



LLC "SERTIS-CENTER"

PRODUCT CONFORMITY ASSESSMENT BODY (appointed under registration No. UA.TR.115)

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(1) TYPE EXAMINATION CERTIFICATE

(2) **Technical Regulation on equipment and safety systems intended for use in potentially explosive atmospheres (Resolution of the Cabinet of Ministers of Ukraine dated December 28, 2016, No. 1055)**

(3) Certificate No.: **CIJ 19.0460 X**

Revision No.: **0**

(4) Equipment: **Temperature transmitters, models T15.*-A****-...*, T16.*-A****-...*, with * denoting version, see Annex to the Certificate**

(5) Applicant: **TOV "WIKА PRYLAД"**
Ukraine, 01133 Kyiv, Generala Almazova Street, 18/7, Office 101
EDRPOU code 32645153

(6) Manufacturer: **WIKА Alexander Wiegand SE & Co. KG**
63911 Klingenberg, Deutschland, Alexander-Wiegand-Straße 30,
Germany

(7) Description of the equipment and its permissible variations, and referenced documents are given in the Annex to the Certificate.

(8) LLC "SERTIS-CENTER", a conformity assessment body under registration No. UA.TR.115, appointed to perform work on assessment of product conformity with the requirements set forth by the Technical Regulation approved by the Resolution of the Cabinet of Ministers of Ukraine dated December 28, 2016, No. 1055, hereby certifies that the equipment mentioned above has been found to be in conformity with the essential requirements related to health protection and safety in terms of technical project and design of the equipment intended for use in potentially explosive atmospheres listed in the Technical Regulation.

The results of studies and tests are given in Assessment Report No. 506/OB-19 dated 31.10.2019.

(9) The equipment conformity with the essential requirements related to health protection and safety has been ensured by compliance with the requirements of the standards as follows:

DSTU EN 60079-0:2017 (with Amendment 11:2017), DSTU EN 60079-7:2017, DSTU EN 60079-11:2016, DSTU EN 60079-15:2017

(10) If the certificate number contains an "X" symbol in the end, this certifies that special conditions of use given in the Annex to this Certificate apply to the equipment.

(11) This Certificate is issued based on conformity assessment conducted under Module B (type examination) according to the Technical Regulation, and refers only to technical project and design of the above mentioned equipment in accordance with the agreed technical documentation. Introduction of the above mentioned equipment into circulation according to the Technical Regulation is only possible on condition that additional modules of conformity assessment are applied.

(12) The equipment marking shall contain the following data:



According to Annex to the Certificate

Director of the Conformity Assessment Body

/signed/
L.S.

K.V. Mezhenkov

/Round seal: "SERTIS-CENTER" Identification Code 39654248 * Limited Liability Company * Ukraine * Kyiv Region * Bila Tserkva/

(13) **ANNEX**(14) **TO TYPE EXAMINATION CERTIFICATE No. CIJ 19.0460 X** Revision No.: **0**(15) **Equipment description and technical data**

The temperature transmitters, models T15.*-A****-...* and T16.*-A****-...* are used for converting a resistance signal or a voltage signal into a current signal 4 ... 20 mA.

The transmitters have code designations as follows:

T1X.	*	-	A	*	***	-	*...*	
								Not Ex-relevant designations
								Not Ex-relevant designations
								Explosion protection type:
								I = EPL Ga or Da, intrinsically safe circuit Ex ia
								C = EPL Gc, intrinsically safe circuit Ex ic
								N = EPL Gc, protection type „n“ Ex nA
								E = EPL Gc, protection type „n“ Ex ec
								Case type:
								H = mounting in sensor head
								R = mounting on a DIN rail
								T15, version for RTD sensor (resistance thermometer)
								T16, version for TC sensor (thermocouple)

Transmitters T15.*-AI***-...* - intrinsically safe circuits (2-wire, 3-wire or 4-wire configurations) are intended for connection of intrinsically safe RTD sensors installed in Zone 0 or Zone 20 areas

Transmitters T16.*-AI***-...* - intrinsically safe circuits (2-wire configuration only) are intended for connection of intrinsically safe thermocouples installed in Zone 0 or Zone 20 areas

