

cULus Hazardous Manual

**Standard for Safety
ANSI/ISA-12.12.01-2000**

**Long and Shortstroke
Positions Transmittere for use in
Class I, Division 2 Group ABCD**



History:

26-02-2007, IP rating change from IP20 to IP65.

21-04-2008, company adress change to Bøgekildevej 21.

30-04-2009, change of PEPPERL+FUCH Barrier, new type is
" KFD2-ST4-EX1, part no. Y204907".

Note: This position sensor will only work with a PEPPERL+FUCH
special barrier type KFD2-ST4-EX1, part no. Y204907.

We recommend that you buy this barrier together with the
cULus sensor.



ISO 9001 : 2000



HB

Products

POSITION & LEVEL SENSORS

Certificate of Compliance

Certificate Number 160506 - E303865
Report Reference E303865, April 7th, 2006
Issue Date 2006 May 16

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Issued to: **HB PRODUCTS AS**
JEGSTRUPVEJ 34
8361 HASSELAGER DENMARK

This is to certify that representative samples of

Class I, Division 2 Group ABCD Hazardous
Longstroke type SA96DX-I/xxx/Ex and Shortstroke type SLCD-M1/xx/Ex for use in Class I, Division 2 Group ABCD Hazardous Locations when installed in accordance with control drawing No. A038cULus.

Have been investigated by Underwriters Laboratories Inc.® in accordance with the Standard(s) indicated on this Certificate.


Standard(s) for Safety:

ANSI/ISA-12.12.01-2000 - Nonincendive Electrical Equipment for use in Class I and II, Division 2 and Class III, Divisions 1 and 2, Hazardous (Classified) Locations
CSA C22.2 n.213 - Non-incendive Electrical Equipment for use in Class I, Division, Hazardous Locations

Additional Information:

RATINGS:
For all covered Longstroke and Shortstroke versions of position transmitters
Vi: 26.5V - Ii: 116mA
Pi: 950mW - Ci: 50nF
Li: 1mH

Only those products bearing the UL Listing Mark for the US and Canada should be considered as being covered by UL's Listing and Follow-Up Service meeting the appropriate requirements for US and Canada.

The UL Listing Mark for the US and Canada generally includes: the UL in a circle symbol with "C" and "US" identifiers:  the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory.

Look for the UL Listing Mark on the product

Issued by: *Ole Olsen*
Ole Olsen, Project Engineer

UL International Demko A/S

Any information and documentation provided to you involving UL Mark services are provided on behalf of Underwriters Laboratories Inc.
For questions in Denmark, you may call +45 44856565.

Reviewed by: *Klaus M. Hansen*
Klaus M. Hansen, Project Engineer

UL International Demko A/S

Certificate of Compliance

Certificate Number 20091028-E331391
Report Reference E331391-A1-UL-1
Issue Date 2009 October 30

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Issued to: HB PRODUCTS A/S

BOEGEKILDEVEJ 21
8361 HASSELAGER DENMARK

*This is to certify that
representative samples of*

Process Control Equipment, Electrica

Longstroke type SA96DX-I/xxx/Ex
Shortstroke type SLCD-M1/xx/Ex

*Have been investigated by Underwriters Laboratories Inc.® (UL) or any authorized
licensee of UL in accordance with the Standard(s) indicated on this Certificate.*


Standard(s) for Safety:

UL 61010-1, 2nd Edition
CAN/CSA-C22.2 No. 61010-1, 2nd Edition

Additional Information:

See UL On-line Certification Directory at WWW.UL.COM for additional
information

Only those products bearing the UL Listing and Classification Marks should be considered as being covered by UL's Listing, Classification and Follow-Up Service.

The combined UL Listing and Classification Marks generally include the symbol UL in a circle:  with the word "LISTED"; a control number (may be alphanumeric) assigned by UL; and the product category name (product identifier) as indicated in the appropriate UL Directory and a statement "ALSO CLASSIFIED TO (extent of UL's evaluation of the product)".

Look for the UL Listing and Classification Mark on the product

Issued by: *Bartłomiej Zmijewski*
Bartłomiej Zmijewski, Engineer Project Associate
Underwriters Laboratories Inc.

