

Transmitter Supply Unit with Limit Values

Series 9162



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1 General Information

1.1 Manufacturer

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74638 Waldenburg
Germany

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1.2 Information about the Manual

ID-No.: 916260330020
Publication Code: 2023-03-31·HB00·III·en·04
Hardware version: C, C/1
Software version: V01-06
Configuration software ISpac Wizard 3.04.00 or subsequent versions

The original manual is the English edition.
They are legally binding in all legal affairs.

1.3 Further Documents

- Cabinet installation guide
- Brief instructions for module parameterising with ISpac Wizard (see ISpac Wizard software)
- FMEDA report
- Safety Manual 9162
- Data sheet 9162 Ex i
- Data sheet 9162
- Operating instructions 9162
- National information and documents relating to use in hazardous areas (see also chapter 1.4)

For documents in additional languages, see r-stahl.com..

1.4 Conformity with Standards and Regulations

IECEX, ATEX, EU Declaration of Conformity and further national certificates and documents can be downloaded via the following link:

<https://r-stahl.com/en/global/support/downloads/>

Depending on the scope of validity, additional Ex-relevant information may be attached.

IECEX is also available at: <https://www.iecex.com/>

2 Explanation of the Symbols

2.1 Symbols used in this Manual

Symbol	Meaning
	Tips and recommendations on the use of the device
	General danger
	Danger due to explosive atmosphere
	Danger due to energised parts






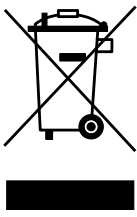
2.2 Warning Notes

Warnings must be observed under all circumstances, in order to minimize the risk due to construction and operation. The warning notes have the following structure:

- Signalling word: DANGER, WARNING, CAUTION, NOTICE
- Type and source of danger/damage
- Consequences of danger
- Taking countermeasures to avoid the danger or damage

	DANGER
	Danger to persons Non-compliance with the instruction results in severe or fatal injuries to persons.
	WARNING
	Danger to persons Non-compliance with the instruction can result in severe or fatal injuries to persons.
	CAUTION
	Danger to persons Non-compliance with the instruction can result in light injuries to persons.
NOTICE	
Avoiding material damage Non-compliance with the instruction can result in material damage to the device and / or its environment.	

2.3 Symbols on the Device

Symbol	Meaning
 0158 05594E00	CE marking according to the current applicable directive.
 02198E00	According to marking, electric circuit certified for hazardous areas.
 15649E00	Input
 15648E00	Output
 11048E00	Safety instructions that must always be observed: For devices with this symbol, the corresponding data and/or the safety-relevant instructions contained in this manual must be observed!
 20690E00	Marking according to the WEEE directive 2012/19/EU

3 Safety Notes

3.1 Storage of the Manual

- Read the manual carefully.
- Store the manual at the mounting location of the device.
- Observe applicable documents and operating instructions of the devices to be connected.

3.2 Personnel Qualification

Qualified specialist personnel are required to perform the tasks described in this manual. This primarily applies to work in the following areas:

- Project engineering
- Mounting/dismounting the device
- (Electrical) installation
- Commissioning
- Maintenance, repair, cleaning

Specialists who perform these tasks must have a level of knowledge that meets applicable national standards and regulations.

Additional knowledge is required for tasks in hazardous areas! R. STAHL recommends having a level of knowledge equal to that described in the following standards:

- IEC/EN 60079-14 (Electrical installations design, selection and construction)
- IEC/EN 60079-17 (Inspection and maintenance of electrical installations)
- IEC/EN 60079-19 (Equipment repair, overhaul and reclamation)

3.3 Safe Use

Before mounting

- Read and observe the safety notes in this manual.
- Ensure that the contents of this manual are fully understood by the personnel in charge.
- Use the device in accordance with its intended and approved purpose only.
- Always consult with R. STAHL Schaltgeräte GmbH if using the device under operating conditions not covered by the technical data.
- Make sure that the device is not damaged.
- We are not liable for damage caused by incorrect or unauthorised use of the device or by non-compliance with this manual.
- Observe the document "Cabinet installation guide" for engineering (download from r-stahl.com, product documentation, subitem "Engineering").
- Install the device in Zones 2, 22 or outside of hazardous areas.
- When used in Zones 2 or 22, the device must be built into an enclosure which corresponds to the requirements of IEC/EN 60079-15 or IEC/EN 60079-31.
- Any damage may compromise the explosion protection.