Transmitters T15.*-AC***-...* - intrinsically safe circuits (2-wire, 3-wire or 4-wire configurations) are intended for connection of intrinsically safe RTD sensors installed in Zone 2 areas

Transmitters T16.*-AC***-...* - intrinsically safe circuits (2-wire configuration only) are intended for connection of intrinsically safe thermocouples installed in Zone 2 areas

Transmitters T15.*-AN***-...* and T15.*-AE***-...* convert a thermal resistance signal into a current signal 4...20 mA. Intrinsically safe circuits of the transmitters (2-wire, 3-wire or 4-wire configurations) are intended for connection of intrinsically safe RTD sensors installed in Zone 2 areas

Transmitters T16.*-AN***-...* and T16.*-AE***-...* convert a voltage signal from a thermocouple into a current signal 4...20 mA. Intrinsically safe circuits of the transmitters (2-wire configuration only) are intended for connection of intrinsically safe thermocouples installed in Zone 2 areas

Explosion-proof marking of the transmitters

Designation, series, type, model	Explosion-proof marking
Temperature transmitters, models T15.*-A****-..., T16.*-A****-...	
T15.H-AI***-...* and T16.H-AI***-...*	II 1G Ex ia IIC T6...T4 Ga II 1D Ex ia IIIC T135°C Da
T15.R-AI***-...* and T16.R-AI***-...*	II 2(1)G Ex ia [ia Ga] IIC T6...T4 Gb II 2(1)D Ex ia [ia Da] IIIC T135°C Db
T15.*-AE***-...* and T16.*-AE***-...*	II 3G Ex ec IIC T6...T4 Gc
T15.*-AN***-...* and T16.*-AN***-...*	II 3G Ex nA IIC T6...T4 Gc
T15.*-AC***-...* and T16.*-AC***-...*	II 3G Ex ic IIC T6...T4 Gc

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Ambient temperature range:

T15.*-AI*-...*, T15.*-AC***-...* and T16.*-AI***-...*, T16.*-AC***-...***

Application	Ambient temperature range, Ta	Temperature class	Intrinsically safe power, Pi
Group IIC/IIB/IIA	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$	T4	800 mW
	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$	T5	800 mW
	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$	T6	800 mW
Group IIIC	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$	n/a	550 mW
	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$	n/a	650 mW
	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$	n/a	750 mW
n/a = not applicable, maximum surface temperature under given conditions does not exceed 135°C			

T15.*-AN*-...*, T15.*-AE***-...* and T16.*-AN***-...*, T16.*-AE***-...***

Application	Ambient temperature range, Ta	Temperature class
Group IIC/IIB/IIA	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +85\text{ }^{\circ}\text{C}$	T4
	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +70\text{ }^{\circ}\text{C}$	T5
	$-40\text{ }^{\circ}\text{C} \leq T_a \leq +55\text{ }^{\circ}\text{C}$	T6

Specifications and parameters of intrinsically safe circuits of the transmitters

T15.*-AI*-...*, T15.*-AC***-...***

Power supply and signal circuits

Parameter	Transmitter model	
	T15.*-AI***-...*, T15.*-AC***-...*	T15.*-AI***-...*
	IIC/IIB/IIA	IIIC
Connection terminals	+ / -	+ / -
Maximum input voltage, Ui	DC 30 V	DC 30 V
Maximum input current, Ii	130 mA	130 mA
Maximum input power, Pi	800 mW	750/650/550 mW
Maximum internal capacitance, Ci	18,4 nF	18,4 nF
Maximum internal inductance, Li	20 μH	20 μH

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Sensor circuits

Parameter		Transmitter model	
		T15.*-AI***-*...*	T15.*-AC***-*...*
		Ex ia IIC/IIB/IIA Ex ia IIIC	Ex ic IIC/IIB/IIA
Connection terminals		1 -4	
Maximum output voltage, Uo		DC 30 V	
Maximum output current, Io		8,2 mA	
Maximum output power, Po		62 mW	
Maximum external capacitance, Co	IIC	30 nF	180 nF
	IIB / IIIC	0,52 µF	1,37 µF
	IIA	1,7 µF	5,4 µF
Maximum external inductance, Lo	IIC	1 mH	2 mH
	IIB / IIIC	1 mH	2 mH
	IIA	1 mH	2 mH
Characteristics		Linear	
Note: Uo: max. voltage of any conductor against the other three conductors			
Io: max. output current for the worst connection			
Po: calculated as Uo x Io divided by 4 (linear characteristic)			
Power supply and signal circuits, and sensor circuits shall be considered as being galvanically connected to each other.			

