



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 potentiometer, type 07-3371-1***/*, is used everywhere in almost all hazardous areas where machine functions are to be controlled by adjustable voltage dividers.

Each potentiometer actuator is fitted into a mounting hole on a control console or panel.

The potentiometer is intended for fitting onto a mounting rail. Connection is established by means of terminals at the back of the potentiometer.

Explosion protection

ATEX

Ex type of protection

II 2 G Ex db eb IIC Gb

I M2 Ex db eb I Mb

Certification

CML 17 ATEX 1119 U

IECEX

Ex type of protection

Ex db eb IIC Gb

Ex db eb I Mb

Certification

IECEX CML 17.0057U U

Other approvals and certificates, see www.bartec-group.com

Ambient temperature range

-55 °C to +60 °C
(-67 °F to +140 °F)

Operating temperature

55 °C to +85 °C
(-67 °F to +185 °F)

Approved for the zone

1 and 2

Technical data

Protection class

Determined by potentiometer actuating element and control station enclosure.

Terminals: IP 20

Weight

Approx. 71 g (0.16 lb)

Rated insulation voltage

Max. 500 V

Power consumption

Max. 1 W for $T_a < +40$ °C (+104 °F)

Rated voltage (U_e)

AC/DC 320 V

Storage/transport temperature

-55 °C to +70 °C
(-67 °F to +158 °F)

Resistance

1 k Ω to 22 k Ω
with a tolerance of + 20%

Curve shape

Linear

Rotation

Mechanical: 285° to 5°
Electrical: effective approx. 250°

Torque

Beginning: 0.5 to 1.5 Ncm
Stop: > 100 Ncm

Connection

Double terminals for 2 x 2.5 mm², fine-wire

Enclosure material / manufacturing process

Thermoplastic / injection moulding

Resistance material

Carbon layer on ceramics

Service life

Mechanical: 25000 sinusoidal cycles

Mounting

On mounting rail NS 35/7.5

Shock resistance

DIN EN 60068-2-27: 30 g 18 ms

Dimensions

See page 3

Safety Instructions

The potentiometer and the corresponding actuator 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 potentiometer may be used only if it is in a clean and undamaged condition. It is not permissible to modify the potentiometer in any way.

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.

i Note

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

Standards conformed to

EN 60079-0:2012
 EN 60079-1:2014
 EN 60079-7:2007
 EN 60068-2-27:2009
 IEC 60079-0:2011
 IEC 60079-1:2014
 IEC 60079-7:2006
 IEC 60068-2-27:2008

Transport, Storage

NOTICE

Potentiometer damage through incorrect transport or incorrect storage.

- Transport and storage is permissible in original packaging only.
- Store the potentiometer 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

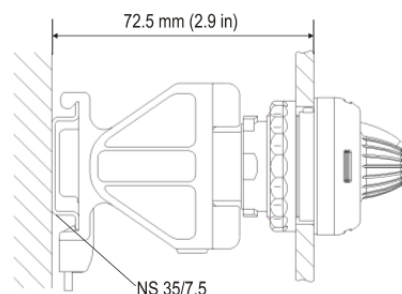
⚠ WARNING

Risk of serious accidents due to damaged parts.

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

Mounting the potentiometer:

- Make sure the potentiometer to be fitted is intact (no cracks).
- Put the potentiometer on the mounting rail.
- Align the position of the potentiometer on the mounting rail at the actuator.



i Note

The assembly of the potentiometer actuating element is described in the operating instructions for actuating elements, type 05-0003-00**/*****

Installation

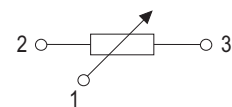
In hazardous areas in groups I and II the potentiometer must be used:

- In appropriate enclosures with “Ex e” increased safety type of protection. The clearance and creepage distances under IEC/EN 60079-7 Section 4.3, Section 4.4 and Table 1 must be observed.
- In an enclosure that corresponds to another approved type of protection specified in IEC/EN 60079-0 Section 1.

