Translation

(1) # EC-Type Examination Certificate

(2) **- Directive 94/9/EC -**
Equipment and protective systems intended for use in potentially explosive atmospheres

(3) ## DMT 02 ATEX E 156 X

(4) **Equipment:** **Massedurchfluss-Sensor Type D* *** * **** B**

(5) **Manufacturer:** **Micro Motion, Inc.**

(6) **Address:** **Boulder, Co. 80301, USA**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the schedule to this type examination certificate.

(8) The certification body of Deutsche Montan Technologie GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.
The examination and test results are recorded in the test and assessment report BVS PP 02.2083 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 50014:1997+A1-A2	General requirements
EN 50020:1994	Intrinsic safety 'i'

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate

(12) The marking of the equipment shall include the following:

Ex II 2G EEx ib IIB/IIC T1-T6

Deutsche Montan Technologie GmbH
Essen, dated 09. August 2002

Signed: Eickhoff
DMT-Certification body

Signed: Wittler
Head of special services unit

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

(13) Appendix to

(14) # EC-Type Examination Certificate

DMT 02 ATEX E 156 X

(15) 15.1 Subject and type

Sensor type D* *** * **** B

Instead of the *** in the complete denomination letters and numerals will be inserted which characterize variations.

The following marking is possible:

Type	Marking
D*025 * **** B	II 2 G EEx ib IIC T1-T6
DH038 * **** B	II 2 G EEx ib IIC T1-T6
D*040 * **** B	II 2 G EEx ib IIC T1-T6
D*065 * **** B	II 2 G EEx ib IIC T1-T6
DL050X **** B	II 2 G EEx ib IIC T1-T6
DL065 * **** B	II 2 G EEx ib IIC T1-T6

Type	Marking
D*100 * **** B	II 2 G EEx ib IIB T1-T6
DL100 * **** B	II 2 G EEx ib IIB T1-T6
D*150 * **** B	II 2 G EEx ib IIB T1-T6
DL200 * **** B	II 2 G EEx ib IIB T1-T6
D*300 * **** B	II 2 G EEx ib IIB T1-T6
DT065 * **** B	II 2 G EEx ib IIB T1-T6
DT100 * **** B	II 2 G EEx ib IIB T1-T6
DT150 * **** B	II 2 G EEx ib IIB T1-T6

15.2 Description

The sensor in combination with a transmitter is used for flow measurement.

The sensor, which consists of magnetically excited oscillating tubes, contains as electrical components coils, resistors, temperature sensors and terminals and connectors.

15.3 Parameters

15.3.1. Drive circuit (connections 1 - 2 or wires red and brown)

		Transmitter in combination with processor Model 700	other transmitters
Voltage	Ui	DC 10,5 V	DC 11,4 V
Current	Ii	2,45 A	1,14 A
Rated current of barrier fuse		160 mA	250 mA
power	Pi	2,54 W	1,2 W
Barrier resistance	Ri	4,32 Ω	10 Ω

effective internal capacitance negligible

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

Sensor type	Inductance [mH]	Coil resistance [Ω] at -20 °C	Serial resistor [Ω] at-20 °C
D*025 * **** B	6,9	106,2	946,6
DH038 * **** B	6,9	106,2	946,6
D*040 * **** B	6,9	106,2	946,6
D*065 * **** B	0,2	3,16	482,6
DL050X **** B	0,2	3,16	189,3
DL065 * **** B	0,2	3,16	482,6
D*100 * **** B	32,8	108,7	48,3
DL100 * **** B	32,8	108,7	48,3
D*150 * **** B	32,8	108,7	48,3
DL200 * **** B	3	35,8	9,5
D*300 * **** B	3	35,8	9,5

Sensor type	Inductance [mH]	Coil resistance [Ω] at +32 °C
DT065 * **** B	3	44
DT100 * **** B	3	44
DT150 * **** B	3	44

15.3.2 Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	Ui	DC	17,3	V
Current	Ii		6,9	mA
Power	Pi		30	mW

effective internal capacitance negligible

Sensor type	Inductance [mH]	coil resistance [Ω] at -20 °C
D*025 * **** B	6,9	106,2
DH038 * **** B	6,9	106,2
D*040 * **** B	6,9	106,2
D*065 * **** B	0,2	3,16
DL050X **** B	0,2	3,16
DL065 * **** B	0,2	3,16
D*100 * **** B	6,18	113,8
DL100 * **** B	6,18	113,8
D*150 * **** B	6,18	113,8
DL200 * **** B	6,18	113,8
D*300 * **** B	6,18	113,8

Sensor type	Inductance [mH]	Coil resistance [Ω] at +32 °C
DT065 * **** B	1,2	15,7
DT100 * **** B	1,2	15,7
DT150 * **** B	1,2	15,7

