



Translation

EC-Type Examination Certificate

(1)

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(2)

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

(3)

DMT 00 ATEX E 075

(4)

Equipment: Electronic transmitter type ES or ES-PPA

(5)

Manufacturer: Bopp & Reuther Heinrichs Messtechnik
Josef Heinrichs GmbH & Co. Messtechnik KG

(6)

Address: D 50933 Köln

(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 00.2071 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 and construction of the specified equipment. Further requirements of Directive 94/9/EC apply to the manufacture and placing on the market of this equipment.

(12)

The marking of the equipment shall include the following:

II 2G EEx ia IIC T6

Deutsche Montan Technologie GmbH

Essen, dated 31. Oktober 2000

Signed: Jockers

Signed: Dill

DMT-Certification body

Head of special services unit



(13) Appendix to

(14) **EC-Type Examination Certificate**

DMT 00 ATEX E 075

(15) 15.1 Subject and type
Electronic transmitter type ES or ES-PPA

15.2 Description

The electronic transmitter serves for the recording of the position or angular position of a magnet at rotameters.

The completely encapsulated electronic device of the transmitter is mounted in a light alloy housing together with corresponding terminals for the connection of the intrinsically safe circuits. The transmitter is provided to be installed in a housing with a min. degree of protection IP 20.

15.3 Parameters

15.3.1 type ES

15.3.1.1 Input circuit (terminals 1 and 2)

voltage	U _i	DC	30	V
current	I _i		150	mA
power	P _i		1	W
effective internal inductance	L _i		0,24	mH
effective internal capacitance	C _i		16	nF

15.3.1.2 Binary outputs 1 and 2: potentially free optocoupler circuits (terminals 3 - 4 and 5 - 6), each

voltage	U _i	DC	30	V
current	I _i		20	mA
power	P _i		100	mW
effective internal inductance	L _i		4	μH
effective internal capacitance	C _i		16	nF

15.3.2 type ES-PPA Input circuit (terminals 7 and 8)

for connection with a circuit in accordance with FISCO model (PTB report no. PTBW-53)

voltage	U _i	DC	25	V
current	I _i		280	mA
power	P _i		2	W
effective internal inductance	L _i		negligible	
effective internal capacitance	C _i		negligible	

15.3.3 ambient temperature range Ta - 40 °C up to + 70 °C



(16) Test and assessment report
BVS PP 00.2071 EG as of 31. Oktober 2000

(17) Special conditions for safe use
None

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, dated 31.10.2000
BVS-Schu/Kn A 20000463

Deutsche Montan Technologie GmbH



DMT-Certification body



Head of special services unit



1st Supplement

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

to the EC-Type Examination Certificate DMT 00 ATEX E 075

Equipment: Electronic transmitter type ES, ES-PPA or ES-FF
Manufacturer: Heinrichs Messtechnik GmbH
Address: 50739 Cologne, Germany

Description

The electronic transmitters type ES and ES-PPA have been assessed in acc. with the standards EN 60079-** and a new version is available, type ES-FF.

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

EN 60079-0:2006 General requirements
EN 60079-11:2007 Intrinsic safety 'i'
EN 60079-27:2006 Fieldbus systems FISCO

The marking of the equipment shall include the following:

 **II 2G Ex ia IIC T6**

Parameters

1	Type ES				
1.1	Input circuit (terminals 1 and 2)				
	Voltage	U _i	DC	30	V
	Current	I _i		150	mA
	Power	P _i		1	W
	Effective internal inductance	L _i		0.24	mH
	Effective internal capacitance	C _i		16	nF
1.2	Binary outputs 1 and 2: potentially free optocoupler circuits (terminals 3 - 4 and 5 - 6), each				
	Voltage	U _i	DC	30	V
	Current	I _i		20	mA
	Power	P _i		100	mW
	Effective internal inductance	L _i		4	μH
	Effective internal capacitance	C _i		16	nF

2	Type ES-PPA Input circuit (terminals 7 and 8)				
2.1	for use as field device in a fieldbus system in accordance with FISCO with Voltage	Ui	DC	17.5	V
2.2	or for connection to a circuit with the following max. values Voltage Current Power	Ui Ii Pi	DC	32 280 2	V mA W
	The effective internal values are: Effective internal inductance Effective internal capacitance	Li Ci		< 10 < 5	μ H nF
3	Type ES-FF Fieldbus circuit (terminals 9 and 10)				
3.1	for use as field device in a fieldbus system in accordance with FISCO Voltage	Ui	DC	17.5	V
3.2	or for connection to a circuit with the following max. values Voltage Current Power	Ui Ii Pi	DC	32 280 2	V mA W
	The effective internal values are: Effective internal inductance Effective internal capacitance	Li Ci		< 10 < 5	μ H nF
4	Ambient temperature range	Ta		-40 °C up to +70 °C	

Special conditions for safe use

None

Test and assessment report

BVS PP 00.2071 EG as of 26.01.2010

DEKRA EXAM GmbH

Bochum, dated 26. January 2010

Signed: Dr. Franz Eickhoff

Signed: Dr. Michael Wittler

Certification body

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, 26.01.2010
BVS-Schu/Her A 20090640

DEKRA EXAM GmbH



Certification body



Special services unit