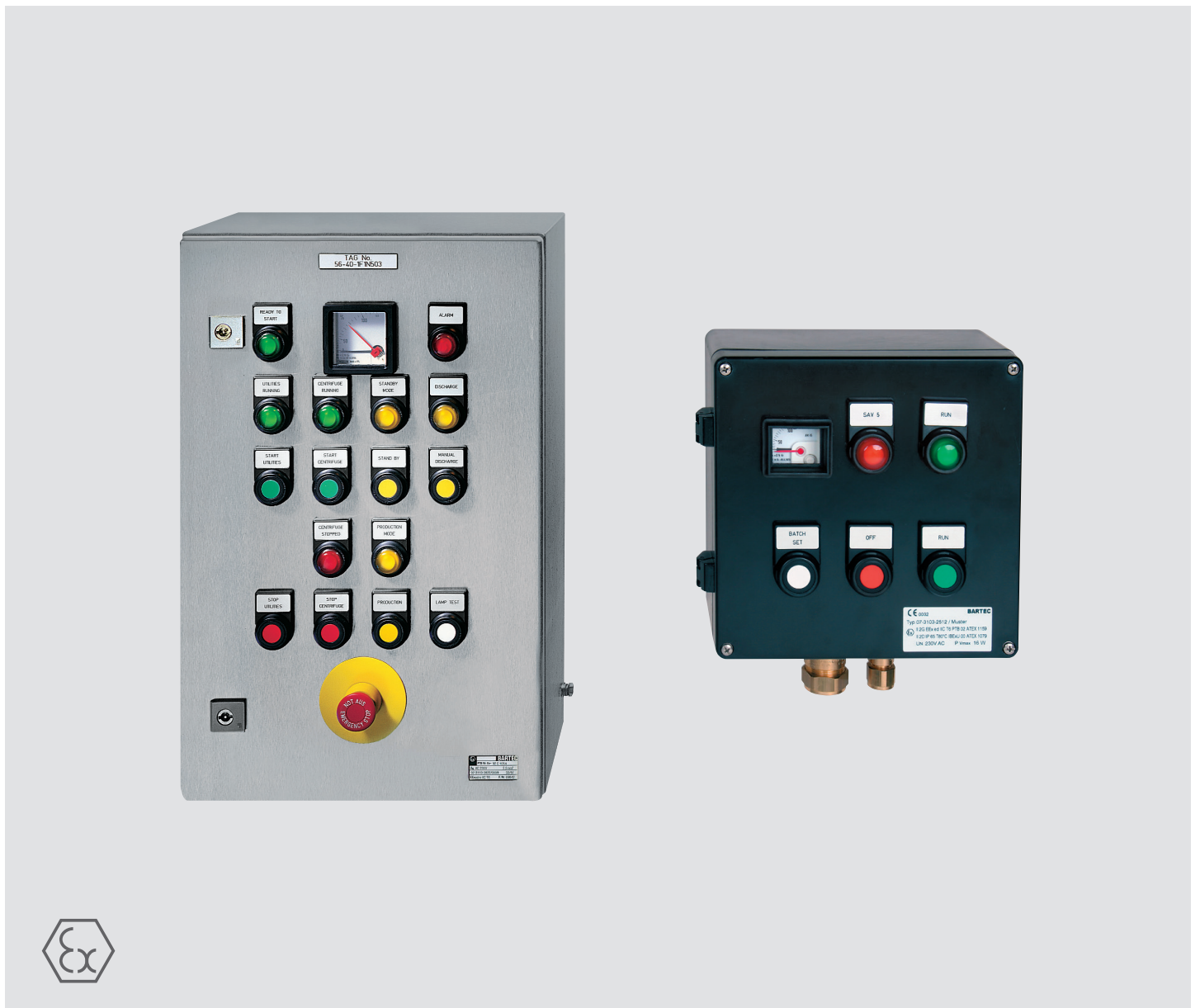




Local control station

for Zone 2 and Zone 22



Note on instructions

When work is carried out in potentially explosive areas, the safety of persons and systems depends on compliance with the relevant safety regulations. Persons responsible for installation and maintenance bear special responsibility. This requires having detailed knowledge of the applicable regulations and provisions. The instructions summarize the most important safety measures and must be read by all persons who work with the product so that they are familiar with the proper way to handle the product. The instructions must be kept available for the entire service life of the product.

