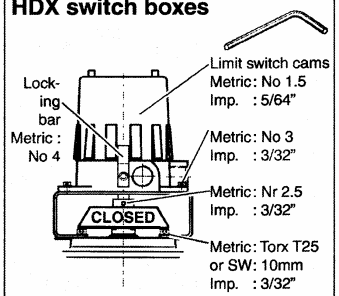
Installation and Operation Instructions
HDX Switch Boxes

HDX switch boxes



Important

Before installation ensure that the explosion proof rating, as marked on the switch box label, is compatible with the application, i.e.

HDX B2
Ⓔx II 2 G D EEx ed IIC T6,
T_{amb} = -20°C to +55°C

All other HDX variations:
Ⓔx II 2 GD EEx d IIC T6
T_{amb} = -20°C to +55°C

Optional "Low temperature" executions can have a lowest temperature of -55°C

Conditions for Safe Use:

1 Mount the switch box on to the actuator using a mounting kit prepared in accordance with VDI/VDE 3845.
2 Use cable glands certified by an approved authority and suitable to the application.
3 Make the electrical connections in accordance the appropriate wiring diagram as included with each switch box.
4 Do not exceed the specification limitations as indicated on the appropriate Controlled Drawing:
- **HDX** switchboxes, see drawing 341.77.030.
- **HDX B2** switchboxes with:
  Bartec switch **07.1501**,
  see drawing 341.77.020 Rev A
  Bartec switch **07.1511**,
  see drawing 341.77.020 Rev -
5 After installation check that the cover is firmly screwed down in place, with the locking bar engaged.
6 Be sure that the device is electrically isolated before opening the cover.
7 After first powering up, versions with PCBs must not be opened while a flammable atmosphere is present.
Versions with PCBs are: ASi, DPS and PT2.

Special conditions for Safe Use:

"X" = The maximum shaft bushing flame path shall not exceed 0.09 mm.

Intended use

The El-O-Matic HDX switch box is a Group II category 2 equipment and intended for use in areas in which explosive atmospheres caused by mixtures of air and gases, vapours, mists or by air/dusts are likely to occur. Therefor it may be used in (ATEX) classified Zones 1 & 2 (Gasses) and/or 21 & 22 (Dust).

Note:
A wiring diagram is included with each switch box. If this is unavailable contact El-O-Matic quoting the label details.

Contact Adjustment. - General

Switch contact points are factory set to operate 5° before each end position. If required at another position, carry out the following:
1. Remove the cover.
2. Set the actuator to the position where indication is required. (For spring return actuators the connection of an air supply will be required).
3. Choose the required cam. CLOSED is the top cam, OPEN is at the bottom.
4. Slacken the fixing screw and rotate the cam until the switch contact is made. This can be detected by hearing the contacts "click", or use a circuit tester across the appropriate terminals.
5. Tighten the cam fixing screw.
6. Test to see if the correct contact position has been achieved. Adjust further if necessary.
7. Screw the cover in place and lock in place with the locking bar.

Contact Adjustment. - HDX B2

- Substitute the following:
3. First set the CLOSED position by slackening the cam plate fixing screw and turning the cam plate so that the CLOSED switch contact is made. Tighten the cam plate fixing screw
4. Slacken the knurled nut on the cam plate, then adjust this for the OPEN position.
5. Tighten the knurled nut on the cam plate.

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The Netherlands

EL-O-MATIC

EC-Declaration of conformity
in accordance with

Machinery Directive 98/37/EC, Appendix IIb.
EMC directives 89/336/EEC, 92/31/EEC, 93/68/EEC. Appendix 1.
ATEX directive 94/9/EC

We hereby declare, that the products specified below meet the basic health and safety requirements.
Before the HDX switch box is put into operation, the machine into or onto which the electric actuator will be installed, must comply with the stipulations of the machinery directive.

