

First version: A1, 2003-02-05

EMC specification of product FlexTop 2211 and 2221**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:**

Temperature amplifier with galvanic isolation between sensor connection and with 4...20 mA current loop.

Furthermore FlexTop 2221 contain HART communication modem.

FlexTop 2211 and 2221 is build in a plastic house. It fit into a DIN-housing form B, and into the Baumer CombiTemp system.

2.2 Type:

Product type no. FlexTop 2211-xxxxx and 2221-xxxxx.

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2.3 Environmental use:

Industry.

2.4 Description of the product:

Construction:

The product contain a circuit board. The module contain analogue circuits, low power CPU circuits and a small DC/DC converter for galvanic isolation.

The module has the following ports:

- Current loop input, 4...20 mA and HART connection (two terminals).
- Sensor connections (four terminals).

Adjustments:

The product has been adjusted from factory.

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

Accuracy:

According to the data sheet the inaccuracy of the module is $\pm 0.1^{\circ}\text{C}$ (PT100) $\pm 0.1\%$ of actual span. At continuous noise exposure, error criterion A is valid.

3. Relevant standards

3.1 Emission: EN 61326.

3.2 Immunity: EN 61326.

The following tests are estimated to be relevant:

- CISPR 16 and 16-1: Emission.
- EN 61000-4-3: HF field, 80 - 1000 MHz, 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 8/6 kV. Criterion A.
- EN 61000-4-4: Burst transients 1 kV CM. Criterion A. (Test for 10 min.)
- EN 61000-4-5: Surge transients 1 kV CM. Criterion B.

All ports are considered signal ports.

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4. Test plan

4.1 The unit is programmed for 2-wire Pt 100, 0...100°C. The test is running both with the product mounted in a metal DIN-housing form B and in a plastic housing.
 A 30 cm sensor tube and a fixed resistor at 121Ω for generating approximately 12mA is used. 2221 contains the same and additional circuits as 2211. Testing 2221 is estimated to be worst-case scenario. The current in the loop and HART communication will be observed during the test.

4.2 Regarding emission. No test has been made. FlexTop 2221 is considered to be comparable to previous tested FlexTop HRT II, and the very low power consumption also indicates, that the device does not radiate any considerable noise.

5. Error criterions
5.1 Criterion A:

Max. accepted deviation from nominal is ±1% of programmed span.

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,

Baumer A/S
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declare under our sole responsibility that the product

Product Name: FlexTop 2211 and FlexTop 2221

Product Description: Temperature amplifier with HART communication (only FlexTop 2221) and
4...20 mA output.

Product Type: FlexTop 2211 xxxxx and FlexTop 2221 xxxxx

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. A1:1998 & A2:2001

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

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