Description

The switchgear assemblies are designed in accordance with the requirements of the “e” increased safety (Type A7-31...-.../...), “t” protection by enclosure (Type A7-3S...-.../...) type of protection and “nR” restricted breathing enclosures (type A7-3n...-.../...). They may consist of either one or more connected housings. Depending on the specification and number of components, various housing types and sizes are available. Switches, signal lights, terminal blocks, fuses, bus modules, etc. are installed in the housing according to the technical requirements. In addition, industrial series products can be installed in switchgear assemblies of the “t” protection by enclosure type of protection. The assembly elements are installed in different ways. Depending on the model, these are installed on mounting rails or in the front side.

BARTEC tests the Ex capability of the individual components and housings and confirms it with the II 3G Ex e and/or II 3G Ex nR and/or II 3D Ex t... marking on the nameplate of the switch-gear assembly. If the switchgear assemblies contain intrinsically safe electrical circuits or Ex i components, the electrical limit values normative for the “intrinsic safety” that are specified in the accompanying documents must be maintained.

Explosion protection

Maximum marking	Dependent on installed components. Please pay attention to the information on the marking plate.
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Marking ATEX	
Certificate	IBExU 14 ATEX B002X

Type A7-31...-.../...	II 3 G Ex db dc eb ec ia ib ic [ic] nR nC ma mb mc [pxb] [pyb] [pzc] op is [op is] op pr q 60079-30-1 [60079-30-1] IIA, IIB or IIC 16, T5, T4 or T3 Gc X
II 3(2) G Ex db dc eb ec ia ib ic [ib Gb] ma mb mc nR nC op is [op is] op pr [pxb] [pyb] q 60079-30-1 [60079-30-1] IIA, IIB, IIC T6, 15, T4 or T3 Gc X	
II 3(1) G Ex db dc eb ec ia ib ic [ia Ga] ma mb mc nR nC op is [op is Ga] op pr q 60079-30-1 IIA, IIB, IIC 16, T5, T4 or T3 Gc X	
II 3 D Ex tb tc ia ib ic [ic] ma mb mc op is [op is] op pr [pxb] [pyb] [pzc] IIIA, IIIB or IIC, T80 °C, T100 °C or T130 °C Dc X	
II 3(2) D Ex tb tc ia ib ic [ib Gb] ma mb mc op is [op is] op pr [pxb] [pyb] IIIA, IIIB or IIC, T80 °C, T100 °C or T130 °C Dc X	
II 3(1) D Ex tb tc ia ib ic [ia Ga] ma mb mc op is [op is] op pr IIIA, IIIB or IIC, T80 °C, T100 °C or T130 °C Dc X	
Type A7-3S...-.../...	II 3 D Ex tb tc ia ib ic [ic] ma mb mc op is [op is] op pr [pxb] [pyb] [pzc] IIIA, IIIB or IIC, 180 °C, 1100 °C or T130 °C Dc X
II 3(2) D Ex tb tc ia ib ic [ib Gb] ma mb mc op is [op is] op pr [pxb] [pyb] IIIA, IIIB or IIC, T80 °C, 1100 °C or T130 °C Dc X	
II 3(1) D Ex tb tc ia ib ic [ia Ga] ma mb mc op is [op is] op pr IIIA, IIIB or IIC, T80 °C, T100 °C or T130 °C Dc X	
Type A7-3n...-.../...	II 3 G Ex ec nR [ic] [op is] IIA, IIB or IIC T6, 15, T4 or T3 Gc
II 3(2) G Ex ec nR [ib Gb] [op is] IIA, IIB or IIC 16, T5, T4 or 13 Gc X	
II 3(1) G Ex ec nR [ia Ga] [op is] IIA, IIB or IIC 16, 15, T4 or 13 Ge X	

