Physical-Technical Testing Institute
Ostrava - Radvanice

EU - Type Examination Certificate

(1)

(2) **Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres (Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

FTZÚ 17 ATEX 0106X

(4) Product: **Limit Switch Box type ST3 series**

(5) Manufacturer: **L.G.M. Engineering S.r.l.**

(6) Address: **Via E. Majorana 2, 20060 Cassina De' Pecchi MI, Italy**

(7) This product and any 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 Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

The examination and test results are recorded in confidential Report number:

17/0106 dated 25.08.2017

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013, EN 60079-11:2012

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

(11) This certificate relates only to the design and construction of the specified product. Further requirements of the Directive apply to the manufacturing process and supply of this product. These are not covered by this certificate.

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

II 1G Ex ia II*) T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

***) - See (15) Description of Product**

This certificate is valid till: **31.05.2022**

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ Ex AO 210 NB 1026

Date of issue: 25.08.2017

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
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(13) **Schedule**

(14) EU - Type Examination Certificate No. FTZÚ 17 ATEX 0106X

(15) Description of Product:

The product Limit Switch Box type ST3 series is designed for switching according to angle of sensing spindle. The product is manufactured in six versions, differing in used type of switch.

Model ST3xxxxxMAxxx is equipped by magnetically operated position sensors.

Marking: II 1G Ex ia IIC T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

Intrinsically safe parameters:

Minimal ambient temperature (model with silicone seal): Tamin = -40°C
Minimal ambient temperature (model with NBR seal): Tamin = -20°C
Ui = 30 V, Ii = 0.1A, Pi = 1W, Li = negligible, Ci = negligible

Gas atmosphere	Maximal Input parameters			Tamax [°C] = Maximal permissible ambient temperature for application in Temperature Class		
Category	Ui [V]	Ii [mA]	Pi [W]	T6	T5	T4-T1
1G/2G*)	30	100	1	80	80	80
Dust atmosphere	Maximal Input parameters			Ts [°C] = Maximal surface temperature for application in Ambient Temperature		
Category	Ui [V]	Ii [mA]	Pi [W]	Ta = 70°C		Ta = 80°C
1D/2D*)	30	100	1	Ts = Ta		Ts = Ta

*) Parameters are identical for Category 1G and 2G, 1D and 2D

Model ST3xxxxxMCxxx is equipped by mechanical switches.

Marking: II 1G Ex ia IIC T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

Intrinsically safe parameters:
Minimal ambient temperature: Tamin = -20°C
Ui = 30 V, Ii = 0.1A, Pi = 1W, Li = negligible, Ci = negligible

Gas atmosphere	Maximal Input parameters			Tamax [°C] = Maximal permissible ambient temperature for application in Temperature Class		
Category	Ui [V]	Ii [mA]	Pi [W]	T6	T5	T4-T1
1G/2G*)	30	100	1	80	80	80
Dust atmosphere	Maximal Input parameters			Ts [°C] = Maximal surface temperature for application in Ambient Temperature		
Category	Ui [V]	Ii [mA]	Pi [W]	Ta = 70°C		Ta = 80°C
1D/2D*)	30	100	1	Ts = Ta		Ts = Ta

*) Parameters are identical for Category 1G and 2G, 1D and 2D

Responsible person:
Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ Ex AO 210

Date of issue: 25.08.2017

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(13) **Schedule**

(14) # EU - Type Examination Certificate No. FTZÚ 17 ATEX 0106X

Model ST3xxxxxMExxx is equipped by mechanical switches.

Marking:  II 1G Ex ia IIC T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

Intrinsically safe parameters:

Minimal ambient temperature: Tamin = -40°C
Ui = 30 V, Ii = 0.1A, Pi = 1W, Li = negligible, Ci = negligible

Gas atmosphere	Maximal Input parameters			Tamax [°C] = Maximal permissible ambient temperature for application in Temperature Class		
Category	Ui [V]	Ii [mA]	Pi [W]	T6	T5	T4-T1
1G/2G*)	30	100	1	80	80	80
Dust atmosphere	Maximal Input parameters			Ts [°C] = Maximal surface temperature for application in Ambient Temperature		
Category	Ui [V]	Ii [mA]	Pi [W]	Ta = 70°C		Ta = 80°C
1D/2D*)	30	100	1	Ts = Ta		Ts = Ta

