around the cables. There are numerous different sealing elements that can be used for sealing cables of various diameters and sizes.



4. Protective hood

The two-part protective hood has TPE gaskets at three different levels; this ensures that an IP66 seal is achieved.

The two-part protective hood also guarantees the tight fit of the pressed-in sealing elements to the outside and covers the screws of the one-part frame.



More versatility and safety

The sealing elements can be released by pressing from the inside to the outside. Changes, retrofits, servicing or the readjustment of the cable lengths can be made at any time without dismantling the frame.

KDSI-SR

Fast, safe, easy

An overview of your advantages

Attaching the frame

The one-part frame can be easily and quickly attached to the wall.



Fast assembly from outside inwards for easier, friendlier servicing

The frame does not need to be disassembled if your requirements change or if you're carrying out service work.



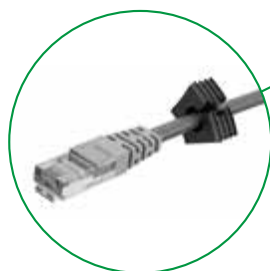
Protective hood

The two-part protective hood has TPE gaskets at three levels and guarantees IP66 protection. A tight fit for the sealing elements, pressed in from the outside, is also guaranteed.



No Warranty Loss with Pre-Assembled Cables

No need to disassemble and reconnect connectors, so manufacturer's warranty is not voided.



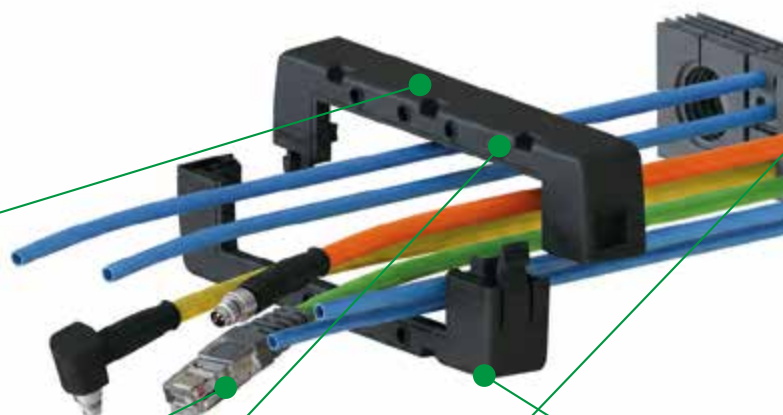
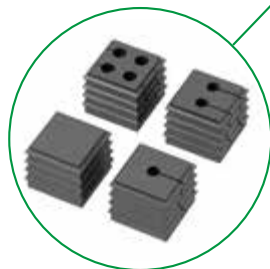
Optional external locking mechanism

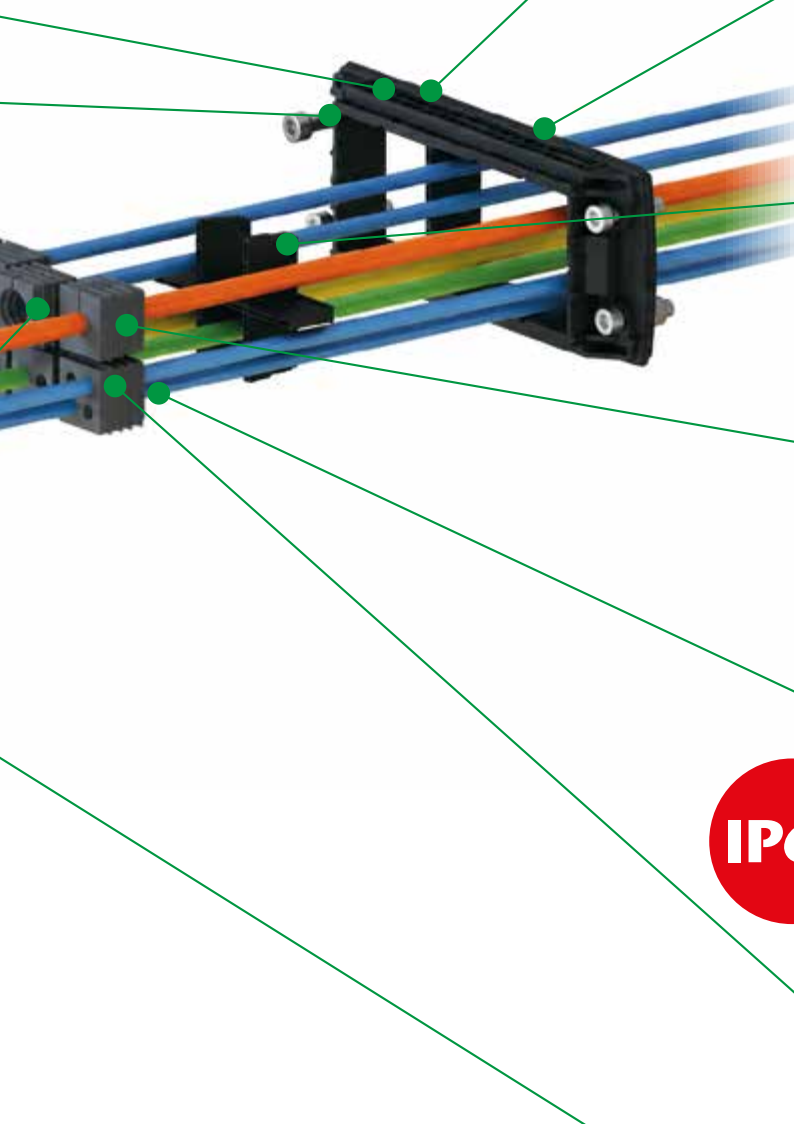
The optional **KDSI-AVR** external locking mechanism secures the sealing elements so that they cannot be pressed out without tools.



Versatile, high-density assemblies are possible

1-way, 2-way, 3-way and 4-way seals and dummy plugs provide you with excellent versatility for cable management.





Outstanding versatility with optimized frame
The frames, inlays, seals and protective hoods can be combined in many ways – ensuring you many versatile configuration options.

Captive gasket
The integrated frame gasket eliminates the risk of incorrect assembly (forgotten gasket) and speeds up the assembly process.

Safe and quick installation with feedback
An audible "click" confirms that the inlay has been properly installed in the frame.

Click

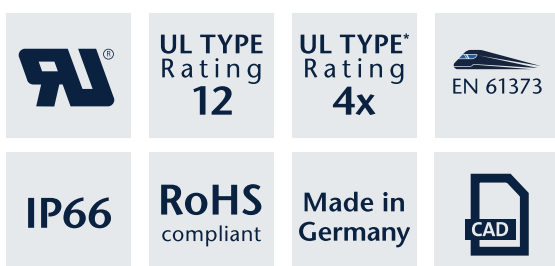
Integrated strain relief
The absolute tight fit of the sealing elements also ensures a static strain relief mechanism for the cables according to DIN EN 62444.