Marking IECEx

Type A7-31...-.../...	Ex db dc eb ec ia ib ic [ic] nR nC ma mb mc [pxb] [pyb] [pzc] op is [op is] op pr q 60079-30-1 [60079-30-1] IIA, IIB or IIC T6, T5, T4 or T3 Gc
Ex db dc eb ec ia ib ic [ib Gb] ma mb mc nR nC op is [op is] op pr [pxb] [pyb] q 60079-30-1 [60079-30-1] IIA, IIB, IIC T6,T5, T4 or T3 Gc	
Ex db dc eb ec ia ib ic [ia Ga] ma mb mc nR nC op is [op is Ga] op pr q 60079-30-1 IIA, IIB, IIC T6, T5, T4 or T3 Gc	
Type A7-3S...-.../...	Ex tb tc ia ib ic [ic] ma mb mc op is [op is] op pr [pxb] [pyb] [pzc] IIIA, IIIB or IIC, T80 °C, T100 °C or T130 °C Dc
Ex tb tc ia ib ic [ib Gb] ma mb mc op is [op is] op pr [pxb] [pyb] IIIA, IIIB or IIC, T80 °C, T100 °C or T130 °C Dc	
Ex tb tc ia ib ic [ia Ga] ma mb mc op is [op is] op pr IIIA, IIIB or IIC, T80 °C, T100 °C or T130 °C Dc	
Type A7-3n...-.../...	Ex ec nR [ic] [op is] IIA, IIB or IIC T6, T5, T4 or T3 Gc
Ex ec nR [ib Gb] [op is] IIA, IIB or IIC T6, T5, T4 or T3 Gc	
Ex ec nR [ia Ga] [op is] IIA, IIB or IIC T6, T5, T4 or T3 Gc	

Certificate	IECEx IBE 14.0028X
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Ambient temperature	Dependent on installed components. Please pay attention to the information on the marking plate. -60 °C to max. +80 °C (-67 °F to max. +176 °F)
Approved for zones	2 and 22
Other certification	CSA 70010169
Components	The installation instructions and safety instructions of the component manufacturer must be observed.
Co-applicable documents	– Circuit diagram – Mounting instructions / Instruction manual of the enclosure and of the installed components – Delivery note
Type of protection	Max. IP 66 (EN 60529)
Mechanical strength	Impact energy: max. 7 J

For further informations and certificates, see www.bartec.com

Electrical data

Rated voltage	up to 1000 V
Rated current for components installed	max. 690 A
Rated cross section	up to max. 400 mm ²

Local measuring, control and switchgear combinations that are intended exclusively for use in areas with inflammable types of dust have the following deviating markings: Type A7-3S..-.... /

Control combinations that are built exclusively with type of protection Ex nR are marked as follows: Type A7-3n**_****/****

Safety Instructions

The control combination may only be used within the specified temperature class and the temperature range indicated for it (see type plate). The control unit is not suitable for use in zones 0 and 1 or zones 20 and 21. The control combination may only be operated if it is clean and undamaged. Dust deposits >5 mm (> 0.2 in) must be removed. Use in areas other than those specified or modification of the product by anyone other than the manufacturer is not permitted and releases BARTEC from liability for defects and further liability. The generally applicable statutory regulations and other binding guidelines on occupational safety, accident prevention and environmental protection must be complied with. For electrical systems, the relevant installation and operating conditions and the information on the rating plate must be observed. The applicable laws and directives must be observed before commissioning or recommissioning. Safety instructions on the equipment must always be observed. The relevant electrical limit values for „intrinsic safety“ must be observed (in accordance with the enclosed documents).



WARNING

- Observe instructions of components.
- Do not replace or add components on your own.
- Repair only after consultation with BARTEC
- Do not open when energized

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 conform to

Depending on installed components
See Declaration of Conformity and IECEx certificate



NOTE

For other industry standards of the installation parts, see the operating instructions of the individual components.

Transport and Storage



CAUTION

- Risk of injury from heavy loads.
- Use suitable carrying aids or means of transport (e.g. lift trucks) with an adequate weight bearing capacity.
 - Make sure that loads cannot tilt or slide off.



