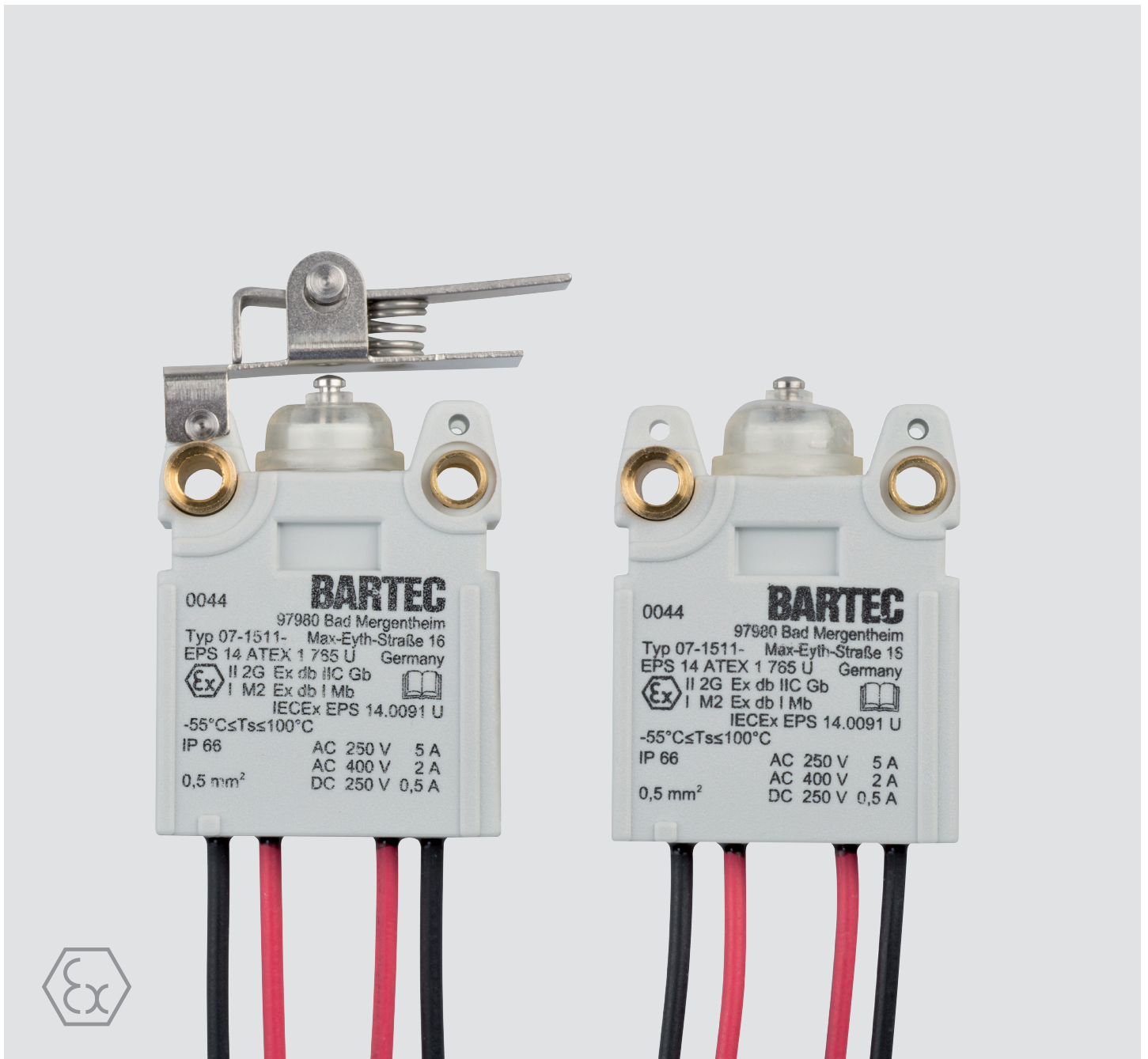


Insert switch

Type: 07-1511-****/****



Insert switch

Type: 07-1511-****/****



Description

The insert switches serve as device switches or auxiliary current switches for signal and control circuits.

