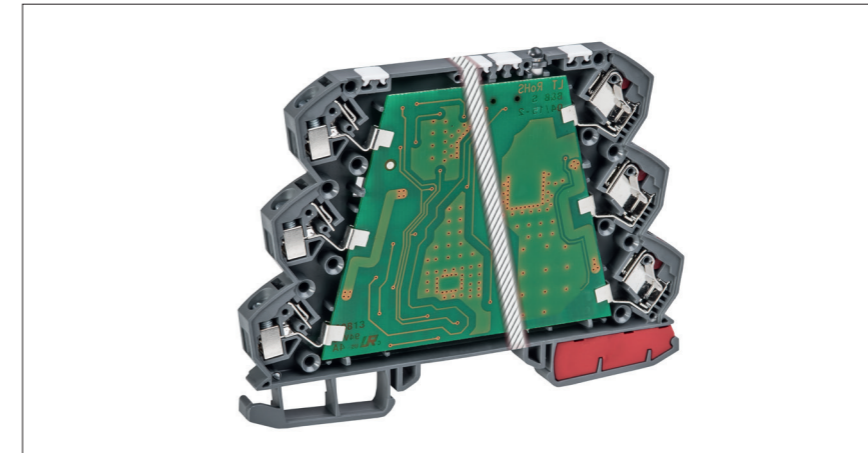




PTR HARTMANN

A Phoenix Mecano Company



Represented worldwide in over 60 countries.



INTEGRATED CONNECTION TECHNOLOGY IN-SERIES

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INTEGRATED CONNECTION TECHNOLOGY

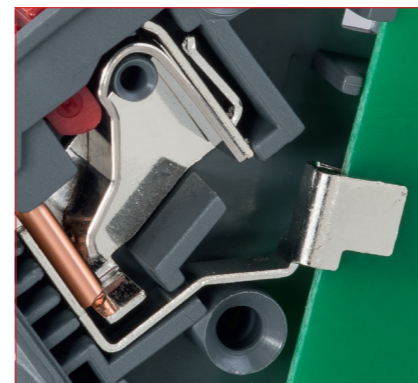
Overcome the limits to conventional PCB connection technology! Thanks to PTR HARTMANN's integrated connection technology, electrical contacts can be incorporated directly in insulation material housings. In this way, the solution – which is as innovative as it is flexible – becomes an integrated component of your end device.

YOUR ADVANTAGES

- Low-cost manufacture
- High level of technical functionality
- Greater flexibility for product design

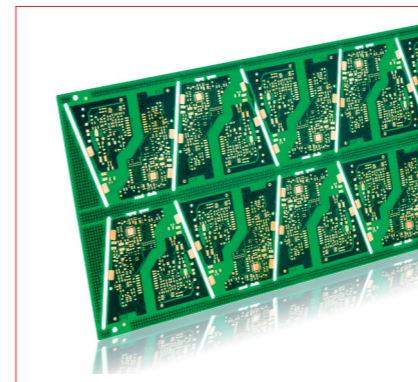
THE CHOICE IS YOURS

Working together with PTR HARTMANN, develop your individual solution, or make use of PTR HARTMANN housings with their integrated connection technology.



SOLDER-FREE PCB CONTACTING

The integrated connection technology considerably expands the range of uses for electrical contact technology. One example of this is connection elements in which the PCB is connected directly by means of a plug-in connection. There is no need for time-consuming manual soldering, or for the expensive use of a soldering robot. There is also no need for the process of wave soldering. The PCBs can be completely mounted using the reflow soldering process.



LOW-COST MANUFACTURE

Take advantage of the savings which you can make by using integrated connection technology. These savings result not only from solder-free PCB contacting, but also from the increased flexibility in product design. This means that it is easy to create simpler PCB shapes. The result is that PCBs with simple geometric shapes help to reduce the milling costs, which increases utilisation.



COMPLETE MANUFACTURE

Profit from our complete service. On request we will take over full manufacturing of the end devices, including assembly according to ESD requirements, function test, laser marking, packing and dispatch.