NOTICE

- Damage to the control stations through incorrect transport or incorrect storage
- Transport and storage is permissible in original packaging only.

Assembly and disassembly



DANGER

- Death or risk of injury in case of wrong assembly.
- Metallic enclosures in hazardous areas require equipotential bonding with at least 4 mm².
 - PE conductor connections must be secured against self-loosening.



WARNING

- Risk of serious injury due to incorrect proceedings.
- Only qualified personnel who are authorized and trained to assemble electrical components in hazardous (potentially explosive) areas may do any of the assembly, disassembly, installation and commissioning work.
 - The relevant installation and operating regulations must be observed when setting up or operating explosion-proof electric systems
 - Follow the components mounting instructions/operating instructions.
 - Before starting to work, ensure that the voltage supply has been isolated or take suitable protective measures.

Check when assembling:

- Mount the measuring, control and switchgear combination with resistance to torsion on an even supporting surface.
- Mount the measuring, control and switchgear combination preferably in a vertical position.



NOTICE

For enclosures set up outdoors, it may be necessary to implement measures to ensure operation in accordance with the intended purpose (e.g. shelter from the rain or an outer enclosure with a suitable protection class).

Installation



DANGER

Death or serious injury due to improper use.

- Extensions or modifications to the measuring, control and switchgear combination are only permissible if the manufacturer's approval is obtained first.
- The EN/IEC 60079-14 must be observed.

Observe during installation:

- Only cable glands that have an EU type examination certificate / IECEx certificate and are suitable for equipment category 3 may be used.
- When connecting cables and wires to equipment with type of protection „Ex e“, only use Ex-certified cable entries that are suitable for the respective cable or wire type. They must maintain the type of protection „Ex e“ and contain a suitable sealing element so that the type of protection of the control unit/terminal box is maintained.
- For intrinsically safe circuits, the specifications in the operating instructions for the intrinsically safe components must be observed
- Line entries out of metal must be connected to the grounding system
- For plastic enclosures, use the BARTEC Earth-Loc or an earthing plate corresponding to the approval.
- Close unused openings for cable entries with Ex-certified closing elements.

Observe when connecting the conductor:

- Carry out conductor connection carefully.
- Crimp ferrules with a suitable crimping tool to ensure consistent crimping quality.
- Tighten all clamping points (also the unused ones).
- The connections must be secured against self-loosening
- Remove approx. 6 mm (0.24 in) of the conductor insulation from the cores
- Tighten the clamps to the maximum permissible torque, which depends on the size of the screws. Information on the tightening torque of the terminal screw can be found in the manufacturer's instructions.



NOTE

If necessary, safety temperature limiters (STB) are installed in measuring, control and switchgear combinations. The normally open contact of the STB is wired on the STB terminal block. The normally open contact that is wired on the STB terminal block has to be connected with the power supply of the measuring, control and switchgear combination in a way that the power supply is safely switched off (i.e. the measuring, control and switchgear combination is switched voltage free). Once the temperature drops, the STB can be unlocked manually, see the Operating Instructions for the “Ex-d temperature switch 07-6D...-.../...”

Special features of Ex nR

Non-explosion-protected devices can be installed in the restricted breathing enclosures. However, all installations in the enclosure shell (fault indicators, displays, viewing windows) must comply with a standardized type of protection with device protection level Gc.

The Ex nR applications (without test port) were subjected to a routine leak test in accordance with IEC/EN 60079-15 before delivery. An initial test at the installation site is not necessary. Ex nR applications which have a test port must be included by the operator in his maintenance plans in accordance with IEC/EN 60079-17 and must be tested regularly.

If the appliance is opened the requirements according to IEC/EN 60079-17 with regard type of protection Ex nR must be observed.

The requirements in accordance with IEC/EN 60079-17 with regard to type of protection Ex nR must always be observed.



WARNING

Do not open, maintain or repair in an area where an explosive atmosphere is present.