For mounting and installation

- Have mounting and installation performed only by qualified and authorised persons (see chapter "Qualification of the personnel").
- The device is only to be installed in areas for which it is suited based on its marking.
- During installation and operation, observe the information (characteristic values and rated operating conditions) on the rating, data and information plates located on the device.
- Before installation, make sure that the device is not damaged.
- Electrical circuits with the "Ex i" type of protection can no longer be operated as circuits with this protection type after being operated with circuits with other types of protection.
- When used in Zones 2 and 22, the intrinsically safe devices of Zones 1, 0, 21 and 20 can be connected to the intrinsically safe signal circuits.
- The safety characteristic values of the connected field devices must correspond to the specifications in the data sheet or in the EC Type Examination Certificate.
- Interconnecting several devices in a single intrinsically safe circuit can result in different safety characteristic values. This may impair intrinsic safety!
- The device contains components that can be damaged by electrostatic discharge. Before carrying out work on the device, the body must be discharged on earthed metal parts or an ESD wrist strap must be put on.
- Connect the device only to equipment which does not carry voltages higher than 253 V AC (50 Hz).
- Ensure that there is a distance of at least 50 mm (tight string length) between connecting units of intrinsically safe and non-intrinsically safe circuits when setting up field circuits.
- The power supply of 24 V DC must be able to bridge brief interruptions of 20 ms in order to ensure power failure bridging according to IEC/EN 61326-3-2 and NE 21.


Commissioning, maintenance, repair

- Only have commissioning and repairs performed by qualified and authorised persons (see chapter "Personnel qualification").
- Before commissioning, make sure that the device is not damaged.
- Perform only maintenance work described in this manual.
- For SIL applications observe the safety manual and FMEDA reports.
- Make sure to use suitable cables and cable glands for temperatures below -20 °C.
- The configuration interface of the device can only be connected to a non-sparking equipment with low power rating (according to IEC/EN 60079/15, chapter 13) or for maintenance purposes in compliance with IEC/EN 60079-17, chapter 4.6.

3.4 Modifications and Alterations

	DANGER
	Explosion hazard due to modifications and alterations to the device! Non-compliance results in severe or fatal injuries. <ul style="list-style-type: none"> • Do not modify or alter the device.
	No liability or warranty for damage resulting from modifications and alterations.

4 Function and Device Design

	DANGER
	Explosion hazard due to improper use! Non-compliance results in severe or fatal injuries. <ul style="list-style-type: none"> • Use the device only in accordance with the operating conditions described in this manual. • Use the device only for the intended purpose specified in this manual.

4.1 Function**Application range**

The transmitter supply unit with limiting values is used for operation of 2- and 3-wire transmitters or for connection to mA sources. It is suitable for use in Zone 2, Zone 22 or in the safe area.

The device type 9162/13-11-14 is solely used for operation of intrinsically safe transmitters or for connection of intrinsically safe mA sources.

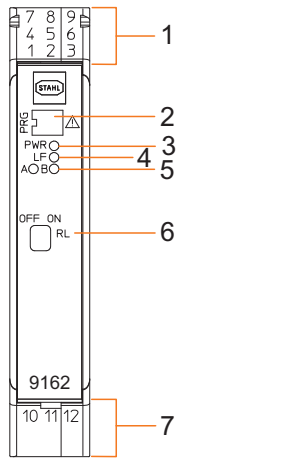
In contrast, the device type 9162/13-11-64 can either be used for intrinsically safe and for non-intrinsically safe transmitters or mA sources.

Mode of operation

The 2- and 3-wire transmitters are supplied with auxiliary power by the transmitter supply unit. Two limiting values can be defined with which the analog input signal is compared. Exceeding or falling below the limiting values controls the electrical contacts.

The device can transmit a superimposed HART communication signal bidirectionally. The parameters of the device can be adjusted using the ISpac Wizard software.