*) Parameters are identical for Category 1G and 2G, 1D and 2D

Model ST3xxxxxINSxxx is equipped by inductive/proximity sensors

Marking:  II 1G Ex ia IIB T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

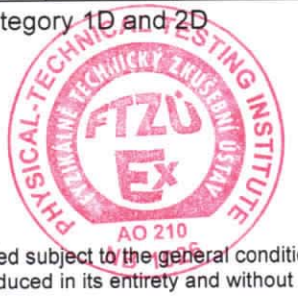
Intrinsically safe parameters:
Minimal ambient temperature (model with NBR or silicone seal): Tamin = -20°C
Li = 110µH, Ci = 80nF (with 2m cable)

Gas atmosphere Category 1G	Maximal Input parameters			Tamax [°C] = Maximal permissible ambient temperature for application in Temperature Class		
Gas Group	Ui [V]	Ii [mA]	Pi [mW]	T6	T5	T4-T1
IIB	15	50	120	70	80	80
Category 2G						
Gas Group	Ui [V]	Ii [mA]	Pi [mW]	T6	T5	T4-T1
IIB	15	50	120	70	80	80
IIC	15	50	120	70	80	80
Dust atmosphere	Maximal Input parameters			Ts [°C] = Maximal surface temperature for application in Ambient Temperature		
Category	Ui [V]	Ii [mA]	Pi [mW]	Ta = 70°C		Ta = 80°C
1D/2D*)	15	50	120	72		82

*) Parameters are identical for Category 1D and 2D

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body



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(13) **Schedule**

(14) # EU - Type Examination Certificate No. FTZÚ 17 ATEX 0106X

Model ST3xxxxxINJxxx is equipped by inductive/proximity sensors

Marking: Ⓔx II 1G Ex ia IIC T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

Intrinsically safe parameters:
Minimal ambient temperature (model with silicone seal): Tamin = -50°C
Minimal ambient temperature (model with NBR seal): Tamin = -20°C
Li = 50µH, Ci = 40nF

Gas atmosphere	Maximal Input parameters			Tamax [°C] = Maximal permissible ambient temperature for application in Temperature Class		
Category	Ui [V]	Ii [mA]	Pi [mW]	T6	T5	T4-T1
1G	16	25	34	56	68	80
1G	16	25	64	49	61	80
1G	16	52	169	28	40	68
1G	16	76	242	13	25	53
2G	16	25	34	73	80	80
2G	16	25	64	66	80	80
2G	16	52	169	45	60	80
2G	16	76	242	30	45	74

Dust atmosphere	Maximal Input parameters			Ts [°C] = Maximal surface temperature for application in Ambient Temperature			
Category	Ui [V]	Ii [mA]	Pi [mW]	Ta=40°C	Ta=60°C	Ta=70°C	Ta=80°C
1D/2D*)	16	25	34	41	61	71	81
1D/2D*)	16	25	64	42	62	72	82
1D/2D*)	16	52	169	44	64	74	84

*) Parameters are identical for Category 1D and 2D

Responsible person:
Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE PŘÍSTROJOVÁ TECHNICKÝ ZKUŠEBNÍ ÚSTAV FTZÚ Ex AO 210 NB 1026

Date of issue: 25.08.2017

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(13) **Schedule**

(14) EU - Type Examination Certificate No. FTZÚ 17 ATEX 0106X

Model ST3xxxxxINCxxx is equipped by inductive/proximity sensors

Marking: II 1G Ex ia IIC T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

Intrinsically safe parameters:
Minimal ambient temperature (model with silicone seal): Tamin = -50°C
Minimal ambient temperature (model with NBR seal): Tamin = -20°C
Li = 100µH, Ci = 100nF

