



Note on instructions

When working in hazardous areas, the safety of personnel and equipment depends on compliance with the relevant safety regulations. The people in charge of installation and maintenance bear a special responsibility. It is essential that they have an exact knowledge of the applicable rules and regulations.

The instructions provide a summary of the most important safety measures and must be read by everyone working with the product so that they will be familiar with the correct handling of the product.

The instructions have to be kept for future reference and must be available throughout the expected life of the product.

Description

The precision limit switches, type 07-296-...../....., are used for switching control and signal circuits. Actuator elements may be used as required.

The connection cable comes prewired, is equipped with a strain-relief device and safely cast into the enclosure.

The integrated switching element changes over via NC contact with positive break operation.

The precision limit switches comply with the European standards for explosion protection IEC/EN 60079 and therefore are designed for almost all explosive areas.

Explosion protection

ATEX

Ex protection type

II 2G Ex d IIC T6/T5 Gb

II 2D Ex tb IIIC T80 °C/T95 °C Db

CE 0044

Certification

PTB 03 ATEX 1143 X

IECEx

Ex protection type

Ex d IIC T6/T5 Gb

Ex tb IIIC T80 °C/T95 °C Db

Certification

IECEx EPS 12.0036X

Max. ambient temperature

-20 °C to +65 °C for T6

(-4 °F to +149 °F for T6)

-20 °C to +75 °C for T5

(-4 °F to +167 °F for T5)

-20 °C to +90 °C for T5 at 3 A

(-4 °F to +194 °F for T5 at 3 A)

Approved for zones

1, 2 and 21, 22

Technical data

Protection class

IP65 (IEC/EN 60529)

Enclosure material

Impact resistant Thermoplastic, fiber-glass reinforced, self-extinguishing UL 94-V0

Current carrying capacity

6 A 250 V AC (AC-15)

0.25 A 230 V DC (DC-13)

4 A 24 V DC (DC-13)

Contact configuration

1 N/C / 1 N/O

Switching system

Slow action contact, N/C contacts with positive break operation

Connection type

H05VV-F cable;

4 x 0.75 mm² (18 AWG)

Short-circuit protection

6 A gL/gG D fuse

Switching cycles

Max. 1800 / h

Switch point accuracy at repeated switching

± 0.1 mm (± 0.004 in)

Contact gap

Max. 2 x 4.5 mm (0.18 in)

Life cycle

Mechanical: > 1 million operations

Electrical: Acc. to applied load

Vibration resistance

10 G at 10 to 2000 Hz

Shock resistance / shock stability

50 G at a shock duration of 6 ms

Plunger / actuator

Stainless steel;

plunger/actuator versions, see datasheet

Safety Instructions

The precision limit switches have been developed in order to assume safety functions as a part of an entire plant or machine. A complete safety system normally covers sensors, monitoring modules, indicator switches and concepts for safe disconnection. The responsibility taken by the manufacturer of a plant or machine implies to secure the correct general function.

More-over BARTEC does not assume any liability for recommendations made or implied by this description. From this description new claims for guarantee, warranty or liability cannot be derived beyond the general terms and conditions of delivery.

The use in other than the within this operating instruction mentioned applications or the modification of the product through others than the manufacturer discharges BARTEC from the liability for defects and any other further warranties.

When setting up or operating explosion-resistant electrical systems, the relevant installation and operating conditions must be adhered to.

The generally applicable statutory rules and other binding directives relating to workplace safety, accident prevention and environmental protection must be adhered to.

The precision limit switch may be used only if it is in a clean and undamaged condition. The precision limit switch may not be used as mechanical stop. Technical modifications to the precision limit switch are prohibited.

Marking

Particularly important points in these instructions are marked with a symbol:

DANGER

DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.

WARNING

WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.

CAUTION

CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.

NOTICE

NOTICE is used to address practices not related to personal injury.

Note

Important instructions and information on effective, economical and environmentally compatible handling.

Standards conformed to

IEC 60079-0:2007
EN 60079-0:2009
IEC 60079-1:2007
EN 60079-1:2007
IEC 60079-31:2008
EN 60079-31:2009
EN 60947-5-1:2004
EN ISO 13849-1

Transport, Storage

NOTICE

Precision limit switch damage through incorrect transport or incorrect storage.