4.2 Device Design

	#	Device component	Description
 <p>The diagram shows a vertical device with terminals at the top (7, 8, 9, 6, 4, 5, 1, 2, 3) and bottom (10, 11, 12). It features a parameterization interface with labels PWR, LF, and A/B. There are three LEDs: a green one labeled 'PWR', a red one labeled 'LF', and a yellow one labeled 'A/B'. A DIP switch labeled 'RL' is located below the LEDs. The device is marked with '9162' and '15202E00'.</p>	1	Black/green terminals	Connection terminals for the safe area
	2	Parameterization interface	Configuration of the device by means of ISpac Wizard software Type "9199"
	3	"PWR" LED, green	Auxiliary power indication
	4	"LF" LED, red	Indication of line fault detection
	5	"A" / "B" LED, yellow	Indication for limit contacts A and B
	6	DIP switch "RL"	Release the anti-pumping device
	7	Blue/black terminals	Connection terminals for the field area

5 Technical Data

Marking

Type designation 9162/13-11-a4 (a=1,6)

CE marking CE_{0158}

Type 9162/13-11-14

Explosion Protection

Global (IECEX)

Gas and dust | IECEx BVS 15.0013X
Ex nA nC [ia Ga] IIC T4 Gc
[Ex ia Da] IIIC

Europe (ATEX)

Gas and dust | BVS 15 ATEX E018X
 Ex II 3 (1) G Ex nA nC [ia Ga] IIC T4 Gc
 Ex II (1) D [Ex ia Da] IIIC

Certifications and certificates

Certificates | IECEx, ATEX, Canada (cFM), USA (FM)

Explosion Protection
Safety data

When connecting transmitters		2-wire transmitter	3-wire transmitter
	max. voltage U_o		27 V
max. current I_o		87.9 mA	88.3 mA
max. power P_o		574 mW	574 mW
max. connectable capacitance C_o			
	IIC	90 nF	90 nF
max. connectable inductance L_o			
	IIC	2.3 mH	2.3 mH
internal capacitance C_i		negligible	negligible
internal inductance L_i		negligible	negligible
Safety-related maximum voltage		253 V	253 V
When connecting current sources	max. output voltage U_o	4.1 V	
	max. output current I_o	~ 0 mA	
	Max. output power P_o	~ 0 mW	
	max. connectable voltage U_i	30 V	
	max. connectable current I_i	100 mA	
	internal capacitance C_i	negligible	
	internal inductance L_i	negligible	

Type 9162/13-11-64
Explosion Protection
Global (IECEX)

Gas	IECEX BVS 15.0013X Ex nA nC IIC T4 Gc
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Europe (ATEX)

Gas	BVS 15 ATEX E017X Ⓔ II 3 G Ex nA nC IIC T4 Gc
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Certifications and certificates

Certificates	IECEX, ATEX, Canada (cFM), USA (FM)
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Type 9162/13-11-14 + Type 9162/13-11-64

Technical Data

Electrical data

Auxiliary power	
Nominal voltage U_N	24 V DC
Voltage range	18 to 31.2 V
Residual ripple	$\leq 3.6 V_{SS}$
Nominal current at U_N , 20 mA	85 mA
Power consumption at U_N , 20 mA	2 W
Power dissipation at U_N , $R_L = 250 \Omega$	1.5 W
Polarity reversal protection	yes
Operation indication	LED green "PWR"
Undervoltage monitoring	yes (no faulty devices / output states)
Input	
Input signal	4 to 20 mA with HART
Functional range	2 to 22 mA
Max. input current for mA sources	50 mA
Supply voltage for transmitter	$\geq 16 V$ at 20 mA ($T_{Amb} > -10 \text{ }^\circ\text{C}$, $T_{Amb} < -10 \text{ }^\circ\text{C}$: $U_S - 0.2 V / 10K$)
Residual ripple of supply voltage	$\leq 25 mV_{eff}$
Open-circuit voltage	$\leq 26 V$
Short-circuit current	$\leq 35 mA$
Input resistance (AC impedance HART)	$> 250 \Omega$
Input resistance for mA sources	30Ω
Communication signal	bidirectional HART transmission, 0.5 to 10 kHz (in 2-wire transmitters)
Output	
Output signal	4 to 20 mA with HART
Load resistance R_L	0 to 600Ω (terminal 1+ / 2-)
Functional range	2 to 22 mA