Outstanding IP66 seal
Conically tapered sealing elements feature inner and outer sealing gills.

IP66

Smart separation of the seals
The wave-cut profile makes them easy to install and ensures a perfect fit around the cables.

Can be used from -40°C to +120°C
Materials contain no halogen or silicone, suitable for many different applications.



* 4x is for indoor use only

KDSI-SR

Fast, safe, easy

Frames and inlays		KDSI-SR 1-4		KDSI-SR 6/10		KDSI-SR 8/16		KDSI-SR 10/24	
									
Description		Screw frame with two-part protective hood		Screw frame with two-part protective hood		Screw frame with two-part protective hood		Screw frame with two-part protective hood	
Type / colour		KDSI-SR 1-4 BK		KDSI-SR 6/10 BK		KDSI-SR 8/16 BK		KDSI-SR 10/24 BK	
Cat. no.	Qty.	28880.4	1	28881.4	1	28882.4	1	28883.4	1
Type / Set		KDSI-Set 1-4 BK		KDSI-Set 6/10 BK		KDSI-Set 8/16 BK		KDSI-Set 10/24 BK	
Cat. no.	Qty.	28890.4	1	28891.4	1	28892.4	1	28893.4	1
Description		1 x KDSI-SR 1-4 BK, 1 x KDS-Inlay 4 BK		1 x KDSI-SR 6/10 BK, 1 x KDS-Inlay 2 BK, 1 x KDS-Inlay 6 BK		1 x KDSI-SR 8/16 BK, 1 x KDS-Inlay 1 BK, 2 x KDS-Inlay 4 BK		1 x KDSI-SR 10/24 BK, 1 x KDS-Inlay 2 BK, 1 x KDS-Inlay 4 BK, 1 x KDS-Inlay 6 BK	
Set consists of:									
Accessories									
Inlay				KDS-Inlay 2 BK				KDS-Inlay 2 BK	
Cat. no.	Qty.			28517.4	5			28517.4	5
Description				T-shape				T-shape	
Inlay		KDS-Inlay 4 BK		KDS-Inlay 4 BK		KDS-Inlay 4 BK		KDS-Inlay 4 BK	
Cat. no.	Qty.	28518.4	5	28518.4	5	28518.4	5	28518.4	5
Description		For 4-way divisions		For 4-way divisions		For 4-way divisions		For 4-way divisions	
Inlay				KDS-Inlay 6 BK				KDS-Inlay 6 BK	
Cat. no.	Qty.			28519.4	5			28519.4	5
Description				For 6-way divisions				For 6-way divisions	
Replacement protective hood (two-part)		KDSI-AD 1-4 BK		KDSI-AD 6/10 BK		KDSI-AD 8/16 BK		KDSI-AD 10/24 BK	
Cat. no.	Qty.	28885.4	1	28886.4	1	28887.4	1	28888.4	1
Description		Spare cover		Spare cover		Spare cover		Spare cover	
Outer locking mechanism (optional)		KDSI-AVR BK		KDSI-AVR BK		KDSI-AVR BK		KDSI-AVR BK	
Cat. no.	Qty.	28894.4	20	28894.4	20	28894.4	20	28894.4	20
Sheet-metal hole punch		BL KDS-SR 1-4		BL KDS-SR 6/10		BL KDS-SR 8/16		BL KDS-SR 10/24	
Cat. no.	Qty.	28674.0	1	28675.0	1	28676.0	1	28677.0	1
Description		For sheet steel up to 2 mm; also for marking drilling hole points		For sheet steel up to 2 mm; also for marking drilling hole points		For sheet steel up to 2 mm; also for marking drilling hole points		For sheet steel up to 2 mm; also for marking drilling hole points	
Actuating tool		KDS BW 1		KDS BW 1		KDS BW 1		KDS BW 1	
Cat. no.	Qty.	28622.0	1	28622.0	1	28622.0	1	28622.0	1
Seals									
Small and large		See section KDS-DE and KDS-DEG		See section KDS-DE and KDS-DEG		See section KDS-DE and KDS-DEG		See section KDS-DE and KDS-DEG	



Features

- Material: Polyamide PA 6.6, glass-fibre reinforced | TPE
- Colour: black
- Flammability: UL 94 V-0
- Temperature range: -40°C to +120°C
- Halogen-free, silicone-free
- Protection: IP66

	UL TYPE Rating 12	UL TYPE* Rating 4x	
IP66	RoHS compliant	Made in Germany	

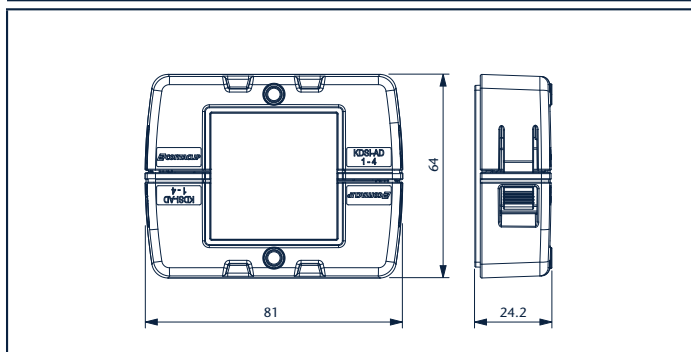
* 4x is for indoor use only

KDSI-SR

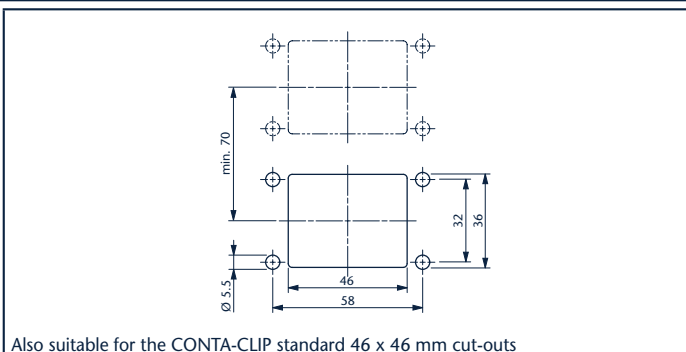
Inverted, modular cable entry system | Dimensional diagrams / Mounting cut-outs

