



General information

The device labels shown are examples only. They represent the labels of the Pulsar 7000 Series (Type OTR 00**). The respective classification is indicated on the device label.

The 'Ex' marking on the device label refers to transmitter and receiver of the Pulsar 7000 Series (Type OTR 00**) only, it does not refer to the entire system.

The gas detection system is marked with a serial number. The serial number contains the year of manufacture in encrypted form. The third letter of the serial number specifies the manufacturing year: P = 2021, R = 2022, S = 2023, T = 2024, U = 2025, W = 2026, X = 2027, Y = 2028, Z = 2029, A = 2030, B = 2031 etc. (Letters G, I, O, Q are omitted). Example: Serial Number ARPH-0054: the third letter is P, which means that the unit was manufactured in 2021.

This product is approved to the European standards, guidelines, and directives specified in the declaration of conformity (see this document or www.draeger.com/product-certificates).

The gas detection system corresponds to safety integrity level (SIL) standard EN 61508 and EN 50402 and is certified for application in SIL 2 areas with systematic capability for SIL 3 application.

ATEX/IECEx approval

Special conditions for safe use:

- The enclosures of the gas detection system shall be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust is avoided.
- The gas detection system shall be installed in such a way that it is sufficiently protected against incident light and reflections. Dräger recommends to use the protective cap included in the delivery.
- The gas detection system has a flameproof enclosure that must not be opened.
- The flameproof joints of the gas detection system must not be repaired.
- Where the transmitter/receiver is used as part of a system, all connection devices must have ratings compatible with the transmitter/receiver.

CSA approval

Applicable standards:

- CAN/CSA-C22.2 No. 61010-1-12 (R2016)
- ANSI/UL-61010-1 3rd Edition (R2016)
- CAN/CSA- C22.2 No. 94.1-2015 Edition 2
- CAN/CSA- C22.2 No. 94.2-2015 Edition 2
- UL 50-2015, Edition 2
- UL 50E-2015, Edition 2
- UL 913:2013 Edition 8
- UL 1203:2013 Edition 5
- CAN/CSA-C22.2 No. 25-1966 (R2017)
- CAN/CSA-C22.2 No. 30-M1986
- CAN/CSA-C22.2 No. 60079-0:2015 Edition 6
- ANSI/UL 60079-0:2013 Edition 6
- CAN/CSA-C22.2 No. 60079-1:2016 Edition 7
- ANSI/UL 60079-1:2015 Edition 7
- CAN/CSA-C22.2 No. 60079-11:2014 Edition 6
- ANSI/UL 60079-11:2014 Edition 6
- CAN/CSA-C22.2 No. 60079-31: 2015 Edition 2
- ANSI/UL 60079-31:2015 Edition 2
- CAN/CSA-C22.2 No. 60079-29-4:2016
- UL 60079-29-4: 2018

Conditions of acceptability

- Shall be supplied from Class 2 limited energy supply according to C22.2 No 61010-1-12 and UL 61010-1 3rd Edition.
- Um = 250 V rms.

- Repairs of the flameproof joints must be made in compliance with the structural specifications provided by the manufacturer. Repairs must not be made on the basis of values specified in tables 2 and 3 of IEC 60079-1.
- Fastening screws with strength class of minimum A*-70 or with a minimum yield stress of 450 MPa must be used for securement of the lid of the flameproof enclosure.
- OTR 00** gas detector shall be installed in such a way that it is sufficiently protected from light (for example daylight or light from luminaires). Protective accessories, such as protective covers are available from Dräger as accessories. These or equivalent means are to be used.
- Combustible gas detection performance compliance to C22.2 No. 60079-29-4:2016 and UL 60079-29-4:2018 do not cover environment with dust and fibers in suspension in air.
- Maximum cable length for connection to Pulsar Interface Adapter type HAC 00** is limited to 20 m.