Technical Data

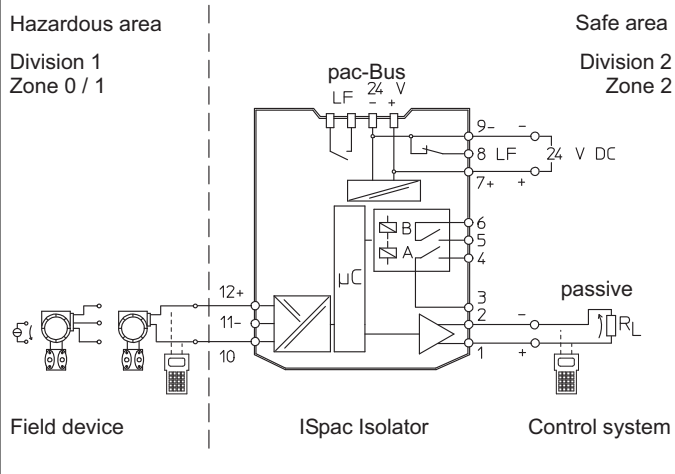
Residual ripple	$\leq 40 \mu A_{\text{eff}}$
Communication signal	bidirectional HART transmission, 0.5 to 10 kHz
Signal delay	$< 30 \text{ ms}$
Signal rise, signal drop	$< 45 \text{ ms}$
Limiting values	
Configuration	using ISpac Wizard (V3.04.00 and following)
Message	2 NO
Switching voltage	$\leq \pm 30 \text{ V}$
Switching current (resistive load)	$\leq 170 \text{ mA}$
Switching current, max. 1 ms	$\leq 500 \text{ mA}$
Switch on resistance	$\leq 2.5 \Omega$ (typical $< 1 \Omega$)
Reclosing lockout	Reset using the DIP switch or "Power-Off" (configurable)
Switching delay	$< 80 \text{ ms}$
Switch-back delay	$< 100 \text{ ms}$
Error detection input	
Wire breakage	$< 3.6 \text{ mA}$
Short circuit	$> 21 \text{ mA}$
Behaviour of the output	= Input signal
Ambient conditions	
Ambient temperature	
Single device	$-40 \text{ to } +70 \text{ }^\circ\text{C}$
Group assembly	$-40 \text{ to } +60 \text{ }^\circ\text{C}$
	The installation conditions affect the ambient temperature. Observe the "Cabinet installation guide".
Storage temperature	$-40 \text{ to } +80 \text{ }^\circ\text{C}$
Relative humidity (no condensation)	$\leq 95 \%$
Use at the height of	$< 2000 \text{ m}$

Type 9162/13-11-14

Technical Data

Mounting / Installation

Connection diagram



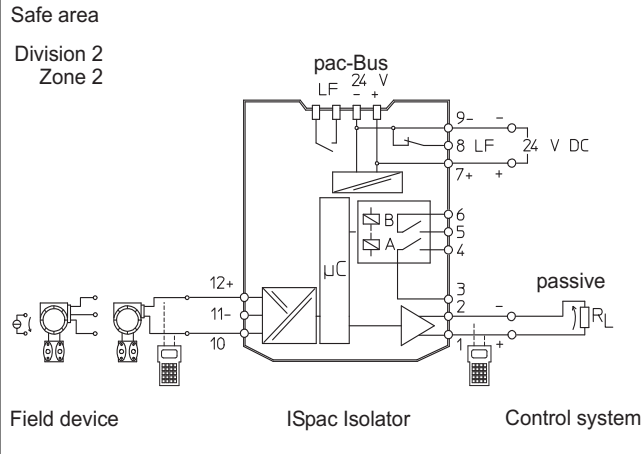
13620E01

Type 9162/13-11-64

Technical Data

Mounting / Installation

Connection diagram



13621E01

Type 9162/13-11-14 + Type 9162/13-11-64

Technical Data

Mechanical data

Connection	Screw terminals	Spring clamp terminals
Single-wire connection		
- rigid	0.2 to 2.5 mm ²	0.2 to 2.5 mm ²
- flexible	0.2 to 2.5 mm ²	0.2 to 2.5 mm ²
- flexible with core end sleeves (without / with plastic sleeve)	0.25 to 2.5 mm ²	0.25 to 2.5 mm ²
two-wire connection		
- rigid	0.2 to 1 mm ²	–
- flexible	0.2 to 1.5 mm ²	–
- flexible with core end sleeves	0.25 to 1 mm ²	0.5 to 1 mm ²

For further technical data, see r-stahl.com.

6 Engineering

NOTICE

Failure of the devices installed in the cabinet caused by too high ambient temperature! Non-compliance can result in material damage.

- Install and adjust the cabinet in such a way that it is always operated within the permissible temperature range.
- Carefully observe the "Cabinet installation guide".



You can find detailed information about project engineering in the "Cabinet installation guide" (download from r-stahl.com, Product documentation, subitem "Engineering").

7 Transport and Storage

- Transport and store the device only in the original packaging.
- Store the device in a dry place (no condensation) and vibration-free.
- Do not drop the device.

