



## EC-Type Examination Certificate

- (1)  
(2) **Equipment or Protective Systems Intended for use  
in Potentially Explosive Atmospheres  
Directive 94/9/EC**

- (3) EC-Type Examination Certificate Number:

**FTZÚ 07 ATEX 0019 U**

- (4) Component: **Explosion proof bushings type D...x. or M... x .**  
(5) Manufacturer: **GENERI, s.r.o.**  
(6) Address: **Uničovská 50, 787 01 Šumperk, ČR**  
(7) This Component and any of acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.  
(8) The Physical Technical Testing Institute, notified body number 1026 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that this equipment or protective system 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 confidential Report N°  
**07/0019 dated 11 February 2008**

- (9) Compliance with Essential Health and Safety Requirements has been assured by compliance with:  
**EN 60079-0:2006; EN 60079-1:2004; EN 60079-7:2007;  
EN 61241-0:2006; EN 61241-1:2004**  
(10) The sign „U“ placed after the certificate number indicates that this certificate must not be mistaken for a certificate intended for an equipment or protective system. This partial certification may be used as a basis for certification of an equipment or protective system.  
(11) This EC-TYPE EXAMINATION CERTIFICATE relates only to design, examination and testing of the specified component in accordance to the directive 94/9/EC. If applicable, further requirements of the Directive apply to the manufacture and supply of this component.  
(12) The marking of the component shall include following:

 **IM2 / II 2GD Ex de tD I/IC** (valid only for type **M.S.x.**)

 **IM2 / II 2GD Ex d tD I/IC** (valid for all other types)

This EC-Type Examination Certificate is valid till: **28 February 2013**

Responsible person:

Dipl. Ing. Šindler Jaroslav  
Head of certification body



Date of issue: 18 February 2008

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Ostrava-Radvanice

(13)

**Schedule**

(14) **EC-Type Examination Certificate N° FTZÚ 07 ATEX 0019 U**

(16) Report No. : 07/0019 dated 11.02.2008

(17) Schedule of Limitations: --

(18) Essential Health and Safety Requirements:  
Covered by standards mentioned in (9) of this certificate.

(19) **LIST OF DOCUMENTATION**

- Drawings for certification G-2-902826/3, G-2-902826/4 a G-2-902826/5 dated 8.11.2007
- Description to drawings G-2-902826/. dated 1.10.2007
- User's instruction N740060 dated 1.12.2007

Responsible person:

  
Dipl. Ing. Šindler Jaroslav  
Head of certification body



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Annex N° 1

to EC-Type Examination Certificate N° FTZÚ 07 ATEX 0019 U

TECHNICAL PARAMETERS:

Coaxial bushing of type D.K.x. or M.K.x.

Nominal impedance: 50 Ω, 75 Ω or 95 Ω (according to cable type)

Operating temperature range

Operating temperature range	Type index
$-20^{\circ}\text{C} \leq T_{\text{serv}} \leq +65^{\circ}\text{C}$	K1
$-20^{\circ}\text{C} \leq T_{\text{serv}} \leq +70^{\circ}\text{C}$	K2
$-30^{\circ}\text{C} \leq T_{\text{serv}} \leq +100^{\circ}\text{C}$	K3
$-40^{\circ}\text{C} \leq T_{\text{serv}} \leq +115^{\circ}\text{C}$	K4
$-55^{\circ}\text{C} \leq T_{\text{serv}} \leq +115^{\circ}\text{C}$	K4

Optical bushing of type D.O.x. or M.O.x.

Design of optical fibre: 9/125; 50/125; 62,5/125; 100/140 or 200/300 □m

Max. power transmission: 35 mW or 15mW (limitation according to EN 60079-28)

Maximal optical intensity: 5 mW/mm<sup>2</sup> (limitation according to EN 60079-28)

Service temperature range

Service temperature range	Type index
$-10^{\circ}\text{C} \leq T_{\text{serv}} \leq +60^{\circ}\text{C}$	O1
$-20^{\circ}\text{C} \leq T_{\text{serv}} \leq +70^{\circ}\text{C}$	O2
$-45^{\circ}\text{C} \leq T_{\text{serv}} \leq +70^{\circ}\text{C}$	O3
$-40^{\circ}\text{C} \leq T_{\text{serv}} \leq +85^{\circ}\text{C}$	O4

Flat cable bushing of type D.P.x. or M.P.x.

