

Electronic enclosure system  
**KV 4600**



## Multifunctional enclosure system

Full functionality  
at the  
enclosure front



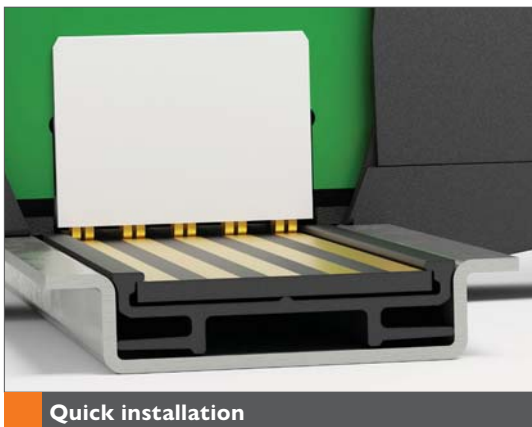
# Modular and innovative enclosure system

**Ready for the future - the electronic enclosure KV 4600 sets new standards in terms of modularity and functionality. All functions are integrated into the enclosure front, thus offering a high degree of flexibility for your electronics.**

The multifunctional, modular enclosure system with overall widths of 12.5 / 17.5 / 22.5 mm and further are particularly suitable for modern control and industrial IoT applications as well as a number of further applications - also applicable as single enclosure and stand-alone solution. Reduce your installation effort - with just a few enclosure components to the finished device. Increase your degree of automation - the push-in terminals meet the high requirements of the reflow soldering process. Individuality - customer-specific adaptations can be realized in a simple and cost-effective way.

## Maximum design freedom

The PCB surface available can be fully used for the layout. Due to labyrinthine enclosure geometries between the circuit board and the outside edge, high clearance and creepage distances of up to 8 mm are reached (without ventilation slots).



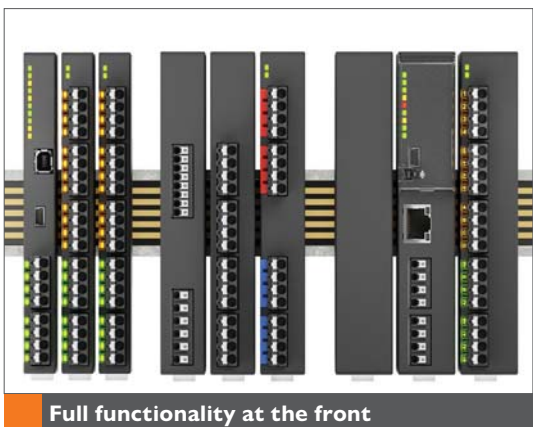
**Quick installation**

Simply snap the mounting rail bus system (In-Rail-Bus) - and the device communication for power, signal and data transfer is ready. The contact spring block with gilded double-spring contacts can be soldered by machine and offers high contact reliability.



**Manifold labelling options**

The enclosure offers a large surface for individual and abrasion-resistant laser markings and pad or digital printing processes at your option.



**Full functionality at the front**

The large front area allows the individual arrangement of terminals and the integration of common communication interfaces (RJ45, D-SUB and USB connections, light conductors, radio, and NFC).

### Circuit board arrangement

The mounting position of the circuit board is perpendicular to the top rail. It is possible to integrate up to two circuit boards.



### Highlights:

- ▶ Module widths from 12.5 mm and different installation depths available
- ▶ Usage of up to two circuit boards per enclosure width
- ▶ High signal density due to the use of compact push-in terminals
- ▶ Light conductor concept - high display density with minimum space requirements
- ▶ Common bus concepts can be integrated into the bottom assembly
- ▶ Optionally sealable, tiltable front cover (manipulation protection)
- ▶ Optional mounting rail bus system (In-Rail-Bus)
- ▶ Easy and cost-effective realization of customer-specific adaptations

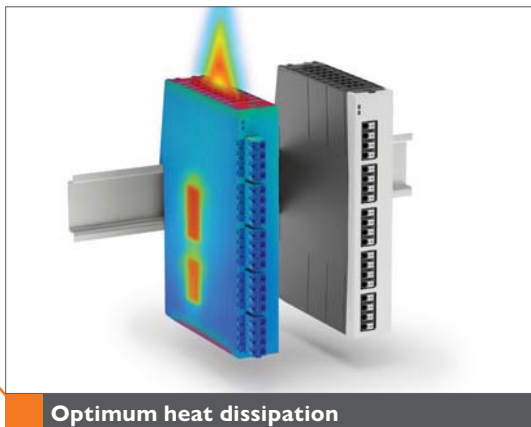
### Customer benefits:

- ▶ Full functionality at the enclosure front
- ▶ PCB surface up to 9500 mm<sup>2</sup> allows multiple applications and a cost-effective design
- ▶ Quick installation by simplified enclosure design
- ▶ High mechanical stability and vibration resistance



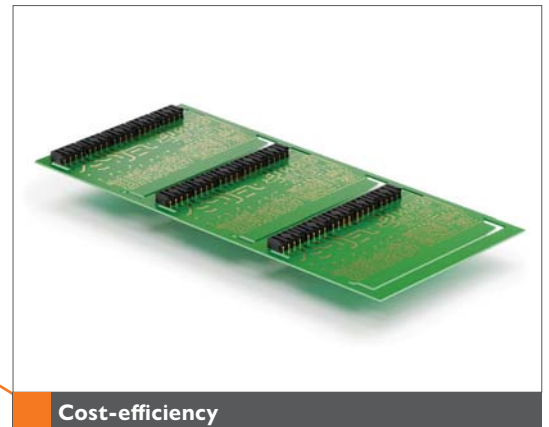
### Three-part enclosure design

The optionally available division of the enclosure bottom into two functional units allows the installation of an additional PCB within the bottom assembly. This individually designable additional board ensures the manufacturer-independent, flexible, and easy integration of interfaces and communication components for module networking.



### Optimum heat dissipation

Lateral ventilation slots ensure optimum heat dissipation by free convection, thus allowing for applications with high thermal stress.



### Cost-efficiency

The PCB design allows for cost-efficient use design, thus reducing material costs.

# Fixed integrated and pluggable connection technology

## Integrated ventilation slots

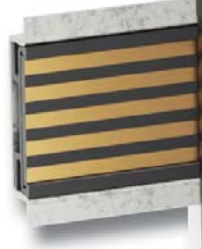
The different overall widths are available with or without ventilation slots.

## Fixed integrated terminals



## Easy installation

The enclosure design allows for a quick and easy installation by means of snapping.



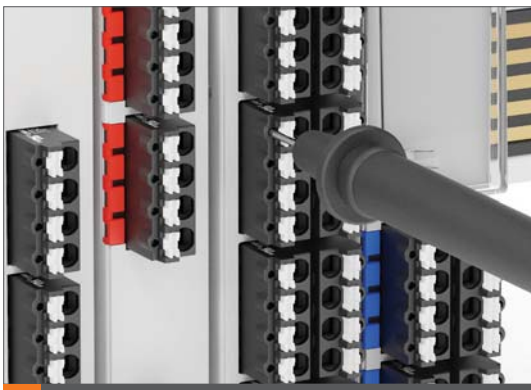
## Fixed push-in terminals

The push-in terminals suitably packed for machine processing meet the high requirements of the reflow soldering process and are available as 4, 6, 8, 10-pin versions in the grid 3.5 or 5.08 mm.



## Quick diagnosis with fixed terminals

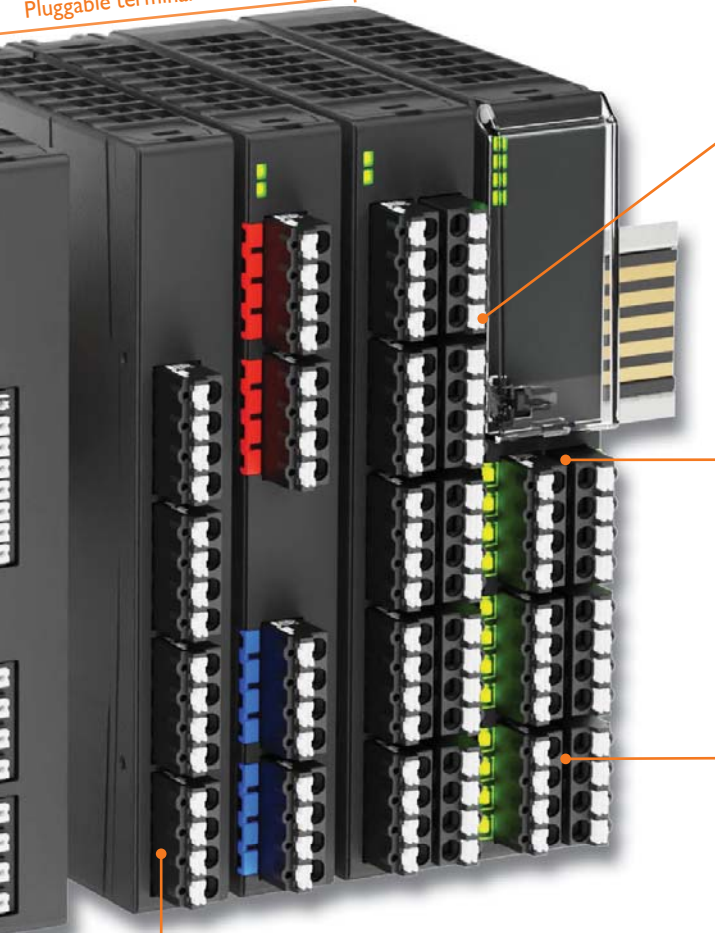
The integrated test point makes a quick on site diagnosis possible.