8 Mounting and Installation


The device is approved for use in gas explosion hazardous areas of Zone 2 and dust explosion hazardous area of Zone 22 and in safe areas.



DANGER

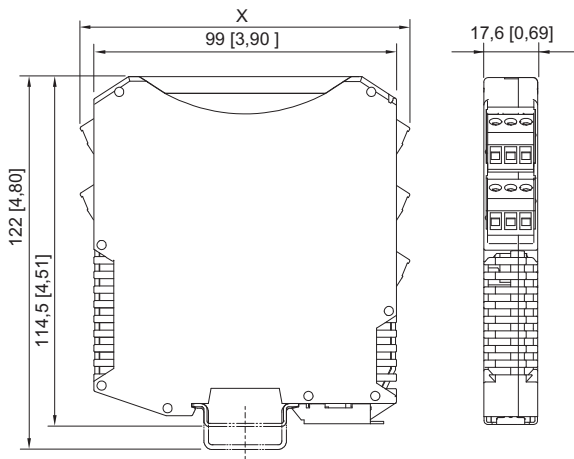
Explosion hazard due to installation without approved field enclosure! Non-compliance results in severe or fatal injuries!

- In hazardous areas (Zone 2 or 22), the device must be installed in an enclosure which fulfils the requirements of IEC/EN 60079-15 or IEC/EN 60079-31.

	DANGER
	<p>Explosion hazard due to incorrect installation of the device! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Carry out installation strictly according to the instructions and national safety and accident prevention regulations to maintain the explosion protection. • Select and install the electrical device so that explosion protection is not affected due to external influences, i.e. pressure conditions, chemical, mechanical, thermal and electric impact such as vibration, humidity and corrosion (see IEC/EN 60079-14). • The device must only be installed by trained qualified personnel who is familiar with the relevant standards.

8.1 Dimensions / Fastening Dimensions

Dimensional drawings (all dimensions in mm [inches]) – Subject to alterations




	Dimension X
Screw terminals	108 [4.25]
Spring clamp terminals	128 [5.04]

09685E00

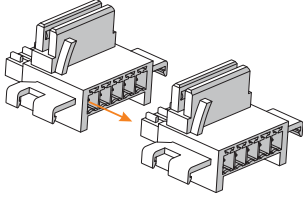
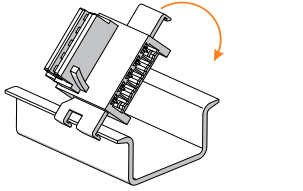
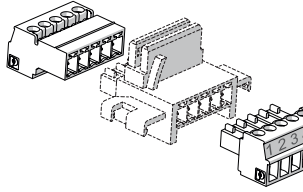
8.2 Mounting / Dismounting, Operating Position

8.2.1 Mounting / Dismounting pac-Bus

The pac-Bus is an accessory which facilitates wiring of the auxiliary power and reading out of the collective error message.

	<p>The components for the pac-Bus Type 9194 must be ordered separately.</p>
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Mounting

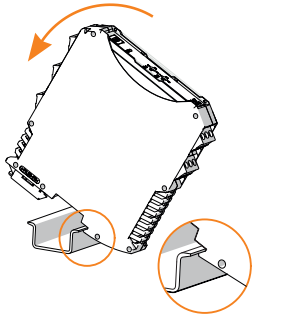
 <p style="text-align: right; font-size: small;">07392E00</p>	<ul style="list-style-type: none"> • Connect the required number of pac-Bus elements.
 <p style="text-align: right; font-size: small;">07391E00</p>	<ul style="list-style-type: none"> • Engage the pac-Bus elements on the DIN rail.
 <p style="text-align: right; font-size: small;">15551E00</p>	<ul style="list-style-type: none"> • Connect the terminal set at the beginning and at the end.

Dismounting

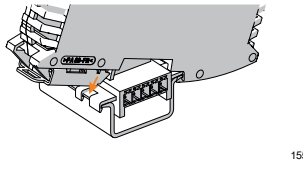
- Proceed in the reverse order to mounting.

