



Engineering Specification

SPEC, APPVL INST MVD CORE ATEX

EB-3600635

Revision: A

Number of Pages: 4

Comments:

THIS COMPONENT MUST COMPLY WITH REGULATORY AGENCY REQUIREMENTS. NO CHANGES ARE ALLOWED WITHOUT PRIOR AUTHORIZATION FROM APPROVALS ENGINEERING.

Originator: CHB 3/23/01

Approved: CHB 3/23/01

Rev	ECN	Description	Approval	Date
A	1010552	Release to Production	MZ	9/10/01

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Subject:	Equipment type	Signal Processing Device type 700
Manufactured and submitted for examination		Micro Motion, Inc.
Address		Boulder, Co. 80301, USA
Basis for examination		Annex II of Directive 94/9/EC
Standard basis	EN 50014:1997 +A1-A2 General requirements EN 50020:1994	Intrinsic safety 'i'
Code for type of protection		EEx ib IIB/IIC T5

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1) Subject and Type

Signal processing device type 700

2) Description

The signal processing device is used for the connection of sensors to transmitters.

The electrical components are completely encapsulated in a plastic housing. On the top of the housing are terminals for the connection of the circuits from/to the transmitter and the connection of the sensor is by means of a 9 pin connector at the lower side.

3) Parameters

3.1 - Input circuit (terminals 1 - 4)

- voltage	U _i	DC	17,3	V
- current	I _i		484	mA
- power	P _i		2,1	W
- effective internal capacitance	C _i		2200	pF
- effective internal inductance	L _i		30	μH

3.2 - Output (sensor) circuits

3.2.1 - drive circuit (pins 7 - 8)

- voltage	U _o	DC	10,5	V
- current	I _o		2,45	A
- power	P _o		2,54	W
- internal resistance	R _i		4,32	Ω

- for group IIC

- max. external capacitance	C _o		2,41	μF
- max. external inductance	L _o		5,9	μH
- max. external inductance/resistance ratio	L _o /R _o		5,5	μH/Ω

- for group IIB

- max. external capacitance	C _o		16,8	μF
- max. external inductance	L _o		24	μH
- max. external inductance/resistance ratio	L _o /R _o		22	μH/Ω

3.2.2 - Pick-off circuits (pins 3up to 6)

- voltage	U _o	DC	17,3	V
- current	I _o		6,9	mA
- power	P _o		30	mW

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- for group IIC				
- max. external capacitance	Co		353	nF
- max. external inductance	Lo		742	mH
- max. external inductance/resistance ratio	Lo/Ro		1,19	mH/Ω

- for group IIB				
- max. external capacitance	Co		2,06	μF
- max. external inductance	Lo		2,97	H
- max. external inductance/resistance ratio	Lo/Ro		4,75	mH/Ω

3.2.3 - Temperature circuit (pins 1, 2 and 9)

- voltage	Uo	DC	17,3	V
- current	Io		26	mA
- power	Po		112	mW

- for group IIC				
- max. external capacitance	Co		353	nF
- max. external inductance	Lo		52,6	mH
- max. external inductance/resistance ratio	Lo/Ro		0,32	mH/Ω

- for group IIB				
- max. external capacitance	Co		2,06	μF
- max. external inductance	Lo		210	mH
- max. external inductance/resistance ratio	Lo/Ro		1,26	mH/Ω

3.3 - Ambient temperature range Ta -40 °C up to +60 °C

4) **Marking**

4.1



EEx ib IIB/IIC T5

-40 °C ≤ Ta ≤ +60°C

5) **Special conditions for safe use / Installation instructions**

5.1 The signal processing device has to be mounted inside an enclosure degrees of protection min. IP 20 in accordance with EN 60529.

5.2 The installation of the signal processing device inside an enclosure has to be done in a way that the distance in air between the connection facilities and earthed metal parts is min. 3 mm.

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