

ComEx Control Switch module

for railmounted installation



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Note on instructions

When working in hazardous areas, the safety of personnel, environment 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 ComEx Control switch module can be used in almost all potentially explosive areas, where machine functions need to be triggered by a button or a switch. ComEx Control switch modules are flexible in use and can be combined with a variety of Control and signal device actuators 07-3400-*

All contacts of the ComEx Control switch module are self-cleaning, and the NC contacts feature positive opening. The connecting cable is connected to the ComEx switch module via screw terminals. The ComEx Control switch modules offer the option of simple and fast mounting on a railmounted installation. The ComEx Control switch modules are developed and certified for globally market.

Explosion protection

Notified Body Number	CE 0044
Approved Body Number	2503
ATEX/UKEX Ex protection type	II 2G Ex db eb IIC Gb I M2 Ex db eb I Mb
ATEX/UKEX certificate number	CML 22 ATEX 1135 U CML 22 UKEX 1136 U
IECEX Ex protection type	Ex db eb IIC Gb Ex db eb I Mb
IECEX certificate number	IECEX CML 22.0014 U
CEC (UL Mark)	Ex db eb IIC Gb Class I, Division 2, Groups A, B, C, D
NEC (UL Mark)	Class I, Zone 1, AEx db eb IIC Gb Class I, Division 2, Groups A, B, C, D
UL certificate number	UL E184198
Service temperature	-55 °C to +85 °C (-67 °F to +185 °F)

For further approvals and certificates, see bartec.com

Technical data

Max. ambient temperature only with protection by flameproof enclosure "d"	+85 °C (+185 °F)				
Degree of protection	IP20 acc. to EN 60529				
Approved for zone	1 and 2				
Storage/transport temperature	-55 °C to +85 °C (-67 °F to +185 °F)				
Connection	0.75 mm ² - 4 mm ² /18 AWG - 12 AWG				
Contact material	AgSnO ₂				
Enclosure material	Thermoplastic				
Installation	Railmounted (latched on mounting rail NS 35 x 7.5)				
Switch function	max. 4 switch contacts different NC/NO contact assemblies contacts with positive break operation (self-cleaning)				
Contacts	Contacts with positive break operation (self-cleaning)				
Installation possibilities	Double and triple ComEx enclosures				
Rated voltage	400 V	400 V	230 V	110 V	60 V
Utilisation category	AC-12	AC-15	AC-15	DC-13	DC-13
Rated operating currents	16 A	10 A	16 A	1 A	2 A
Rated insulation voltage	U _i = 690 V U _e = 690 V				
Rated impulse strength	U _{imp} = 6 kV				
Conditional rated short-circuit current	I _e 2 kA at 690 V				
Short-circuit current (max. back-up fuse l.v.h.b.c)	max. 25 A				
Nominal thermal current	+40 °C (+104 °F) I _{the} = 25 A +60 °C (+140 °F) I _{the} = 11 A When considering the utilisation category, pay attention to the service temperature.				
Min. rated operating current	10 mA / 24 V				
Shock resistance	DIN EN 60068-2-27:30 g 18 ms				
Weight	Approx. 173 g (0,38 lb)				
Dimensions	See page 5				



Safety Instructions

The Control switch module and its actuating element may be used only within the specified ambient and operating temperature range. Incorrect installation can cause malfunctioning and the loss of explosion protection.

Utilisation in areas other than those specified or the alteration of the product by anyone other than the manufacturer will exempt BARTEC from liability for defects or any further liability. Only service technicians who are authorized to work in potentially explosive atmospheres may do any of the assembly, disassembly, installation, commissioning, maintenance, and fault clearance work.

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

When setting up or operating explosion-resistant electrical systems, the IEC/EN 60079-14 (NEC for USA/CEC for Canada) and all relevant installation and operating regulations must be observed.

The switch module may be used only if it is clean and not damaged in any way. It is not permissible to modify the module in any way.

Marking

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



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



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



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



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

Please see Attestations of Conformity.

Transport, Storage



NOTICE

Control switch module damage through incorrect transport or incorrect storage.

- Transport and storage is permissible in original packaging only.
- Store the Control switch module in a dry place.

Assembly, Installation



WARNING

Risk of serious injury due to incorrect proceedings.

- The IEC/EN 60079-14 and further national standards and locally applicable installation regulations have to be observed.
- Ensure that the voltage supply has been isolated or take suitable protective measures.