Number of cores: 4 to 48

Cross-section of each core: 28 AWG (0,08 mm<sup>2</sup>), 26 AWG (0,14 mm<sup>2</sup>), 24 AWG (0,25 mm<sup>2</sup>)  
20 AWG (0,5 mm<sup>2</sup>) or 18 AWG (0,75 mm<sup>2</sup>)

Max. continuous current: 0,65 A (28 AWG); 1,0 A (26 AWG); 2,6 A (24 AWG);  
6,0 A (20 AWG); 8,0 A (18 AWG) – valid for temperature rise 75K

Nominal voltage: 300 V

Operating temperature range

Operating temperature range	Type index
$-40^{\circ}\text{C} \leq T_{\text{serv}} \leq +105^{\circ}\text{C}$	P1
$-40^{\circ}\text{C} \leq T_{\text{serv}} \leq +105^{\circ}\text{C}$	P2
$-40^{\circ}\text{C} \leq T_{\text{serv}} \leq +105^{\circ}\text{C}$	P3
$-20^{\circ}\text{C} \leq T_{\text{serv}} \leq +80^{\circ}\text{C}$	P4
$-20^{\circ}\text{C} \leq T_{\text{serv}} \leq +80^{\circ}\text{C}$	P5





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**Bolt bushing of type D.S.x. or M.S.x.**

Bolt case screw specification: **M24x1,5-6g or M25x1,5-6g**  
 Nominal voltage: **1250 V**  
 Operating temperature range: **-60°C ≤ T<sub>serv</sub> ≤ +115°C**

Bolt thread size:	M6	M8	M10	M12
Max. continuous current: *	82 A	114 A	170 A	227 A
Nut bolt tightening torque:	4 Nm	8 Nm	13 Nm	20 Nm
Connectable cross-section: <ul style="list-style-type: none"> <li>• with compression or clamping type of lug **</li> <li>• with V-terminal clamp **</li> </ul>	6 – 25 mm <sup>2</sup> 6 – 35 mm <sup>2</sup>	10 – 50 mm <sup>2</sup> 10 – 70 mm <sup>2</sup>	16 – 95 mm <sup>2</sup> 16 – 120 mm <sup>2</sup>	25 – 150 mm <sup>2</sup> 16 – 185 mm <sup>2</sup>

\* Valid for temperature rise 40K

\*\* Acceptable connection of conductors to bolts:

- Compression type straight lug with spring washer and nut
- Compression type angle lug (90°) with spring washer and nut
- Clamping type lug with spring washer and nut
- V-terminal clamp with spring element and clamping plate

**Wire bushing of type D.V.x. or M.V.x.**

Nominal current: acc. to **table of technical parameters** (see bellow)  
 Nominal voltage: **400V, 690V or 1000V** (acc. to type and cross-section of used wires)

Operating temperature range	Type index	Nominal voltage**
-20°C ≤ T <sub>serv</sub> ≤ +70°C	V1	400 / 690 V
-40°C ≤ T <sub>serv</sub> ≤ +90°C	V2	400 / 690 V
-30°C ≤ T <sub>serv</sub> ≤ +110°C	V3	400 / 690 V
-30°C ≤ T <sub>serv</sub> ≤ +115°C	V4	400 / 690 V
-40°C ≤ T <sub>serv</sub> ≤ +115°C	V5	690 / 1000 V
-55°C ≤ T <sub>serv</sub> ≤ +115°C	V6	690 / 1000 V
-60°C ≤ T <sub>serv</sub> ≤ +115°C	V7	690 / 1000 V
-60°C ≤ T <sub>serv</sub> ≤ +115°C	V8	690 / 1000 V

\*\* Lower value means nominal voltage of bushing with wires cross-sections up to 1 mm<sup>2</sup> incl., higher value means nominal voltage of bushing with wires cross-sections above 1 mm<sup>2</sup>.

