



THE STRONGEST LINK.



ISpac ISOLATORS

Small but mighty.

ISpac

MORE THAN JUST AN ISOLATOR

The expectations towards isolators are high. In addition to the safe galvanic Ex i isolation and precise signal transmission, they shall report errors, be easy to install, and operate in a reliable manner for a long time.

With the ISpac series, R. STAHL offers a solution with a unique concept that meets all expectations. The offer is completed by our unparalleled service and support.

COMPACT

Save up to 30% of space with the new modules in slim 12.5 mm enclosures. Single-channel and dual-channel design.

SAFETY

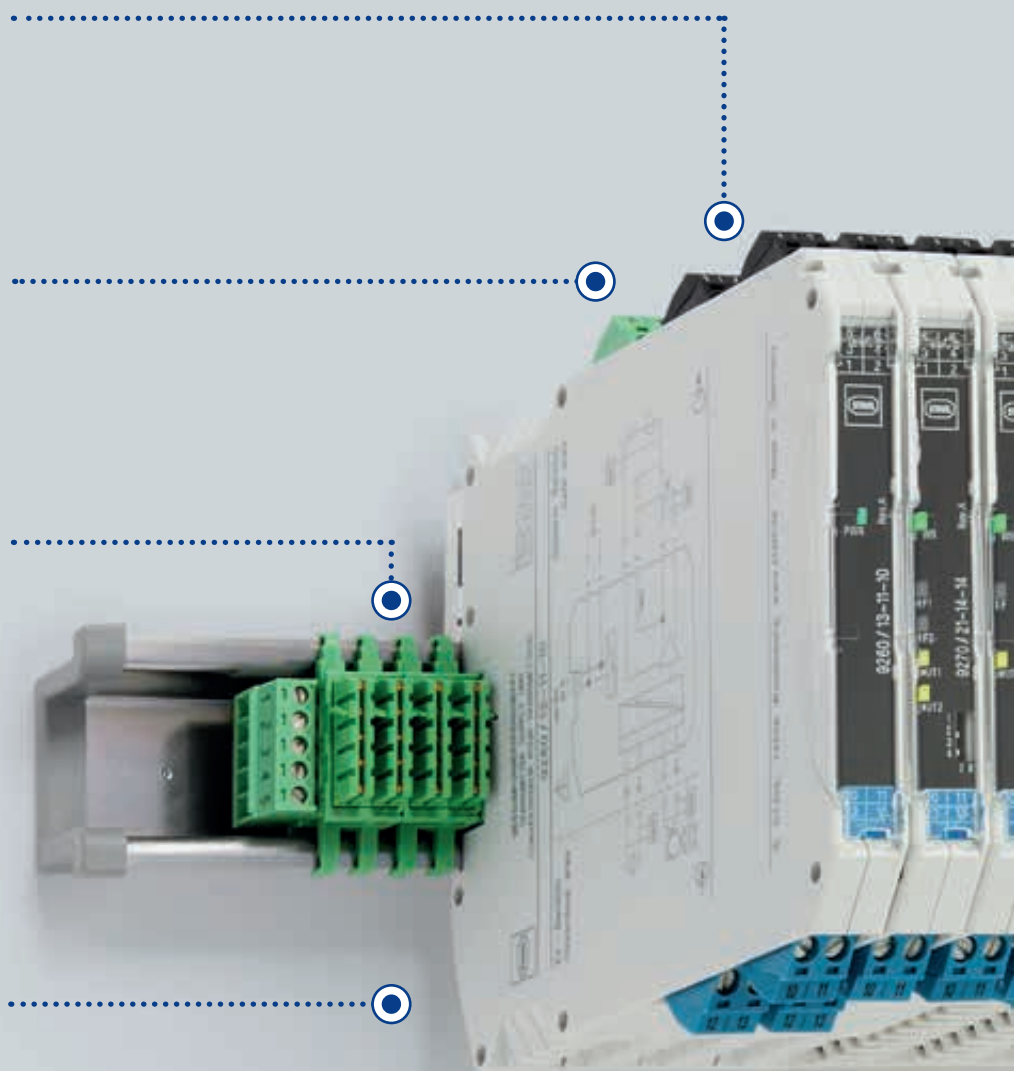
Almost the entire portfolio can be used for functional safety SIL 2 or SIL 3.