Gas atmosphere	Maximal Input parameters			Tamax [°C] = Maximal permissible ambient temperature for application in Temperature Class		
Category	Ui [V]	Ii [mA]	Pi [mW]	T6	T5	T4-T1
1G	16	25	34	56	68	80
1G	16	25	64	49	61	80
1G	16	52	169	28	40	68
1G	16	76	242	13	25	53
2G	16	25	34	73	80	80
2G	16	25	64	66	80	80
2G	16	52	169	45	60	80
2G	16	76	242	30	45	74

Dust atmosphere	Maximal Input parameters			Ts [°C] = Maximal surface temperature for application in Ambient Temperature			
Category	Ui [V]	Ii [mA]	Pi [mW]	Ta=40°C	Ta=60°C	Ta=70°C	Ta=80°C
1D/2D*)	16	25	34	41	61	71	81
1D/2D*)	16	25	64	42	62	72	82
1D/2D*)	16	52	169	44	64	74	84

*) Parameters are identical for Category 1D and 2D

Maximal ambient temperature (all models): Tamax = 80°C *)
*) Depends on Temperature Class and input power, see tables above

Degree of protection by enclosure: IP66/IP67

(16) Report Number.: 17/0106

Responsible person:
Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ AO 210 NB 1026

Date of issue: 25.08.2017

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(13) **Schedule**

(14) EU - Type Examination Certificate No. FTZÚ 17 ATEX 0106X

(17) Specific Conditions of Use:

1. The apparatus contains light alloy parts and must be protected against impact and friction when is used and transported in hazardous area.
2. If the product is used in Zone 0 and Gas Group IIC, under certain extreme circumstances, the plastic part of enclosure may store an ignition-capable level of electrostatic charge. The device shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge. The equipment shall only be cleaned with a damp cloth
3. If the product is used in dust explosive atmosphere, under certain extreme circumstances, the surface of enclosure may store an ignition-capable level of electrostatic charge. The device shall not be installed in a location where the external conditions are conducive to the build-up of electrostatic charge.
4. If the apparatus is used in the dust explosive atmosphere it must be used certified glands and blank elements according to EN 60079-1 or EN 60079-7 with appropriate IP code according to EN 60529.

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (9) of this certificate.

(19) Drawings and Documents:

Document/Drawing	Issue	Date	Nr. of Pages
Technical modification document		31.07.2017	1
Installation & Operational Manual	Rev. 0	31.07.2017	2
ST3 (SHAFT)	A	11.07.2017	1
ST3 (COVER)	A	11.07.2017	1
ST3 (BODY)	A	11.07.2017	1
ST3 (MECCANICI/MAGNETICI)	A	11.07.2017	1
ST3 (INDUTTIVI/MAGNETICI)	A	11.07.2017	1
ST3 (ELETTROMECCANICI)	A	11.07.2017	1
ST3 Sticker Label	A	11.07.2017	1

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ Ex AO 210 NB 1026

Date of issue: 25.08.2017

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Physical-Technical Testing Institute
Ostrava - Radvanice

(1) Supplementary EU - Type Examination Certificate No.1

(2) **Equipment or Protective Systems Intended for Use in Potentially Explosive Atmospheres (Directive 2014/34/EU)**

(3) EU - Type Examination Certificate number:

FTZÚ 17 ATEX 0106X

(4) Product: **Limit Switch Box type ST3 series**

(5) Manufacturer: **L.G.M. Engineering S.r.l.**

(6) Address: **Via E. Majorana 2, 20060 Cassina De' Pecchi MI, Italy**

(7) This supplementary certificate extends EU - Type Examination Certificate No. FTZÚ 17 ATEX 0106X to apply to products designed and constructed in accordance with the specification set out in the Schedule of the said certificate but having any variations specified in the Schedule attached to this certificate and the documents therein referred to.

(8) The Physical-Technical Testing Institute, Notified Body number 1026, in accordance with Articles 17 of Directive 2014/34/EU of the European Parliament and of the Council, dated 26.02.2014, certifies that this product, as modified by this supplementary certificate, has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of products intended for use in potentially explosive atmospheres given in Annex II to the Directive.

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:

EN 60079-0:2012+A11:2013, EN 60079-11:2012

(10) If the sign "X" is placed after the certificate number, it indicates that the product is subject to Specific Conditions of Use specified in the schedule to this certificate.

