

**Physical testing and development laboratory
Ostrava-Radvanice**

(1) **Declaration of type-examination**

(2) Equipment and protective systems intended for use
in potentially explosive atmospheres under
Directive 94/9 / EC (23/2003 Coll.)

(3) Number Type Examination Certificate:

MM 13 ATEX 0003 X

(4) Equipment or protective system: **Kit (system) for measuring pressure / vacuum
a pressure / vacuum switch type MM 214, 300, 330, 411,
431, 412, 432, 420, 440, 600, 601, 603, 640**

(5) Manufacturer: **MM Group, s.r.o. _ Layher**

(6) Address: **Úzká 13/1378, 735 64 Havířov-Prostřední Suchá,
Czech Republic**

(7) This equipment or protective system and any variant is specified in this certificate and the documents therein set forth below.

(8) The physical testing and development laboratory of MM Group, Ltd. Based on Government Regulation 23/2003 Coll. and certification of production of state testing laboratory SZ 210 Ostrava Radvanice - Quality Assurance Notification - FTZÚ 01 ATEX Q 002 certifies that this equipment or protective system has been found to satisfy the essential health and safety requirements relating to the design and construction of equipment or protective systems intended for use in potentially explosive atmospheres (zone 0, I).

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

ČSN EN 60 079-0:2013+A11:2014, ČSN EN 60079-11:2012

(10) If the certificate number for the sign "X" in the schedule to this certificate special conditions for safe use.

(11) This certificate is valid only for the design, validation and testing of the specified equipment or protective system according to Directive 94/9 / EC. For the manufacture and supply of this equipment or protective system applies additional requirements of the Directive. These requirements, this certificate does not apply.

(12) Name compatibility with devices or protective systems must contain:

Odpovědná osoba:

Ing. Tomáš Wurzel



Date: 20. 1. 2013

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(13) **Declaration of type-examination MM 13 ATEX 0003 X**

(14) Description of equipment or protective system:

A system for measuring pressure and vacuum liquids and gases. It is a simple mechanical device for sensing vacuum equipped with switching contacts for signaling achieve minimum and maximum measured values (see Article 5.7 EN 60079-11: 2012). The vacuum switch is a device without any additional energy sources with zero internal capacitance and inductance. The delivery of the contact pressure gauge is intrinsically safe relays of MM 501_ AC (DC), which is used to supply contacts and the electrical isolation from downstream equipment. Intrinsically safe relay is separately approved by the relevant state testing SZ 210 Ostrava-Radvanice, Czech Republic, certificate FTZU 02 ATEX 0284 and its amendments.

Input/Output parameters:

TS MM ...

IP 65
 $U_i = 10 \text{ V}$
 $I_i = 20 \text{ mA}$
 $C_i, L_i = 0$

I.S. relay MM 5011 AC(DC), MM 5016 AC(DC)

$U_o = 9,87 \text{ V}$
 $I_o = 9,97 \text{ mA}$
 $P_o = 24,6 \text{ mW}$
 $C_o = 7 \text{ uF}$ IIB
 $L_o = 21 \text{ mH}$ IIB
 $C_o = 4,4 \text{ uF}$ I
 $L_o = 56,8 \text{ mH}$ I

Odpovědná osoba:



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(15) Declaration of type-examination MM 13 ATEX 0003 X

(16) Special conditions for safe use in Zone 0, I: [X]

Security conditions are defined as follows: When using a pressure switch in design (Ex i) in zone 0, it must not be exceeded supply voltage ($U_{max} = 10V$) and contacts must be powered from a source with limited power (intrinsically safe relays MM 501). Devices (pressure switch contact) must be installed so that the conditions of use, cleaning and maintenance avoid static electricity charge and igniting explosive mixtures. The contact pressure switch must be labeled with the name and Ex ... and the information associated apparatus. Intrinsically safe relay must be located outside the hazardous area. Treatment is carried out exclusively by the manufacturer. Under these conditions, the device is safe for use in Zone 0, I.

(17) Essential Health and Safety Requirements:

All relevant essential safety requirements are set out in the standards referred to in paragraph (9). When declaring the security apparatus based company MM GROUP, sro the conclusions and results of its own tests and measurement of insulation and construction experience with intrinsically safe circuits. Prevent electrostatic charging is ensured also by combining the plastic cover with body contact manometer. The assembly is designed in accordance with the principles of good engineering practice in safety.

Odpovědná osoba:



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Date: 20. 1. 2013

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(18) **Declaration of type-examination MM 13 ATEX 0003 X**

(19) **DOKUMENTATION**

Dokumentation:

Datasheet
Certificate I.S. relay MM 501. .

X: For the separation and power contacts TS MM.. (if their use) is required intrinsically safe relay approved for such an explosive environment and designed for a given application.

Odpovědná osoba:



Ing. Tomáš Wurzel

Date: 20. 1. 2013

