



(1) **EC TYPE TEST CERTIFICATE**

(2) - Guideline 94/9/EG -
Instruments and Protective Systems for the Use in Hazardous Areas in Accordance with the Regulations

(3) **DMT 00 ATEX E 045 X**

(4) Instrument: Pressure transmitter model I*-1*-A-***_*****-*

(5) Manufacturer: WIKA Alexander Wiegand GmbH & Co.

(6) Address: D 63911 Klingenberg / Main

(7) The type of this instrument as well as the various approved versions are laid down in the appendix to this type test certificate.

(8) In accordance with the Article 9 of the Directives of the European Communities of March 23, 1994 (94/9/EG), the certification agency of the DMT Association for Research and Testing mbH (DMT Gesellschaft für Forschung und Prüfung mbH), designated agency No. 0158, certifies the conformity of the instrument with the fundamental safety and health requirements for the conception and the construction of instruments and protective systems for the use in hazardous areas in accordance with the regulations mentioned in appendix II of the guideline. The results of this test have been laid down in the confidential test report No. BVS PP 00.2042 EG.

(9) The fundamental safety and health requirements are complied with by conforming to:

EN 50014:1997 General regulations
EN 50020:1994 (VDE 0170/0171 part 7/4.96) Intrinsic safety ,i'
EN 50284:1999 Electrical equipment of instrument group II, category 1G
prEN 50303:1999 Electrical equipment of instrument group I, category M1
EN 50281-1-1:1999 Electrical equipment for the use in areas with combustible dust
Part 1-1 Electrical equipment where protection is provided by the case -
design and testing

(10) Special conditions for the safe use of the instrument are referred to in the annex to this certificate, if the sign „X“ is attached to the certificate`s number.

(11) This EC type test certificate refers only to the conception and the construction of the instrument described. Further requirements of the guideline 94/9/EG have to be complied with for the production and distribution of the instrument.

(12) The instrument is to be provided with the following marks:



I or II, supplemented by the respective identification of categories and standards in accordance with table under 15.1.2

Deutsche Montan Technologie GmbH
(German Association for Research and Testing GmbH)
Essen, July 19, 2000

(Signature illegible)

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(13) Annex to

(14)

EC TYPE TEST CERTIFICATE

DMT 00 ATEX E 045 X

(15) (15) 15.1 Designation and Model

Pressure Transmitter Model IS-10-A-***-*****-*, model IS-11-A-***-*****-**,
model IL-10-A-***-*****

15.1.1 In the full designation letters and figures identifying the details of the instrument type will be inserted instead of the “**“.

15.1.2 The assignment of the different versions of the pressure transmitter to temperature class, ambient temperature range and instrument category can be taken from the following table

electrical connection	category of the pressure transmitter model	category of the pressure transmitter model	category of the pressure transmitter model	additional identification	ambient temperature range
	IS-10-A- 4)	IS-11-A- IS-10-A- 5)	IL-10-A-*		°C
detachable connector					
plug GDM / GDME	M2 2G	M1 1/2G		EEx ia I/IIC T4	-40 to +105
circular connector M12x1	M2 2G	M1 1/2G		EEx ia I/IIC T4	-25 to +90
circular connector M16x0.75	M2 2G	M1 1/2G		EEx ia I/IIC T4	-40 to +85
MIL plug / gland	-- 2G	-- 1/2G		EEx ia I/IIC T4	-40 to +105
snap cap	M2 2G	M1 1/2G		EEx ia I/IIC T4	-40 to +105
detachable cable connection					
cable PUR / gland 1)	M2 2G	M1 1/2G		EEx ia I/IIC T4	-20 to +80
cable TEFLON / gland	M2 2G	M1 1/2G		EEx ia I/IIC T4	-20 to +100
fixed connector					
circular connector M12x1	M2 2G	M1 1/2G		EEx ia I/IIC T4	-20 to +90
circular connector M16x0.75	M2 2G	M1 1/2G		EEx ia I/IIC T4	-40 to +85
MIL plug	-- 2G	-- 1/2G		EEx ia I/IIC T4	-50 to +105
fixed cable connection / external screw connection, with / without additional external thread for the connection to conduit systems					
cable PUR 1)	M2 2G	M1 1/2G		EEx ia I/IIC T5	-20 to +80
cable TEFLON	M2 2G	M1 1/2G		EEx ia I/IIC T4	-50 to +105
fixed cable connection (internal screw connection)					
cable TEFLON	M2 2G	M1 1/2G	1G 2G	EEx ia I/IIC T5	-20 to +80
cable PUR 3)	M2 2G	M1 1/2G	1G 2G	EEx ia I/IIA T6	-10 to +60
cable PUR 2)	M2 2G	M1 1/2G	1G 2G	EEx ia I/IIC T6	-10 to +60
cable PUR 1)		1/2D	1D 2D	IP 65 T80°C	-10 to +60