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. Connection cross-sections: 0.75-2.5 mm², one-wire (14-18 AWG); 0.75-1.5 mm², fine-stranded, wire end ferrule (16-18 AWG).
- Release terminals.
- Insert conductors.
- Tight the terminals with a maximum torque of 0.4-0.7 Nm (0.03-0.05 lb.ft).

Terminal assignment:



Resistance:

Type 07-3371-1D40	1 kΩ
Type 07-3371-1D50	2,2 kΩ
Type 07-3371-1D60	4,7 kΩ
Type 07-3371-1D70	10 kΩ
Type 07-3371-1D80	22 kΩ

Commissioning

Before commissioning, check that:

- The potentiometer has been installed in compliance with regulations.
- The potentiometer is not damaged.
- The connection has been established properly (make sure the cores are secure).

Operation

⚠ WARNING

Risk of serious accidents due to operation without an actuator.

- The potentiometer may never be operated without an actuator at rated voltages > AC 50 V to a max. AC/DC 320 V.
- If the potentiometer does not have an actuator, it must be de-energized.

The potentiometer may be operated without an actuator only at rated voltages of ≤ AC 50 V resp. < DC 120 V.

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 potentiometers, potentiometer actuating elements, actuators, sealings, and cables regularly for cracks and damage. Make sure that they are properly established.

NOTICE

Potentiometer/potentiometer actuating element damage due to incorrect cleaning.

- It is not allowed to clean switch modules/actuators with compressed air.

The operator of the potentiometer 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.

Fault Clearance

⚠ WARNING

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

- Use original parts only as replacements.

The potentiometer is defective if turning it does not lead to a change in resistance.

Defective potentiometers cannot be repaired; they must be replaced considering this operational instruction.

A defective actuator can be taken off and replaced by a functioning actuator of the same type.

i 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

i 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.

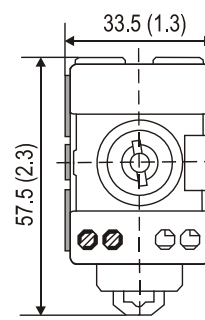
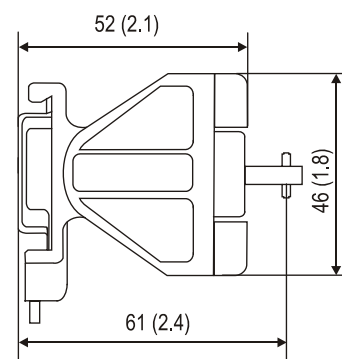
The components in the potentiometer and the potentiometer actuating element contain metal and plastic parts.

Therefore the statutory requirements for disposing of electronic scrap must be observed.

Service Address

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

Dimensions in mm (in)



EU Konformitätsbescheinigung
EU Attestation of Conformity
Attestation UE de conformité**BARTEC**BARTEC GmbH
Max-Eyth-Straße 16
97980 Bad Mergentheim
Germany

N° 01-3370-7C0001_D

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
Potentiometer mit Klemmen	Potentiometer with terminals	Élément de potentiomètre avec bornes
Typ 07-337*-*D**/*		
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 2014/34/EU RoHS-Richtlinie 2011/65/EU	ATEX-Directive 2014/34/EU RoHS-Directive 2011/65/EU	Directive ATEX 2014/34/UE Directive RoHS 2011/65/UE
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 60079-0:2012 + A11:2013 EN 60079-1:2014 EN 60079-7:2015	EN 60529:1991 + A1:2000 + A2:2013 EN 60068-2-27:2009	
Verfahren der EU-Baumusterprüfung / Benannte Stelle	Procedure of EU-Type Examination / Notified Body	Procédure d'examen UE de type / Organisme Notifié
CML 17 ATEX 1119U 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.	(*) 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.	(*) 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 a un matériel électrique ou à un système pour atmosphères explosives.
Merkmale dieser Komponente sowie die Bedingungen für ihren Einbau in Geräte und Schutzsysteme siehe Betriebsanleitung der Komponente.	Characteristics and how the component must be incorporated into equipment or protective systems see operation manual of the component.	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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Attestation UE de conformité

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Nº 01-3370-7C0001_D

	0044	
	Bad Mergentheim, den 23.01.2019	
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