(11) The marking of the product shall include the following:

II 1G Ex ia II*) T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

***) - See (15) Description of Product**

(12) This certificate is valid till: **31.05.2022**

Responsible person:
Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FYZIKÁLNĚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV FTZÚ Ex AO 210 NB 1026

Date of issue: 10.08.2020

Physical-Technical Testing Institute, s.p., Pikartská 1337/7, 716 07 Ostrava - Radvanice, Czech Republic
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(13) **Schedule**

(14) # Supplementary EU - Type Examination Certificate No. 1 to FTZÚ 17 ATEX 0106X

(15) Description of the variation to the Product:

The subject of this supplementary certificate is:

- Modification of certified apparatus.

This supplementary certificate describes extension of product line. There are added new models:
type "ISN" with sensor P&F SJ3.5-N / NAMUR / Normally Closed
type "IS1" with sensor P&F SJ3.5-S1N / NAMUR / Normally Open
type "ISS" with sensor P&F SJ3.5-SN / NAMUR / Normally Closed / For Low temp applications.

Marking: Ex II 1G Ex ia IIC T6/T5 Ga
II 1D Ex ia IIIC Txx°C Da

Intrinsically safe parameters:
type "ISN": Li = 250 µH; Ci = 50 nF
type "IS1" Li = 100 µH; Ci = 30 nF
type "ISS" Li = 100 µH; Ci = 30 nF

Other parameters: see below table
Min. ambient temperature: type "ISN", "IS1": -20 °C / type "ISS": -50°C

Gas atmosphere	Maximal Input parameters			Tamax [°C] = Maximal permissible ambient temperature for application in Temperature Class		
Category	Ui [V]	Ii [mA]	Pi [mW]	T6	T5	T4-T1
1G	16	25	34	56	68	80
1G	16	25	64	49	61	80
1G	16	52	169	28	40	68
1G	16	76	242	13	25	53
2G	16	25	34	73	80	80
2G	16	25	64	66	80	80
2G	16	52	169	45	60	80
2G	16	76	242	30	45	74
Dust atmosphere	Maximal Input parameters			Ts [°C] = Maximal surface temperature for application in Ambient Temperature			
Category	Ui [V]	Ii [mA]	Pi [mW]	Ta=40°C	Ta=60°C	Ta=70°C	Ta=80°C
1D/2D*)	16	25	34	41	61	71	81
1D/2D*)	16	25	64	42	62	72	82
1D/2D*)	16	52	169	44	64	74	84
1D/2D*)	16	52	242	44	64	74	84

*) Parameters are identical for Category 1D and 2D.

The parameters of previous products remain without changes.

Responsible person:
Dipl. Ing. Lukáš Martinák
Head of Certification Body

PHYSICAL-TECHNICAL TESTING INSTITUTE FTZÚ Ex AO 210 1026

Date of issue: 10.08.2020

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(13) **Schedule**

(14) # Supplementary EU - Type Examination Certificate No. 1 to FTZÚ 17 ATEX 0106X

(16) Report Number.: 17/0106/1

(17) Specific Conditions of Use:

None additional to those listed previously.

(18) Essential Health and Safety Requirements:

Compliance with the Essential Health and Safety Requirements is covered by standards mentioned in clause (9) of this supplementary certificate.

(19) Drawings and Documents:

Document/Drawing	Issue	Date	Nr. of Pages
ST3 Series	1	03.2020	2
ST3 Lamiera per ST3 con SJ 3,5	-	11.03.20	1
ST3 Lamiera per ST3 con SJ 3,5 per modifica NC-NO	-	11.03.20	1
ST3 Sticker label	A	11.07.2017	1
ST3 BOX MICRO ST3 CON SJ3,5	A	11.03.2020	1
ST3 WITH SJ 3,5 SENSORS	A	11.03.2020	1

PHYSICAL-TECHNICAL TESTING INSTITUTE FYZIKÁLNĚ TECHNICKÝ ZKUŠEBNÍ ÚSTAV FTZÚ Ex AO 210 NB 1026

Responsible person:

Dipl. Ing. Lukáš Martinák
Head of Certification Body

Date of issue: 10.08.2020

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