EFFICIENT INSTALLATION

The pac-Bus is power supply and error reporting rolled into one. Individual wiring now belongs to the past.

SIMPLE ENGINEERING

ISpac offers identical modules, whether for installation on a DIN rail or in the pac-Carrier. Engineering is supported by technical drawings, 3D data, EPLAN macros, and much more.





CONTROL SYSTEM, PLC OR ESD SYSTEM



EXPLOSION PROTECTION
 The ISpac isolators enable the safe operation of field devices in all hazardous areas and can be installed even in Zone 2 / Class I, Division 2.

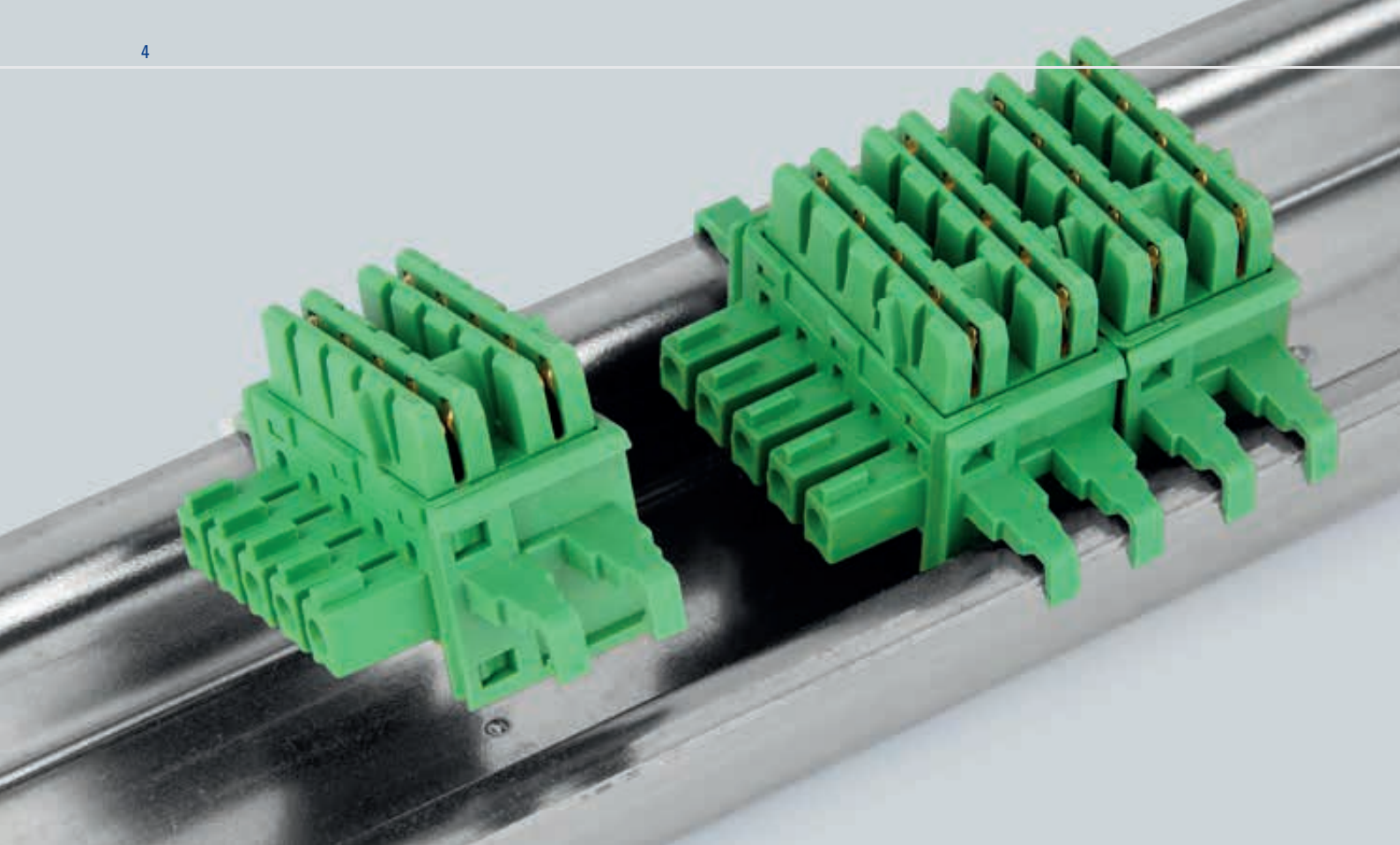
HIGH AVAILABILITY
 The modules have been developed and tested for a service life of at least 15 years.