**Quick diagnosis with pluggable terminals**

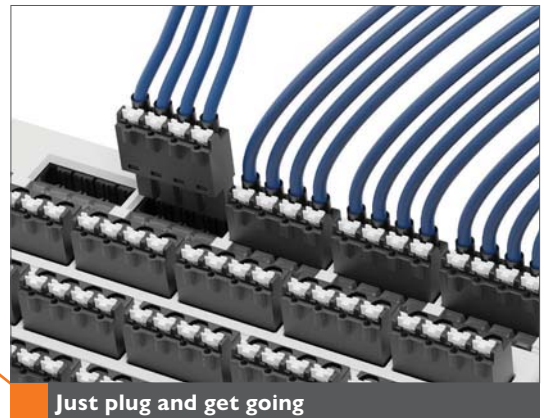
The integrated test point allows for a quick and easy diagnosis.

Pluggable terminals



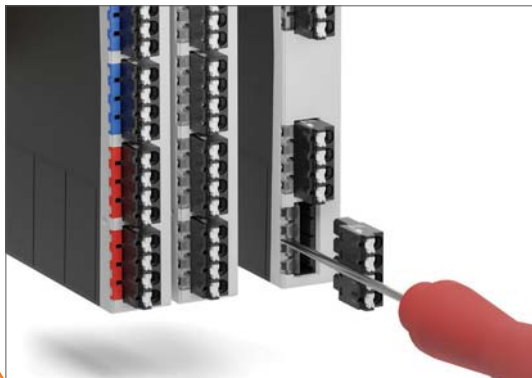
**Highlights**

- ▶ More connections on less width - up to 40 pins per 22.5 mm module
- ▶ The push-in terminal technology meets the high requirements of the reflow soldering process
- ▶ Quick, tool-free, direct and vibration-resistant connection of the conductors
- ▶ High mechanical stability and vibration resistance
- ▶ Pluggable push-in terminals 4-pin in the grid 5.0 mm
- ▶ Fixed push-in terminals 4, 6, 8, 10-pin in the grid 3.5 or 5.08 mm
- ▶ Optionally, each terminal connection can be assigned to a light conductor



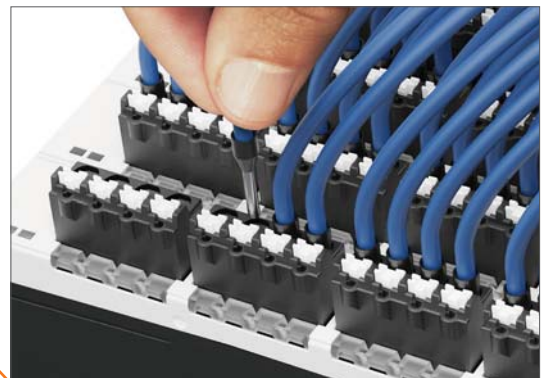
**Just plug and get going**

The pluggable terminal blocks arranged in line allow for the use of prewired leads. This saves time and improves the handling. Due to the optionally available coding of the individual terminal blocks wiring errors are effectively avoided.



**Convenient unlocking**

The integrated plug removal aid allows for the convenient unlocking of individual terminal blocks. An ideal solution for assemblies with high connection density and limited spatial conditions.