Assembly



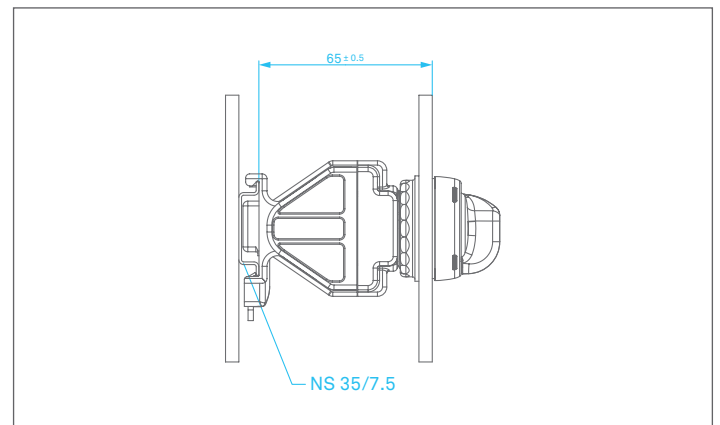
WARNING

Risk of serious accidents due to damaged parts.

- Before assembly, ensure the perfect condition of the components.

Check when assembling:

- Make sure the Control switch module to be attached is intact (no cracks).
- Install the Control switch module in such a way that it is mechanically protected against impact energy.
- Make sure that the connection lead met the thermal and mechanical requirements of the area of application.



Front mounting is only possible for Control switch module with position selector switches with protective collar.



NOTE The assembly of the actuating element is described in the operating instructions for actuating elements type 07-3400-****.

Installation

Specific Conditions of Use

The following conditions relate to safe installation and/or use of the equipment.

- The modules that complies with IEC 60079-7, shall be installed in an enclosure which meets the requirements of a recognised type of protection as specified in Section 1 of IEC 60079-0. When the modules are installed in an increased safety enclosure that complies with IEC 60079-7, the creepage and clearance distances shall comply with the standard requirements. The actual maximum rated current resp. power dissipation of the modules shall be determined in the type test of the electrical equipment concerned. When the module is used in a mine susceptible to firedamp (Group I), the maximum rated current shall not exceed 16 A.
- The modules that complies with IEC 60079-11, shall be installed in such a way that it is protected by an enclosure that complies at least with the requirements of IEC 60079-0 clause 26.4.2 and excludes the risk of mechanical damage. The separation distances to the module terminals shall be comply with the standard requirements.
- The service temperature of the modules shall be within -55 °C to +85 °C. The service temperature of the locking device for the modules type 07-33*4-4***/** shall not exceed +70 °C.
- Each terminal of the module is limited to one conductor per clamping unit.
- The modules shall be installed in accordance with manufacturers documentation.

Take care when connecting conductors:

- Strip 40 mm (1.6 in) sheath off the conductor.
- Remove approx. 6 mm (0.2 in) conductor insulation from the cores.
- Prepare the ends of fine-stranded and multi-stranded conductors: Crimp wire end sleeves with suitable crimping tools. Supply cable, cross-sections: 0.75 mm² - 4 mm²/18 AWG - 12 AWG.
- Release terminals.
- Insert conductors.
- Tight the terminals with a maximum torque of 0.4-0.7 Nm (0.3-0.5 lb.ft).

Commissioning

Before commissioning, check that:

- The Control switch module has been installed in compliance with regulations.
- The control switch is not damaged.
- The connection has been established properly.
- Functional and recurring inspections must be conducted at regular intervals. The plant operator must define the test intervals for the respective application. The properties of AgSnO₂ contacts must be taken into account in the case of low supply voltage (DC 24V) and long periods between actuation. I.e. used in applications with low voltage/low current, such as PLC signal-switching, and in saline or other corrosive environments it is recommended to increase test interval frequency to minimum once per year.

Operation

DANGER



Death or serious injury through improper use.

- The Control switch module may be operated only within the technical limits that apply to it.

Maintenance and Fault Clearance

WARNING



Risk of serious injury due to incorrect proceedings.

- IEC/EN 60079-17 must be observed. It is recommended to formulate a maintenance plan according to this standard.
- Ensure that the voltage supply has been isolated or take suitable protective measures.

Maintenance

WARNING



Risk of serious accidents due to damaged parts.

- Check Control switch module, position selector switch, screw fittings and cables regularly for cracks and damage. Make sure that they are properly established.
- Functional and recurring inspections must be conducted at regular intervals. The plant operator must define the test intervals for the respective application. The properties of AgSnO₂ contacts must be taken into account in the case of low supply voltage (DC 24V) and long periods between actuation. I.e. used in applications with low voltage/low current, such as PLC signal-switching, and in saline or other corrosive environments it is recommended to increase test interval frequency to minimum once per year.

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

The owner/managing operator must schedule maintenance intervals which will suit the respective conditions of use.



NOTE It is not allowed to clean switch modules/actuating elements with compressed air.

Fault Clearance



WARNING

Risk of serious injury due to use of non-original spare parts.

- Use original parts only as replacements.

The Control switch module is defective if the switching unit does not perform switching functions any longer. Defective control switches cannot be repaired; they must be replaced considering this operational instruction.