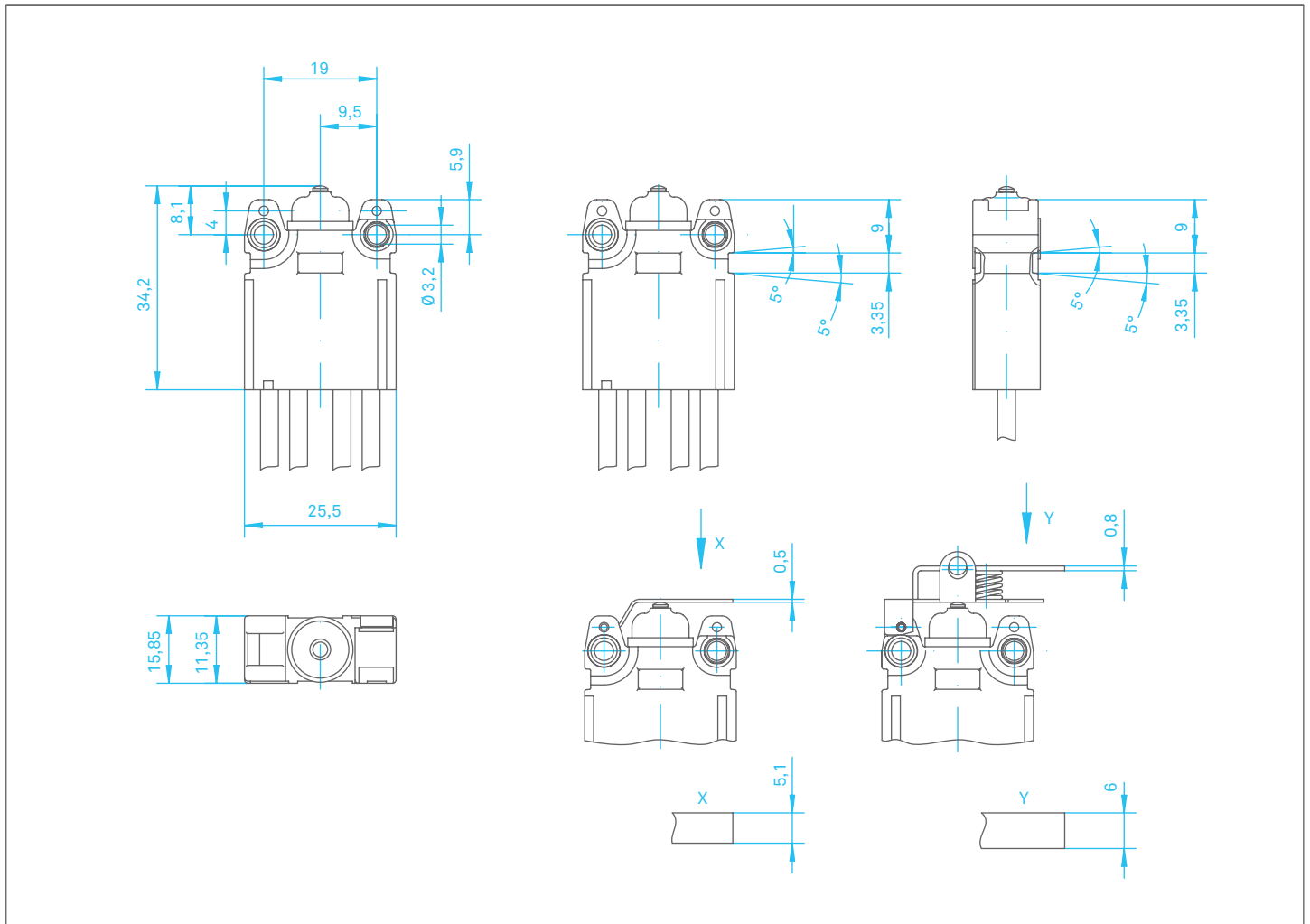
The standard version of the switches contains fine-silver contacts. Gold-plated, fine-silver contacts are available for particularly low voltages and currents. As a basic rule, all switching elements have protective gold plating.

The cores are cast in at the back of the switch. The length of the connection cores is variable.

