Limit switch Types 07-2511..../...and 07-2581..../....

BARTEC

Limit switch incl. actuator

Description

These limit switches are used wherever safe and reliable signal transmission is required. Areas of use include e.g. petrol pumps, pumps in general and the construction of machinery and instruments.

The standard version of the switch contains fine silver contacts. Gold-plated fine-silver contacts are available for particularly low voltage and currents. As a basic rule, all contact elements have protective gold plating.

The connecting cable is cast in at the back. The length of the connecting cable is variable.

The switching sequence in double-break switches can be selected at will:

- Chambers I and II switch almost simultaneously
- Chamber I switches 0.03 to 0.3 mm before chamber II.

Explosion protection

Ex protection type
Ⓔx II 2G Ex d IIC T6
Ⓔx II 2D Ex tD A21 IP66 T80°C
Ex d II C T6
CE 0044

Certifications
PTB 00 ATEX 1093 X
IBExU 01 ATEX 1007 X
IECEx PTB 07.0045X

Ambient temperature
-20 °C to +40 °C
-55 °C to +75 °C on request

Approved for Zones
1 and 2, 21 and 22

Current carrying capacity
7 A (single-pole) /6 A (double-pole) at 60 °C
3 A (single-pole) /2 A (double-pole) at 75 °C

Technical data

Rated voltage/current
AC 400 V, 2 A (AC-15)
DC 250 V, 0,15 A (DC-13)

Protection class
IP 66 (EN 60529)

Contact options
1 and 2 changeover contacts resp. or 1 NC contact and/or 1 NO contact
NC and NO contacts at same voltage potential

Weight (with 3-metre cable)
210 g (single-break switches)
415 g (double-break switches)

Tightening torques
Fixing screws: max. 0.6 Nm

Switching rate
max. 1000/h

Switching actuation force
max. 2.0 N (single-break switch)
max. 3.6 N (double-break switch)

Reset force
min. 0.4 N (single-break switch)
min. 0.8 N (double-break switch)

Contact travel
Pretravel VLW: max. 0.9 mm
Overtravel NLW: min. 0.5 mm
Reset travel RLW: 0.9 mm
Differential DW: max. 0.45 mm
Free travel LLW: 0,1 to 0.45 mm

Service life
Mechanical:> 2 x 10^6 switching cycles
Electrical: depending on load

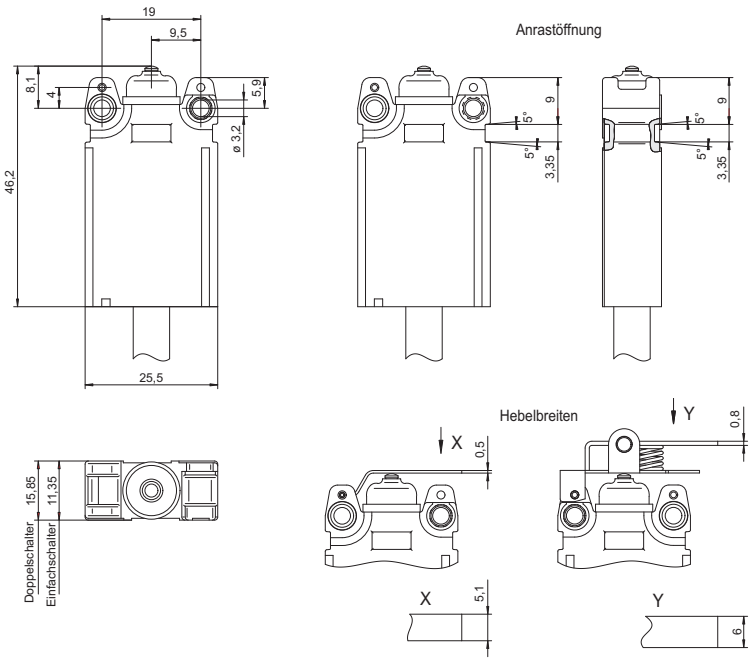
Enclosure material
Plastic (thermoplastic)

Plunger/additional actuator
Stainless steel

Electrical connecton
See data sheet

Dimensions in mm

Anrastöffnungen = clip-on pockets, Hebelbreiten = lever widths, Einfachschalter = single-break switch, Doppelschalter = double-break switch



Safety Instructions

The limit switch may be used only within the specified temperature range.

Unprotected, incorrect installation can cause malfunctioning and the loss of explosion protection.

The limit switch may be connected and mounted only by qualified personnel who are authorised and trained to assemble electric components in hazardous (potentially explosive) areas.

Always disconnect the limit switch from voltage before assembly or disassembly.

Utilisation in areas other than those specified or the modification of the product by anyone other than the manufacturer will exempt BARTEC from liability for defects or any further liability.

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

The limit switch may be operated only if it is clean and not damaged in any way.

The switch must be replaced after any short circuit that occurs in the main circuit because the switch is a piece of encapsulated equipment and it is therefore not possible to check the state of the switch contacts.

Marking

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

⚠ DANGER

Non-observance leads to death or serious physical injury. The necessary safety measures must be taken.

⚠ CAUTION

Warning of damage to property and financial and penal disadvantages (e.g. loss of guarantee rights, liability etc.).

☞ ATTENTION

Important instructions and information on preventing disadvantageous behaviour.

