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EC-TYPE EXAMINATION CERTIFICATE No. DEMKO 05 ATEX 135657

[15]

Description of Equipment or protective system

The certificate covers two types of transducers in the same family, the Longstroke type SA96DX-I/Ex / Shortstroke type SLCD-M1/xx/Ex (Shortstroke type SLCD-M1/25/Ex, Shortstroke type SLCD-M1/70/Ex). Both are position/ Displacement Sensor typical used to detect positions of Hydraulic systems. Assessment is performed according to intrinsically safe standards: EN50014: 1997 and EN50020: 2002. The specification is: EEx ib IIC T5

Both versions of position transmitters are NON CONTACT transmitters and they are specially designed for screw compressors in the refrigeration industry. Both are SPLIT types, which means it is possible to separate the sensor tube from the electronic part. The moving part is an aluminium tube, which is built into the compressors capacity slider.

Output signal is 4 to 20mA and corresponds to 0 to 100% capacity (display). The measuring range can be changed via a calibration (built-in push button and 2 LED).

The difference between a long stroke and a short stroke transmitter is the measuring range and the location of the sensor coil. The long stroke transmitter has the sensor coil arranged in a coil tube outside the electronic top part with a measuring length of 100 to 1000mm and the short stroke transmitter has the coil arranged inside the electronic part with a measuring length of 5 to 100mm.

The short stroke transmitter is produced in two different types of metal enclosures as follows:

SLCD-M1/25/Ex, which have a measuring range of 0 to 25mm.

SLCD-M1/F70/Ex, which have a measuring range of 0 to 70mm.

Nomenclature for type:

Longstroke type:
SA96DX-I/Ex

Shortstroke type:
SLCD-M1/25/Ex
SLCD-M1/70/Ex

Temperature range:

The relation between ambient temperature and the assigned temperature class is as follows:

Ambient temperature range	Temperature class
-20 °C to +70 °C	T5

Electrical data

Intrinsically safe specifications:

U_i : 26,5 V
 I_i : 116 mA
 P_i : 0,95 W
 L_i : 1 mH
 C_i : 50 nF

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Certificate: 05 ATEX 135657
Report: 135657-05

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Installation instructions

For installation instructions please refer to the instructions in drawings:

ATEX log: SA96DX-1, No. A002 – Installation SA96DX-1/Ex/F283C.

ATEX log: SA96DX-1, No. A003 – Installation SLCD-M1/xx/Ex/F283V.

- Installation shall be performed in such a way that electrical circuits are only exposed to pressure in the range of 0,8bar to 1,1bar.
- Transducer coils in the sensor tube must not be exposed to temperatures higher than 70 °C.

Mounting instructions

For mounting instructions please refer to the instructions in drawings:

For safe installation instruction please refer to manufacturer drawing: "ATEX Mounting instruction for all Frick and SAB Compressors": DRAW. No.: MOUNTLS1

Routine tests

Routine tests are not required.

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Report No.

Project Report No.: 135657-05 (Hazardous Location Testing).

Drawings:

Drawing No	Document ID	Issue date	Description
A001 SA96DX-I	KravspSA96DXEEx	13/11/03	Kravspec. SA96DX-I/Ex PMPCB 02
A002 SA96DX-I	SA96EX01 side 1	01/12/05	Installation SA96DX-I/Ex + F283C transm.
A002 SA96DX-I	SA96EX02 side 2	01/12/05	Installation SA96DX-I/Ex + F283C transm.
A003 SA96DX-I	SLCDEX01	01/12/05	Installation SLCD-M1/xx/Ex transmitter
A004 SA96DX-I	SA96SAEx	31/10/05	Samplings/stykliste tegn. SA96DX-I Ex
A005 SA96DX-I	SLCDSAEx	07/06/05	Samplings/stykliste tegn. SLCD-M1/xx
A006 SA96DX-I	SA96hus2	27/08/03	Hus for Longstroke transmitter
A007 SA96DX-I	PM26hus1	19/11/98	Positionstransmitter for PM-ventil S26
A008 SA96DX-I	PM67hus2	23/08/01	Positionstransmitter hus
A009 SA96DX-I	SA96LÅG2	16/03/99	Alu-låg SA96DX-I transmitter
A010 SA96DX-I	AKS41LÅG	04/01/01	Alu-låg for Danfoss Niveaustav
A011 SA96DX-I	HOVPAG01	29/08/00	Pakning for Longstroke
A012 SA96DX-I	SA96iso2	01/10/01	Selvkøbende pakning for Longstroke
A013 SA96DX-I	Saspform	07/06/05	Spoleform SA96DX-I transmitter
A014 SA96DX-I	YO961321	04/09/96	Spoleform for Short Stroke
A015 SA96DX-I	PM67sph1	17/04/02	Spoleform
A016 SA96DX-I	SABSPOV1	31/10/05	Spole SA96DX-I transmitter
A017 SA96DX-I	YO96SP01	31/10/05	Spole for Short Stroke
A018 SA96DX-I	PMSP101	31/10/05	Spole for Short Stroke M1/70
A019 SA96DX-I	SAspror1	16/04/02	Spolerør SA96DX-I transmitter
A020 SA96DX-I	SA96FOR1	10/12/01	Følerlomme SA96DX-I SAB transmitter
A021 SA96DX-I	SA96BØS1	14/06/00	PTFE bøsning SA96DX-I transmitter
A022 SA96DX-I	Pmlag901	16/11/99	CAL-låg for Longstroke transmitter