8.2.2 Mounting / Dismounting of the Device on DIN Rail and pac-Bus

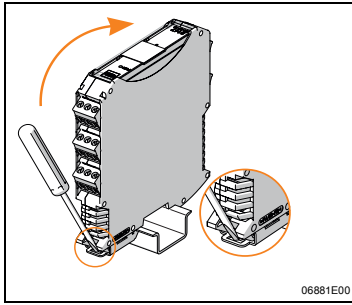
Mounting on DIN rail

 <p style="text-align: right; font-size: small;">06886E00</p>	<ul style="list-style-type: none"> • Position the device on the DIN rail. Position the cut-out of the enclosure on the outside edge of the DIN rail. • Engage the device on the DIN rail. • When swivelling the device onto the DIN rail, make sure that it is not set at an angle.
--	--

Mounting on pac-Bus

 <p style="text-align: right; font-size: small;">15554E00</p>	<p>The pac-Bus is equipped with a polarisation guide and the device with a matching slot.</p> <ul style="list-style-type: none"> • Position the device as shown in the illustration. Position the cut-out of the enclosure on the outside edge of the DIN rail. • Engage the device on the pac-Bus.
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Dismounting

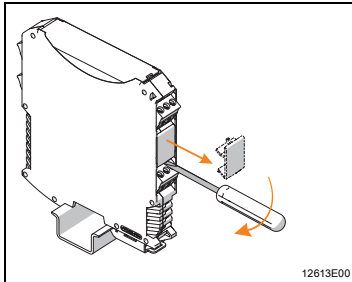


- Pull out the base bolt somewhat using a screwdriver.
- Swivel out the device.

06881E00

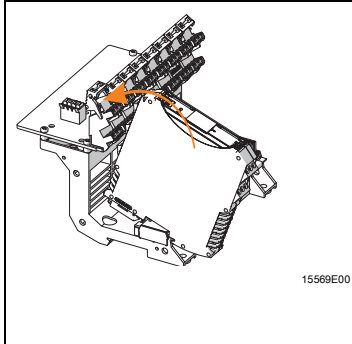
8.2.3 Mounting / Dismounting on pac-Carrier

Mounting



- Remove the black and green terminals.
- For single-channel devices: remove the covering in terminal slot 2 (between the black and the green terminal).

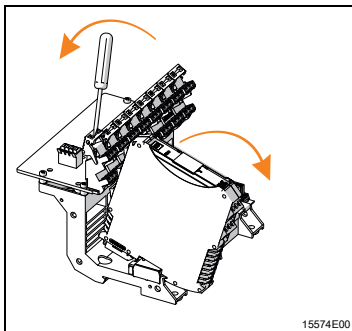
12613E00



- Position the device on the pac-Carrier. Place the cut-out of the enclosure on the outside edge of the pac-Carrier.
- When pivoting the device onto the pac-Carrier, make sure that it is not set at an angle.
- Swivel in the device up to the red notch lever.
- Close red notch lever by applying diagonal pressure on the lever with the thumb until the lever engages audibly at the device.
- Ensure that the red notch lever is engaged.

15569E00

Dismounting



- Swivel out the notch lever using a screwdriver.
- Swivel device out of the slot.

15574E00

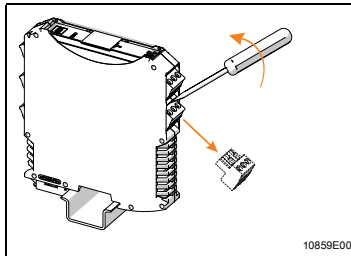
8.2.4 Mounting / Dismounting pluggable Terminals

All devices are equipped with pluggable terminals.

Mounting

- Plug the terminal into the device until the terminal engages.

Dismounting



- Position the screwdriver behind the terminal.
- Push out the terminal.

8.3 Installation



Operation under difficult conditions, such as, in particular, on ships, requires additional measures to be taken for correct installation, depending on the place of use. Further information and instructions on this can be obtained from your regional sales contact on request.

8.3.1 Electrical Connections



DANGER

Explosion hazard caused by too high voltage!

Non-compliance results in severe or fatal injuries.

- Connect the device only to equipment with internal voltage U_m : max. 253 V AC / 50 Hz.
- Connect the device only to intrinsically safe terminals.



DANGER

Explosion hazard due to incorrect safety characteristic values of the device or connected field devices!

Non-compliance results in severe or fatal injuries.

- Check safety characteristic values of the device and connected field devices according to the national installation guidelines.

NOTICE

Device failure due to electrostatically overcharged components!