FUTURE-PROOF
 The new 12.5 mm modules and the existing ISpac portfolio can be combined with each other.

INTRINSICALLY SAFE
 Ex ia or Ex ib

FIELD DEVICES IN HAZARDOUS LOCATIONS

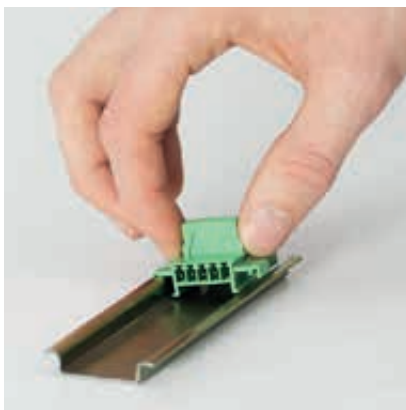




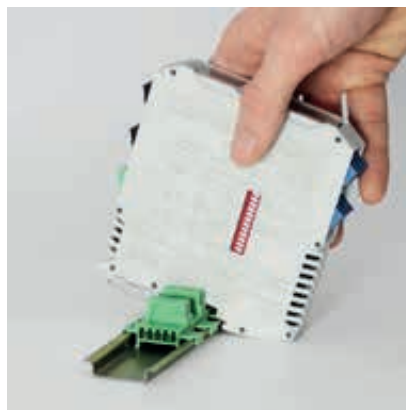
pac-Bus SIMPLY FLEXIBLE

Plug and engage – and the ISpac isolators on the efficient and expandable pac-Bus made by R. STAHL are ready to go. Up to 40 ISpac modules can be installed without using tools and within a very short time.

The pac-Bus provides the modules with auxiliary energy and allows for a collective error signalisation for all modules, which significantly simplifies troubleshooting.



Plug in ...



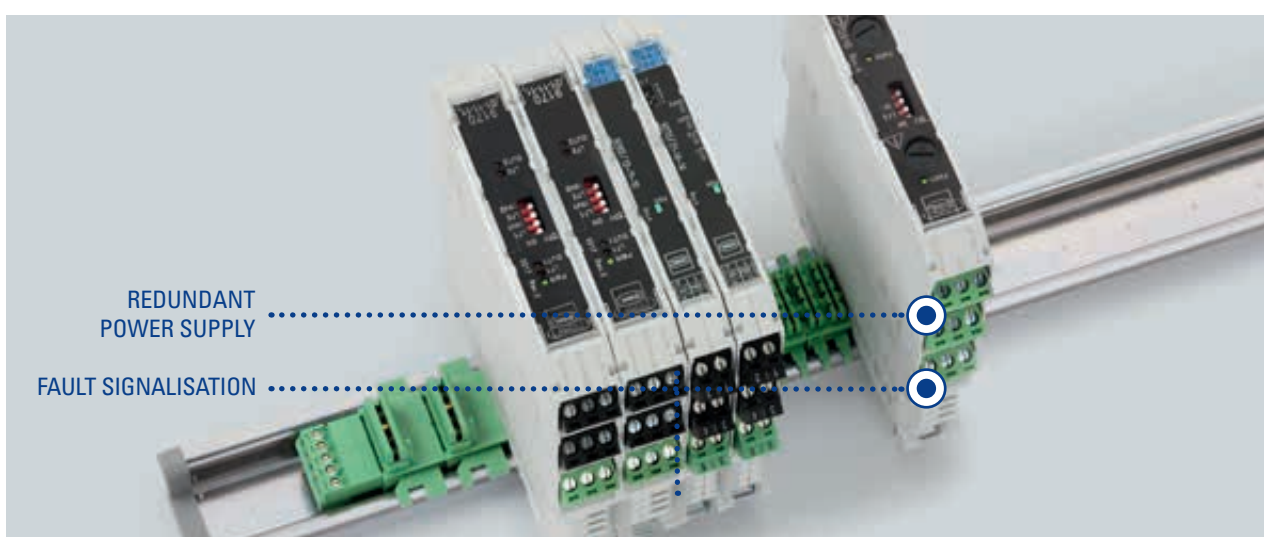
Engage ...



