

Første udgave: A1, 2002-12-31

EMC specification of product FlexBar 3501

1. Introduction

2. The product

3. Relevant standards

4. Test plan

5. Definition of error criterions

1. Introduction

1.1 Aim:

To set up minimum requirements to meet the protection requirements in the EMC directive EEC 89/336 according to article 10.2.

2. The product

2.1 The product:

Pressure transmitter with display, 4...20 mA current loop, and digital HART communication.

2.2 Type:

Product type no. FlexBar 3501.

2.3 Environmental use:

Industry.

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2.4 Description of the product:

Construction:

The transmitter contains a number of PCBs, mounted in a stainless steel house.

This contains analogue circuits and a low power CPU circuits.

The transmitter has following ports:

- Current loop, 4...20 mA and HART comm. (The same two terminals).

Adjustments:

The product has been adjusted from factory.

Measuring range can be configured by means of a standard PC, programming kit and SW.

Accuracy:

According to the data sheet the inaccuracy of the module is $\pm 0.1\%$ of full scale.

At continuous noise exposure, criterion A is valid.

3. Relevant standards

3.1 Emission: EN 61326.

3.2 Immunity: EN 61326 and NAMUR NE21: Pkt 3.3.4, pkt. 3.2.7, pkt. 3.2.8 and 3.3.8

The following tests are estimated to be relevant regarding to port type "Enclosure" and "process, measurement and control lines":

- CISPR 16 and 16-1: Emission.
- EN 61000-4-3: HF field, 80 - 1000 MHz and 1,4 - 2GHz, 80% AM, 10 V/m. Criterion A.
- EN 61000-4-6: Conducted HF, 0.15 - 80 MHz, 80% AM, 10 VRMS. Criterion A.
- EN 61000-4-2: ESD discharge 8/4 kV. Criterion B.
- EN 61000-4-4: Burst transients ± 2 kV CM. Criterion B.
- EN 61000-4-8: Magnetic field 30A/m 50Hz. Criterion A.
- EN 61000-4-5: Surge transient 1 kV CM. Criterion B.

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NAMUR test:

- NE21, pkt. 3.3.4 2kV Burst. Criterion B.
- NE21, pkt. 3.2.7 8/6 kV ESD. Criterion B.
- NE21, pkt. 3.2.8 9kHz...230MHz, 10V RMS, 150Ω. Criterion A. (HART comm. Criterion B).
- NE21, pkt. 3.3.8 26MHz...500MHz, 30V/m. Criterion A.
500MHz...1GHz, 10V/m. Criterion A.

All ports are considered "I/O signal / control" ports.

4. Test plan

4.1 The unit is programmed for full span regarding to the actual sensor type.

4.2 Display, the current in the loop and HART communication will be observed during the test.

5. Error criterions

5.1 Criterion A:

Max. deviation from nominal is $\pm 0,5\%$.

5.2 Criterion B:

No requirements during the test run.

After the test run, the module shall operate normally.

5.3 Criterion C:

Not relevant.

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DECLARATION OF CONFORMITY

We,

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declare under our sole responsibility that the product

Product Name: FlexBar 3501
Product Desc.: Pressure transmitter with display, 4...20 mA current loop and HART communication.
Product Type: 3501

to which this declaration relates is in conformity with the following European Directives:

89 / 336 **EMC Directive**
92 / 31 **Amendment**
93 / 68 **Amendment**

And related European Standards.

EN 61 326 **Issue 1. 1997 incl. Amendment 1 1998-05 and Amendment 2 May 2001**

Date: 1/2 2007 Sign.: Kurt Møller Jensen
Technology manager
Kurt Møller Jensen

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