

ENGLISH

4.2 HART communication

HART communicators (HHT) can be connected as shown in the basic circuit diagram. Test sockets (diameter 2.3 mm) have been integrated for this purpose. Output side (Ex i)

CAUTION
Always adhere to the safety regulations (1.2. Intrinsic safety).

4.3 Input

Terminals 1 (+) and 2 (-)

4.4 Output


Terminals 10 (+) and 11 (-)

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4.5 Short-circuit detection

You can switch the short-circuit detection on or off using the DIP switch.

DIP	Short-circuit detection	
	Off	On
1	I	II
2	I	II

 Disable short-circuit detection for signal transmission from 0 mA ... 20 mA (not permitted for safety-related applications). Otherwise, the signal range is only useable starting at the short-circuit detection response threshold of >0.2 mA.

DEUTSCH

4.2 HART-Kommunikation

HART-Kommunikatoren (HHT) können Sie wie im Prinzipschaltbild dargestellt anschließen. In den Schraubanschlussklemmen sind hierfür Prüfbuchsen (Durchmesser 2,3 mm) integriert. Ausgangsseite (Ex i)

VORSICHT
Beachten Sie unbedingt die Sicherheitsbestimmungen (1.2 Eigensicherheit).

4.3 Eingang
Klemmen 1 (+) und 2 (-)


4.4 Ausgang
Klemmen 10 (+) und 11 (-)

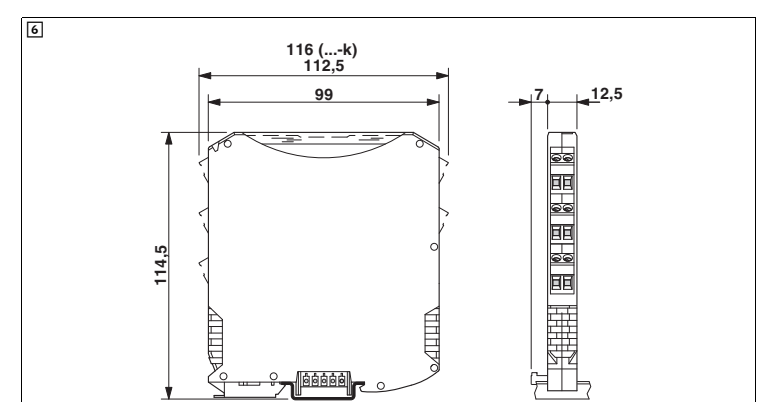
DEUTSCH

4.5 Kurzschlusserkennung

Sie können die Kurzschlussüberwachung mithilfe der DIP-Schalter aus- oder einschalten.

DIP	Kurzschlusserkennung	
	Aus	Ein
1	I	II
2	I	II

 Schalten Sie die Kurzschlusserkennung für eine Signalübertragung von 0 mA ... 20 mA aus (nicht zulässig für sicherheitsgerichtete Anwendungen!). Andernfalls ist der Signalbereich erst ab der Ansprechwelle der Kurzschlusserkennung von >0,2 mA nutzbar.