The switching sequence for double break switches is optional:

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

Dimensions in mm



Explosion protection

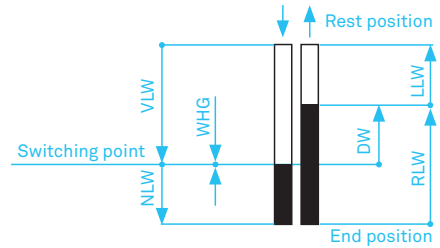
| | |
|--|---|
| Notified Body No. | 0044 |
| Approved Body No. | 2503 |
| Marking ATEX / UKEX | Ⓜ II 2G Ex db IIC Gb Ⓜ I M2 Ex db I Mb |
| Certification | EPS 14 ATEX 1 765 U CML 21 UKEX1857U |
| Marking IECEx | Ex db IIC Gb Ex db I Mb |
| Certification | IECEx EPS 14.0091 U |
| Other approvals and certificates, bartec.com | |

Technical data

| | | | | |
|--|--|---|-------------------------------|-----|
| Service temperature for insert switch | -60 °C to +100 °C (-76 °F to +212 °F) depending on type and used materials | | | |
| Ambient temperature for limit switch | -60 °C to +90 °C (-76 °F to 194 °F) depending on rated current and temperature class | | | |
| Electrical data for control switch in accordance with DIN EN 60947-5-1 | Rated operating voltage | AC 400 V | | |
| | Utilization category | AC-15 4 A 250 V AC-15 2 A 400 V DC-13 0.15 A 250 V Isolation voltage 400 V | | |
| | AC switching capacity (at temperature of +40 °C) | ohmic load | inductive load cos φ = 0.6 | |
| | | 400 V | 3 A | 2 A |
| | | 250 V | 5 A | 3 A |
| 30 V | 7 A | 5 A | | |
| DC switching capacity (at temperature of +40 °C) | ohmic load | inductive load L/R = 3 μs | | |
| | 250 V | 0.4 A | 0.03 A | |
| | 30 V | 7 A | 5 A | |
| Tightening torque of fixing screws | 0.6 Nm | | | |
| Rating of gold-coated contacts | Min. DC 2,4V - 50 mA Max. DC 30V - 4 mA the product of voltage and current should not exceed 0.12 VA for alternating current these values have to be interpreted as peak values | | | |

Technical data

Contact Travels



| Contact travels (in mm) | |
|--|--|
| Pretravel | VLW max. 0.9 |
| Overtravel | NLW min. 0.5 |
| Differential value | DW max. 0.45 |
| Reset travel | RLW 0.9 |
| No-load travel | LLW 0.1 bis 0.45 |
| Repeat accuracy WHG (for repetitive actuation) | ± 0.02 |
| Service life | |
| mechanical | >2 x 10 ⁶ |
| electrical | dependent on load |
| max. switching rate | 1000 operations/h |
| Switching actuation force | |
| Single-break switch | max. 2.0 N |
| Double-break switch | max. 3.6 N |
| Reset force | |
| Single-break switch | min. 0.4 N |
| Double-break switch | min. 0.8 N |
| Operating rate | > 10 μm/sec. |
| Contact break distance | 2 x ≥ 0.3 mm |
| Electrical connection | Insert switch cores 0.75 mm ² L07G-K/Radox Limit switch cable 0.75 mm ² H05VV-F/A05VV-F/BETAflam other cores and cables on request |
| Conductor diameter | 2-wire 6.1 ± 0.3 mm 3-wire 6.6 ± 0.3 mm 4-wire 6.7 ± 0.3 mm 6-wire 8.9 ± 0.3 mm |
| Contact element | snap-action contact element (double-break) as, normally-open, normally-closed, changeover contact as well as N/0 + N/C contacts for circuits with equal potentials. |
| Contact material | Silver or gold-coated contacts (all contact elements have a standard protective gold-coating as standard) |
| Double-break switch (switch options) | simultaneous switch sequence: chamber I and II almost simultaneous defined switch sequence: chamber I switches mechanically safe 0.03 up to 0.3 mm before chamber II |
| Weight | Insert switch with 500 mm cores: single-break switch 35 g, double-break switch 70 g Limit switch with 3 m cable: single-break switch 210 g, double-break switch 415 g |
| Housing material | plastic (thermoplastics) |
| Protection class | IP 66 (IEC/EN 60529) |
| electrical | dependent on load |
| Plunger/additional actuator | stainless steel |

Safety Instructions

The insert switches are safety components. Incorrect installation can cause malfunctioning.