Go ...

The power supply concept can be flexibly adapted to the requirements – whether it be the installation of a handful of modules with direct connection via a terminal on the module or via pac-Bus for several hundreds of modules.

The supply of a pac-Bus segment can be realised directly via the end terminal or a supply module.



HIGHLIGHTS

- Combination of 12.5 mm and 17.6 mm modules possible.
- Precise adjustment to the number of the modules.
- Quick mounting on a DIN rail without using tools.
- Robust, vibration-tested design.
- Direct supply or redundant supply, monitored for failure.

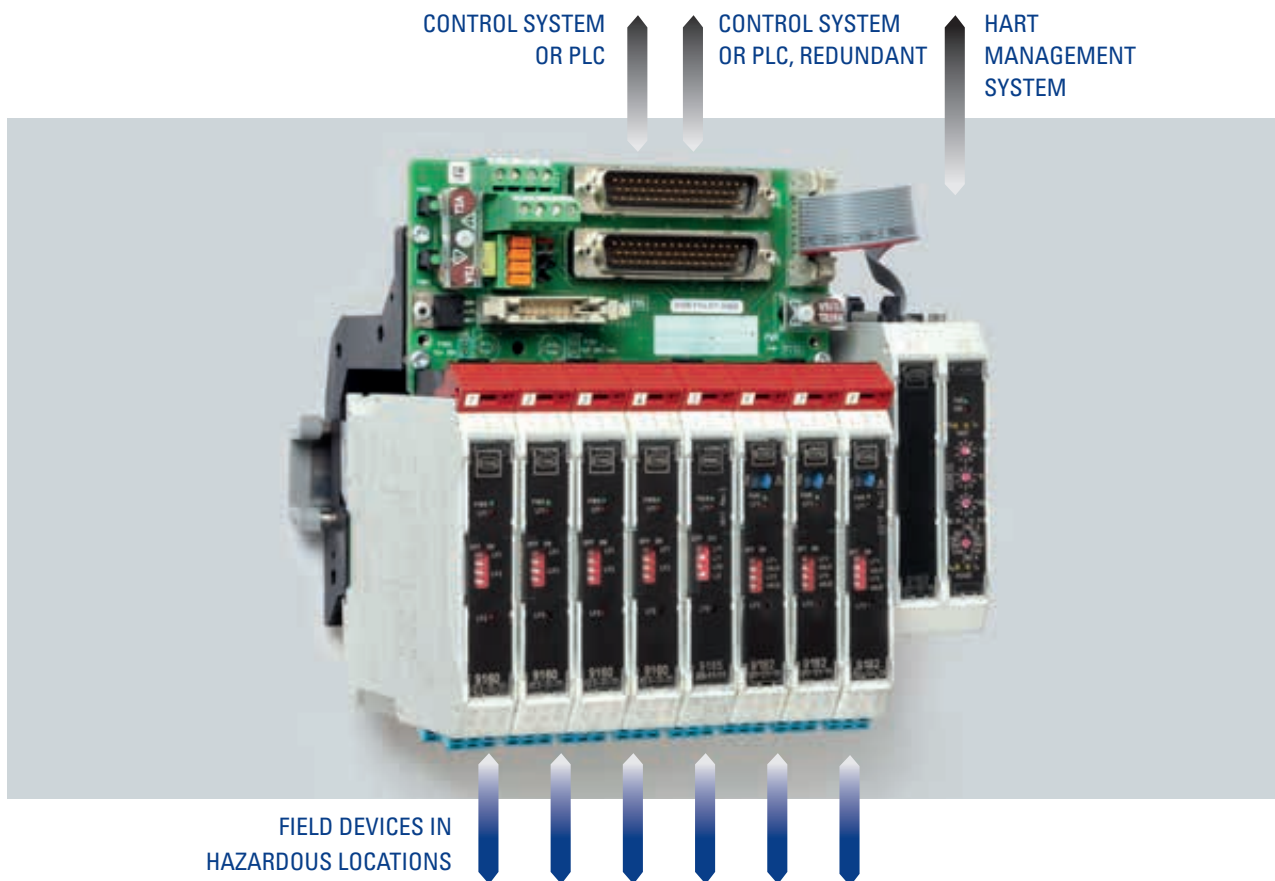
pac-CARRIER INTEGRATION MADE EASY

Projects with a high number of channels require solutions which simplify wiring and installation, and reduce the risk of wrong wiring.