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

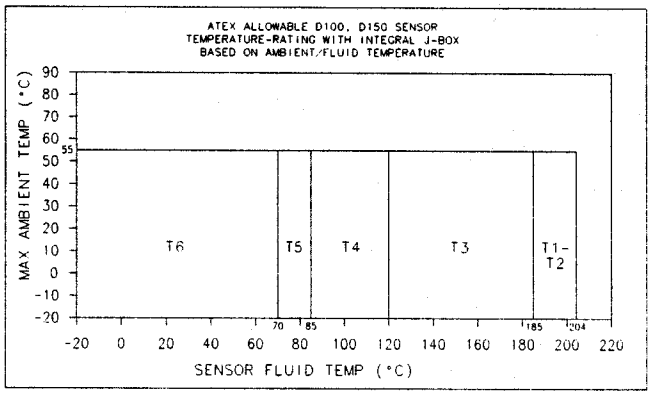
15.3.3 Temperature sensor circuit (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	Ui	DC	17,3	V
Current	Ii		26	mA
Power	Pi		112	mW
effective internal capacitance	Ci	negligible		
effective internal inductance	Li	negligible		

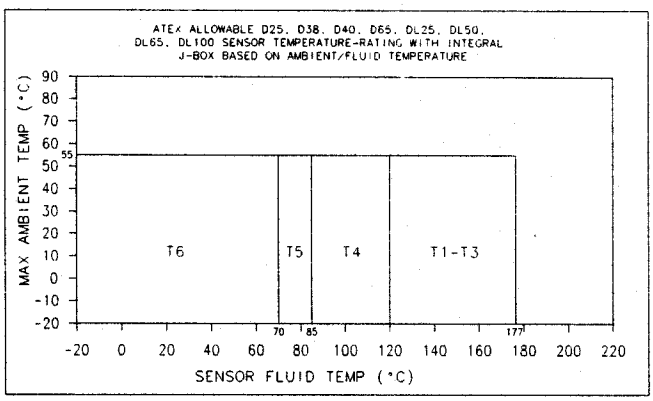
15.3.4 Regulation of temperature class

The classification into a temperature class depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graphs:

15.3.4.1 Type D100 * **** B and Type D150 * **** B

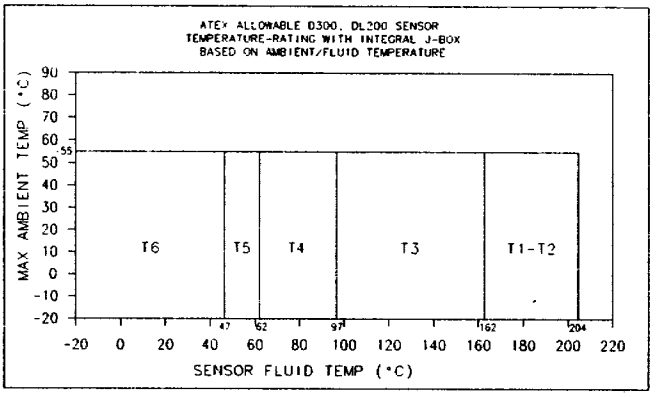


15.3.4.2 Type D*025 * **** B, Type DH038 * **** B, Type D*040 * **** B, Type D*065 * **** B, Type DL050X * **** B, Type DL065 * **** B and Type DL100 * **** B

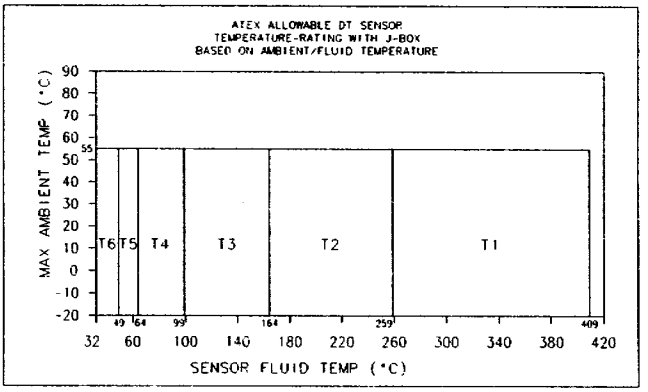


Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

15.3.4.3 Type D*300 * **** B and Type DL200 * **** B



15.3.4.4 Type DT065 * **** B, Type DT100 * **** B and Type DT150 * **** B



15.3.5 Ambient temperature range Ta -20 °C bis +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
The ambient temperature of the sensor may be less than –20 °C provided the temperature of the medium is not less than 0 °C.

(16) Test and assessment report
BVS PP 02.2083 EG as of 09.08.2002

(17) Special condition for safe use
The sensors type DT065 * **** B, type DT100 * **** B and type DT150 * **** B are designed only for use at temperatures of the medium of ≥ +32 °C.

DMT

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

45307 Essen, 09.08.2002
BVS-Schu/Mi A 20020305

Deutsche Montan Technologie GmbH

DMT-Certification body

Head of special services unit

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

Translation

1st Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 156 X

Equipment: **Sensor type D* *** * ****B**

Manufacturer: **Micro Motion, Inc.**

Address: **Boulder, Co. 80301, USA**

Description
The sensors type D*100 * ****B , type DL100 * ****B and type D*150 * ****B mentioned until now have been modified and are therefore additionally marked with C.I.C (Construction Identification Code) A1 to identify this modification..