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Drawings (continued):

A023 SA96DX-I	SA96ALUR	26/01/00	Alu-rør SA96DX-I transmitter
A024 SA96DX-I	Diagram PMPCB02/ATEX	01/12/05	PMPCB02 ATEX diagram
A025 SA96DX-I	PMPCB02. S. 1	01/12/05	PMPCB02 komponentside
A025 SA96DX-I	PMPCB02 S. 2	22/11/05	PMPCB02 stik side
A026 SA96DX-I	PMPCB02. S. 1	15/11/05	PMPCB02 komponentplacering
A026 SA96DX-I	PMPCB02. S. 2	12/04/04	PMPCB02 komponentplacering
A027 SA96DX-I	PMPCB02 S. 1	01/11/05	PMPCB02 overlayer
A027 SA96DX-I	PMPCB02 s. 2	14/11/05	PMPCB02 top-overlayer
A028 SA96DX-I	PMPCB02 ATEX stykliste.	01/12/05	PMPCB02 ATEX stykliste
A029 SA96DX-I	Longstroke-ATEX	01/12/05	Arbejdsinstruktion Longstroke
A029 SA96DX-I	Shortstroke-ATEX	01/12/05	Arbejdsinstruktion Shortstroke
A030 SA96DX-I	PC 5198 støbemasse	31/10/05	PUR støbemasse
A031 SA96DX-I	Flex 3053001012	31/10/05	Beskyttelses flex for R43 og spoledn.
A032 SA96DX-I	ATEX/Ex komp. side 1	01/12/05	Data Sikkerhedskomponenter
A032 SA96DX-I	ATEX/Ex komp. side 2	17/11/05	Data Sikkerhedskomponenter
A032 SA96DX-I	ATEX/Ex komp. side 3	16/11/05	Data Sikkerhedskomponenter
A032 SA96DX-I	ATEX/Ex komp. side 4	16/11/05	Data Sikkerhedskomponenter
A033 SA96DX-I	CTI data PCB	18/11/05	CTI Data PMPCB02 råprint
A034 SA96DX-I	Disp.		
A035 SA96DX-I	Aluminium DS 42-61 side 1	31/10/05	Certifikat støbt alu. Hus og låg
A035 SA96DX-I	Aluminium DS 42-61 side 2	31/10/05	Certifikat støbt alu. Hus og låg
A036 SA96DX-I	PlateEX1	26/02/07	ATEX type skilt, 3 typer

[17] Special conditions for safe use:
None.

[18] Essential Health and Safety Requirements
Concerning ESR this Schedule verifies compliance with the Ex standards only. The manufacturer's Declaration of Conformity declares compliance with other relevant Directives.

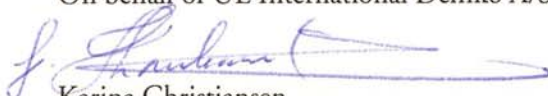
Additional information

The equipment is assessed to comply with IP65 according to IEC60529.

The manufacturer shall inform the notified body concerning all modifications to the technical documentation as described in ANNEX III to Directive 94/9/EC of the European Parliament and the Council of 23 March 1994.

On behalf of UL International Demko A/S

Herlev, 2007-03-19



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Certification Manager

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