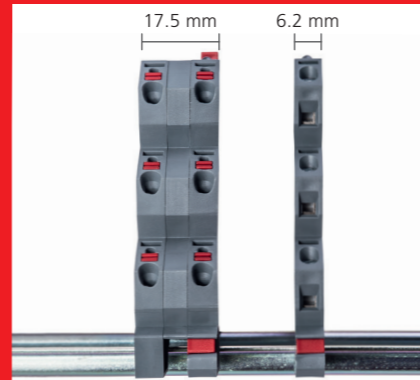
APPLICATION-ORIENTED CONNECTION TECHNOLOGY



LOW ELECTRICAL RESISTANCE



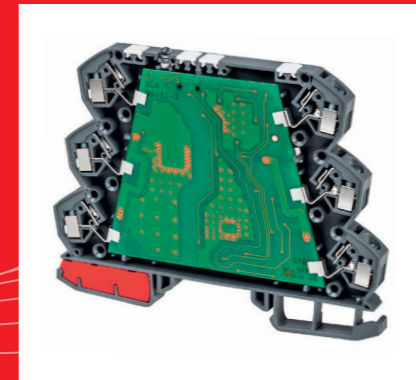
SPACE-SAVING



EXPANDED RANGE OF MATERIALS



APPLICATION-SPECIFIC DESIGN



FORM FOLLOWS FUNCTION



Here is one more advantage of the method: The customer-specific requirements are right at the heart of the process of selecting the technology for connection of the conductor. The range of possibilities is as broad as the profile of requirements for connection technology. As an example, while one application can be equipped with tried-and-tested screw technology, push-in connection technology can be used in another – e.g. when freedom from maintenance, fast assembly and possibly other requirements play a role, such as in the railway sector.

Other characteristics of the technology include low electrical contact resistance and the high level of mechanical reliability. This is because the conductor connection, PCB contacting and optional contacts, for example, an additional connection for an adjacent jumper, can be concentrated on a single metal part. This means that integrated connection technology satisfies a wide range of electrical requirements.

Above all when there is a shortage of space, integrated connection technology shows how much it offers: The integration of the technology in the customer's application makes it unnecessary to have a separate insulation material housing. The choice is yours. You can make use of the smaller consumed space to reduce the size of your application, or you can make greater use of the additional space. You benefit in both cases.

It's your choice, and you can select the individual characteristics of the plastic materials needed for the application. These include laser-markable material, or requirements according to NFF 16-101/102, UL94 V0 or EN 60335.

In the past, it was the shape of the PCB connection technology which also determined the design of the end device. This is not the case with integrated connection technology, because the design can be oriented towards the individual requirements of the application.

Here is one more advantage: Customers who use integrated application technology but do not want to integrate it in a joint newly-developed housing can still make use of the innovation. With the interaction of function and integrated connection technology, PTR HARTMANN provides the appropriate design for the application and equips it with the optimal housing solution. Examples of this include PTR HARTMANN solutions for top-hat rail housing which incorporate connection technology, and application-specific accessories such as actuation aids for switches of light-conductor prisms right up to the complete development of individual solutions.