KDSI-SR 1-4

Dimensional diagram



Mounting cut-out

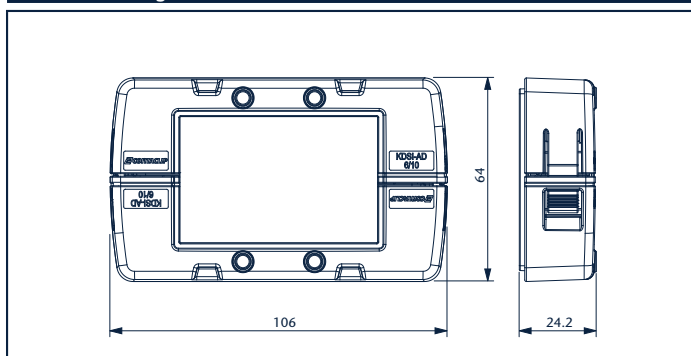


Torque for the frame's mounting screw: 3 Nm

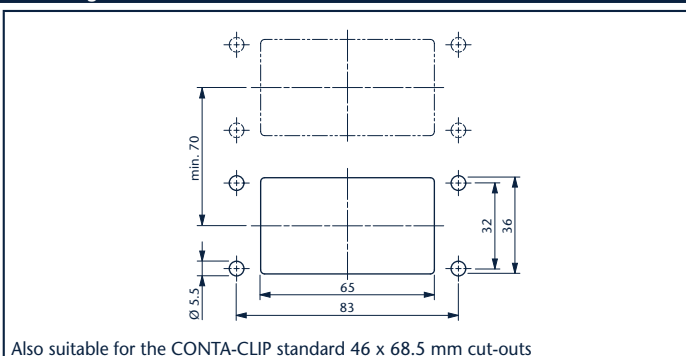
Screw for usage: ISO 4762 / DIN 912

KDSI-SR 6/10

Dimensional diagram



Mounting cut-out

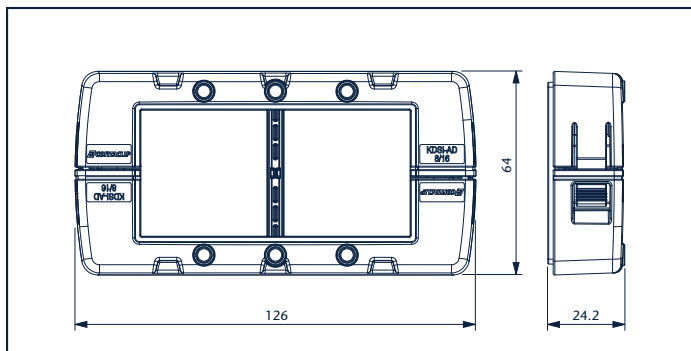


Torque for the frame's mounting screw: 3 Nm

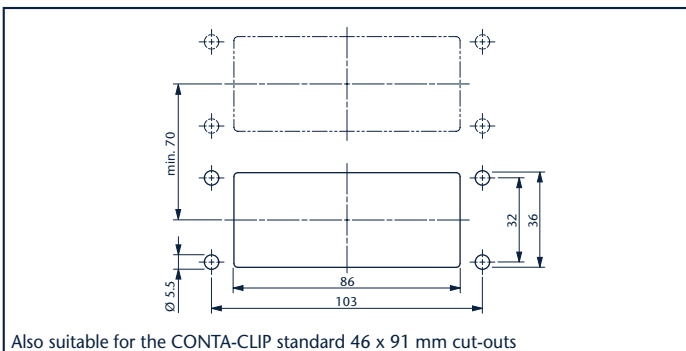
Screw for usage: ISO 4762 / DIN 912

KDSI-SR 8/16

Dimensional diagram



Mounting cut-out

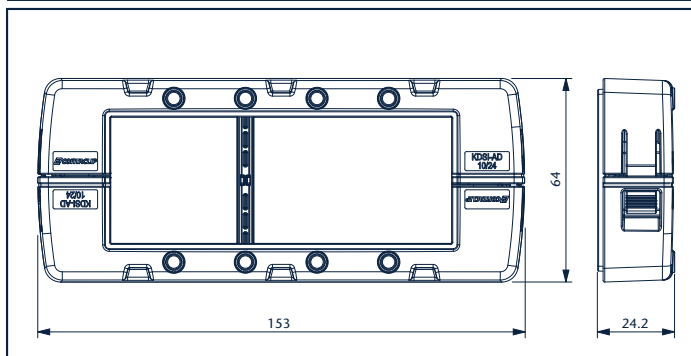


Torque for the frame's mounting screw: 3 Nm

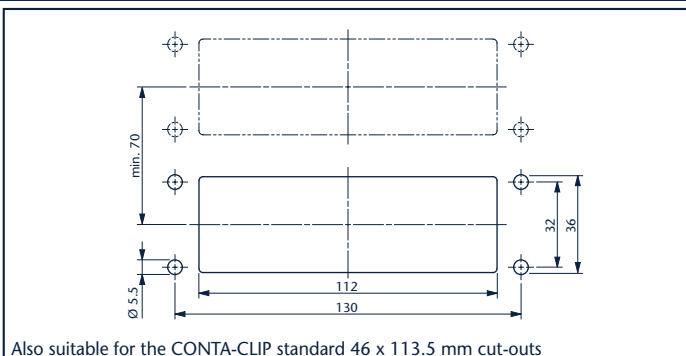
Screw for usage: ISO 4762 / DIN 912

KDSI-SR 10/24

Dimensional diagram



Mounting cut-out



Torque for the frame's mounting screw: 3 Nm

Screw for usage: ISO 4762 / DIN 912

KDSI-SR

Combination examples

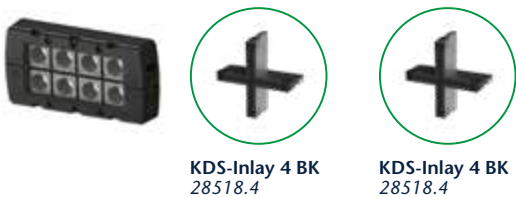
KDSI-SR 1-4



KDSI-SR 6/10



KDSI-SR 8/16



KDSI-SR 10/24





Notes

KDS-SR

Easy – through the wall from the inside

Fast. Safe. Turning cables inside out! The **KDS-SR** cable entry system is a cable management solution for electrical cabinets, housings and machines that features secure seals and strain relief for cables – with or without connectors. This saves you time and provides you with maximum versatility.



Your advantages

- Easily assembled from the inside
- Guarantee retained for assembled cables
- Retrofitting and servicing can be done quickly and easily
- Integrated strain relief
- High-density assemblies

KDS 
CLICK
by CONTA-CLIP

The basic components of the modular system

Frames. Inlays. Seals. The modular design – 3 basic components – provides more versatility, variability and variety.

1. Frame

Made from a single mould, the one-part frame is quick and easy to assemble. It is made of sturdy, glass-fibre reinforced plastic. The foamed gasket guarantees an optimal seal with IP66 protection, even on painted or rough surfaces.