ℹ NOTE

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

Standards conformed to

EN 60079-0:2006
EN 60079-1:2007
EN 61241-0: 2006
EN 61241-1:2004
IEC 60079-0:2004
IEC 60079-1:2007
EN 60947-1 :2007
EN 60947-5-1 :2004

Assembly and Commissioning

☞ ATTENTION

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

⚠ CAUTION

The relevant installation and operating regulations must be observed when setting up or operating explosion-proof electric systems.

Before mounting it, check that the limit switch is in perfect condition.

Assembly/disassembly

☞ CAUTION

The limit switch must be so fitted in a way that ensures that it will be mechanically protected.

If the switches are mounted outdoors, they may need to be fitted into an outer enclosure with an adequate protection class.

Only suitable tools may be used for installation work.

Installation

☞ CAUTION

During installation take care not to damage the Individual wires in conductors. The ends on fine-stranded and multi-stranded conductors must be prepared. *Wire end ferrules must be crimped with suitable crimping tools.*

The quality of the connection-cable has to be so chosen that it meets the thermal and mechanical requirements in the field of application.

Commissioning

Before commissioning check that:

- The device has been installed correctly
- the device is not damaged
- that there is no foreign matter obstructing the actuating travel
- the junction box is clean
- the connection has been made properly
- the cables have been laid correctly
- all screws are tightened securely

ℹ NOTE

The types of contacts and cable markings can be found on the following page. The actuator variants are listed in the data sheet.

Operation

⚠ DANGER

The limit switch may be operated only within the technical limits that apply to it (see Explosion Protection and Technical Data sections).

⚠ CAUTION

It is not permissible to technically modify the switch.

Maintenance and Fault Clearance

The operator of the limit switch has to must keep it in good condition, operate it properly, monitor it and clean it regularly. The limit switch enclosure must be checked regularly for cracks and damage.

ℹ NOTE

Dirty switches/actuators can be cleaned with compressed air.

The limit switch is defective if the switching unit does not perform switching functions or the actuator does not activate the switching unit any longer. Defective limit switches cannot be repaired; they must be replaced.

Accessories, Spare Parts

For connection in Ex areas, BARTEC offers a wide range of terminal boxes.

Disposal

The components in the switch module contain metal and plastic parts.

The statutory requirements for disposing of electronic scrap must be observed therefore (e.g. disposal by an approved disposal company).

Service address

BARTEC GmbH
Max-Eyth-Straße 16
D-97980 Bad Mergentheim
Tel.: +49 7931 597-0
Fax: +49 7931 597-119

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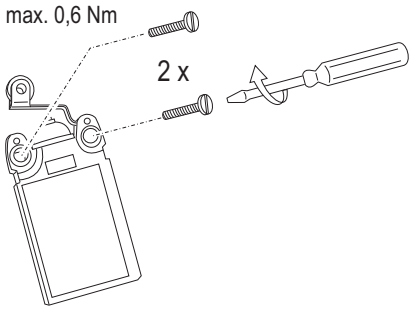
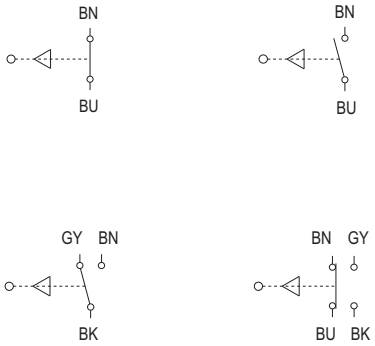
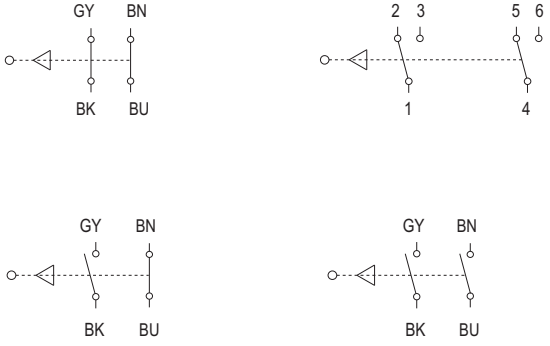
Assembly



Connection single-break switch



Connection double-break switch



Key

BK = black core
BN = brown core
BU = blue core
GY = grey core

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Erklärung der Konformität
Declaration of Conformity
Attestation de conformité

N° **01-2511-7C0001**

BARTEC
BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

CE

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
Endschalter	**Limit switch**	**Fin de course**

Typ 07-2511-..../....; 07-2581-..../....

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**
EMV-Richtlinie 2004/108/EG	**EMC-Directive 2004/108/EC**	**CEM-Directive 2004/108/CE.**
Maschinen-Richtlinie 2006/42/EG	**Maschinery 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 normatifs ci-dessous
EN 60079-0:2006 **EN 60079-1:2007**	**EN 61241-0:2006** **EN 61241-1:2004**	**EN 60947-1:2007** **EN 60947-5-1:2004**
Kennzeichnung	**Marking**	**Marquage**
II 2G Ex d IIC T6 **II 2D Ex tD A21 IP66 T80°C**		
Verfahren der EG-Baumusterprüfung / Benannte Stelle	**Procedure of EC-Type Examination / Notified Body**	**Procédure d'examen CE de type / Organisme Notifé**
PTB 00 ATEX 1093 X **IBExU 01 ATEX 1007 X**		
0102 PTB, Bundesallee 100, 38116 Braunschweig, D **0637 IBExU, Fuchsmühlenweg 7, 09599 Freiberg, D**		
CE 0044		

Bad Mergentheim, den 27.04.2010

ppa. Ewald Warmuth
Geschäftsleitung / General Manager

03-0383-0289

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