- Transport and storage is permissible in original packaging only.

Assembly, Installation, and Commissioning

WARNING

Risk of serious injury due to incorrect proceedings.

- Only authorized and qualified personnel may do any of the assembly, disassembly, installation and commissioning work.

Assembly / Disassembly

WARNING

Risk of serious injury due to incorrect assembly.

- IEC/EN 60079-14 has to be applied for the installation of electrical equipment in explosive areas.

Make sure at the assembly:

- That the precision limit switch is not damaged.
- That the connection of this switch is fixed and laid in a way that it is protected against mechanical damages.

Installation

Note

Terminal assignment, cable color codes, and contact diagram, see page 3. Refer to data-sheet for plunger/actuator versions.

Commissioning

Before commissioning, check that:

- The precision limit switch has been installed correctly.
- The precision limit switch is not damaged.
- No object in actuating stroke travel.
- All cables are mounted properly.
- All screws are tightened.
- The precision limit switch encapsulation is not damaged.

Note

Temperature ranges and strain reliefs of the cables are specified for fixed installed cables.

Operation

DANGER

Death or serious injury through improper use.

- The precision limit switch may be operated only within the technical limits that apply to it (see page 1).

Maintenance and Fault Clearance

WARNING

Risk of serious injury due to incorrect proceedings.

- Only authorized qualified personnel may do any of the work relating to maintenance and fault clearance.
- IEC/EN 60079-17 must be observed.

Maintenance Work

WARNING

Risk of serious accidents due to damaged parts.

- Check precision limit switches and cables regularly for cracks and damage. Make sure that they are properly established.

The operator of the precision limit switch must keep it in good condition, operate it properly, monitor it and clean it regularly.

Fault Clearance

The precision limit switch is defective if the switching unit does not perform switching functions any longer.

Defective precision limit switches cannot be repaired; they must be replaced with original parts considering this operational instruction.

Accessories, Spare Parts

BARTEC offers a variety of terminal boxes for connection in hazardous areas, see BARTEC catalogue.

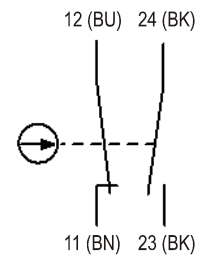
Disposal

The precision limit switch components contain metal and plastic parts. Therefore the statutory requirements for disposing of electronic scrap must be observed (e.g. disposal by an approved disposal company).

Service Address

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 97980 Bad Mergentheim
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 Fax: +49 7931 597-119