2 Inlays

The click-in inlays allow flexible sizing of the frame opening to fit the seal in use. An audible "click" confirms a correct installation. You can variably configure cable entries to match various requirements (for cables, lines, tubing, pneumatic and hydraulic lines).



3. Sealing elements

The conical shape of the sealing elements allows them to be easily pressed in. This also reliably seals the gaps and provides static strain relief in accordance with DIN EN 62444. The seals are installed by pressing them from the inside outwards into the openings of the previously installed inlays. Their wave-cut profile makes them easy to install and ensures a perfect fit around the cables. There are numerous different sealing elements that can be used for sealing cables of various diameters and sizes.



More versatility and safety

The seals can be removed by pressing from the outside inwards. Changes, retrofits, servicing or the readjustment of the cable lengths can be made at any time without dismantling the frame. Unwanted manipulations from the outside can be prevented by using an optional inner locking frame.

KDS-SR

Easy – through the wall from the inside

Gefördert durch:



aufgrund eines Beschlusses
des Deutschen Bundestages

An overview of your advantages

Attaching the frame

The one-part frame can be easily and quickly attached to the wall.



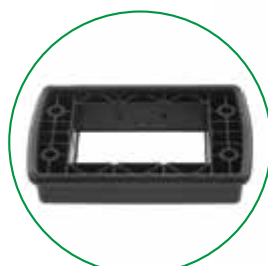
Quick inside-outwards assembly for easier servicing work

The frame does not need to be disassembled if your requirements change or if you're carrying out service work.



Captive gasket

The foamed-in frame gasket eliminates the risk of incorrect assembly (forgotten gasket) and speeds up the assembly process.



Smart separation of the seals

The wave-cut profile makes them easy to install and ensures a perfect fit around the cables.



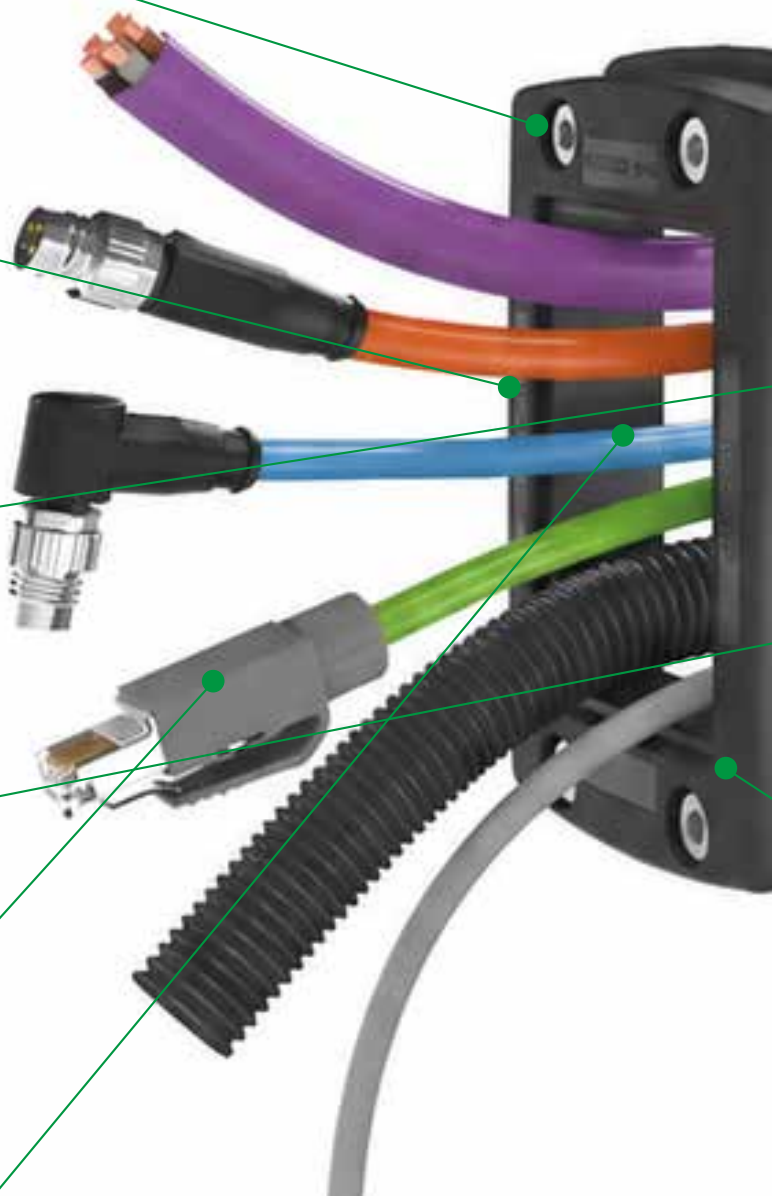
No Warranty Loss with Pre-Assembled Cables

No need to disassemble and reconnect connectors, so manufacturer's warranty is not voided.



Versatile, high-density assemblies are possible

1-way, 2-way, 3-way and 4-way seals and dummy plugs provide you with excellent versatility for cable management.



Outstanding versatility with optimized frame
The frames, inlays and seals can be combined in many ways – ensuring you many versatile configuration options.

Safe and quick installation with feedback
An audible "click" confirms that the inlay has been properly installed in the frame.

Click

Integrated strain relief
The absolute tight fit of the sealing elements also ensures a static strain relief mechanism for the cables according to DIN EN 62444.

Outstanding IP66 seal
Multi-resistant, conically tapered seals feature inner and outer sealing gills.

IP66

Inner locking frame
The optional locking frame ensures that the seals cannot be pushed out without using tools.

Can be used from -40°C to +120°C
Materials contain no halogen or silicone, suitable for many different applications.

 EN 61373	DNV-GL Approved Products		
	IP66	UL TYPE Rating 12	UL TYPE* Rating 4x
ECOLAB certified	RoHS compliant	Made in Germany	