The pac-Carrier is a solution which is globally unique and characterised by its robust design

and simple operation. The concept enables the use of all ISpac modules in combination with the pac-Carriers.

The advantage: the wide range of ISpac modules is immediately available for an integration solution as well.



HIGHLIGHTS

- Solutions for control systems of all renowned manufacturers.
- Flexible modification within very short time.
- Robust, vibration-tested design.
- Design with 8 and 16 slots for up to 32 channels.
- Redundant supply, monitored for failure.
- Quickly mounted on a DIN rail or a mounting plate.
- Optional coupling out of HART signals.

CONDITION MONITORING / ASSET MANAGEMENT

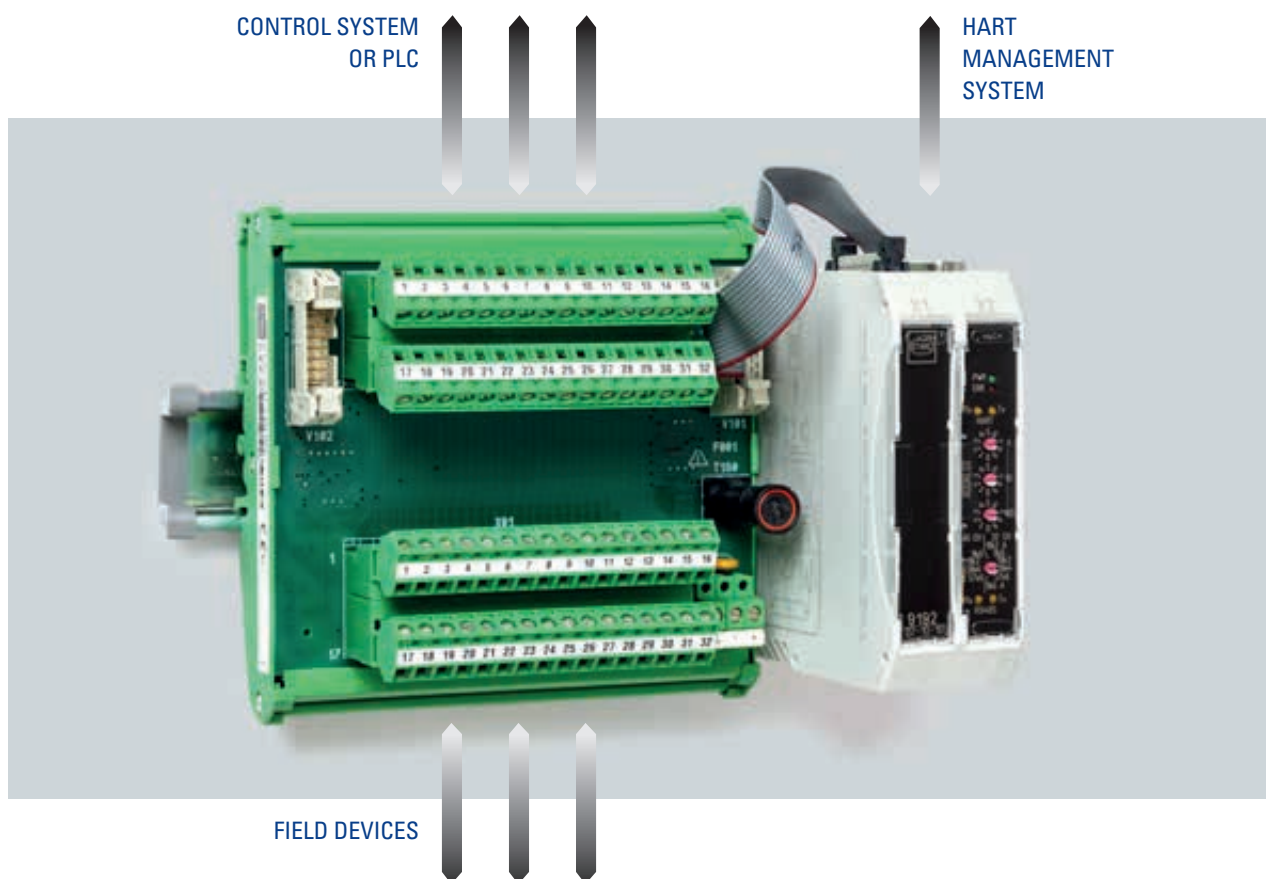


Industry 4.0 and IIoT are trends which, at first sight, do not have a lot to do with Ex i isolators. However, an optimisation of production plants is only achieved if considerably more data are collected and transferred to systems for processing.