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:
EN 50014:1997+A1-A2 General requirements
EN 50020:1994 Intrinsic safety 'i'

Marking of the different sensors

C.I.C A1

Type	Marking
D*100 * ****B	II2G EEx ib IIB T1-T6
DL100 * ****B	II2G EEx ib IIB T1-T6
D*150 * ****B	II2G EEx ib IIB T1-T6

Parameters

1	Type D*100 * ****B , type DL100 * ****B and type D*150 * ****B C.I.C (Construction Identification Code) A1				
1.1	Drive circuit (connections 1 - 2 or red and brown)				
	Voltage	Ui	DC	11,4	V
	Current	Ii		2,45	A
	Power	Pi		2,54	W
	effective internal capacitance			negligible	

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

Sensor type	Inductance [mH]	Coil resistance at -20 °C [Ω]	Serial resistor at-20 °C [Ω]
D*100 * ****B DL100 * ****B D*150 * ****B	32,8	108,7	59,3

1.2 Pick-Off coil (Terminals 5/9 and 6/8 or wire colour green/white and blue/grey)

Voltage	Ui	DC	17,3	V
Current	Ii		6,9	mA
Power	Pi		30	mW

effective internal capacitance negligible

Sensor type	Inductance [mH]	Coil resistance at -20 °C [Ω]	Serial resistor at -20 °C [Ω]
D*100 * ****B DL100 * ****B D*150 * ****B	6,18	113,8	0

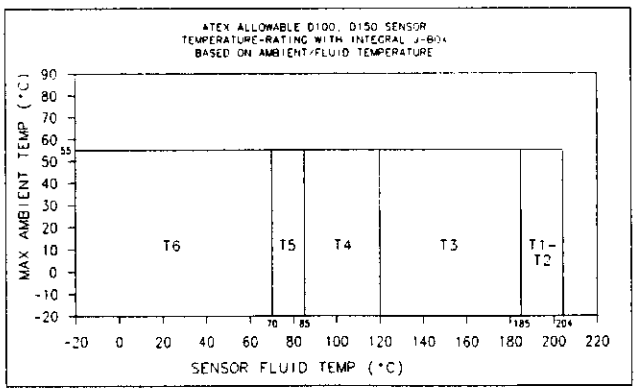
1.3 Temperature-circuit (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	Ui	DC	17,3	V
Current	Ii		26	mA
Power	Pi		112	mW
effective internal capacitance	Ci		negligible	
effective internal inductance	Li		negligible	

1.4 Regulation of temperature class

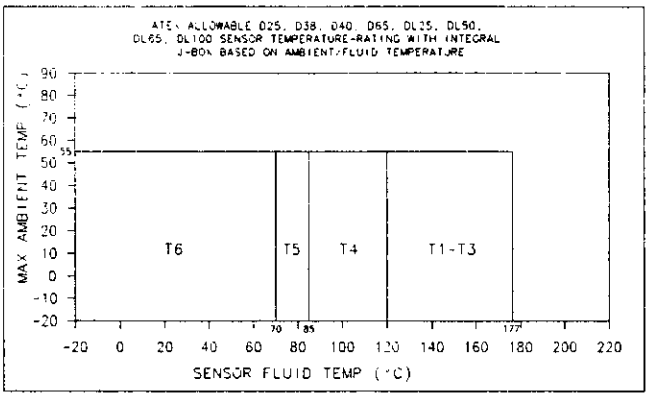
The classification into a temperature class depends on the temperature of the medium taking into account the maximum operating temperature of the sensor and is shown in the following graph:

1.4.1 Type D100 * **** B and type D150 * **** B

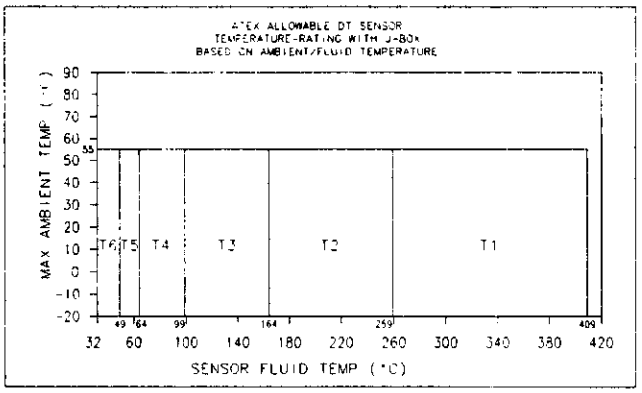


Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

1.4.2 Type DL100 * **** B



1.4.3 Type DT100 * **** B



1.5 Ambient temperature range Ta -20 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
The ambient temperature of the sensor may be less than –20°C provided the temperature of the medium is not less than 0°C.

Special condition for safe use

The sensors type DT065 * **** B, type DT100 * **** B and type DT150 * **** B are designed only for use at temperatures of the medium of ≥ +32 °C.