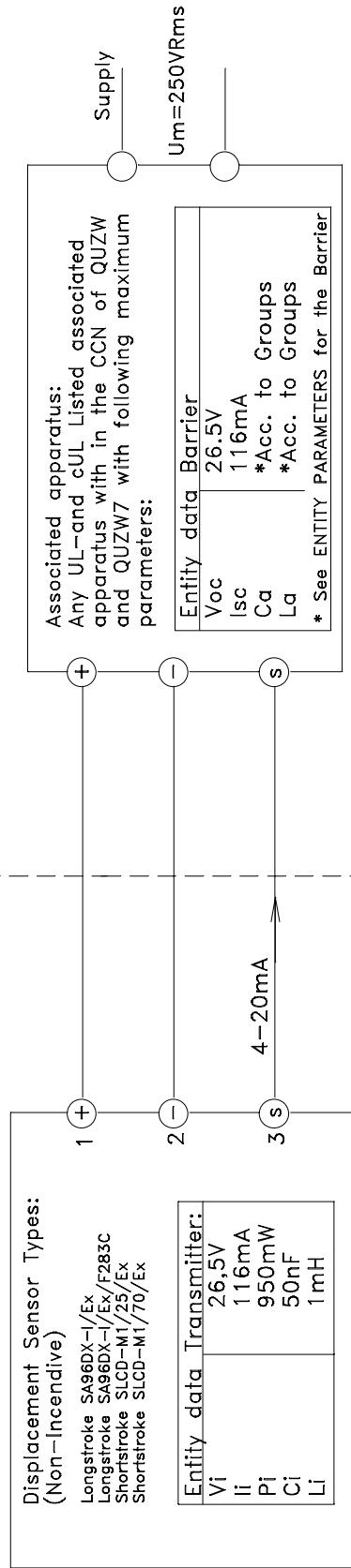
Reviewed by: *Mona H. Nielsen*
Mona H. Nielsen, Staff Engineering Associate
Underwriters Laboratories Inc.

Control Drawing no. A038-CDcULus

Hazardous Area Location

Nonhazardous Area

Class I Division 2. Groups A,B,C,D
 Operating Temperature Code: T5
 Maximum ambient temp.: 70C



Installation must be performed in accordance with the National Electric Code, NFPA 70, Article 501.10

Note:
 The sum of capacitance and inductance of cable and intrinsic safe equipment must be less or equal to Ca and La acc. to the installation groups A, B, C & D.
 Voc and Isc have to be less than or equal to Vmax (Vi) and Imax (Ii) for the displacement Sensor and the Listed values of Ca and La for the associated apparatus are greater than Ci + Ccable and Li + Lcable, respectively, for the displacement Sensor.

History:
 30-04-09, change of PEPPERL+FUCHS Barrier
 Old type is KFD2-CR-CX1.30300
 New type is Any UL-and cUL Listed associated Barrier

Note:
 HB Products have tested and recommend PEPPERL+FUCHS Barrier type "KFD2-STC4-EX1, part no. Y204907.

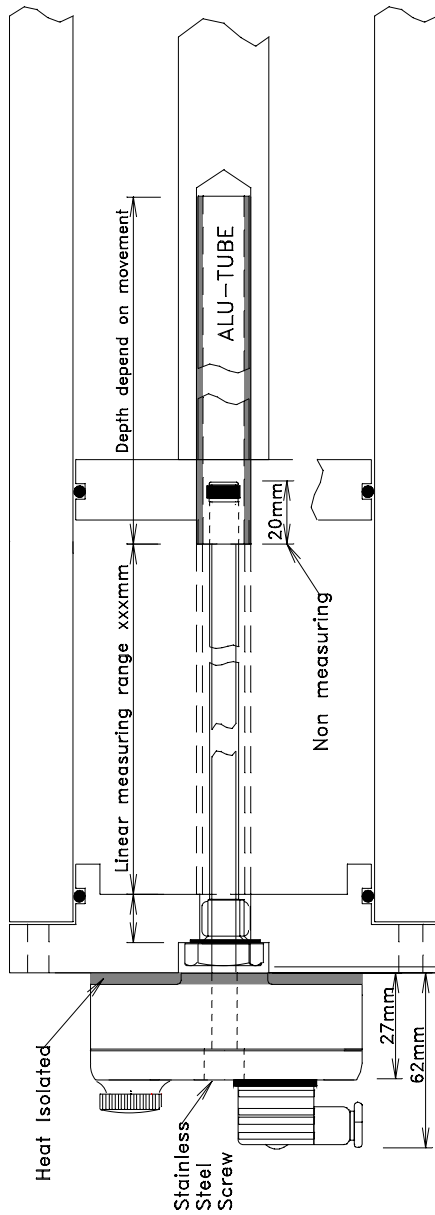
Ca > Ci + Ccable
 La > Li + Lcable

Date:	03-05-06	Rev.no:	01
Rev. Date:	30-04-09	Rev. Date:	02
Rev. Date:			

Manufacturer: HB Products A/S Bøgekildevej 21 DK-8361 Hasselager	CONTROL DRW.: SA96DX-I/xxx/Ex, SLCD-M1/xx/Ex	
	Const: ME	Drawing no. A038cULus Page: 1



Mounting Instruction for all Longstroke Transmitters type SA96DX-I/xxx/Ex



NOTE:

IMPORTANT:
Air gab min. 1mm

Heat isolator should be mounted between compressor and alu-housing, fixed with M6 stainless steel Head Cap Screw, to avoid heat transmission from the compressor to the transmitter housing.