Description:	HDX Switch box
Application area : switch box	See paragraph "Intended Use"
Serial No.:	Each switch boxhas an identifiable serial number
EMC and Machinery Directive	
Type:	H1, H2, H3, H4, H6, H2+P, H4+P, PR1, PR2, R2, ASI, PT2, DPS
ATEX Directive	
Type :	H1, H2, H3, H4, H6, H2+P, H4+P, PR1, PR2, R2, ASI, PT2, DPS
ATEX Certificate No.:	BAS01ATEX2132X / 1, II 2GD EEx d IIB T6 T_{amb} -20°C to +55°C BAS01ATEX2132X / 2, II 2GD EEx d IIB T6 T_{amb} -55°C to +55°C
Type:	B2
ATEX Certificate No.:	Baseefa03ATEX0559X, II 2G EEx ed IIC T6 T_{amb} -20°C to +55°C
ATEX Certificate No.:	Baseefa03ATEX0559X/1, II 2GD EEx ed IIC T6 T_{amb} -55°C to +55°C
Notified body :	Electrical Equipement Certification Service, Notified body nr. 1180 Health and Safety Laboratory Site, Harpur Hill, Buxton, Derbyshire SK17 9JN, United Kingdom
Applicable standards:	EN 50014 : 1997 EN 50018 : 2000 EN 50019 : 2000 EN 60947-5-2

Signed:
Name: D.L.Farr
Function: Managing Director El-O-Matic B.V.
Date: March 30, 2007

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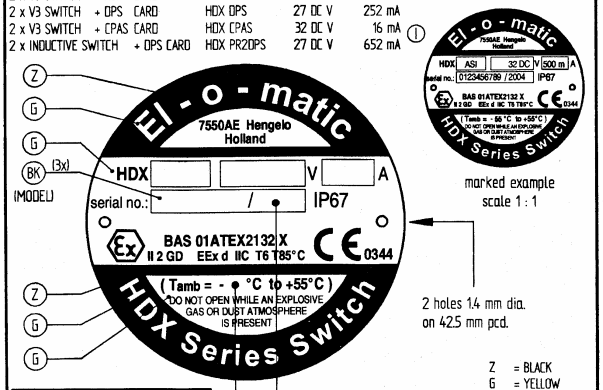
MATERIAL	: ALUMINIUM ALLOY 0,5 mm THICKNESS (< 6% Mg).
SIZE	: 48,5 mm DIA. (1,91 in.)
PRINTING	: SILK SCREEN
TYPEHIGHT	: 1,5 mm
FIXING	: DRIVE SCREWS, 2 x NR.00 x 1/8, 1,5 mm DIA. x 3,2 LONG.

MARKINGS		MAXIMUM RATING	
DESCRIPTION	MODEL	VOLTAGE	CURRENT
1 x V3 SWITCH	HDX H1	250 AC V	5 A
2 x V3 SWITCH	HDX H2	250 AC V	5 A
3 x V3 SWITCH	HDX H3	250 AC V	5 A
4 x V3 SWITCH	HDX H4	250 AC V	5 A
6 x V3 SWITCH	HDX H6	250 AC V	5 A
2 x V3 + POTENTIOMETER	HDX H2+P	250 AC V	5 A
4 x V3 + POTENTIOMETER	HDX H4+P	250 AC V	5 A
1 X INDUCTIVE SWITCH	HDX PR1	30 DC V	250 mA
2 X INDUCTIVE SWITCHES	HDX PR2	30 DC V	250 mA
2 X REED SWITCHES	HDX R2	70 AC/DC V	100 mA
POTENTIOMETER + PT CARD	HDX PT2	27 DC V	50 mA
2 x V3 SWITCH + ASI CARD	HDX ASI	32 DC V	500 mA
2 x V3 SWITCH + DPS CARD	HDX DPS	27 DC V	252 mA
2 x V3 SWITCH + CPAS CARD	HDX CPAS	32 DC V	16 mA ①
2 x INDUCTIVE SWITCH + DPS CARD	HDX PR2DPS	27 DC V	652 mA



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scale 1 : 1

EL-O-MATIC INTERNATIONAL LOCATION HENGELO (O) THE NETHERLANDS	Format: A4	Dim. -	Scale: -	Date: 02/11/1990	
Material: see remark	Title: Nameplate ATEX label HD-box II 2 GD EEx d IIC T6 T85°C			EMK nr: M-1099 / 03/02/2004	Par. AB
Treatment: -		Drawn: 341.77.030		State: Released	Rev.