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

Test and assessment report
BVS PP 02.2083 EG as of 04.04.2003

Deutsche Montan Technologie GmbH

Essen, dated 04. April 2003

signed: Migenda	signed: Wittler
DMT-Certification body	Head of special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

45307 Essen, 04.04 2003
BVS-Schu/Mi A 20030069

Deutsche Montan Technologie GmbH

Migenda	Wittler
DMT-Certification body	Head of special services unit

Am Technologiepark 1, 45307 Essen, Telefon (0201)172-1416, Telefax (0201)172-1716

Translation

2nd Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 156 X

Equipment: **Sensor type D* *** * ****B**

Manufacturer: **Micro Motion, Inc.**

Address: **Boulder, Co. 80301, USA**

Description
The sensor can be modified according to the descriptive documents as mentioned in the pertinent test and assessment report.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:
EN 50014:1997+A1-A2 General requirements
EN 50020:2002 Intrinsic safety ´i´

Test and assessment report
BVS PP 02.2083 EG as of 10.12.2003

Deutsche Montan Technologie GmbH
Bochum, dated 10. December 2003

Dr. Jockers
Certification body

Dr. Eickhoff
Special services unit

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 10.12.2003
BVS-Schu/Mi A 20030397

Deutsche Montan Technologie GmbH

Certification body

Special services unit

Dinnendahlstrasse 9 44809 Bochum Germany Telefon-Phone 0201/172-3947 Telefax-Fax 0201/172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

EXAM
BBG Prüf- und Zertifizier GmbH

Translation

3rd Supplement

(Supplement in accordance with Directive 94/9/EC Annex III number 6)

to the EC-Type Examination Certificate
DMT 02 ATEX E 156 X

Equipment: **Sensor type D* *** * ****B**

Manufacturer: **Micro Motion, Inc.**

Address: **USA - Boulder, Co. 80301**

Description
The sensors type DT065 * ****, type DT100 * **** and type DT150 * **** can be changed (additional series resistor for the drive circuit) and get the marking II 2 G EEx ib IIC T1-T6.
The sensors type D* *** * ****B (inclusive additional marking CEQ9768Q and CIC A1) meet as well category 2D.

The Essential Health and Safety Requirements of the modified equipment are assured by compliance with:

EN 50014:1997 + A1 – A2 General requirements
EN 50020:2002 Intrinsic safety 'i'
EN 50281-1-1:1998 +A1 Dust explosion protection

Marking of the sensors

Type	type of protection gas	type of protection dust
D*025 * **** B	EEx ib IIC T1-T6	IP65 T 187°C – T 80 °C
DH038 * **** B	EEx ib IIC T1-T6	IP65 T 187°C – T 80 °C
D*040 * **** B	EEx ib IIC T1-T6	IP65 T 187°C – T 80 °C
D*065 * **** B	EEx ib IIC T1-T6	IP65 T 187°C – T 80 °C
DL050X* **** B	EEx ib IIC T1-T6	IP65 T 187°C – T 80 °C
DL065 * **** B	EEx ib IIC T1-T6	IP65 T 187°C – T 80 °C
D*100 * **** B incl. CIC A1	EEx ib IIB T1-T6	IP65 T 214°C – T 80 °C
DL100 * **** B incl. CIC A1	EEx ib IIB T1-T6	IP65 T 214°C – T 80 °C
D*150 * **** B incl. CIC A1	EEx ib IIB T1-T6	IP65 T 214°C – T 80 °C
DL200 * **** B	EEx ib IIB T1-T6	IP65 T 237°C – T 80 °C
D*300 * **** B	EEx ib IIB T1-T6	IP65 T 237°C – T 80 °C
DT065 * **** B	EEx ib IIB T1-T6	IP65 T 440°C – T 80 °C
DT100 * **** B	EEx ib IIB T1-T6	IP65 T 440°C – T 80 °C
DT150 * **** B	EEx ib IIB T1-T6	IP65 T 440°C – T 80 °C
DT065 * **** B with CEQ9768Q	EEx ib IIC T1-T6	IP65 T 440°C – T 80 °C
DT100 * **** B with CEQ9768Q	EEx ib IIC T1-T6	IP65 T 440°C – T 80 °C
DT150 * **** B with CEQ9768Q	EEx ib IIC T1-T6	IP65 T 440°C – T 80 °C

Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 201 172-3947 Fax +49 201 172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

Parameters

modified parameters for type DT065 * ****B CEQ9768Q, type DT100 * ****B CEQ9768Q and type DT150 * ****B CEQ9768Q

effective internal capacitance negligible

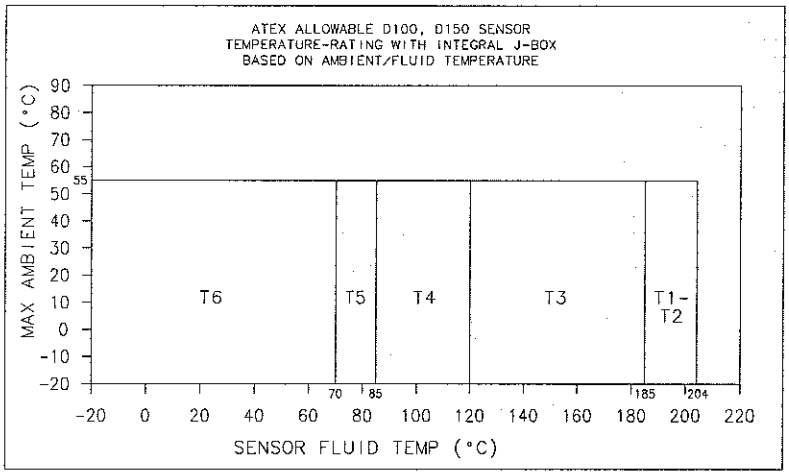
sensor type	inductance [mH]	coil resistance at +32 °C [Ω]	serial resistor at+32 °C [Ω]
DT065 * ****B CEQ9768Q DT100 * ****B CEQ9768Q DT150 * ****B CEQ9768Q	3	44	49,9

The other electrical parameters leave unchanged.