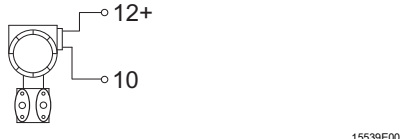
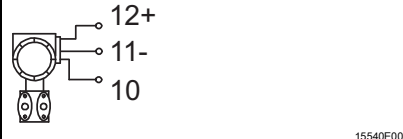
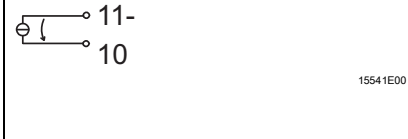
Non-compliance can result in material damage!

- Before carrying out work on the device, the body's own voltage must be discharged on earthed metal parts or an ESD wrist strap must be put on.

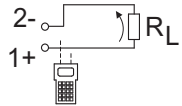
8.3.2 Schematic Diagrams


See device labelling or technical data.

Input wiring (blue / black terminals with pins 10,11,12):

2-wire transmitter	3-wire transmitter	mA source
 <p>15539E00</p>	 <p>15540E00</p>	 <p>15541E00</p>

Output wiring (black terminals with pins 1, 2):


9162	
Channel 1	 <p>17251E00</p>

	<p>A load resistance of at least 250 Ohm is necessary for a proper functioning of the HART communication in the output circuit (e.g. input resistance of the input assembly). The maximal output load is reduced accordingly. If the load resistance is not available, an external resistor can be used additionally.</p>
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8.3.3 Connection of Supply

Type of supply	Connection
Direct supply of the device via 24 V connection	Green terminals "7+" and "9-"
Supply via pac-Bus	pac-Bus terminals "1+" and "2-"

9 Parameterization and Commissioning

	DANGER
	<p>Explosion hazard due to incorrect installation! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Check the device for proper installation before commissioning. • Comply with national regulations.

Before commissioning, ensure the following:

- Installation of the device according to regulations.
- Correct connection of the cables.
- No damage at the device and connection cables.
- Tight seat of the screws at the terminals.
Correct tightening torque: 0.5 to 0.6 Nm.

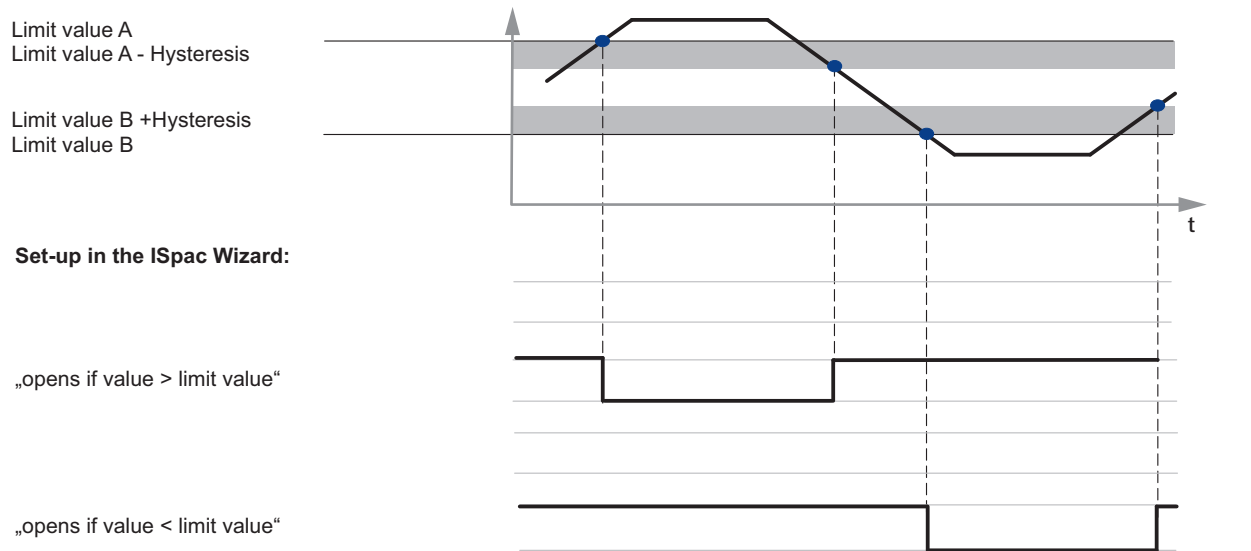
9.1 Replacement of the Device

- If replacing by a device with identical design, readjust the DIP switch, if necessary.

9.2 Parameterizations

9.2.1 Adjustments of limiting Values for Relay

- Configure the limiting value function using the ISpac Wizard software. The following representation shows possible adjustments of the limit contacts for relays A and B. This is an example, other assignments are possible.