T16.*-AI*-*.***, T16.*-AC***-*.*****

Power supply and signal circuits (current signal 4...20 mA)

Parameter	Transmitter model	
	T16.*-AI***-*.***, T16.*-AC***-*.***	T16.*-AI***-*.***
	IIC/IIB/IIA	IIIC
Connection terminals	+ / -	+ / -
Maximum input voltage, Ui	DC 30 V	DC 30 V
Maximum input current, Ii	130 mA	130 mA
Maximum input power, Pi	800 mW	750/650/550 mW
Maximum internal capacitance, Ci	7,8 nF	7,8 nF
Maximum internal inductance, Li	20 µH	20 µH

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Parameter		Transmitter model	
		T16.*-AI***-*...*	T16.*-AC***-*...*
		Ex ia IIC/IIB/IIA Ex ia IIIC	Ex ic IIC/IIB/IIA
Connection terminals		1 -2	
Maximum output voltage, Uo		DC 6,6 V	
Maximum output current, Io		4 mA	
Maximum output power, Po		10 mW	
Maximum external capacitance, Co	IIC	21 μF	280 μF
	IIB / IIIC	495 μF	995 μF
	IIA	995 μF	995 μF
Maximum external inductance, Lo	IIC	95 mH	95 mH
	IIB / IIIC	95 mH	95 mH
	IIA	95 mH	95 mH
Characteristics		Linear	
Note: Uo: max. voltage of any conductor against the other three conductors Io: max. output current for the worst connection Po: calculated as Uo x Io divided by 4 (linear characteristic) Power supply and signal circuits, and sensor circuits shall be considered as being galvanically connected to each other.			

T15.*-AN*-*.***, T15.*-AE***-*.*******Power supply and signal circuits (current signal 4...20 mA)**

Parameter	Transmitter model	
	T15.*- AN***-*.***	T15.*- AE***-*.***
Connection terminals	+ / -	+ / -
Nominal input voltage, U	DC 35 V	DC 35 V
Nominal input current, I	21,5 mA	21,5 mA

Sensor circuits

Parameter	Transmitter model	
	T15.*- AN***-*.***	T15.*- AE***-*.***
	Ex nA IIC/IIB//IIA	Ex ec IIC/IIB//IIA
Connection terminals	1 -4	
Nominal output voltage, U	DC 3,34 V	
Nominal output current, I	0,1 mA	
Nominal output power, P	0,334 mW	

T16.*-AN*-*.***, T16.*-AE***-*.*******Power supply and signal circuits (current signal 4...20 mA)**

Parameter	Transmitter model	
	T16.*- AN***-*.***	T16.*- AE***-*.***
Connection terminals	+ / -	+ / -
Nominal input voltage, U	DC 35 V	DC 35 V
Nominal input current, I	21,5 mA	21,5 mA

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Sensor circuits

Parameter	Transmitter model	
	T16.*- AN***-*...*	T16.*- AE***-*...*
	Ex nA IIC/IIB//IIA	Ex ec IIC/IIB//IIA
Connection terminals	1 -4	
Nominal output voltage, U	DC 2,575 V	
Nominal output current, I	0,1 mA	
Nominal output power, P	0,258 mW	

(16) **Technical documentation for the equipment**

- 09/2017 RU based on 14139245.03 06/2017 EN/DE Operation manual for model T15
- 09/2017 RU based on 4147933.02 10/2018 EN/DE Operation manual for model T16
- and other technical documents listed in assessment report No. 506/OB-19 dated 31.10.2019.

(17) **Special conditions for use** (“X” symbol in the certificate number)

N/a

(18) **Assessment reports and revision history of the certificate**

Revision number and date	Assessment report	Description of revisions, changes or additions
Initial issue dated 01.11.2019.	No. 506/OB-19 dated 31.10.2019.	Initial issue of the certificate.