Limited Manufacturer Guarantee

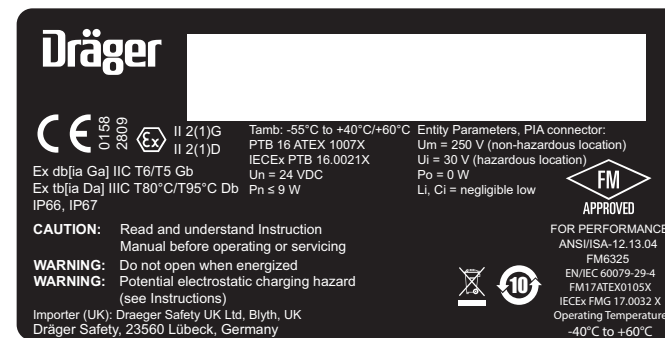
We are going paperless. Scan the QR code to read document number 9300654.



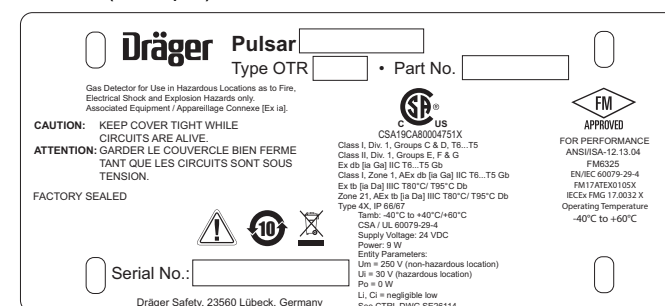
www.draeger.com/ifu
9300654

Labels

IECEx ATEX label (example)



CSA label (example)



EU-Konformitätserklärung EU-Declaration of Conformity

Dokument Nr. / Document No. SE26034-02

Wir / we

Dräger Safety AG & Co. KGaA, Revalstraße 1, 23560 Lübeck, Germany

erklären in alleiniger Verantwortung, dass das Produkt
declare under our sole responsibility that the product

Open Path Gaswarngerät Typ OTR 00 (Dräger Pulsar 7x00)**
Open Path Gas Warning Device type OTR 00** (Dräger Pulsar 7x00)

mit der EU-Baumusterprüfbescheinigung / Expertise
is in conformity with the EU-Type Examination Certificate /
Expertise

PTB 16 ATEX 1007X
FM 17 ATEX 0105X

ausgestellt von der notifizierten
Stelle mit der Kenn-Nr.
issued by the Notified Body
with Identification No.

PTB
Bundesallee 100
D-38116 Braunschweig
0102

FM Approvals Ltd.
1 Windsor Dials
Windsor, Berkshire
UK. SL4 1RS

und mit den folgenden Richtlinien unter Anwendung der aufgeführten Normen übereinstimmt
and is in compliance with the following directives by application of the listed standards

Bestimmungen der Richtlinie provisions of directive	Nummer sowie Ausgabedatum der Norm Number and date of issue of standard
2014/34/EU ATEX-Richtlinie ATEX Directive	EN 60079-0:2012+A11:2013, EN 60079-1:2014, EN 60079-11:2012, EN 60079-31:2014, EN 60079-29-4:2010
2014/30/EU EMV-Richtlinie EMC Directive	EN 50270:2015+AC:2016 (susceptibility: type 2, emission: type 1)
2011/65/EU RoHS-Richtlinie RoHS Directive	EN 50581:2012

Überwachung der Qualitäts-
sicherung Produktion nach
Modul D durch
Surveillance of Quality Assurance
Production in accordance with
Module D by

DEKRA EXAM GmbH
Dinnendahlstraße 9
D-44809 Bochum
0158

FM Approvals Ltd.
1 Windsor Dials
Windsor, Berkshire
UK. SL4 1RS
1725

Zertifikat-Nr.:
Certificat No.:

BVS 17 ATEX ZQS/E100

FM 18 ATEX Q0082

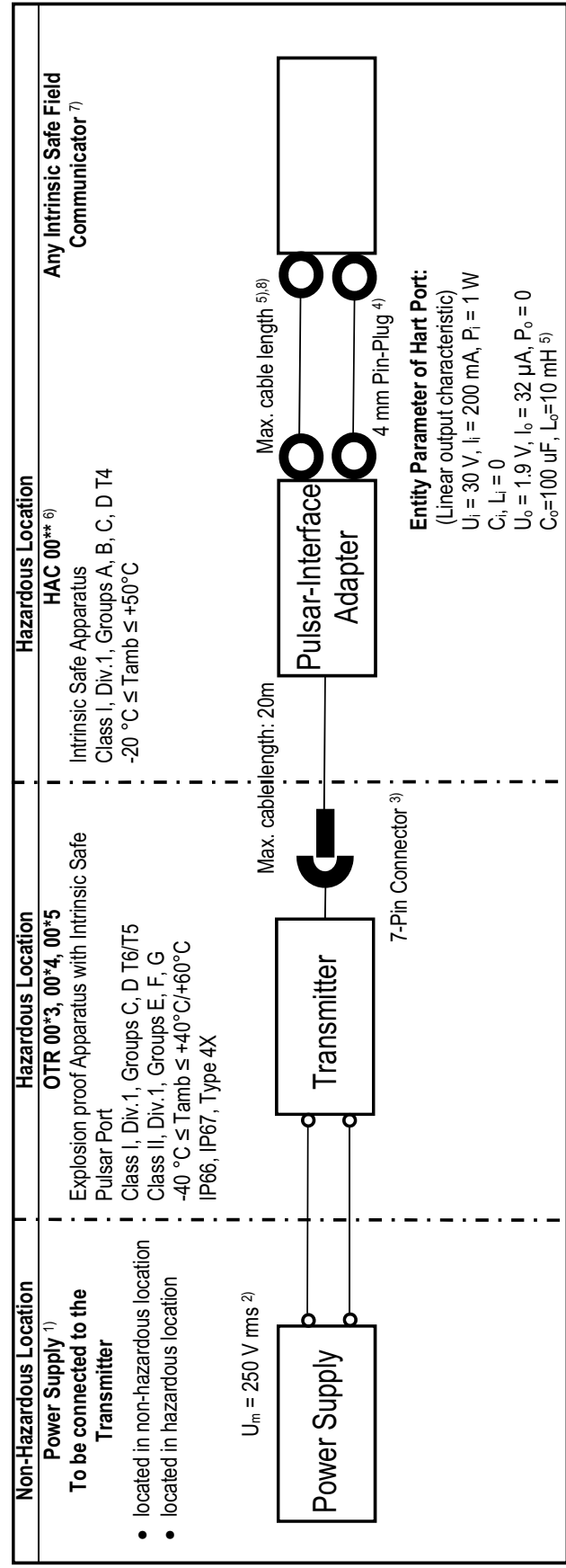
Lübeck, 2019-02-11

Ort und Datum (jjjj-mm-tt)
Place and date (yyyy-mm-dd)

Dr. Marcus Romba
Head of Electronic Engineering
Head of Product Qualification
Safety Products
Research & Develop

Importer (GB):
Dräger Safety UK Limited
Ullswater Close
Blyth, NE24 4RG
United Kingdom

Schutzvermerk ISO 16016 beachten.
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 Dräger Safety



The installation must be in accordance with the National Electrical Code, NFPA 70, Articles 504 or other local codes as applicable.

Notes:

- The power supply connected to the OTR Transmitter (via permanent connected wires) must meet the requirements of SELV/PELV and Limited Energy Circuit according NEC class 2
- The OTR can be connected to any power source in non-hazardous location with a voltage output not greater than 250 V rms
- Via communication connector (7-Pin Connector) (as described in instruction for use)
- HAC can be connected to any equipment which meets the entity parameters, e.g. Field Communicator 475 made by Emerson via HART port (4 mm Pin-Plug) (as described in instruction for use)
- The maximum cable length is limited to 20 m. Assumption: $C_{cable} \leq 60 \text{ pF/m}$ x $20 \text{ m} \leq 1.2 \text{ nF}$ and $L_{cable} \leq 0.2 \mu\text{H/m}$ x $20 \text{ m} \leq 4 \mu\text{H}$. C_o/L_o includes capacitance/ inductance of cables from HAC to any Intrinsic Safe Field Communicator and the internal capacitance C_i / internal inductance L_i of the Intrinsic Safe Field Communicator. $C_o \geq C_i + C_{cable}$; $L_o \geq L_i + L_{cable}$.
- Before using the HAC, please check if the equipment is protected by the original Dräger rubber boot
- For any intrinsic safe Field Communicator the Entity Parameter have to comply with the following:

Parameter of Field Communicator	Parameter of HAC HART Port	Parameter of Field Communicator	Parameter of HAC HART Port
U_i	$U_o = 1.9 \text{ V}$	U_o	$U_i = 30 \text{ V}$
I_i	$I_o = 32 \mu\text{A}$	I_o	$I_i = 200 \text{ mA}$
P_i	Any	P_o	$P_i = 1 \text{ W}$
$C_i + C_{cable}$	$C_o = 64.8 \text{ nF}$	C_o	$= 66 \text{ nF}$
$L_i + L_{cable}$	$L_o = 4.8 \mu\text{H}$	L_o	$= 8.8 \mu\text{H}$

Calculated for $U_i = 30 \text{ V}$
 Calculated for $I_i = 200 \text{ mA}$

⁶⁾ The entity parameters relate to combined circuits with inductance and capacitance.

General Notes:

- Movement and unintentional placement of portable apparatus HAC 0000 and Hart communicator may invalidate the segregation requirements of NFPA 70/504.30
- The HAC Pulsar Port/Hart Port to GND and the OTR Pulsar Port and frame comply with the dielectric strength requirement of UL 60079-11 cl. 6.3.13.

Special Conditions for Safe Use

The OTR 00** enclosures shall be installed in such a way that the risk from electrostatic discharges and propagating brush discharges caused by rapid flow of dust is avoided.
 Note: This constraint results from clause 7.4.3 of EN/IEC 60079-0. The used non-metallic label does not fulfill item a) to c).

Applicable for Receiver and Transmitter OTR 00**

CAUTION - KEEP COVER TIGHT WHILE CIRCUITS ARE ALIVE
 ATTENTION - GARDER LE COUVERCLE BIEN FERME TANT QUE LES CIRCUITS SONT SOUS TENSION

Applicable for Interface Adapter HAC 00**

WARNING - TO REDUCE THE RISK OF EXPLOSION READ AND UNDERSTAND INSTRUCTIONS BEFORE USE. DO NOT MIX OLD WITH NEW CELLS. USE ONLY RENATA CR2450N CELLS.
 AVERTISSEMENT - AFIN DE PRÉVENIR LE RISQUE D'EXPLOSION LIRE ATTENTIVEMENT LE MANUEL. NE PAS MÉLANGER LES PILES NEUVES ET USAGÉES. UTILISER UNIQUEMENT LES PILES RENATA CR2450N.

WARNING - READ MANUAL FOR SAFETY PRECAUTIONS
 AVERTISSEMENT - LIRE LE MANUEL AVANT UTILISATION

Material / Werkstoff		Modification Text / Änderungstext		Amends / Kommt vor	
				0X	
				Scale / Maßstab	
General Tolerance / Allgemeintoleranzen					
=EX=	=QF=	Regist./ Reg.	Ser. Type / Ser.art	Docum. / Erf.beleg	Doc.Type / Dok.art
---	---	No/Nein	No/Nein	No/Nein	Total SL(tA) / Ges.halt.
Created by/ Bearbeitung		Date / Datum (dd.mm.yyyy)		Date / Datum (dd.mm.yyyy)	
Averbeck J		17.09.2019		17.09.2019	
Description / Benennung		CTRL DWG OTR 00** , HAC 00**		DCC Number / Nummer	
				/ /	
				Part No. / Sachnummer – Rev / ÄZ	
				SE26114 - 02	
				Repl. for / Ersatz für	



Status / Reifegrad	
Prep	