IECEX, ATEX and cULus types:

To save power on the EX type the LED's switch OFF after 5min.
To activate the LED push once on the push button.

Calibration must be done before operation:

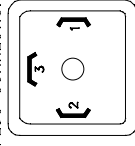
1. Apply Supply voltage min. 5 min. before Calibration.
2. Push the Cal. switch for 5 sek. to get the transmitter in Calibration mode the red LED change from normal flash to OFF.
3. Move the Slide valve to 0% position, and then push the calibration's button once, the red LED is now constantly ON, when the red LED switch OFF its ready for 100% calibration.
4. Now move the Slide valve to 100% position, and push the calibration button twice, the red LED flash quickly, when the red LED flash normally the calibration is done.

* The green LED indicate end position.

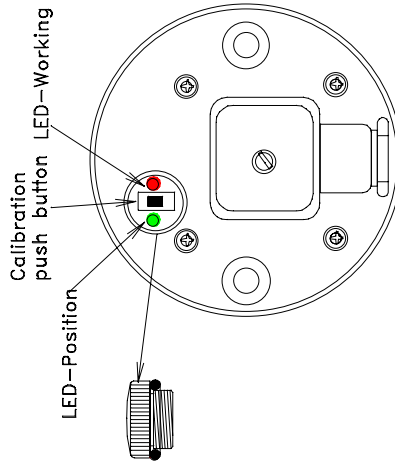
<1% = green LED flash.
>99% = green LED ON.

INSTALLATION MUST BE PERFORMED IN ACCORDANCE WITH THE NATIONAL ELECTRIC CODE, NFPA 70, ARTICLE 501.10 AND CONTROL DRAWING NO. A038cULus.

PLUG CONNECTION

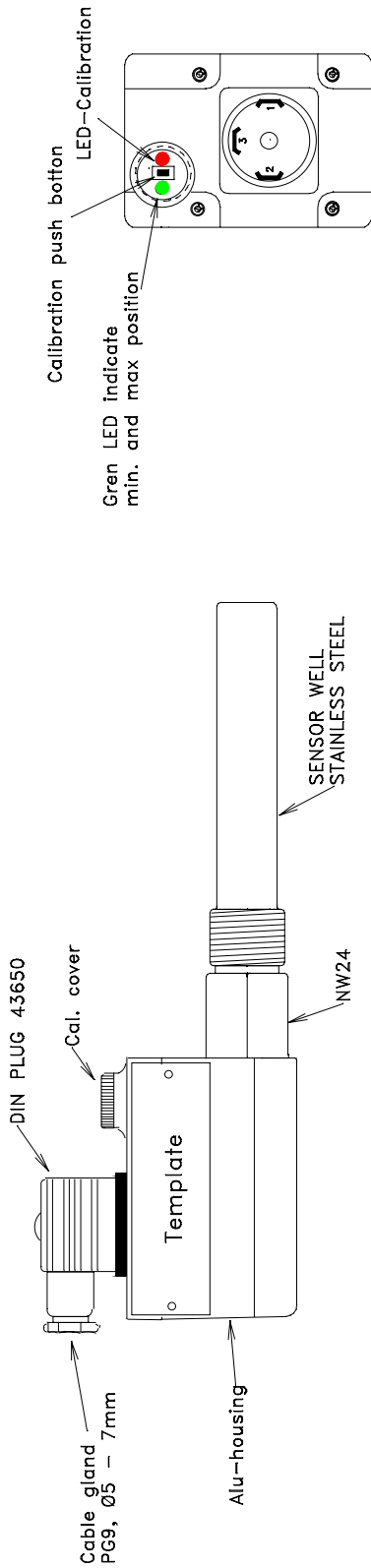


- 1 = SUPPLY +
- 2 = COMMON -
- 3 = OUT 4-20mA



Date:	01-05-06	Ver. no.	01
Ver. date:		Approved by:	UL-Demko
HB Products A/S Jegstrupvej 34 DK-8361 Hasselager	Mounting Instruction SA96DX-I/xxx/Ex Const: ME	Drawing no. EXLSMOUNT	Side: 1

Mounting Instruction for all Shortstroke Transmitters type /xxx/Ex



NOTE:
The sensor output is with automatic reverse function and will work as a Capacity or Volumen transmitter depend of calibration.

NOTE:

IECEX, ATEX and cULus types:
To save power on the EX type the LED's switch OFF after 5min.
To activate the LED push once on the push button.

Calibration must be done before operation:

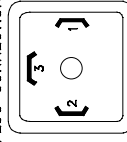
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Date:	01-05-06	Ver. no.	01
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HB Products A/S Jegstrupvej 34 DK-8361 Hasselager		Mounting Instruction SLCD-M1/xx/Ex	
Const:	ME	Drawing no.	ExSSMOUNT 1
		Side:	1