**Pluggable cage clamp terminals (Push-In)**

Tool-free installation of the conductor by pluggable push-in terminal technology in the grid 5.0 mm (4-pin). Our modular terminal technology makes the wiring quicker, easier and more reliable.

# Electronic enclosure smart and super compact

The I/O electronic enclosure is a variant of the enclosure series KV 4600 and excels by its super compact module width of only 12.5 mm and depth of 66 mm. The I/O enclosure is particularly suitable for modern control and industrial IoT applications, e.g. in the area of process engineering, and a number of further applications with confined space conditions. The pluggable push-in connection technology is preferably integrated from the front side. The wiring, reading of signals or the connection of plugs is therefore practice-oriented and convenient in the application. Device systems are often contacted and managed decentrally via bus systems. For this purpose, the I/O electronic enclosure offers connecting elements that are separately available and make it possible to link the individual modules.



**Quick diagnosis**

The integrated test point allows for a quick and easy diagnosis.



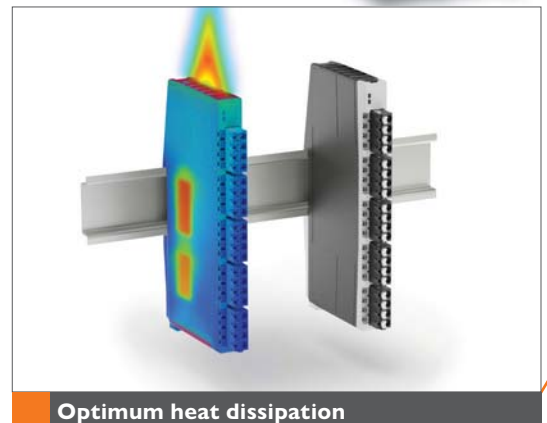
**Mounting rail bus system (In-Rail-Bus)**

The optionally available mounting rail bus system In-Rail-Bus allows for the easy networking of system units by means of a bus PCB integrated into the mounting rail; it is available with 5 or 8 conductor paths.



**Variable front connection technology**

The variable front connection technology offers the opportunity to easily integrate common communication interfaces and connection sockets.



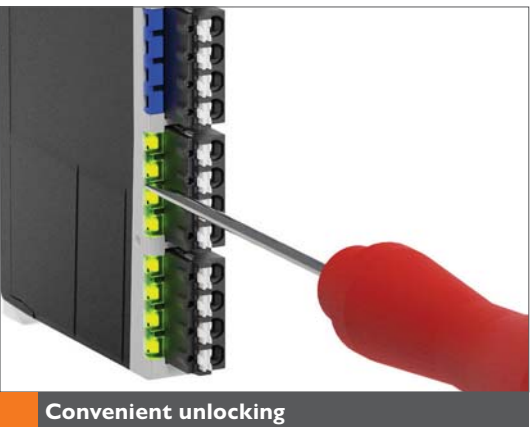
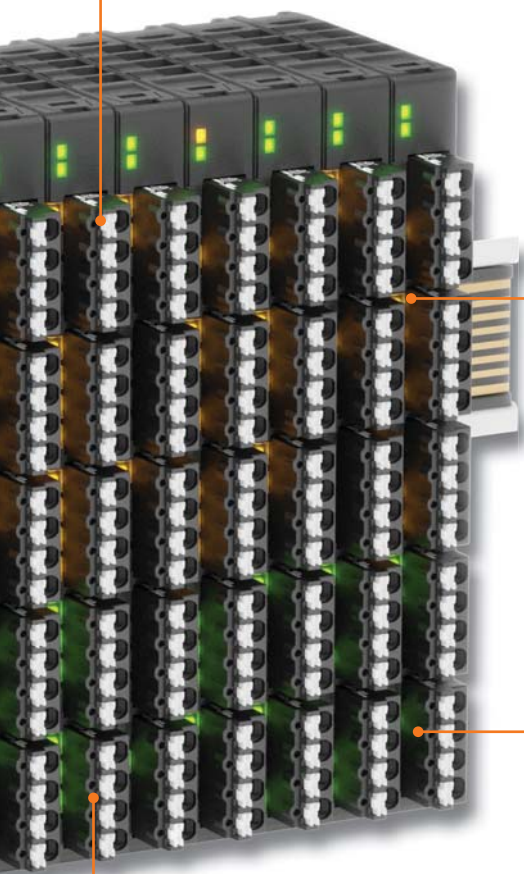
**Optimum heat dissipation**

Lateral ventilation slots ensure optimum heat dissipation by free convection, thus allowing for applications with high thermal stress.