Only authorized qualified personnel may do any of the assembly, disassembly, installation, commissioning, maintenance and elimination of faults in the insert switch.

Utilization 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 insert switch may not be used as a mechanical stop. Always disconnect the insert switch from voltage before assembly or disassembly. The insert switch may be used only if it is clean and free of damage. Technical modifications to the insert switch are prohibited.


The insert 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:

| | |
|--|---|
|  | <p>DANGER indicates a hazardous situation which, if not avoided, will result in death or serious injury.</p> |
|--|---|

| | |
|--|---|
|  | <p>WARNING indicates a hazardous situation which, if not avoided, could result in death or serious injury.</p> |
|--|---|

| | |
|--|--|
|  | <p>CAUTION indicates a hazardous situation which, if not avoided, could result in minor or moderate injury.</p> |
|--|--|


| | |
|--|---|
|  | <p>NOTICE is used to address practices not related to personal injury.</p> |
|--|---|


| | |
|--|---|
|  | <p>NOTE Important instructions and information on effective, economical and environmentally compatible handling.</p> |
|--|---|

Standards conformed to


See Attestations of Conformity 01-1500-7C0001.

Assembly and Commissioning

| | |
|---|--|
|  | <p>ATTENTION Only authorised and qualified personnel may do any of the assembly, disassembly, installation and commissioning work</p> |
|---|--|


| | |
|---|---|
|  | <p>CAUTION When setting up or operating explosion-resistant electrical systems, the relevant installation and operating conditions must be adhered to. Check before assembly that the insert switch is in perfect condition.</p> |
|---|---|

Assembly/Disassembly

| | |
|---|---|
|  | <p>ATTENTION The insert switch must be fitted in a way that ensures that it will be mechanically protected. Only suitable tools may be used for installation work.</p> |
|---|---|

If fitting into an enclosure with “Ex e” increased safety type of protection, the clearance and creepage distances under EN 60079-7 Section 4.3, Section 4.4 and Table 1 must be adhered to.


Installation

| | |
|---|--|
|  | <p>ATTENTION Care must be taken during installation not to damage the individual wires. Wire end ferrules must be crimped with suitable crimping tools.</p> |
|---|--|

Commissioning

Before commissioning check that:

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

| | |
|---|---|
|  | <p>NOTE The types of contacts and cable markings can be found on the following page. The actuator variants are listed in the data sheet.</p> |
|---|---|

Operation



DANGER

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



CAUTION

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

Maintenance and Fault Clearance

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



NOTE

Dirty insert switches/actuators can be cleaned with compressed air.

The insert switch is defective if the switching unit does not perform the switching function or the actuator does not activate the switching unit any longer. Defective insert 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 insert switch and the actuator contain metallic 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
 7980 Bad Mergentheim
 Germany