Technical data

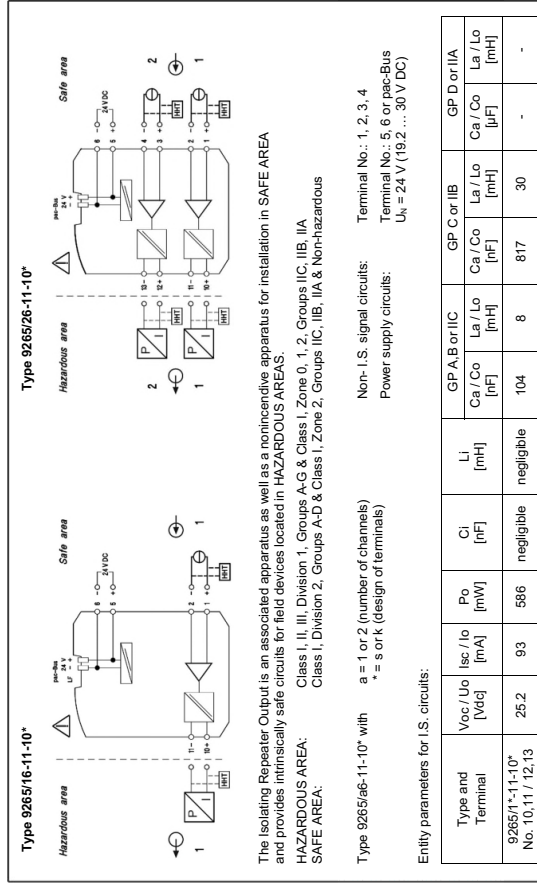
Connection method	
Hardware version	Screw connection
Input data	CAT II (250 V against ↓)
Input signal	Function (short-circuit detection off) Function (short-circuit detection on) Safety Function area
Input current	
Input impedance in the event of a line fault at the output	If there is a line fault
Voltage drop	at 20 mA
Line fault detection	
Response threshold of input current >0.2 mA	
Output data	CAT II (250 V against ↓)Current output intrinsically safe
Current output signal	Function (short-circuit detection off) Function (short-circuit detection on) Safety Function area
Non-load voltage	
Load	20 mA (short-circuit detection on) 20.5 mA (short-circuit detection on) 24 mA (short-circuit detection on) 20 mA (short-circuit detection off) 20.5 mA (short-circuit detection off) 24 mA (short-circuit detection off)
Residual ripple	
Transmission Behavior	1:1 to input signal
Wire-break detection	Load >10 kΩ
Short-circuit detection	Load <50 Ω
General data	
Nominal voltage U _N	
Voltage range	24 V DC -20%...+25%
Nominal current	at 24 V DC / 20 mA
Power dissipation	at 24 V DC / 20 mA
Power consumption	at 24 V DC / 20 mA
Protocol	
Signal bandwidth	as per HART specifications
Temperature influence typical	
Temperature influence maximum	
Deviation typical	of final value
Deviation maximum	of final value
Transient period (10 ... 90 %)	for 4 mA ... 20 mA step
Ambient temperature	(Any mounting position)
Storage temperature	
Relative humidity	non-condensing
Use at altitude	
Fire resistance (UL 94)	Housing
Degree of protection	
Degree of pollution	
Overvoltage category	
Electrical isolation	
Input/output	
Rated insulation voltage	
Test voltage	50 Hz, 1 min.
Safe isolation in accordance with IEC/EN 61010-1	
Input/power supply	
Rated insulation voltage	
Test voltage	50 Hz, 1 min.
Basic insulation in accordance with IEC/EN 61010-1	
Output/supply	
Rated insulation voltage	
Test voltage	50 Hz, 1 min.
Safe isolation in accordance with IEC/EN 61010-1	
Output/input	
Electrical isolation	Peak value in accordance with IEC/EN 60079-11
Output/supply	
Electrical isolation	Peak value in accordance with IEC/EN 60079-11
Safety data as per ATEX	
Max. output voltage U _o	
Max. output current I _o	
Max. output power P _o	
Max. external inductivity L _o / Max. external capacitance C _o simple circuit	
Max. external inductivity L _o / Max. external capacitance C _o mixed circuit	
Max. external inductivity L _o / Max. external capacitance C _o simple circuit	
Max. external inductivity L _o / Max. external capacitance C _o mixed circuit	
Max. external inductivity L _o / Max. external capacitance C _o simple circuit	
Max. external inductivity L _o / Max. external capacitance C _o mixed circuit	
Max. internal inductance L _i	negligible
Max. internal capacitance C _i	negligible
Safety-related maximum voltage U _m	
Conformance/Approvals	
ATEX	BVS 20 ATEX E 045 X
IECEX	IECEX BVS 20.0035X
NEC	See final page
Shipbuilding approval	DNV GL TAA00002DK
Safety Integrity Level (SIL, IEC 61508)	
Systematic Capability	
Conformance with EMC directive	
Noise emission	
Noise immunity	When being exposed to interference, there may be minimal deviations.