The HART communication is an option which enables the use of the available sensors in existing systems.

The analog ISpac isolators are designed such that HART signals can be transferred in both di-

rections. For coupling in and out HART signals, R. STAHL offers a HART multiplexer. In combination with HART termination boards or pac-Carriers, it represents the link between the HART Management System and the individual field devices.



HIGHLIGHTS

- Simple, space-saving structure with only one HART multiplexer for 32 field devices.
- Easy coupling of HART Management Systems with external automation systems.
- Integration into FDT software possible without difficulty.
- Coupling with all renowned HART Management Systems possible.
- Optional coupling out of HART signals.

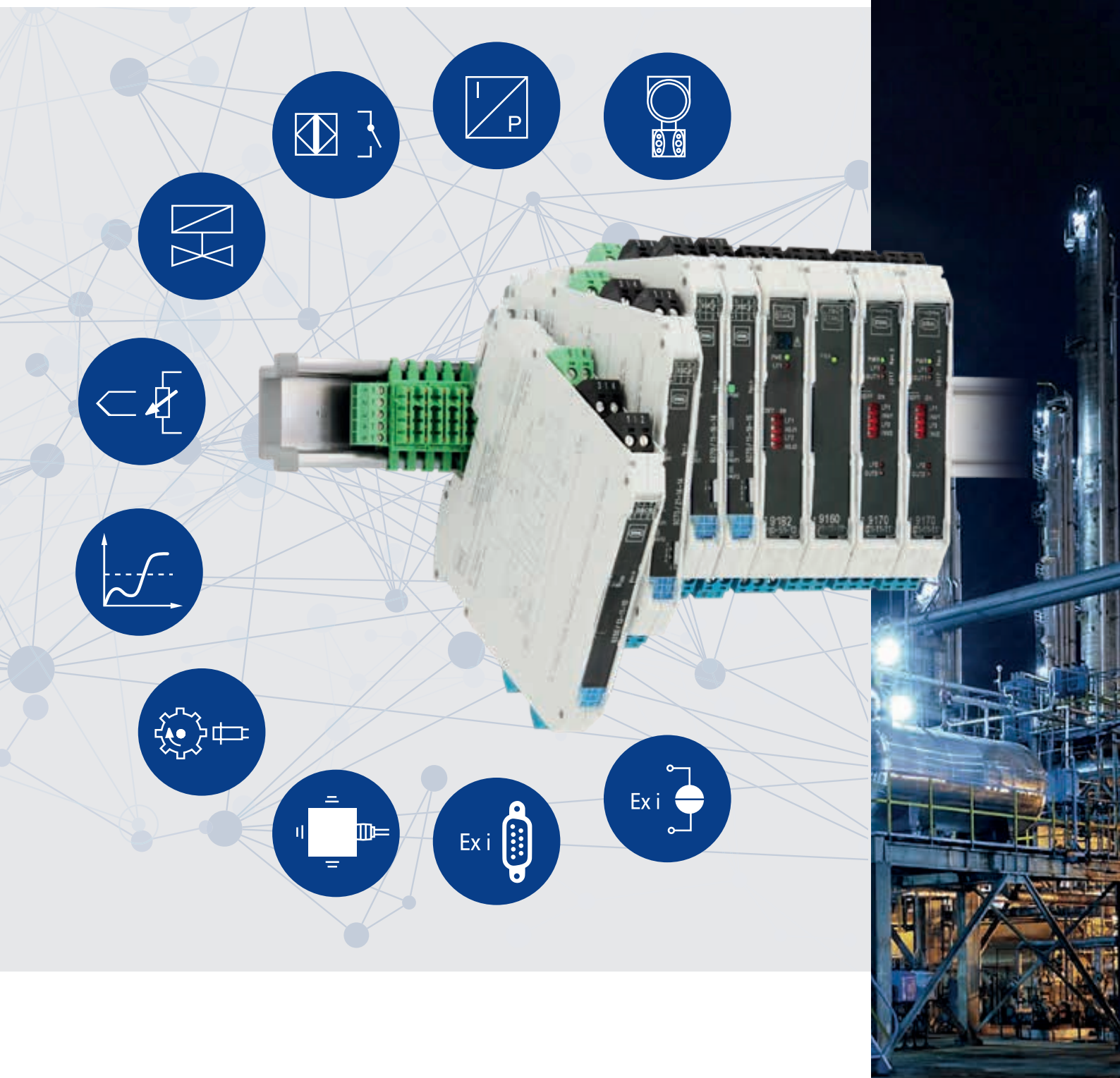
HART
COMMUNICATION PROTOCOL



A SOLUTION FOR EVERY APPLICATION

The portfolio covers all signal types – from simple switching repeaters via supply units for HART transmitters to highly functional temperature transmitters with trip amplifier function.

The range of functions covers the requirements of process industries or process plants as well as those of machine and package unit building applications.



FUNCTIONAL SAFETY INCLUDED



The process industries often require systems which protect people's health and the environment. This relates to the functional safety of plants and systems in accordance with IEC EN 61508/61511.

The major part of the Ex i isolator system ISpac can be used in applications requiring SIL 2 or SIL 3.

Signal type	ISpac series	Suitable for
Analog input	9160	SIL 2 / SIL 3
	9260	SIL 2
Analog output	9165, 9265	SIL 2
	9167	SIL 3
Digital input	9170, 9270	SIL 2
Digital output	9175, 9176	SIL 3
	9275, 9276	SIL 3
	9172	SIL 2
Temperature	9182, 9282	SIL 2
Vibration	9147	SIL 2
HART network	9192, 9195, 9196	SIL 2 / SIL 3
Limit values	9162, 9182	SIL 2