Temperature class/ max. surface temperature T

The classification into a temperature class/determination of the maximum surface temperature T depend on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graphs:

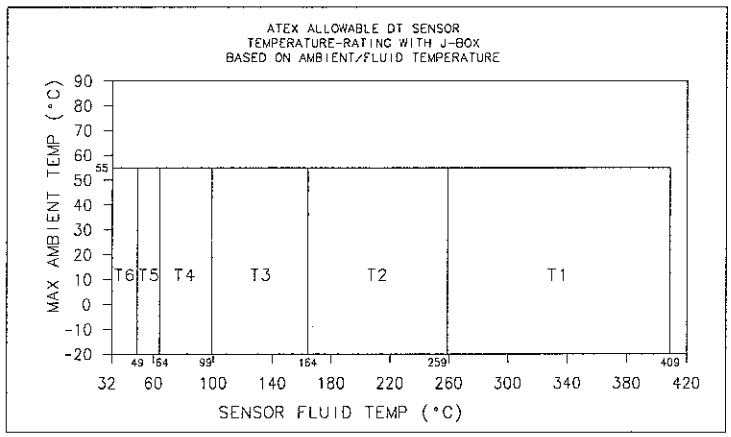
Type D*100 * **** B and D*150 * ****B



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80°C, T5: 95°C, T4: 130°C, T3: 195°C, T2 to T1: 214°C.

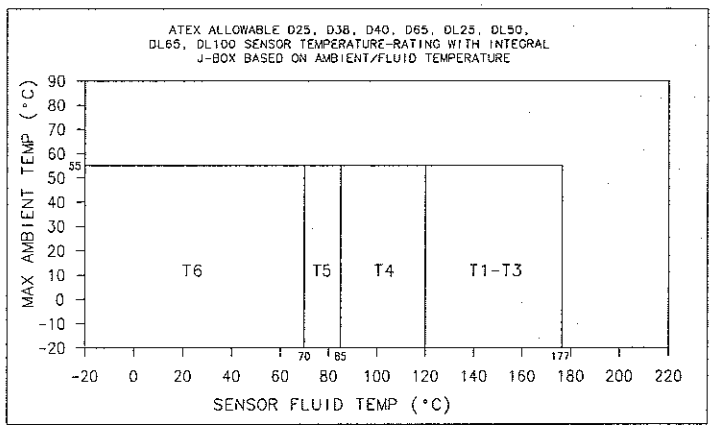
Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 201 172-3947 Fax +49 201 172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

Type DT065 * **** B , DT100 * **** B and DT150 * ****B (inclusive additional marking CEQ9768Q)



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80°C, T5: 95°C, T4: 130°C, T3: 195°C, T2: 295°C, T1: 440°C.

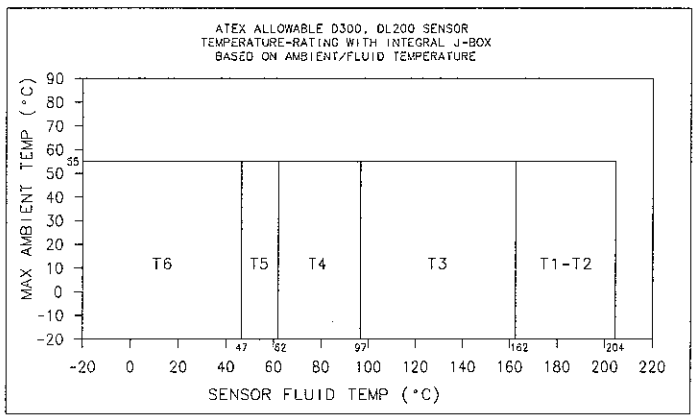
Type D*025 * **** B , DH038 * **** B , D*040 * **** B , D*065 * **** B, DL050X **** B , DL065 * **** B and DL100 * ****B (inclusive additional marking CIC A1)



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80°C, T5: 95°C, T4: 130°C, T3 to T1: 187°C.

Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 201 172-3947 Fax +49 201 172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

Type D*300 * **** B and DL200 * ****B



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80°C, T5: 95°C, T4: 130°C, T3: 195°C, T2 to T1: 237°C

Ambient temperature range	Ta	-20 °C bis +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
The ambient temperature of the sensor may be less than –20°C provided the temperature of the medium is not less than 0°C.