Technische Daten

Anschlussart	
Hardwareversion	Schraubanschluss
Eingangsdaten	CAT II (250 V gegen ↓)
Eingangssignal	Funktion (Kurzschlusserkennung aus) Funktion (Kurzschlusserkennung an) Safety Funktionsbereich
Eingangsstrom	
Eingangsimpedanz bei Leitungsfehler am Ausgang	wenn Leitungsfehler vorliegt
Spannungsabfall	bei 20 mA
Leitungsfehlererkennung	
Ansprechschwelle Eingangsstrom >0,2 mA	
Ausgangsdaten	CAT II (250 V gegen ↓)Stromausgang eigensicher
Ausgangssignal Strom	Funktion (Kurzschlusserkennung aus) Funktion (Kurzschlusserkennung an) Safety Funktionsbereich
Leerlaufspannung	
Bürde	20 mA (Kurzschlusserkennung an) 20,5 mA (Kurzschlusserkennung an) 24 mA (Kurzschlusserkennung an) 20 mA (Kurzschlusserkennung aus) 20,5 mA (Kurzschlusserkennung aus) 24 mA (Kurzschlusserkennung aus)
Restwelligkeit	
Übertragungsverhalten	1:1 zum Eingangssignal
Drahtbrückerkennung	Bürde > 10 kΩ
Kurzschlusserkennung	Bürde < 50 Ω
Allgemeine Daten	
Nennspannung U _N	
Spannungsbereich	24 V DC -20 %...+25 %
Nennstrom	bei 24 V DC / 20 mA
Verlustleistung	bei 24 V DC / 20 mA
Leistungsaufnahme	bei 24 V DC / 20 mA
Protokoll	
Signalbandbreite	entsprechend HART - Spezifikation
Temperatureinfluss typisch	
Temperatureinfluss maximal	
Abweichung typisch	vom Endwert
Abweichung maximal	vom Endwert
Einschwingzeit (10 ... 90 %)	bei Sprung 4 mA ... 20 mA
Umgebungstemperatur	(beliebige Einbaulage)
Lagertemperatur	
Relative Feuchte	keine Betauung
Verwendung in Höhe	
Brandfestigkeit (UL 94)	Gehäuse
Schutzart	
Verschmutzungsgrad	
Überspannungskategorie	
Galvanische Trennung	
Eingang/Ausgang	
Bemessungsisolationsspannung	
Prüfspannung	50 Hz, 1 min.
Sichere Trennung nach IEC/EN 61010-1	
Eingang/Versorgung	
Bemessungsisolationsspannung	
Prüfspannung	50 Hz, 1 min.
Basisisolierung nach IEC/EN 61010-1	
Ausgang/Versorgung	
Bemessungsisolationsspannung	
Prüfspannung	50 Hz, 1 min.
Sichere Trennung nach IEC/EN 61010-1	
Ausgang/Eingang	
Galvanische Trennung	Scheitelwert nach IEC/EN 60079-11
Ausgang/Versorgung	
Galvanische Trennung	Scheitelwert nach IEC/EN 60079-11
Sicherheitstechnische Daten nach ATEX	
Max. Ausgangsspannung U _o	
Max. Ausgangsstrom I _o	
Max. Ausgangsleistung P _o	
Max. äußere Induktivität L _o / Max. äußere Kapazität C _o einfacher Stromkreis	
Max. äußere Induktivität L _o / Max. äußere Kapazität C _o gemischter Stromkreis	
Max. äußere Induktivität L _o / Max. äußere Kapazität C _o einfacher Stromkreis	
Max. äußere Induktivität L _o / Max. äußere Kapazität C _o gemischter Stromkreis	
Max. äußere Induktivität L _o / Max. äußere Kapazität C _o einfacher Stromkreis	
Max. äußere Induktivität L _o / Max. äußere Kapazität C _o gemischter Stromkreis	
Max. innere Induktivität L _i	vernachlässigbar
Max. innere Kapazität C _i	vernachlässigbar
Sicherheitstechnische Maximumspannung U _m	
Konformität / Zulassungen	
ATEX	BVS 20 ATEX E 045 X
IECEX	IECEX BVS 20.0035X
NEC	Siehe letzte Seite
Schiffbau-Zulassung	DNV GL TAA00002DK
Safety Integrity Level (SIL, IEC 61508)	
Systematic Capability	
Konformität zur EMV-Richtlinie	
Störabstrahlung	
Störfestigkeit	Während der Störbeeinflussung kann es zu geringen Abweichungen kommen.