### Immediate diagnosis

Each terminal connection can be assigned to a light conductor. With an LED directly at the channel and status displays at every module, device faults can be localized immediately. Furthermore, the space-saving solution offers sufficient space for the individual labelling of the terminal points.

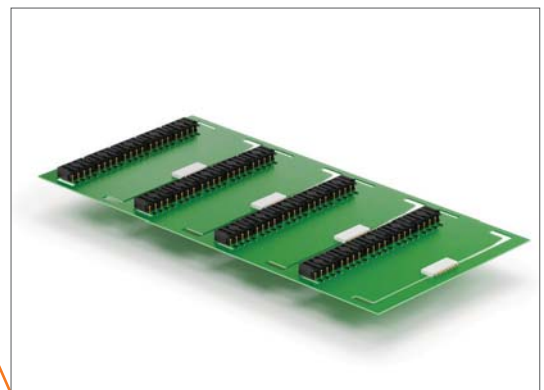


### Convenient unlocking

The integrated plug removal aid allows for the convenient unlocking of individual terminal blocks. An ideal solution for decentral assemblies with high connection density and limited spatial conditions.

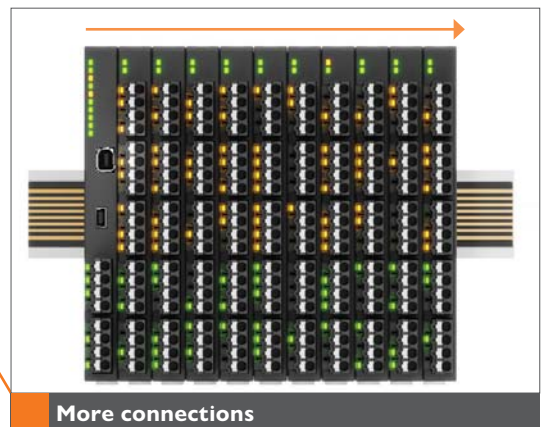
## Highlights

- ▶ Convenient front connection technology for the transfer of signals, data, and power
- ▶ Up to 20 inputs/outputs each module - 5 slots per circuit board
- ▶ Space-saving module width of only 12.5 mm with an installation depth of 66 mm
- ▶ PCB surface of 6429 mm<sup>2</sup> allows for manifold applications
- ▶ High mechanical stability
- ▶ Common bus concepts can be integrated into the bottom assembly
- ▶ Optionally, each terminal connection can be assigned to a light conductor



### Maximum economic efficiency










The enclosure with its reduced installation depth of 66 mm is customized for common I/O applications. The PCB design of more than 6429 mm<sup>2</sup> developed for these applications increases the economic efficiency by cost-efficient use design.



### More connections

Up to 20 connections in the grid 5.0 mm with only 12.5 mm overall width. The I/O modules can be extended as needed.

# Overview of single parts modules

Module	Front plate with variable breakouts	Enclosure frame + enclosure bottom
 <p data-bbox="89 734 290 766">Width 12.5 mm</p>		 <p data-bbox="1043 734 1225 766">Depth 66 mm</p>
 <p data-bbox="89 1238 290 1270">Width 17.5 mm</p>		 <p data-bbox="1043 1238 1225 1270">Depth 92 mm</p>
 <p data-bbox="89 1758 290 1789">Width 22.5 mm</p>		 <p data-bbox="1043 1758 1225 1789">Depth 92 mm</p>

Please find further configurable variants, coding options and accessories such as a sealable transparent cover (manipulation protection) in the respective data sheets or contact us.



Enclosure base

Terminal technology



Depth 92 mm



Depth 92 mm



Terminal block  
+  
pluggable cage clamp terminal  
4-pin design  
Grid dimension 5.00 mm



Fixed integrated cage clamp terminal  
4, 6, 8, 10-pin design  
Grid dimension 5.08 mm



Fixed integrated cage clamp terminal  
4, 6, 8, 10-pin design  
Grid dimension 3.5 mm



Terminal block  
+  
pluggable cage clamp terminal  
4-pin design  
Grid dimension 5.0 mm



[dold.com/kv4600](http://dold.com/kv4600)

You need more information on the connection technology?