Special conditions for safe use

The sensors type DT065 * **** B, type DT065 * ****B and type DT150 * ****B inclusive additional marking CEQ9768Q are designed only for use at temperatures of the medium of > +32°C

Test and assessment report
BVS PP 02.2083 EG as of 10.03.2005

EXAM BBG Prüf- und Zertifizier GmbH
Bochum, dated 10. March 2005

Signed: Dr. Jockers
Certification body

Signed: Dr. Eickhoff
Special services unit

Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 201 172-3947 Fax +49 201 172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

EXAM
BBG Prüf- und Zertifizier GmbH

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

44809 Bochum, 10.03.2005
BVS-Hk/Mi A 20040517

EXAM BBG Prüf- und Zertifizier GmbH

Certification body

Special services unit

Dinnendahlstrasse 9 44809 Bochum Germany Phone +49 201 172-3947 Fax +49 201 172-3948
(until 31.05.2003: Deutsche Montan Technologie GmbH Am Technologiepark 1 45307 Essen Germany)

EXAM
BBG Prüf- und Zertifizier GmbH

Zertifizierungsstelle

Carl-Beyling-Haus
Dinnendahlstrasse 9
44809 Bochum

Telefon 0234 – 3696-105
Telefax 0234 – 3696-110

EXAM · Postfach 10 27 48 · 44727 Bochum

Emerson Process Management Flow BV
Mr. Henk van Holland
Neonstraat 1
6718 WX Ede
Nederland

Ihr Zeichen	H. van Holland
Ihre Nachricht	17.01.2007
Unser Zeichen	BVS-Hk/Mi A 20070036
Durchwahl	Tel.: (0234) 3696 105 Fax: (0234) 3696 110
e-mail	Hauke@bg-exam.de
Datum	24.01.2007

Ladies and Gentlemen,

we added the Revision Report as of 24.01.2007 to the Test and Assessment Report BVS PP 02.2083 EG.

We confirm, that the Certificate

DMT 02 ATEX E 156 X as of 09.08.2002, last modification of 10.03.2005

is still valid.

Kind regards
BBG Prüf- und Zertifizier GmbH

(Dr. Jöckers)

i.V. (Dr. Eickhoff)

Enclosures: Revision Report

EXAM
BBG Prüf- und Zertifizier GmbH

Geschäftsführung:
Dr.-Ing. Reinhard Bassier
Dr.-Ing. Günter Levin

Sitz: Bochum
Amtsgericht Bochum
HRB 5357

Bankverbindung:
Commerzbank Bochum
BLZ 430 400 36
Konto 20 50 250

e-mail: info@bg-exam.de
http://www.bg-exam.de

Translation

(1) 4th Supplement to the EC-Type Examination Certificate

(2) Equipment and protective systems intended for use in potentially explosive atmospheres - Directive 94/9/EC
Supplement accordant with Annex III number 6

(3) No. of EC-Type Examination Certificate: **DMT 02 ATEX E 156 X**

(4) Equipment: **Sensor type D* *** * ****B**

(5) Manufacturer: **Micro Motion, Inc.**

(6) Address: **7070 Winchester Circle, Boulder, Co. 80301, USA**

(7) The design and construction of this equipment and any acceptable variation thereto are specified in the appendix to this supplement.

(8) The certification body of DEKRA EXAM GmbH, notified body no. 0158 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament and the Council of 23 March 1994, certifies that this equipment has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive. The examination and test results are recorded in the Test and Assessment Report BVS PP 02.2083 EG.

(9) The Essential Health and Safety Requirements are assured by compliance with:

EN 60079-0:2012 General requirements
EN 60079-11:2012 Intrinsic safety "i"

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the appendix to this certificate.

(11) This supplement to the EC-Type Examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to Directive 94/9/EC.
Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

(12) The marking of the equipment shall include the following:

II 2G Ex ib IIB/IIC T1...T6 Gb
II 2D Ex ib IIIC T*°C Db IP66**

DEKRA EXAM GmbH
Bochum, dated 2014-03-28

Signed: Dr. Eickhoff
Certification body

Signed: Dr. Arnold
Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

(13) Appendix to

(14) **4th Supplement to the EC-Type Examination Certificate DMT 02 ATEX E 156 X**

(15) 15.1 Subject and type

Sensor type D* *** * ****B

15.2 Description

The sensors can be modified according to the descriptive documents as mentioned in the pertinent Test and Assessment Report.
The sensors type D*100 * ****B, type DL100 * ****B, type D*150 * ****B, type DL200 * ****B and type D*300 * ****B can be modified (modified series resistor for the drive circuit) and get the marking II 2 G Ex ib IIC T1…T6. In the type designation for this variation "CIC A4" will be added.
Also the sensors have been assessed in acc. with the actual standard versions; a modified marking is the result.