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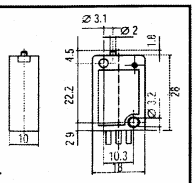
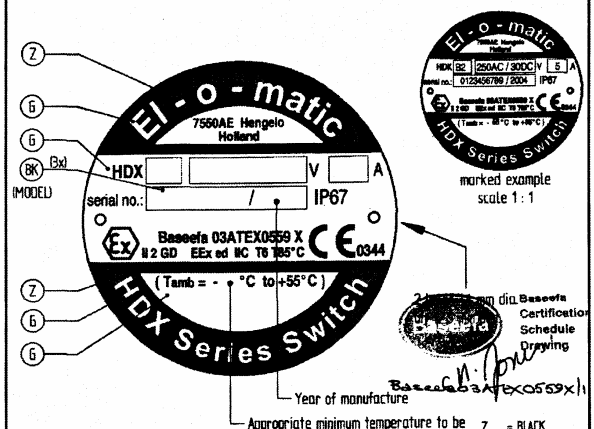
MATERIAL : ALUMINIUM ALLOY 0,5 mm THICKNESS (+ 6% Mg).
SIZE : 48,5 mm DIA. (1,91 in.)
PRINTING : SILK SCREEN
TYPEHIGHT : 1,5 mm
FIXING : DRIVE SCREWS, 2 x NR.00 x 1/8, 1,5 mm DIA. x 3,2 LONG.



MARKINGS :

DESCRIPTION	MODEL	MAXIMUM RATING VOLTAGE	CURRENT
2 x SWITCHES BARTEC 07.1501	HDX B2	250AC/300DC V	5 A
1 x SWITCH BARTEC 07.1501	HDX B1	250AC/300DC V	5 A

Bartec Switch 07.1501



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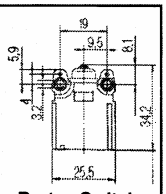
CERTIFIED PRODUCT
NO MODIFICATIONS PERMITTED WITHOUT REFERENCE TO THE CERTIFYING AUTHORITY

EL-O-MATIC INTERNATIONAL LOCATION HENGELO (O) THE NETHERLANDS		Format : A4	Drn. : AB	Scale : -	Date : 10/11/2003
Materials : see remark	Title : Nameplate ATEX label HDX-box II 2 GD EEx ed IIC T6 T85°C			ENG nr. : H-1105 / 03/02/2004	Date : AB
Treatment : -		Drwnr. : 341.77.020		State : Checked in	Rev. : A

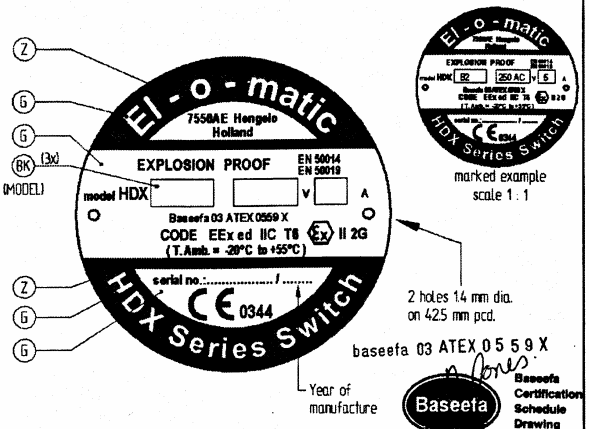
MATERIAL : ALUMINIUM ALLOY 0,5 mm THICKNESS (+ 6% Mg).
SIZE : 48,5 mm DIA. (1,91 in.)
PRINTING : SILK SCREEN
TYPEHIGHT : 1,5 mm
FIXING : DRIVE SCREWS, 2 x NR.00 x 1/8, 1,5 mm DIA. x 3,2 LONG.



MARKINGS :

DESCRIPTION	MODEL	MAXIMUM RATING VOLTAGE	CURRENT
2 x SWITCHES BARTEC 07.1511	HDX B2	250 AC V	5 A
1 x SWITCH BARTEC 07.1511	HDX B1	250 AC V	5 A

Bartec Switch 07.1511



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scale 1 : 1

CERTIFIED PRODUCT
NO MODIFICATIONS PERMITTED WITHOUT REFERENCE TO THE CERTIFYING AUTHORITY

EL-O-MATIC INTERNATIONAL LOCATION HENGELO (O) THE NETHERLANDS		Format : A4	Drn. : -	Scale : -	Date : 26/08/2003
Materials : see remark	Title : Nameplate ATEX label HDX-box II 2 G EEx ed IIC T6			ENG nr. : -	Date : -
Treatment : -		Drwnr. : 341.77.020		State : Released	Rev. : -

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