Information in the table refer to the "Low Demand" operating mode, for further information, see Technical Data





AT HOME ALL OVER THE WORLD

Planning process plants, package units and machines often requires a possible use at any place in the world. Concept and utilised components must therefore be applicable worldwide.

The isolator system ISpac is certified according to IECEx, ATEX, FM, UL, EAC TR, and many other international standards.

Approvals for the use onboard ships extend the scope of application and additionally underscore the industrial suitability of the entire ISpac isolator system.





DEVELOPED FOR THE TOUGHEST REQUIREMENTS



Ageing test for ISpac in the temperature test chamber

Process industry production requires high availability. This availability must be complied with by each part of the chain and thus also the Ex i isolators.

The ISpac devices are developed and tested to achieve a service life of well over ten years.

Each new development is therefore subject to thorough testing to ensure that the isolators represent an unremarkable assistant on which you can rely on throughout the entire plant service life.

ISpac MORE THAN JUST A COMPONENT

Benefit from our long-standing experience in the field of cabinet building! High-quality standards,

timely order processing and in-depth knowledge of explosion protection are our strengths.

SIMPLIFIED INTEGRATION



The 9195 series of pac-Carriers offer a significantly simplified integration and installation of isolators on the first level.

THE RIGHT PARTNER



You need complete cabinets for large signal quantities and a reliable partner for your project – we are the right address for you.

ONE STEP AHEAD



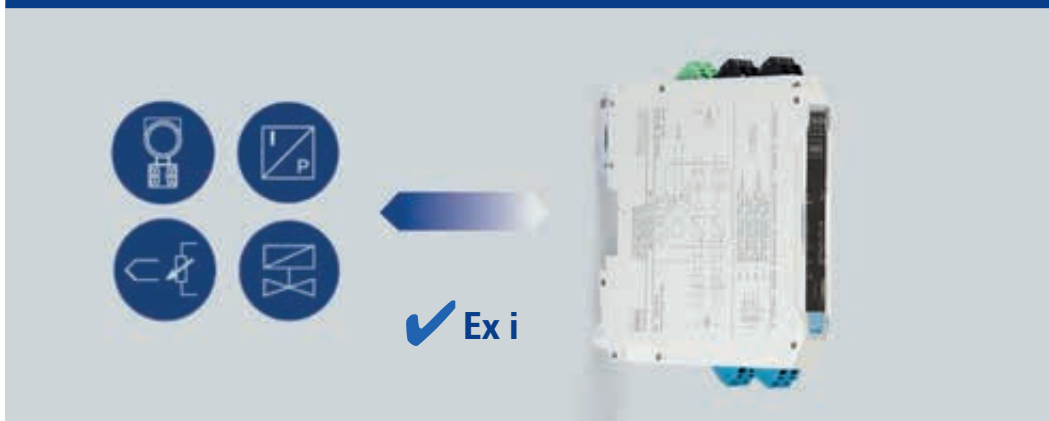
R. STAHL even goes one step further. We integrate isolators and other devices in Ex p cabinets, Ex d enclosures or containers.