15.3 Parameters

15.3.1 Drive circuit (connections 1 - 2 or wires red and brown)

		Transmitter in combination with processor Model 700	other transmitters
Voltage	U_i	DC 10.5 V	DC 11.4 V
Current	I_i	2.45 A	1.14 A
Rated current of barrier fuse		160 mA	250 mA
Power	P_i	2.54 W	1.2 W
Barrier resistance	R_i	4.32 Ω	10 Ω

effective internal capacitance negligible

Sensor type	Gas group	Inductance [mH]	Coil resistance at -20 °C [Ω]	Serial resistor at-20 °C [Ω]
D*025 * **** B	IIC	6.9	106.2	946.6
DH038 * **** B	IIC	6.9	106.2	946.6
D*040 * **** B	IIC	6.9	106.2	946.6
D*065 * **** B	IIC	0.2	3.16	482.6
DL050X **** B	IIC	0.2	3.16	189.3
DL065 * **** B	IIC	0.2	3.16	482.6
D*100 * **** B	IIB	32.8	108.7	48.3
DL100 * **** B	IIB	32.8	108.7	48.3
D*150 * **** B	IIB	32.8	108.7	48.3
DL200 * **** B	IIB	3	35.8	9.5
D*300 * **** B	IIB	3	35.8	9.5
D*100 * ****B CIC A4	IIC	32.8	108.7	229
DL100 * ****B CIC A4	IIC	32.8	108.7	229
D*150 * ****B CIC A4	IIC	32.8	108.7	229
DL200 * ****B CIC A4	IIC	3	35.8	59.3
D*300 * ****B CIC A4	IIC	3	35.8	59.3

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

Sensor type (high temp.)	Gas group	Inductance [mH]	Coil resistance at +32 °C [Ω]	Serial resistor at +32 °C [Ω]
DT065 * ****B	IIB	3	44	0
DT100 * ****B	IIB	3	44	0
DT150 * ****B	IIB	3	44	0
DT065 * ****B with CEQ/ETO 9768Q	IIC	3	44	49.9
DT100 * ****B with CEQ/ETO 9768Q	IIC	3	44	49.9
DT150 * ****B with CEQ/ETO 9768Q	IIC	3	44	49.9

15.3.2 Pick-Off coil (Terminals 5/9 and 6/8 or wires green/white and blue/grey)

Voltage	U_i	DC	17.3	V
Current	I_i		6.9	mA
Power	P_i		30	mW

effective internal capacitance negligible

Sensor type	Gas group	Inductance [mH]	Coil resistance at -20 °C [Ω]
D*025 * ****B	IIC	6.9	106.2
DH038 * ****B	IIC	6.9	106.2
D*040 * ****B	IIC	6.9	106.2
D*065 * ****B	IIC	0.2	3.16
DL050X ****B	IIC	0.2	3.16
DL065 * ****B	IIC	0.2	3.16
D*100 * ****B	IIB	6.18	113.8
DL100 * ****B	IIB	6.18	113.8
D*150 * ****B	IIB	6.18	113.8
DL200 * ****B	IIB	6.18	113.8
D*300 * ****B	IIB	6.18	113.8
D*100 * ****B CIC A4	IIC	6.18	113.8
DL100 * ****B CIC A4	IIC	6.18	113.8
D*150 * ****B CIC A4	IIC	6.18	113.8
DL200 * ****B CIC A4	IIC	6.18	113.8
D*300 * ****B CIC A4	IIC	6.18	113.8

Sensor type (high temp.)	Gas group	Inductance [mH]	Coil resistance at +32 °C [Ω]
DT065 * ****B	IIB	1.2	15.7
DT100 * ****B	IIB	1.2	15.7
DT150 * ****B	IIB	1.2	15.7
DT065 * ****B with CEQ/ETO 9768Q	IIC	1.2	15.7
DT100 * ****B with CEQ/ETO 9768Q	IIC	1.2	15.7
DT150 * ****B with CEQ/ETO 9768Q	IIC	1.2	15.7

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

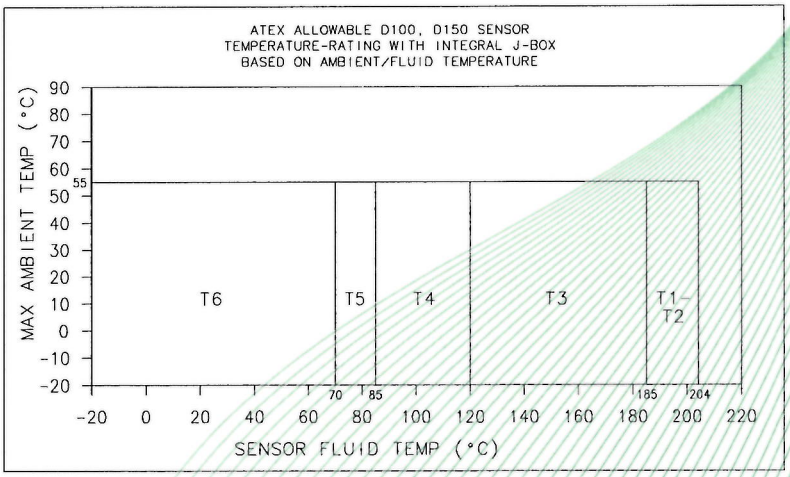
15.3.3 Temperature sensor circuit (terminals 3, 4 and 7 or wires orange, yellow and violet)