# Your path to the customer-specific enclosure

Are you in search of an individual electronic enclosure for your next device development? In this case, we have the right solution for you! Our enclosures are far more than mere packaging. They give your product a face, adapt to your requirements, offer functionality, and convince by design.

Profit from existing tool inserts in combination with a clever tool concept - we consider your wishes in terms of shape and color.



- 1 Definition of the enclosure width and depth based on your space requirements.
- 2 Design the front plate according to your needs. The large front plate offers space for the individual arrangement of breakouts. No matter if for terminals, light conductors, or integrated communication interfaces.
- 3 Define the number of terminal points. The push-in terminals are available with different numbers of pins and grid dimensions of 3.5 and 5.0 mm. Alternatively, we also offer a pluggable model. In order to avoid mismatching, they can optionally be supplied in pre-coded design.
- 4 Do you plan the networking of several module units? Our optionally available In-Rail-Bus system can be ordered with 5 or 8 conductor paths. Alternatively, common bus concepts can be integrated as well.
- 5 There are different accessories available. A variety of light conductor variants, grounding springs or sealable transparent covers. Further accessories on request.
- 6 Send us your ideas as a sketch or a 3D-model. We will be happy to provide goal-oriented support with the design-in process.

## Order your personal sample now

Check it out for yourself! Request your personal sample now to experience our electronic enclosure KV 4600 in practice. We will be happy to support you with the selection of suitable products for your projects. Please fill in the form on our website to get a sample. We will get in touch with you shortly.



[www](http://www.dold.com/kv4600)

[dold.com/kv4600](http://dold.com/kv4600)

Sample? Directly online!  
or by phone under  
**+49 7723 654-0**



# What characterizes Dold?



The Dold philosophy “Our Experience. Your Safety.” says it all: As a solution provider with over 90 years of experience and more than 400 employees, we manufacture top quality “Made in Germany” with state-of-the-art production plants at the location Furtwangen.

The comprehensive product spectrum includes control cabinets, safety relays with forcibly actuated contacts and electronic enclosures. All that in a manufacturing depth that is second to none. The combination of expertise, innovation and experience makes us a leading manufacturer worldwide. As a provider of standards solutions, we are always the right partner for our customers when it comes to individual industry solutions with the little extra something.

The personal proximity to our customers is particularly important for us. We listen, analyze and act by offering flexible high-tech solutions from one source and adapted to individual requirements.

Thanks to our own development lab, highly automated production with modern tool making and plastic injection moulding as well as a superbly organized sales team, we guarantee highest quality and short delivery times. Your Benefits: Highest availability, reliable planning, and low production costs.



- Mechanical and plant engineering
- Energy production and distribution
- Oil and gas industry
- Automation
- Transport and conveyor technology
- Railroad technology
- Aviation and shipping industry
- Paper and print industry
- Food industry
- Rubber and plastic industry
- Refrigeration and heat industry
- Automotive industry
- Chemical and pharmaceutical industry
- Medical engineering
- Water and sewage
- Mountain railways and ski lifts

... and wherever safety enjoys top priority.  
Also in your industry!

# Dold - Solutions for your electronics. Just as individual as your application.

## The right enclosure counts!

Electronic enclosures not only package your electronics but offer a lot more. Due to modern tool concepts, "ready-made" solutions are a matter of the past. The high flexibility of our enclosure systems in terms of shape, color and function allows to adapt them easily to your requirement and application.

We see ourselves as a project partner and support you in the design-in process. You can rely on our competence based on decades of experience and fully focus your valuable resources on the electronics development.

We will be happy to inform you about further product solutions from our company.



### Control cabinet enclosures

With different modular enclosure series in common overall widths, equipped circuit boards become installation-friendly electronic modules. In this way, the suitable enclosure solution for future-oriented automation devices will always be available. Profit from enclosure systems with graduated sizes, variable connection technology and optional mounting rail bus system.



### Distributor enclosures

The distributor enclosures meet all requirements in the area of modern building automation. They cover all common overall widths and installation depths, offering plenty of space for your electronics. With a wide range of variants, your individual requirements can easily be met.



### Safety relays

As the competence leader for safety relays with forcibly guided contacts, PCB and miniature relays, we offer high-tech and high-quality solutions for the safe switching of electric currents with minimal dimensions.



**DOLD**

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