If a line fault is detected, the limit value relays drop out (for exception refer to chapter "Anti-pumping device").

9.2.2 Anti-pumping Device

If a limiting value is reached, the anti-pumping device ensures that the limit contact remains in working position ("OFF") even if the process variable that caused the reaction is no longer valid. This function is used to detect whether the value exceeds or falls below the specified limiting values.

- The anti-pumping device can only be activated by using the ISpac Wizard software (independent of switch position RL).
- The anti-pumping device is reset using the DIP switch "RL" (or via ISpac Wizard or power reset).



Resetting using the DIP switch "RL" is also permitted during operation in Zone 2 and with connected intrinsically safe input signals.

Selection in ISpac Wizard	Description of the function "anti-pumping device"
"Deactivated"	Default setting - function is off
"Activated"	Function as described above. When the event occurs, the set operating mode ("OFF") does not change. The anti-pumping device is reset by actuating the DIP switch "RL" (OFF-ON-OFF or ON-OFF) or by switching the device or the ISpac Wizard off and on briefly. If, at the same time, an error occurs, the limit value relays switch to the ON position (example: "OFF above limit value" -> in case of error: OFF).

10 Operation

10.1 Indications

The corresponding LEDs on the device indicate the operating conditions of the device and the line fault states (also refer to chapter "Function and Device Design").

LED	Colour	LED "ON"	LED "OFF"
"PWR" LED	green	Device is supplied with auxiliary power	Device is not in operation, voltage supply not available
"LF" LED	red	Line fault in signal	No line fault in signal
"A" LED	yellow	Limit contact A active	Limit contact A not active
"B" LED	yellow	Limit contact B active	Limit contact B not active

10.2 Troubleshooting

Observe the following troubleshooting plan for troubleshooting:

Error	Cause of error	Troubleshooting
"PWR" LED is off	<ul style="list-style-type: none"> Auxiliary power failure Defective device fuse Polarity reversal of the auxiliary power supply 	<ul style="list-style-type: none"> Check the polarity of the auxiliary power supply. Check the wiring of the auxiliary power supply. If the fuse is defective, have the device repaired.

If the error cannot be eliminated using the mentioned procedures:

- Contact R. STAHL Schaltgeräte GmbH.

For fast processing, have the following information ready:

- Type and serial number of the device
- Purchase information
- Error description
- Intended use (in particular input / output wiring)

11 Maintenance and Repair

11.1 Maintenance


- Consult the relevant national regulations to determine the type and extent of inspections.
- Adapt inspection intervals to the operating conditions.

During maintenance of the device, check at least:


- whether the clamping screws holding the electric lines are securely seated,
- whether the device has cracks or other visible signs of damage,
- whether the permissible ambient temperatures are observed,
- whether the device is used according to its designated use.

11.2 Maintenance

The device does not require regular maintenance.

	Observe the relevant national regulations in the country of use.
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11.3 Repair

	DANGER
	<p>Explosion hazard due to improper repair! Non-compliance results in severe or fatal injuries.</p> <ul style="list-style-type: none"> • Repair work on the devices must be performed only by R. STAHL Schaltgeräte GmbH.

11.4 Returning the Device

- Only return or package the devices after consulting R. STAHL!
Contact the responsible representative from R. STAHL.

R. STAHL's customer service is available to handle returns if repair or service is required.

- Contact customer service personally.

or

- Go to the r-stahl.com website.
- Under "Support" > "RMA" > select "RMA-REQUEST".
- Fill out the form and send it.
You will automatically receive an RMA form via email. Please print this file off.
- Send the device along with the RMA form in the packaging to R. STAHL Schaltgeräte GmbH (refer to chapter 1.1 for the address).

12 Cleaning

- To avoid electrostatic charging, the devices located in potentially explosive areas may only be cleaned using a damp cloth.
- When cleaning with a damp cloth, use water or mild, non-abrasive, non-scratching cleaning agents.
- Do not use aggressive detergents or solvents.

13 Disposal

- Observe national and local regulations and statutory regulation regarding disposal.
- Separate materials when sending it for recycling.
- Ensure environmentally friendly disposal of all components according to the statutory regulations.

14 Accessories and Spare Parts

NOTICE

Malfunction or damage to the device due to the use of non-original components.

Non-compliance can result in material damage.

- Use only original accessories and spare parts from R. STAHL Schaltgeräte GmbH.



For accessories and spare parts, see data sheet on our homepage r-stahl.com.