Voltage	U_i	DC	17.3	V
Current	I_i		26	mA
Power	P_i		112	mW
effective internal capacitance	C_i	negligible		
effective internal inductance	L_i	negligible		

15.3.4 Temperature class / max. surface temperature T

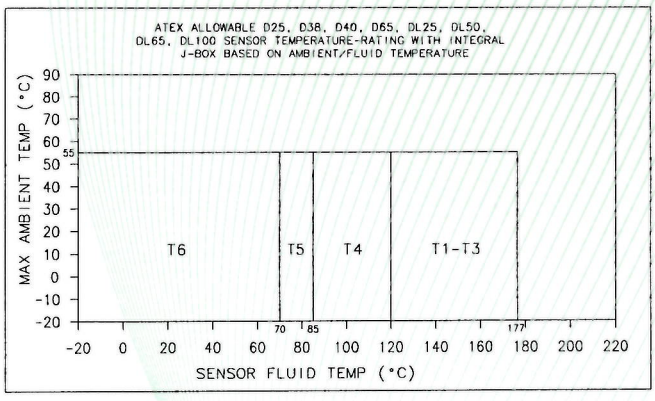
The classification into a temperature class/determination of the maximum surface temperature T depend on the temperature of the medium taking into account the maximum operating temperature of the sensor and are shown in the following graphs:

15.3.4.1 Type D100 * **** B and type D150 * **** B with or without CIC A4:



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 to T1: 214 °C.

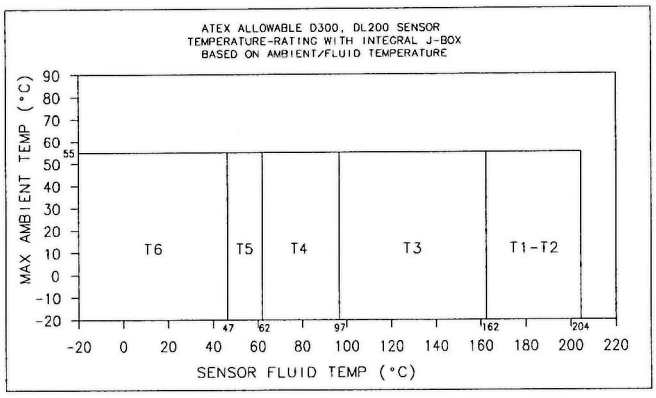
15.3.4.2 Type D*025 * ****B, type DH038 * ****B, type D*040 * ****B, type D*065 * ****B, type DL050X ****B, type DL065 * ****B and type DL100 * **** with or without CIC A4:



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3 to T1: 187 °C.

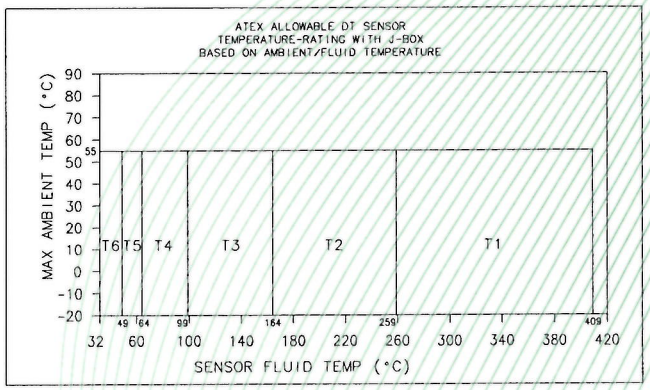
DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

15.3.4.3 Type D*300 * **** B and type DL200 * **** B with or without CIC A4:



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2 to T1: 237 °C

15.3.4.4 Type DT065 * **** B, type DT100 * **** B and type DT150 * **** B with or without CEQ9768Q



Note: Use the above graph to determine the temperature class for a given fluid and ambient temperature.
The maximum surface temperature T for dust is as follows: T6: 80 °C, T5: 95 °C, T4: 130 °C, T3: 195 °C, T2: 295 °C, T1: 440 °C.

15.3.5 Ambient temperature range T_a -20 °C up to +55 °C

The use of the sensor at higher ambient temperatures is possible, provided that the ambient temperature does not exceed the maximum temperature of the medium taking into account the temperature classification and the maximum operating temperature of the sensor.
The ambient temperature of the sensor may be less than -20 °C provided the temperature of the medium is not less than 0 °C.

(16) Test and Assessment Report

BVS PP 02.2083 EG as of 2014-03-28

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com

(17) Special conditions for safe use

The sensors type DT065 * **** B, type DT065 * ****B and type DT150 * ****B inclusive additional marking CEQ9768Q are designed only for use at temperatures of the medium of ≥ +32°C.

We confirm the correctness of the translation from the German original.
In the case of arbitration only the German wording shall be valid and binding.

DEKRA EXAM GmbH
44809 Bochum, 2014-03-28
BVS-Schu/Mu A 20140211

Certification body

Special services unit

DEKRA EXAM GmbH Dinnendahlstrasse 9 44809 Bochum Germany Phone +49.234.3696-105 Fax +49.234.3696-110 zs-exam@dekra.com