261403

0 mA ... 20 mA	
0,2 mA ... 20 mA	
4 mA ... 20 mA	
0 mA ... 24 mA	
≤ 30 mA	
> 1 MΩ	
< 2,4 V	
0 mA ... 20 mA	
0,2 mA ... 20 mA	
4 mA ... 20 mA	
0 mA ... 24 mA	
≤ 30 V	
100 Ω ... 700 Ω	
100 Ω ... 650 Ω	
100 Ω ... 500 Ω	
0 Ω ... 700 Ω	
0 Ω ... 650 Ω	
0 Ω ... 500 Ω	
< 20 mV _{eff}	
24 V DC	
19 V DC ... 30 V DC	
< 45 mA	
< 0,8 W	
≤ 1,1 W	
HART	
≤ 0,005 %/K	
0,01 %/K	
0,05 %	
0,1 %	
< 140 μs	
-40 °C ... 70 °C	
-40 °C ... 85 °C	
5 % ... 95 %	
≤ 2000 m	
V0	
IP20	
2	
II	
300 V _{eff}	
2,5 kV AC	
50 V _{eff}	
1,5 kV AC	
300 V _{eff}	
2,5 kV AC	
375 V	
375 V	
25,2 V	
93 mA	
586 mW	
IIA : 10 mH / 2,9 μF	
IIA : 10 mH / 587 nF ; 1 mH / 627 nF ; 500 μH / 717 nF ; 200 μH / 907 nF ; 100 μH / 1,1 μF	
IIIB : 4 mH / 817 nF	
IIIB : 4 mH / 367 nF ; 1 mH / 427 nF ; 500 μH / 507 nF ; 200 μH / 657 nF ; 100 μH / 817 nF	
IIIC : 2 mH / 104 nF	
IIIC : 2 mH / 46 nF ; 1 mH / 60 nF ; 500 μH / 77 nF ; 200 μH / 104 nF	
253 V AC (125 V DC)	
Ex I (M1) [Ex ia Ma] I ; Ex II (1) D [Ex ia Da] IIIC ; Ex II 3(1) G Ex ec [ia Ga] IIC T4 Gc	
[Ex ia Ma] I ; [Ex ia Da] IIIC ; Ex ec [ia Ga] IIC T4 Gc	
Ⓜ, C.D.-No 9265 6 031 001 3	
UL 61010 Listed	
Class I Div 2; IS for Class I, II, III Div 1	
B , B , A , B , Required protection according to the Rules shall be provided upon installation on board	
2	
3	
EN 61000-6-4	
EN 61000-6-2	



The Isolating Repeater Output is an associated apparatus as well as a nonincendive apparatus for installation in SAFE AREA and provides intrinsically safe circuits for field devices located in HAZARDOUS AREAS.
 HAZARDOUS AREA: Class I, II, III, Division 1, Groups A-G & Class I, Zone 0, 1, 2, Groups IIC, IIB, IIA
 SAFE AREA: Class I, Division 2, Groups A-D & Class I, Zone 2, Groups IIC, IIB, IIA & Non-hazardous

Type 9265/16-11-10* with a = 1 or 2 (number of channels) = s or R (design of terminals)
 Terminal No.: 1, 2, 3, 4
 Power supply circuits: U_N = 24 V (19.2 ... 30 V DC)

Entity parameters for I.S. circuits:

Type and Terminal	V _{oc} / U ₀ [Vdc]	I _{sc} / I ₀ [mA]	P ₀ [mW]	C _i [nF]	L _i [mH]	GP A, B or IIC Ca / Co [nF]	GP C or IIB La / Lo [mH]	GP D or IIA Ca / Co [nF]	GP D or IIA La / Lo [mH]
9265/11-11-10* No. 10, 11, 12, 13	25.2	93	586	negligible	negligible	104	8	817	30