Specific conditions of use

- The polyamide hose shall only be used in a temperature range of -20 °C up to +60 °C.
- It may be a potential risk of electrostatic charge from an Ex Equipment having a touch screen or plastic window in the enclosure or when the enclosure has been painted with an additional layer; refer to the installation instruction manual.
- When the service temperature is higher than 70 °C at the entry point or 80 °C at the branching point of the conductors, the switchgear combination is marked accordingly. Suitable cables and cable glands have to be used.

Commissioning

Before commissioning, check that:

- The measuring, control and switchgear combination has been mounted and installed in compliance with regulations.
- The enclosure is not damaged.
- The connection has been established properly.
- The cables have been laid correctly.
- All screws have been tightened securely.
- The device functions perfectly.

Operation



DANGER

Death or serious injury through improper use.

- The measuring, control and switchgear combination may be operated only within the technical limits that apply to it (see page 2).

Maintenance and fault clearance



WARNING

Risk of serious injury due to incorrect proceedings.

- Only authorized qualified personnel are allowed to do any of the work relating to maintenance and fault clearance.
- EN/IEC 60079-17 must be observed. It is recommended to formulate a maintenance plan according to this standard
- Before starting to work, ensure that the voltage supply has been isolated or take suitable protective measures.

Maintenance

The owner/managing operator of the measuring, control and switchgear combination must keep it in good condition, operate it correctly, monitor it and clean it regularly. The owner/managing operator must schedule maintenance intervals, which will suit the respective conditions of use.

- Check sealings for effectiveness
- Replace old or damaged sealings with new original sealings.

If the lid is opened for maintenance purposes in Ex nR applications, the tightness must be checked in accordance with EN/IEC 60079-15 after resealing.



NOTICE

In the course of maintenance particular attention must be paid to checking that the parts essential for the type of protection and for proper functioning are in good condition.

Fault clearance

The measuring, control and switchgear combination is defective if one of the components does not function any longer. In this case the defective component must be replaced or repaired with original parts. Defective windows cannot be replaced by the operator of the measuring, control and switchgear combination. In this case contact BARTEC GmbH at the service address



NOTICE

Follow the components mounting instructions/operating instructions to replace or repair the components.

Accessories and spare parts

See BARTEC catalogue.

Disposal

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 measuring, control and switchgear combination 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

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

EU Konformitätserklärung
EU Declaration of Conformity
Déclaration UE de conformité
Nº A1-3000-7C0001-C



Wir	We	Nous
BARTEC GmbH Max-Eyth-Straße 16 97980 Bad Mergentheim Germany		
erklären in alleiniger Verantwortung, dass das Produkt Schaltgerätekombination	declare under our sole responsibility that the product Measuring, Control and Switchgear combination	attestons sous notre seule responsabilité que le produit Ensemble d'appareillage de connexion et de commande
Typ A7-3***-****/****		
auf das sich diese Erklärung bezieht den Anforderungen der folgenden Richtlinien (RL) entspricht ATEX-Richtlinie 2014/34/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 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 RoHS 2011/65/UE Directive WEEE 2012/19/UE et est conforme aux normes ou documents normatifs ci-dessous
EN IEC 60079-0:2018 EN 60079-1:2014 EN 60079-2:2014 EN 60079-5:2015 EN 60079-7:2015/A1:2018 EN 60079-11:2012 EN IEC 60079-15:2019 EN 60079-18:2015/A1:2017 EN 60079-28:2015 EN 60079-30-1:2017 EN 60079-31:2014 EN 60529:1991/A2:2013/AC:2019 EN 61508-1:2010 EN 61508-2:2010 EN 61000-6-2:2005 EN 61000-6-4:2007 + A1:2011 EN IEC 63000:2018		
Eine Übereinstimmung mit den aufgeführten Normen ist variabel und abhängig von den eingebauten Komponenten.	A conformity with the listed standards is variable and depends on the installed components.	La conformité aux normes citées est variable et dépend des composants installés.
Verfahren der internen Fertigungskontrolle	Procedure of internal control of production	Procédure de contrôle interne de fabrication

IBExU 14 ATEX B002, Issue 2
0637, IBExU, Fuchsmühlenweg 7, 09599 Freiberg, DE



Bad Mergentheim, 28.11.2024


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