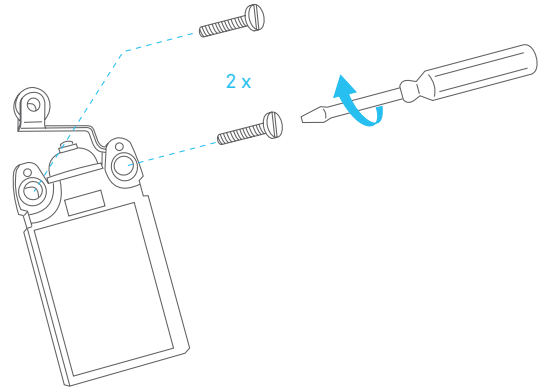
Tel.: +49 7931 597 0

Fax: +49 7931 597 119

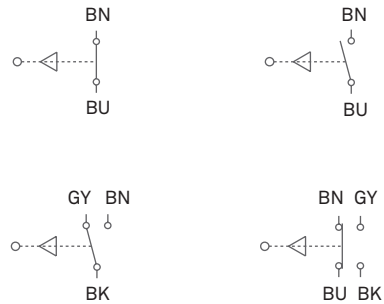


Assembly

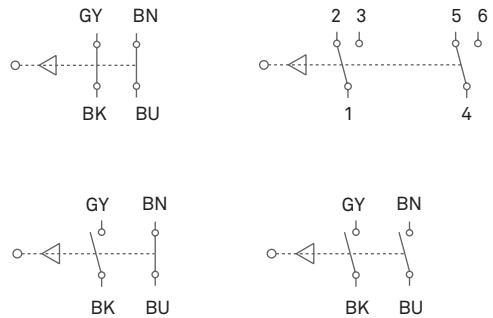
max. 0,6 Nm



Single-break switch connection



Double-break switch connection



BK — black core

BN — brown core

BU — blue core

GY — grey core

EU Konformitätsbescheinigung
 EU Attestation of Conformity
 Attestation UE de conformité



Nº 01-1500-7C0001_C

| Wir | We | Nous |
|--|---|--|
| BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim Germany | | |
| erklären in alleiniger Verantwortung, dass das Produkt Einbauschalter | declare under our sole responsibility that the product Insert switch | attestons sous notre seule responsabilité que le produit Interrupteur d'intégration |

Typ 07-1511-**/****; 07-1541-****/****; 07-1581-****/******

| | | |
|---|--|--|
| auf das sich diese Erklärung bezieht den Anforderungen der folgen- den Richtlinien (RL) entspricht ATEX-Richtlinie 2014/34/EU RoHS-Richtlinie 2011/65/EU RoHS-Richtlinie 2015/863/EU und mit folgenden Normen oder nor- mativen Dokumenten übereinstimmt | to which this declaration relates is in accordance with the provision of the following directives (D) ATEX-Directive 2014/34/EU RoHS-Directive 2011/65/EU RoHS-Directive 2015/863/EU and is in conformity with the following standards or other normative documents | se référant à cette attestation correspond aux dispositions des direc- tives (D) suivantes Directive ATEX 2014/34/UE Directive RoHS 2011/65/UE Directive RoHS 2015/863/UE et est conforme aux normes ou docu- ments normatifs ci-dessous |
|---|--|--|

EN IEC 60079-0:2018

EN 60079-1:2014

**EN 60529:1991 + A1:2000 +
 A2:2013**

**EN 60947-1:2007 + A1:2011 +
 A2:2014**

EN 60947-5-1:2017

| Verfahren der EU-Baumuster- prüfung / Benannte Stelle | Procedure of EU-Type Examination / Notified Body | Procédure d'examen UE de type / Organisme Notifié |
|--|---|--|
|--|---|--|

EPS 14 ATEX 1765 U^(*), Issue 2

2004, Bureau Veritas Germany GmbH, 86842 Türkheim

| | | |
|---|--|--|
| (*) Die Ex-Komponente ist Teil eines elektrischen Betriebsmittels oder eines Moduls, gekennzeichnet mit dem Symbol „U“, das nicht für sich allein verwendet werden darf und über dessen Einbau in elektrische Betriebsmittel oder Systeme zur Verwendung in explosionsgefährdeten Bereichen gesondert entschieden werden muss. Merkmale dieser Komponente sowie die Bedingungen für ihren Einbau in Geräte und Schutzsysteme siehe Betriebsanleitung der Komponente. | (*) The Ex-component is a part of an electrical apparatus or a module, marked with the symbol "U", which is not intended to be used alone and requires additional consideration when incorporated into electrical apparatus or systems for use in explosive atmospheres. Characteristics and how the component must be incorporated into equipment or protective systems see operation manual of the component. | (*) Le composant Ex est partie de matériel électrique ou de module, marquée du symbol « U », ne devant pas être utilisée seule et nécessitant une certification complémentaire lorsqu'elle est incorporée à un matériel électrique ou à un système pour atmosphères explosives. Les caractéristiques du composant ainsi que les conditions d'incorporation dans des appareils ou des systèmes de protection regarde voir l'instruction d'emploi du composant. |
|---|--|--|

0044

Bad Mergentheim, 16.01.2020


 i.A. Simon Dyringer

Product Manager Ex e


 i.V. Cristian Olareanu

Team Leader Certification Center

BARTEC

BARTEC GmbH
Max-Eyth-Str. 16
97980 Bad Mergentheim
Germany

Phone: +49 7931 597-0
info@bartec.com

bartec.com