- 1) PUR-cable model P-EDE 196963 (Standard) and model P-EDE 289230 (suitable for food)
- 2) PUR-cable model P-EDE 196963 (Standard)
- 3) PUR-cable model P-EDE 289230 (suitable for food)
- 4) random process connection
- 5) process connection according to 4.5 EN 50284



15.2 Description

The pressure transmitter model IS-10-A^{***-*****-*}, model IS-11-A^{***-*****-**} and model IL-10-A^{***-****} is a pressure gauge or filling level gauge with an intrinsically safe feed circuit and is used for the continuous measurement of gaseous media or liquids in hazardous areas which require category 1, 1/2 and 2 equipment.

The pressure transmitter consists of a cylindric electronic case of stainless steel, which contains pressure and temperature sensors and insulating plates with electronic components, completely embedded in a casting compound.

Depending on the version, the intrinsically safe feed circuit and measuring signal circuit is either led from the electronic case through a fixed multiwire line with flying leads, or attached to a connector or terminal block.

The electronic case will be installed in hazardous areas which require category 2 equipment. The process connection elements are screwed into the partition (container wall / pipeline) which separates the areas which require category 1 or 2 equipment, respectively, from each other.

The electronic case of the pressure transmitter model IL-10-A^{***-****} (level probe for the filling level measurement) will be installed in hazardous areas which require category 1 equipment.

15.3 Electrical, mechanical and thermal characteristic quantities

15.3.1 Feed and measuring signal circuit

voltage	U _i	=	DC	30	V
strength of current	I _i	=		100	mA
power	P _i	=		1	W
measuring signal current	I _n	=		4 to 20	mA
effective internal capacity (version with fixed cable connection)	C _i	≤		22	nF
	C _i	≤		22	nF + 0.2 nF/m)
effective internal inductivity (version with fixed cable connection)	L _i	≤		100	μH
	L _i	≤		100	μH + 2 μH/m)

15.3.2 The classification details concerning temperature class, medium temperature and ambient temperature range for the use of the pressure transmitter in hazardous areas which require category 2 or category 1/2 equipment are specified in the following table.

temperature class	medium temperature	ambient temperature range
T1 to T4	-50°C to + 105°C	-50°C to 105°C *)
T5	-50°C to + 80°C	-50°C to 80°C *)
T6	-50°C to + 60°C	-50°C to 60°C *)

*) the respective ambient temperature range applicable for the corresponding version of the pressure transmitter within the limiting values indicated is laid down on the pertinent type plate in accordance with the table under item 15.1.



15.3.3 The use of the pressure transmitter in hazardous areas which require category 1 equipment is specified in the following table.

temperature class	medium temperature	ambient temperature range
T1 to T4	-20°C to + 60°C	-20°C to 60°C
T5	-20°C to + 60°C	-20°C to 60°C
T6	-20°C to + 60°C	-20°C to 60°C

The process pressure of the media has to be between 0.8 bar and 1.1 bar for category 1 equipment. The operating conditions for the operation without explosive mixes are described in the technical information.

(16) Test report

No. BVS PP 00.2042 EG
41 pages + 5 pages annex concerning dust IS

(17) Special conditions for safe use

17.1 The installation of the pressure transmitter into the areas which require category 1G equipment must at least conform to IP 67 degree of protection according to EN publication 60529.

17.2 The installation of the pressure transmitter into the areas which require category 1D equipment must at least conform to IP 6X degree of protection according to EN publication 60529.

17.3 The manufacturer's technical information for the use of the pressure transmitter in connection with aggressive / corrosive media and for the avoidance of mechanical hazards must be observed.

17.4 When using the pressure transmitter as a level probe, the screen/sheath of the connecting line used as a suspension rope must be included in the equipotential bonding of the container.

17.5 The screw connection / fixing of the suspension rope of the level probe in the areas where category 1G equipment is required must at least conform to IP 67 degree of protection according to EN publication 60529.

17.6 The screw connection / fixing of the suspension rope of the level probe in the areas where category 1D equipment is required must at least conform to IP 6X degree of protection according to EN publication 60529.