* 4x is for indoor use only

KDS-SR

Easy – through the wall from the inside

Frames and inlays		KDS-SR 1-4	KDS-SR 6/10	KDS-SR 8/16	KDS-SR 10/24
					
Description		Screw frame	Screw frame	Screw frame	Screw frame
Type/colour		KDS-SR 1-4 BK	KDS-SR 6/10 BK	KDS-SR 8/16 BK	KDS-SR 10/24 BK
Cat. no.	Qty.	28506.4 1	28500.4 1	28502.4 1	28504.4 1
Type / Set		KDS-Set 1-4 BK	KDS-Set 6/10 BK	KDS-Set 8/16 BK	KDS-Set 10/24 BK
Cat. no.	Qty.	28602.4 1	28603.4 1	28604.4 1	28605.4 1
Description		Set consists of: 1 x KDS-SR 1-4 BK, 1 x KDS-Inlay 4 BK	Set consists of: 1 x KDS-SR 6/10 BK, 1 x KDS-Inlay 2 BK, 1 x KDS-Inlay 6 BK	Set consists of: 1 x KDS-SR 8/16 BK, 1 x KDS-Inlay 1 BK, 2 x KDS-Inlay 4 BK	Set consists of: 1 x KDS-Inlay 4 BK, 1 x KDS-Inlay 6 BK
Accessories					
Inlay		KDS-Inlay 1 BK	KDS-Inlay 1 BK	KDS-Inlay 1 BK	KDS-Inlay 1 BK
Cat. no.	Qty.	28516.4 5	28516.4 5	28516.4 5	28516.4 5
Description		For separating vertically	For separating vertically	For separating vertically	For separating vertically
Inlay			KDS-Inlay 2 BK		KDS-Inlay 2 BK
Cat. no.	Qty.		28517.4 5		28517.4 5
Description			T-shape		T-shape for large small
Inlay		KDS-Inlay 4 BK		KDS-Inlay 4 BK	KDS-Inlay 4 BK
Cat. no.	Qty.	28518.4 5		28518.4 5	28518.4 5
Description		For 4-way divisions		For 4-way divisions	For 4-way divisions
Inlay			KDS-Inlay 6 BK		KDS-Inlay 6 BK
Cat. no.	Qty.		28519.4 5		28519.4 5
Description			For 6-way divisions		For 6-way divisions
Inner locking frame (optional)		KDS-IVR 1-4 BK	KDS-IVR 6/10 BK	KDS-IVR 8/16 BK	KDS-IVR 10/24 BK
Cat. no.	Qty.	28507.4 10	28501.4 10	28503.4 10	28505.4 10
Sheet-metal hole punch		BL KDS-SR 1-4	BL KDS-SR 6/10	BL KDS-SR 8/16	BL KDS-SR 10/24
Cat. no.	Qty.	28674.0 1	28675.0 1	28676.0 1	28677.0 1
Description		For sheet steel up to 2 mm; also for marking drilling hole points	For sheet steel up to 2 mm; also for marking drilling hole points	For sheet steel up to 2 mm; also for marking drilling hole points	For sheet steel up to 2 mm; also for marking drilling hole points
Actuating tool		KDS BW 1	KDS BW 1	KDS BW 1	KDS BW 1
Cat. no.	Qty.	28622.0 1	28622.0 1	28622.0 1	28622.0 1
Seals					
Small and large		See section KDS-DE and KDS-DEG	See section KDS-DE and KDS-DEG	See section KDS-DE and KDS-DEG	See section KDS-DE and KDS-DEG
KDS-DES		See section KDS-DES	See section KDS-DES	See section KDS-DES	See section KDS-DES
Screw plugs					
Mounting screws		KDS-VS-SR BK	KDS-VS-SR BK	KDS-VS-SR BK	KDS-VS-SR BK
Cat. no.	Qty.	28779.4 100	28779.4 100	28779.4 100	28779.4 100

	IP66	UL TYPE Rating 12	UL TYPE* Rating 4x	
	RoHS compliant	Made in Germany		DNV-GL Approved Products

* 4x is for indoor use only



Features

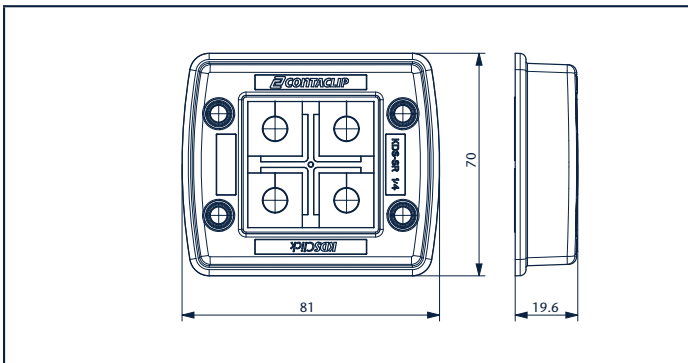
- Material: Polyamide PA 6.6, glass-fibre reinforced | TPE
- Colour: black
- Flammability: UL 94 V-0
- Temperature range: -40°C to +120°C
- Halogen-free, silicone-free
- Protection: IP66

KDS-SR

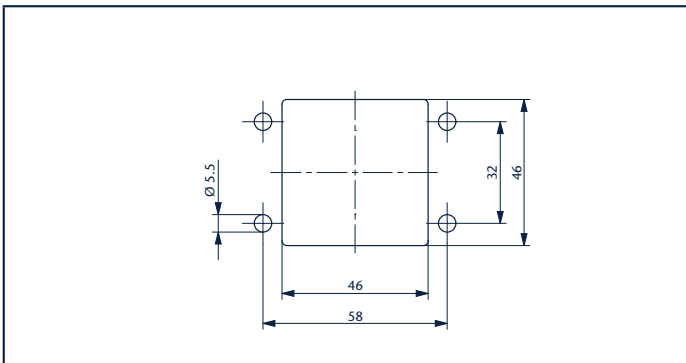
Modular cable entry system | Dimensional diagrams / Mounting cut-outs