FROM IDEA TO SMOOTH OPERATION

CONSULTATION, SERVICE AND SUPPORT

We offer expert consultation from experienced specialists for the selection of the suitable isolator, the assessment of simple apparatus and for the verification of intrinsic safety.

Verification of intrinsic safety



Factory Acceptance Test (FAT)



For the inspection and approval of your solutions, you can join us in our spacious production area. If there is need for changes, our production team is immediately available.

Support



The delivery of your systems is not where it ends for us. Our support is ready to provide you with advice and assistance from on-site commissioning throughout the entire service life.



PRODUCT OVERVIEW

ANALOG INPUT

Function	Channels	17.6 mm	12.5 mm	Highlights
Transmitter supply	1	x	x	<ul style="list-style-type: none"> Universally applicable for transmitters with 2- or 3-wire transmitters and mA sources. Applicable up to SIL 2, special mA-sources up to SIL 3. Low foot print: 2 channels on 12.5 mm.
	2	x	x	
	1 in / 2 out	x	x	
Isolating amplifier	1		x	
	1 in / 2 out		x	
Transmitter supply with limit values	1	x		

DIGITAL INPUT

Function	Channels	17.6 mm	12.5 mm	Highlights
Switching repeater with relay output, 24 V DC supply	1	x	x	<ul style="list-style-type: none"> Applicable up to SIL 2. Disengageable monitoring for line faults, with signalisation. Low space requirement: 2 channels on 12.5 mm. Line fault transparency – fault message directly to PLC/DCS.
	2	x	x	
Switching repeater with relay output, 110 ... 250 V AC supply	1	x		
	2	x		
Switching repeater with electronic output	1	x	x	
	2	x	x	

VIBRATION / ACCELERATION

Function	Channels	17.6 mm	12.5 mm	Highlights
Vibration transducer, isolating repeater	1	x		<ul style="list-style-type: none"> Very compact with dual-channel design.
	2	x		



ANALOG OUTPUT

Function	Channels	17.6 mm	12.5 mm	Highlights
24 V DC supply, LFD line fault detection	1	x	x	<ul style="list-style-type: none"> • Compact single- and dual-channel Ex i output isolating repeater. • Applicable up to SIL 2.
	2	x	x	
Loop powered	2	x		<ul style="list-style-type: none"> • Applicable up to SIL 3.

DIGITAL OUTPUT

Function	Channels	17.6 mm	12.5 mm	Highlights
24 V DC supply, LFD line fault detection	1	x	x	<ul style="list-style-type: none"> • Comprehensive portfolio. • Applicable up to SIL 3. • Compact design: 2 channels of 17.6 mm footprint.
	2	x		
Loop powered	1	x	x	
	2	x		
Relay module	2	x		<ul style="list-style-type: none"> • 2 channels on 17.6 mm footprint. • Applicable up to SIL 2.

TEMPERATURE INPUT

Function	Channels	17.6 mm	12.5 mm	Highlights
Temperature transmitters	1	x	x	<ul style="list-style-type: none"> • For all common sensor types. • Large range, including versions with signal conversion and trip amplifier function. • Applicable up to SIL 2.
	2	x		
Temperature transmitters with limit values	1	x		
	2	x		
Resistance isolator	1	x		<ul style="list-style-type: none"> • Dual-channel device with a footprint requirement of only 8.8 mm per channel.
	2	x		

SERIAL COMMUNICATION

Function	Channels	35.2 mm	Highlights
RS-485, RS-422 Ex i / RS-485 IS PNO	1	x	<ul style="list-style-type: none"> • Bit refresh function improves signal quality. • Compact signal converter.

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