Defective position selector switches can be taken out and replaced by functioning position selectors of the same type.



NOTE For original parts, contact the firm of Bartec GmbH at the service address.

Accessories, Spare Parts

For accessories and spare parts, see BARTEC catalogue.

Disposal



NOTE Environmental damage can be caused by incorrect waste disposal. When in doubt, local authorities or specialist disposal companies can provide information on environmentally friendly disposal.

The components in the switch contain metal and plastic parts. Therefore the statutory requirements for disposing of electronic scrap must be observed.

Service Address

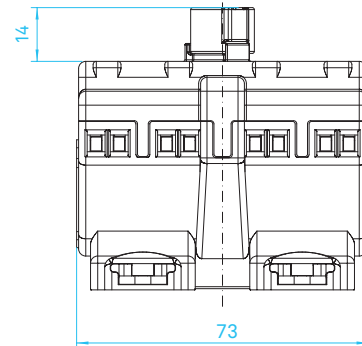
BARTEC GmbH
Max-Eyth-Str. 16
97980 Bad Mergentheim
Germany

Tel.: +49 7931 597 0
info@bartec.com

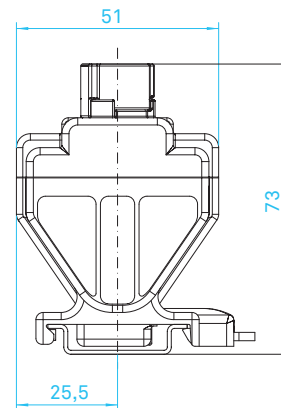


Dimensions Control switch module in mm

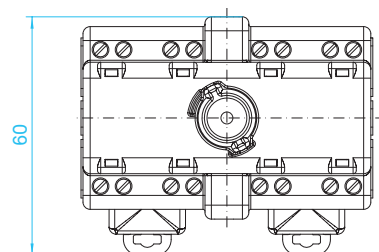
Front view →



Side view →



Plan view →



Contact Arrangements in Control switch module

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Contact Arrangements in Switch Isolator

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Konformitätsbescheinigung
 Attestation of Conformity
 Attestation de conformité



N° 01-3300-7C0010-A

Wir	We	Nous
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BARTEC GmbH
 Max-Eyth-Straße 16
 97980 Bad Mergentheim
 Germany

erklären in alleiniger Verantwortung, dass das Produkt Schaltmodul, Steuerschalter, Leuchtmodul, Leuchttaster, Potentiometer	declare under our sole responsibility that the product Switch Module, Control Switch Module, Illuminated Indicator Module, Illuminated Push Button Module, Potentiometer Module	attestons sous notre seule responsabilité que le produit Module de commutation, module d'interrupteur de commande, module d'indicateurs lumineux, module de bouton-poussoir lumineux, module de potentiomètre
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Switch Module Type 07-332*-*0/** and Type 07-3382-****/******
Control Switch Module Type 07-3332-1*/******
Illuminated Indicator Module Type 07-335*-*0/****
Illuminated Push Button Module 07-336*-*0/****
Potentiometer Module Type 07-337*-*D0/****

auf das sich diese Erklärung bezieht den Anforderungen der folgenden Richtlinien (RL) entspricht ATEX-Richtlinie 2014/34/EU EMV-Richtlinie 2014/30/EU RoHS-Richtlinie 2011/65/EU WEEE-Richtlinie 2012/19/EU und mit folgenden Normen oder normativen Dokumenten übereinstimmt	to which this declaration relates is in accordance with the provision of the following directives (D) ATEX-Directive 2014/34/EU EMC-Directive 2014/30/EU RoHS-Directive 2011/65/EU WEEE-Directive 2012/19/EU and is in conformity with the following standards or other normative documents	se référant à cette attestation correspond aux dispositions des directives (D) suivantes Directive ATEX 2014/34/UE Directive CEM 2014/30/UE Directive RoHS 2011/65/UE Directive WEEE 2012/19/UE et est conforme aux normes ou documents normatifs ci-dessous
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EN IEC 60079-0:2018 **EN 61000-6-2:2005**
EN 60079-1:2014 **EN 61000-6-4:2007+A1:2011**
EN IEC 60079-7:2015/A1:2018 **EN IEC 63000:2018**
EN 60079-11:2012

Verfahren der EU-Baumusterprüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié
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CML 22ATEX1135U(*) – Issue 0
2776, CML B.V., Hoogoorddreef 15, 1101BA Amsterdam, NL

(*) 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.
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Bad Mergentheim, 26.01.2024

i.A. Simon Dyhringer
 i.A. Simon Dyhringer

Product Manager Ex e

S. Steffen
 i.A. Steffen Mika

Team Leader Certification
 Management R&D ESS

BARTEC

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

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

bartec.com