KDS-SR 1-4

Dimensional diagram



Mounting cut-out

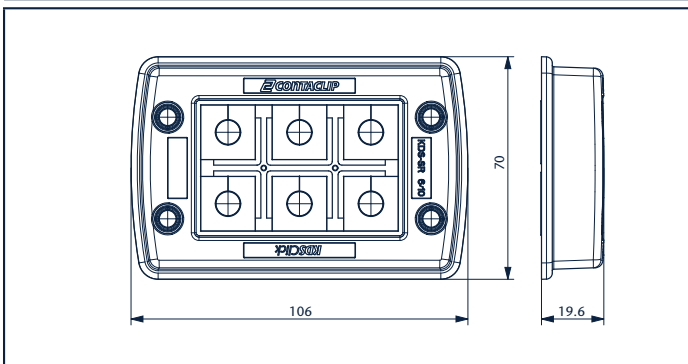


Torque for the frame's mounting screw: 3 Nm

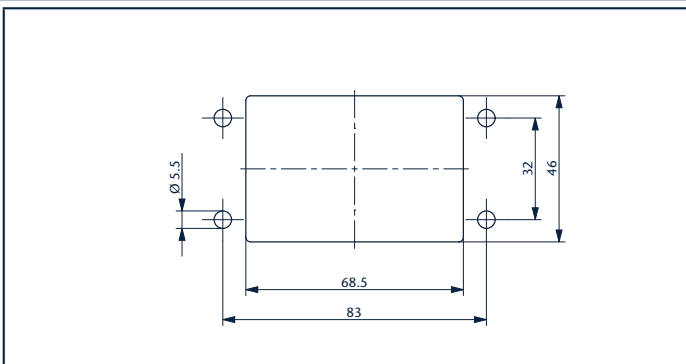
Screw for usage: ISO 4762 / DIN 912

KDS-SR 6/10

Dimensional diagram



Mounting cut-out

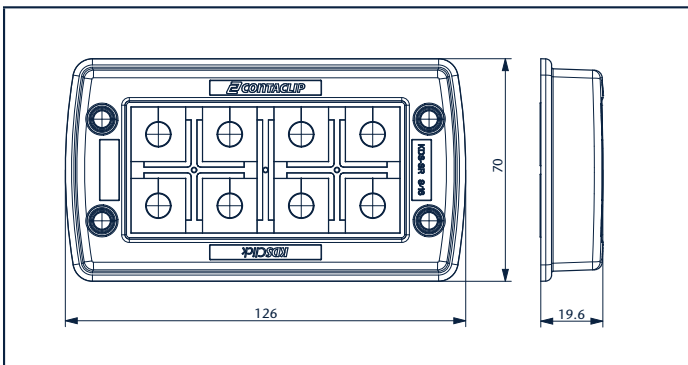


Torque for the frame's mounting screw: 3 Nm

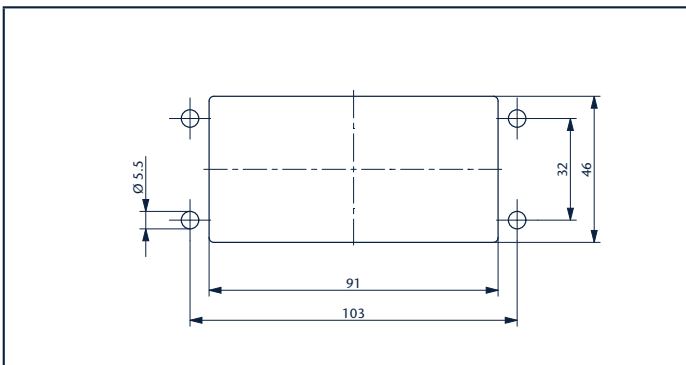
Screw for usage: ISO 4762 / DIN 912

KDS-SR 8/16

Dimensional diagram



Mounting cut-out

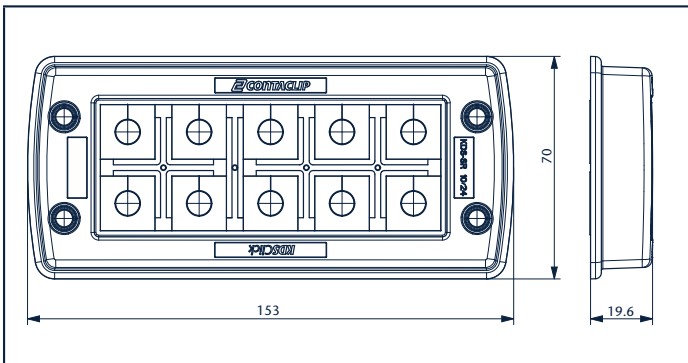


Torque for the frame's mounting screw: 3 Nm

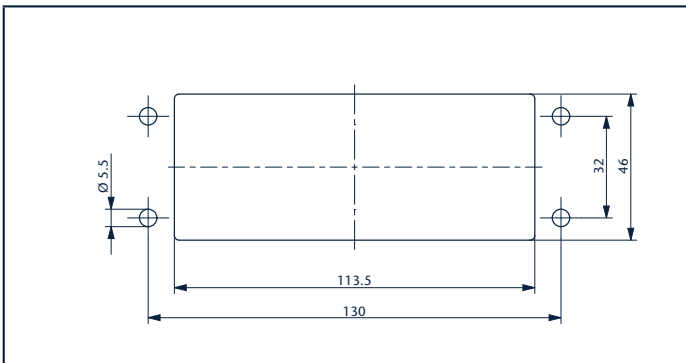
Screw for usage: ISO 4762 / DIN 912

KDS-SR 10/24

Dimensional diagram



Mounting cut-out



Torque for the frame's mounting screw: 3 Nm

Screw for usage: ISO 4762 / DIN 912

KDS-SR

Combination options

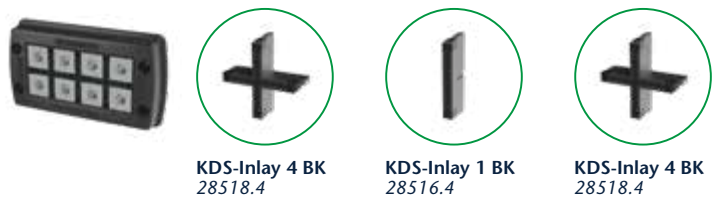
Combination options with KDS-SR 1-4



Combination options with KDS-SR 6/10



Combination options with KDS-SR 8/16



Combination options with KDS-SR 10/24





Notes

KDS-DE-RAIL and KDS-DEG-RAIL

Sealing elements made of rail-approved material for KDS cable entry systems

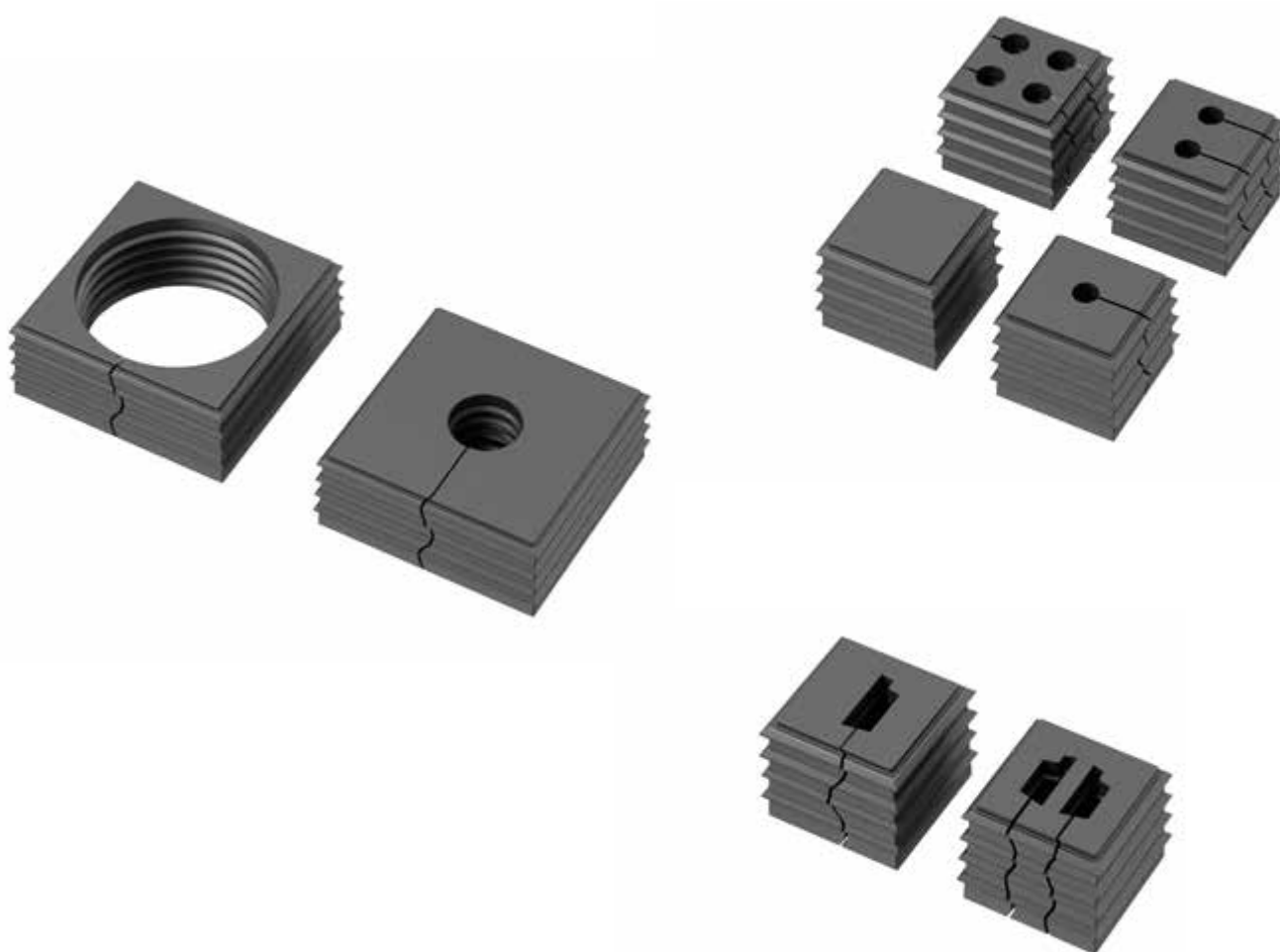
The **KDS-DE-RAIL** (small) and **KDS-DEG-RAIL** (large) sealing elements are at the heart of our rail-certified cable entries. Manufactured from a special TPE approved in accordance with **DIN EN 45545-2 (HL3)**, they ensure the highest level of safety, fire protection, and reliability for demanding applications in rail vehicles.

The conical shape of the sealing elements enables easy, tool-free pressing into the openings of the cable entries. At the same time, it ensures completely reliable sealing of the gaps and static strain relief in accordance with DIN EN 62444. The intelligent wave-cut profile of the split sealing

elements ensures they are easy-to-install and fit perfectly around the cable, even with pre-terminated connectors.

To offer you more maximum flexibility during installation combined with high packing density, numerous sealing elements are available for a wide variety of cable diameters and geometries.

The small sealing elements cover a diameter range of **1.5 to 16 mm**, while the large sealing elements serve the range from **12 to 35 mm**. If slots in the frame are currently not required, they can be sealed securely and in compliance with standards using our special dummy elements.



Your advantages

- Manufactured from rail-approved, flame-retardant material
- Smart division of sealing elements using a wave-cut profile
- Versatile, high-density assemblies are possible
- IP66 protection
- Integrated strain relief
- Available in two different sizes