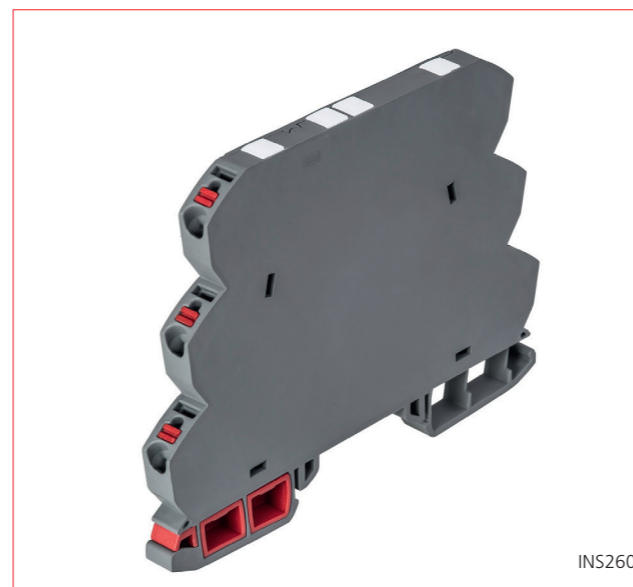
INTEGRATED CONNECTION TECHNOLOGY

SOLUTIONS FOR TOP-HAT RAIL HOUSINGS: PTR HARTMANN IN-SERIES

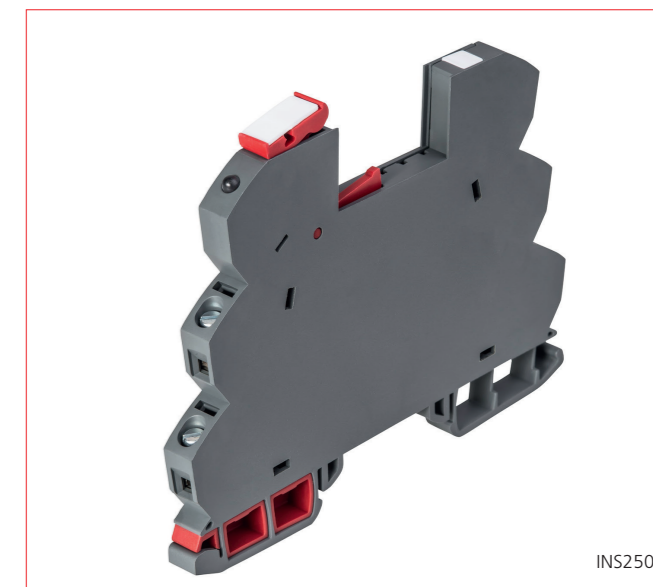
Compact construction in connection with a laser-markable housing, a range of individual marking opportunities, plus a high level of compatibility with all modules and connection technologies: With its IN-Series, PTR HARTMANN offers complete top-hat rail housings which are equipped with integrated connection technology. The choice is between the INS250, INS260 and INM260 modules with overall widths of 6.2 mm and 17.5 mm, with up to 12 conductor connections using tried-and-tested screw technology and time-saving push-in technology.

ADVANTAGES

- Height on TS35 mounting rail under 80 mm, allows use in field distributor boxes
- Tried-and-tested screw technology, time-saving push-in technology
- Clear equipment marking – up to 8 labelling fields
- Test openings under the centre labelling fields
- Uniform contours and continuous bridging using insulating jumper combs with all constructions and connection technologies
- Laser-markable plastic, conforms with UL94 V-0 and NFF 16 101/102 I2F2 requirements
- Snap-on foot on both sides, individually-mountable DIN rail coding, e.g. for use as an input / output system
- Optional housing openings for LED prisms, DIP and slide switches



INS260



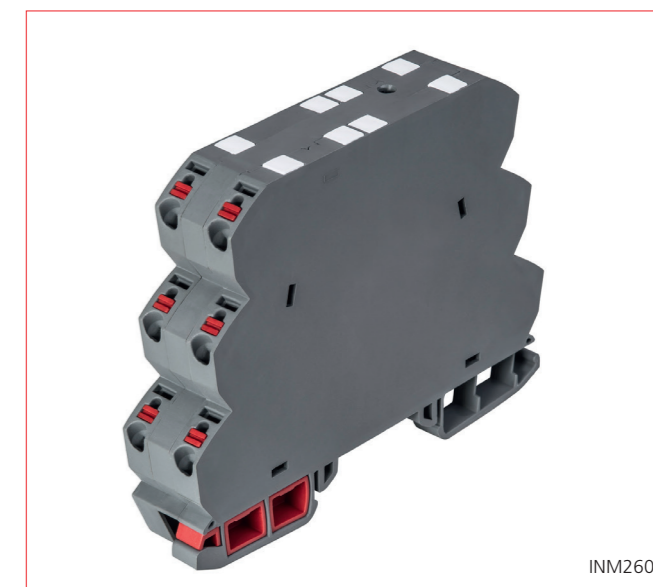
INS250

INS260

- Overall width: 6.2 mm with up to 6 conductor connections
- Connection technology: Screw and push-in
- Multi-function housing: The function of the end device is only determined by the equipping of the installed PCB
- Areas of application: Industrial and building automation, signal converters, over-voltage protection

INS250

- Overall width: 6.2 mm with up to 5 conductor connections
- Connection technology: Screw and push-in
- Plug-in section for an interchangeable module for the exchange of wearing components such as relays or varistors
- Easy removal of the interchangeable module by means of an ejector



INM260

INM260

- Overall width: 17.5 mm with up to 12 conductor connections
- Connection technology: Screw and push-in
- Increased range of uses thanks to the fitting of 2 PCBs, e.g. in order to comply with EMC requirements by the physical separation of function unit and mains unit
- Use of components up to a height of 11 mm (if a PCB is used)