- The Entity Concept allows interconnection of intrinsically safe apparatus with associated apparatus not specifically examined in combination as a system. Selected Intrinsically Safe Equipment must be third party listed as intrinsically safe for the application and have intrinsically safe entity parameters conforming with the following:
 $V_{max} \text{ (or } U_0) \geq V_{oc} \text{ or } V_0 \text{ (or } U_0)$
 $P_{max} \text{ (or } P_0) \geq P_0$
 $L_i + C_{max} \leq C_a \text{ (or } C_o)$
 $L_i + C_{max} \leq L_a \text{ (or } L_o)$
 It should be noted, however, for installation in which both the C_i and L_i of the intrinsically safe equipment exceed 1% of the C_a (or C_o) and L_a (or L_o) parameters of the associated apparatus (excluding the cable), only 50% of C_a (or C_o) and L_a (or L_o) parameters are applicable and shall not be exceeded.
- Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown under 1. Where the cable capacitance and inductance per foot are not known, the following values shall be used: C_{cab} = 60 pF / ft., L_{cab} = 0.2 μH / ft.
- The output current of this associated apparatus is limited by a resistor such that the output voltage-current plot is a straight line drawn through the origin.
- This associated apparatus shall not be connected for use in combination with another associated apparatus.
- This associated apparatus may also be connected to simple apparatus as defined in Article 504.2 and installed and temperature classified in accordance with Article 504.10(B) of the National Electrical Code (ANSI/NFPA 70), or other local codes applicable.
- Associated apparatus must be installed in an enclosure (which meets the requirements of ANSI/ISA S82) suitable for the application in accordance with the National Electrical Code (ANSI/NFPA 70) for installation in the United States, the Canadian Electrical Code for installation in Canada, or other local codes, as applicable.
- When using as non-incendive device for Class I, Division 2 or Class I, Zone 2 do not snap equipment onto or off the pac-Bus 9294, or connect and disconnect non-incendive safe-lines unless power has been removed or the area is known to be non-hazardous.
- Intrinsically safe equipment shall be installed in accordance with Article 504.10(B) of the National Electrical Code (ANSI/NFPA 70) for installation in the United States, the Canadian Electrical Code Part 1, Appendix F for installation in Canada, or other local codes, as applicable.
- When multiple circuits extend from the same piece of associated apparatus, they must be installed in separate cables or in one cable having suitable insulation. Refer to Article 504.30(B) of the National Electrical Code (ANSI/NFPA 70) and Instrument Society of America Recommended Practice ISA RP12.6 for installing intrinsically safe equipment.
- Electrical apparatus connected to an intrinsically safe system shall not use or generate voltages > 253 V AC resp. > 125 V DC. (U_{max})
- This associated apparatus shall be mounted on DIN rail, DIN rail with pac-Bus (9294) or pac-Carrier (9295).
 In any case, the field wiring is connected to the ISpac device terminals (PWT).
 Ambient temperature: -40°C ... +70°C (any mounting position)

WARNING – EXPLOSION HAZARD
 Substitution of components may impair suitability for Class I, Division 2 or Class I, Zone 2.
 Do not disconnect equipment unless power has been removed or the area is known to be non-hazardous.

AVERTISSEMENT – RISQUE D'EXPLOSION
 Le remplacement des composants peut remettre en cause la compatibilité avec la classe I, division 2 ou classe I, zone 2.
 Ne déconnecter l'appareil que s'il est hors tension ou si l'atmosphère est exempte de concentrations inflammables.

2020		Date	Name	Scale
Drawn by	16.09	T. Stahl	Reisite	none
Checked				Sheet
				1 of 1
02	29.06.2021	Reisite		Agency
01	21.10.2020	Reisite		UL
Version	Date	Name	Rep. L.	Rep. L.

9265 6 031 001 3

Дополнительная информация для ЕАС Additional information for EAC application

Сертификация № Certification No. ЕАЭС RU С-DE: НА91.В.00246/21
действителен до valid until 30.09.2026

Качество оборудования, используемого в потенциально взрывоопасной атмосфере на рынках Евразийского таможенного союза, регулируется в ТР ТС 012/2011. Вышеупомянутое оборудование одобрено и сертифицировано в соответствии с настоящим Положением. Соответствие ТР ТС 012/2011 и родственных норм подтверждено сертификатом.

The quality of the equipment used in potentially explosive atmosphere on the markets of the Eurasian Customs Union, is regulated in TR CU 012/2011. The above mentioned equipment is approved and certified according to this regulation. Compliance with TR CU 012/2011 and related standards is confirmed in the certificate.

R: STAHL тип R: STAHL Type	Маркировка Ex по ТР ТС 012/2011 Ex Marking according to TR CU 012/2011
9265/16-11-10* 9265/26-11-10*	2Ex nA [ia Ga] IIC T4 Gc X [Ex ia Da] IIC X

Соответствие стандартам Compliance with standards
 ГОСТ 31610.0-2014 (IEC 60079-0:2011)
 ГОСТ 31610.11-2014 (IEC 60079-11:2011)
 ГОСТ 31610.15-2014 (IEC 60079-15:2010)

Срок службы Life time
 10 лет, при стандартных условиях эксплуатации, описанных в инструкции по эксплуатации
 10 years, under standard operating conditions as described in operating instruction

Срок хранения Shelf life
 8 лет, в оригинальной упаковке
 8 years, in original packaging

Условия хранения по ГОСТ 1515069, группа 3 (ЖЗ)
 Storage conditions according to GOST 1515069, group 3 (Zh3)
 Храните устройство в сухом месте (без конденсации) и без вибраций
 Store the device in a dry place (no condensation) and free from vibrations

Знаки соответствия на продукте: Compliance marks on product:
EAC Знак соответствия государств-членов Таможенного союза Conformity Mark of Member States of the Customs Union