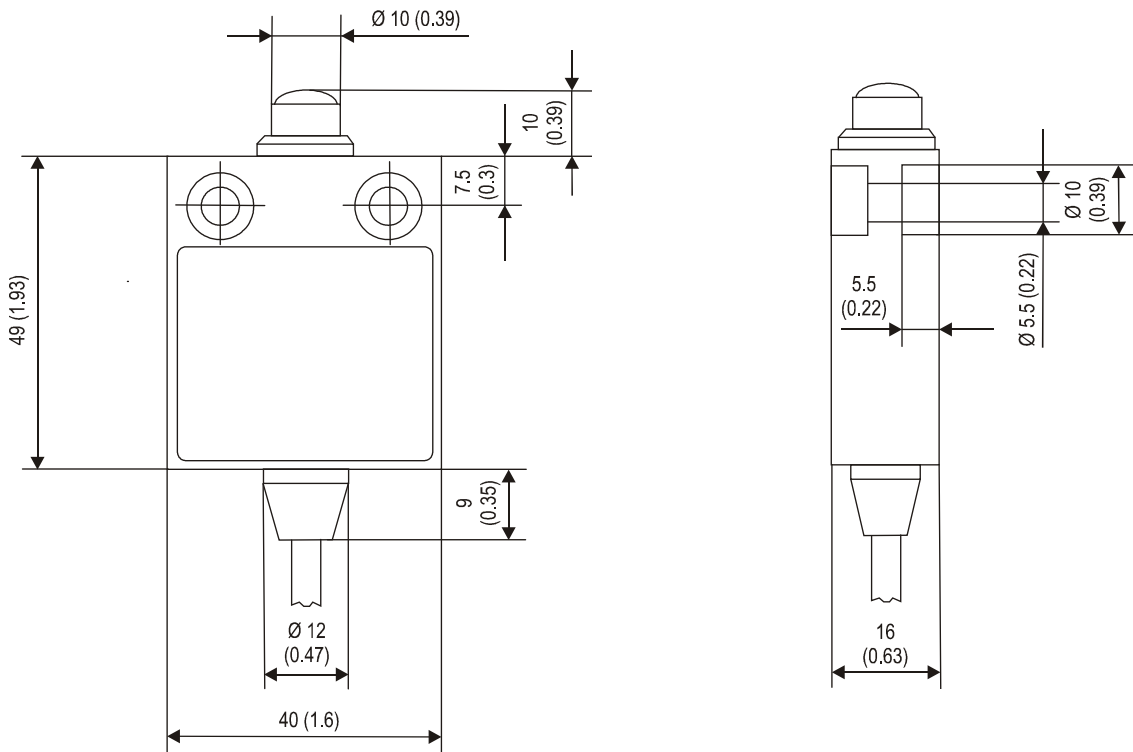
Terminal Assignment



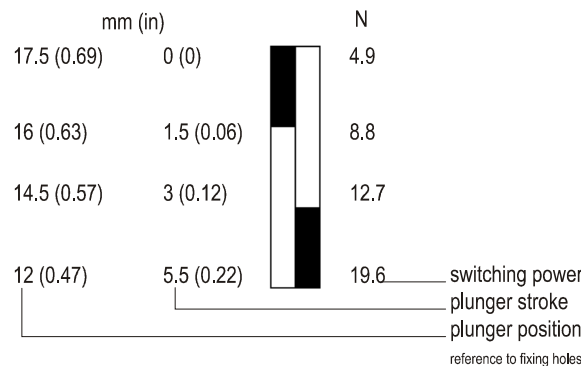
Explanation:

- BK black cores
- BN brown cores
- BU blue cores

Dimensions in mm (in)



Contact Diagram



01-2960-7D0001/A-01/13-STVT-302249

Erklärung der Konformität
Declaration of Conformity
Attestation de conformité

N° 01-2960-7C0001

BARTEC

BARTEC GmbH
Max-Eyth-Straße 16
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Germany



Wir	We	Nous
BARTEC GmbH,		
erklären in alleiniger Verantwortung, dass das Produkt	declare under our sole responsibility that the product	attestons sous notre seule responsabilité que le produit
Präzisionsgrenztaster	Precision limit switch	Précision interrupteur-limiteur

Typ 07-2961-**6*/****		
auf das sich diese Erklärung bezieht den Anforderungen der folgenden Richtlinien (RL) entspricht	to which this declaration relates is in accordance with the provision of the following directives (D)	se référant à cette attestation correspond aux dispositions des directives (D) suivantes
ATEX-Richtlinie 94/9/EG	ATEX-Directive 94/9/EC	ATEX-Directive 94/9/CE
Maschinen-Richtlinie 2006/42/EG	Machinery Directive 2006/42/EC	Directive Européenne de l'Equipment 2006/42/CE
und mit folgenden Normen oder normativen Dokumenten übereinstimmt	and is in conformity with the following standards or other normative documents	et est conforme aux normes ou documents normalifs ci-dessous
EN 60079-0:2009 EN 60079-1 :2007	EN 60079-31 :2009 EN 60947-5-1 :2004	EN ISO 13849-1 EN 60529:1991+A1:2000
Kennzeichnung	Marking	Marquage

II 2 G Ex d IIC T6/T5 Gb
II 2 D Ex tb IIIC T80°C/T95°C Db

Verfahren der EG-Baumusterprüfung / Benannte Stelle	Procedure of EC-Type Examination / Notified Body	Procédure d'examen CE de type / Organisme Notifié
PTB 03 ATEX 1143 X		

0102 PTB, Bundesallee 100, 38116 Braunschweig, D

CE 0044

Bad Mergentheim, den 21.03.2011
W. Warmuth
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Geschäftsleitung / General Manager

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