KDS-DE-RAIL and KDS-DEG-RAIL

Sealing elements made of rail-approved material for KDS cable entry systems

An overview of your advantages

No loss of guarantee when using assembled cables

No need to disassemble and reconnect connectors, so the manufacturer's warranty is not voided.



Versatile, high-density assemblies are possible

1-way, 2-way, 3-way and 4-way sealing elements provide you with excellent versatility for cable management. There are currently numerous different sealing elements made of Railway-compliant TPE that can be used for sealing cables of various diameters and sizes.



Integrated strain relief

The absolute tight fit of the sealing elements also ensures a static strain relief mechanism for the cables according to DIN EN 62444.



Outstanding IP66 seal

The conically tapered shape of the sealing elements with inner and outer sealing gills in combination with the frame and inlays ensures a high level of sealing.



Smart separation of the seals

The wave-cut profile makes them easy to install and ensures a perfect fit around the cables.



Sealing elements are available in two different sizes

KDS-DE-RAIL 19.5 x 19.5 mm for cable diameters from 1.5 - 16 mm

KDS-DEG-RAIL 42 x 42 mm for cable diameters from 12 - 35 mm



Dimensional drawings



Technical drawing showing two views of a rectangular prism. The front view is a square with a side length of 19,5. The side view is a rectangle with a width of 17,5 and a height of 19,5.

Technical drawing of a square plate. The front view shows a square with a side length of 42. The side view shows the thickness of the plate, which is 17,5.



KDS-DEG-RAIL/B GR	29153.6	10	Blind
KDS-DEG-RAIL 12-13 GR	29154.6	10	13 mm
KDS-DEG-RAIL 14-15 GR	29155.6	10	15 mm
KDS-DEG-RAIL 15-16 GR	29156.6	10	16 mm
KDS-DEG-RAIL 16-17 GR	29157.6	10	17 mm
KDS-DEG-RAIL 17-18 GR	29158.6	10	18 mm
KDS-DEG-RAIL 18-19 GR	29159.6	10	19 mm
KDS-DEG-RAIL 19-20 GR	29160.6	10	20 mm
KDS-DEG-RAIL 20-21 GR	29161.6	10	21 mm
KDS-DEG-RAIL 21-22 GR	29162.6	10	22 mm
KDS-DEG-RAIL 22-23 GR	29163.6	10	23 mm
KDS-DEG-RAIL 23-24 GR	29164.6	10	24 mm
KDS-DEG-RAIL 24-25 GR	29165.6	10	25 mm
KDS-DEG-RAIL 25-26 GR	29166.6	10	26 mm
KDS-DEG-RAIL 26-27 GR	29167.6	10	27 mm
KDS-DEG-RAIL 27-28 GR	29168.6	10	28 mm
KDS-DEG-RAIL 28-29 GR	29169.6	10	29 mm
KDS-DEG-RAIL 29-30 GR	29170.6	10	30 mm
KDS-DEG-RAIL 30-31 GR	29171.6	10	31 mm
KDS-DEG-RAIL 31-32 GR	29172.6	10	32 mm
KDS-DEG-RAIL 32-33 GR	29173.6	10	33 mm
KDS-DEG-RAIL 33-34 GR	29174.6	10	34 mm
KDS-DEG-RAIL 34-35 GR	29175.6	10	35 mm

Technical drawing showing a square and a rectangle. The square has a side length of 19,5. The rectangle has a width of 17,5 and a height of 19,5.