**All values of nominal voltage are valid for fixed installation of bushing wires!**





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TECHNICAL PARAMETERS

Cross-section [mm <sup>2</sup> ]	Number of conductors	Bushing dimension	Nominal voltage [V]	Allowable current loading [A] in relation to temperature rising of bushing:			
				30K	45K	60K	75K
0,35	2	D24, M24, M25	400	8	9	10	10,5
	3	D24, M24, M25		7	8	9	9,5
	4	D24, M24, M25		6	7	8	8,5
	7	D36, M32, M33, M36		5	5,5	6	6,5
	12	D36, M32, M33, M36		4	4,5	5	5,5
	19	D41, M42		3,5	4	4,5	5
	21	D41, M42		3,5	4	4,5	5
	25	D41, M42		3	3,5	4	4,5
0,5	2	D24, M24, M25	400	10	11	12	12,5
	3	D24, M24, M25		9	10	11	11,5
	4	D24, M24, M25		7,5	8,5	9,5	10
	7	D36, M32, M33, M36		6	7	8	8,5
	12	D36, M32, M33, M36		5	5,5	6	6,5
	19	D41, M42		4,5	5	5,5	6
	21	D41, M42		4,5	5	5,5	6
	25	D41, M42		4	4,5	5	5,5
0,75	2	D24, M24, M25	400 690*	12,5	14	15,5	16
	3	D24, M24, M25		11	12	13	13,5
	4	D24, M24, M25		9,5	10,5	11,5	12
	7	D36, M32, M33, M36		7,5	8,5	9,5	10
	12	D36, M32, M33, M36		6,5	7	7,5	8
	19	D41, M42		5,5	6	6,5	7
	21	D41, M42		5,5	6	6,5	7
	25	D41, M42		5	5,5	6	6,5
1	2	D24, M24, M25	400 690*	15	17	18,5	19,5
	3	D24, M24, M25		13	14,5	16	16,5
	4	D24, M24, M25		12	13,5	15	15,5
	7	D36, M32, M33, M36		9,5	10,5	11,5	12
	12	D36, M32, M33, M36		7,5	8,5	9,5	10
	19	D41, M42		6,5	7,5	8	8,5
	21	D41, M42		6,5	7,5	8	8,5
	25	D41, M42		6	7	7,5	8
1,5	2	D24, M24, M25	690 1000*	20	22	24	25
	3	D24, M24, M25		16,5	18,5	20,5	21
	4	D24, M24, M25		15,5	17	18,5	19,5
	7	D36, M32, M33, M36		11,5	13	14,5	15
	12	D36, M32, M33, M36		9,5	10,5	11,5	12
	19	D41, M42		8	9	10	10,5
	21	D41, M42		8	9	10	10,5
	25	D41, M42		7,5	8,5	9,5	10
2,5	4	D36, M32, M33, M36	690	21	23,5	26	27
	7	D36, M32, M33, M36	1000*	16	18	20	21
	12	D41, M42	1000*	13	14,5	16	17
4	3	D36, M32, M33, M36	690	30,5	34	37	39
	4	D36, M32, M33, M36	690	27,5	30,5	33,5	35
	7	D36, M32, M33, M36	1000*	21	23,5	26	27
	12	D41, M42	1000*	17	19	21	22
6	1	D24, M24, M25	690 1000*	54	60	66	69
	3	D36, M32, M33, M36		39	43	47	49
	4	D36, M32, M33, M36		35	39	43	45
	7	D41, M42		27	30	33	34
10	1	D24, M24, M25	690	73	82	90	94
	3	D36, M32, M33, M36	1000*	54	60	66	69
	4	D41, M42	1000*	48	53	58	61
16	1	D24, M24, M25	690	98	109	120	125
	3	D36, M32, M33, M36	1000*	72	80	88	92
	4	D41, M42	1000*	64	71	78	82
25	1	D36, M32, M33, M36	690	135	170	200	225
	3	D41, M42	1000*	110	132	154	174
35	1	D36, M32, M33, M36	690	175	217	255	287
	3	D41, M42	1000*	140	169	198	224

\*) Higher voltage is valid only for wires with index type V5 to V8.