KDS-DE-RAIL 2X4-5 GR	29139.6	10	5 mm
KDS-DE-RAIL 2X5-6 GR	29140.6	10	6 mm
KDS-DE-RAIL 2X6,5 GR	29141.6	10	6.5 mm
KDS-DE-RAIL 2X7 GR	29142.6	10	7 mm
KDS-DE-RAIL 2X8 GR	29143.6	10	8 mm
KDS-DE-RAIL 3X4-5 GR	29144.6	10	5 mm
KDS-DE-RAIL 3X5-6 GR	29145.6	10	6 mm
KDS-DE-RAIL 4X2-3 GR	29146.6	10	3 mm
KDS-DE-RAIL 4X3-4 GR	29147.6	10	4 mm
KDS-DE-RAIL 4X4,5 GR	29148.6	10	4.5 mm
KDS-DE-RAIL 4X5 GR	29149.6	10	5 mm
KDS-DE-RAIL 4X6 GR	29150.6	10	6 mm



KDS-DE-RAIL/1XASI GR	29151.6	10	
KDS-DE-RAIL/2XASI GR	29152.6	10	



Features

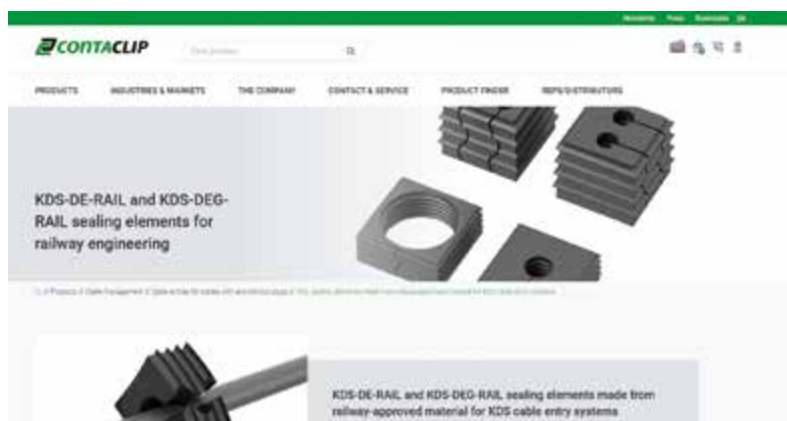
- Material: Rail-compliant dark grey TPE
- Flammability: UL 94 V-0
- Temperature range: -40°C to +85°C (static)
- Halogen-free, silicone-free
- IP66 protection
- Material approval: DIN EN 45545-2 (02/2016; 10/2020), R22/R23, HL1, HL2, HL3

IP66

RoHS
compliant

**Made in
Germany**





Notes

Certified solutions for railway technology acc. to EN 61373

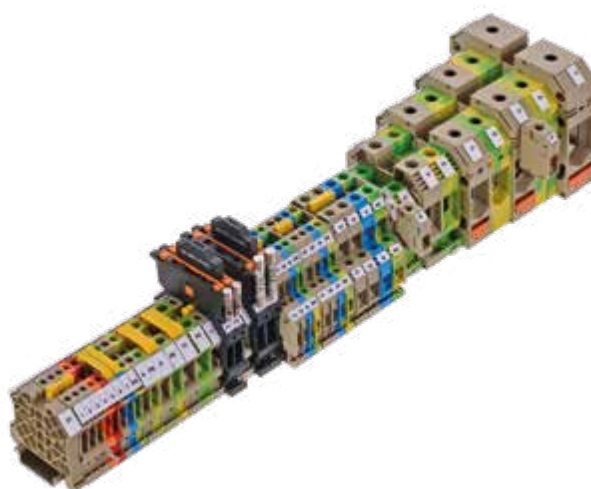
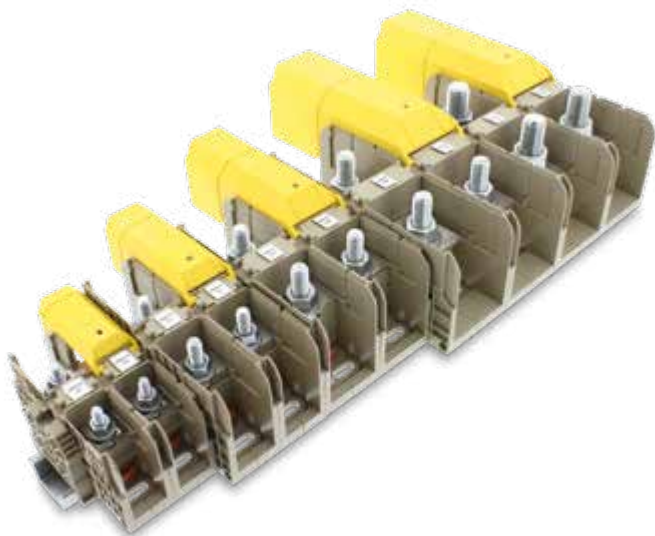
EN 61373

In railway vehicles and railway infrastructural facilities, electrical connections and cable management systems must also operate reliably and permanently under extreme conditions. **Vibrations, shock loads, temperature fluctuations** as well as high requirements for safety and availability represent particularly high demands on the components used.

CONTA-CLIP offers a targeted portfolio of components that fulfil the requirements of **EN 61373** and have been specially developed for applications where mechanical resistance and operational safety are essential. From the safe installation of pre-assembled and non-pre-assembled cables to high-performance terminal blocks with a screw connection system and heavy-duty stud terminal

blocks for high-current applications – the product portfolio includes reliable components for a wide range of requirements in railway technology.

Thanks to their robust design, easy installation, and long-term reliability, CONTA-CLIP's solutions support the safe and cost-effective operation of railway vehicles, signalling and safety systems, as well as infrastructure and power supply systems. This results in durable connections that operators and manufacturers can rely upon even under demanding operating conditions.



More information on certified solutions for railway technology according to EN 61373 can be found here:



CONTA-CABLE

Cable entries for cables with and without plugs

The cable entry systems from CONTA-CLIP provide safe and time-saving installation of pre-assembled and non-pre-assembled cables. Due to their robust design that complies with EN 61373 they are ideal for applications that focus on reliability and ease of maintenance.



CONTA-CONNECT

Terminal blocks with screw terminals

CONTA-CLIP's screw terminal blocks ensure permanently secure electrical connections, even under heavy mechanical stress. They provide high contact reliability, proven connection technology and a reliable performance under demanding railway applications.



CONTA-CONNECT

Terminal Blocks with a Bolt Connection System

CONTA-CLIP's bolt connection system offers a particularly heavy-duty connection solution for applications involving high currents and large conductor cross-sections. The heavy-duty design ensures a secure contact and reliable operation even under severe vibrations and shock loads.



The **heart** of every smart connection



**Innovative Cable Management
Solutions by CONTA-CLIP**

www.conta-clip.com

