(1) TYPE-EXAMINATION CERTIFICATE

(2) Equipment and Protective Systems intended for use in Potentially Explosive Atmosphere - **Directive 94/9/EC**

(3) Type-Examination Certificate Number

TÜV 14 ATEX 7557 X

(4) **Equipment:** **HIQuad System**

(5) **Manufacturer:** **HIMA Paul Hildebrandt GmbH**
(6) **Address:** **Albert-Bassermann-Str. 28, 68782 Brühl Germany**

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate and the documents therein referred to.

(8) The TÜV Rheinland Notified Body for ex-protected products of TÜV Rheinland Industrie Service GmbH, Notified Body No. 0035 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies this equipment 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 atmosphere, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report 557/Ex557.00/14

(9) Compliance with the Essential Health and Safety Requirements, with the exception of those listed in the schedule of this certificate, has been assessed by reference to:

EN 60079-0: 2012/A11:2013 **EN 60079-15: 2010**

except the requirements, which are listed under item (18).

(10) If the sign "X" is placed after the certificate number, it indicates that the equipment is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This Type-Examination Certificate relates only to the design and specification for construction of the equipment or protective system. It does not cover the process for actual manufacture or supply of the equipment or protective system, for which further requirements of the directive are applicable.

(12) The marking of the equipment shall include the following

II 3 G Ex nA nC IIC T4 Gc
II 3 G Ex nA IIC T4 Gc

TÜV Rheinland ExNB for explosion protected equipment

Cologne, 2016-03-15

Dipl.-Ing. Andreas Maschke

This Type-Examination Certificate without signature and stamp shall not be valid.
This Type-Examination Certificate may be circulated only without alteration. Extracts or alterations are subject to approval by the TÜV Rheinland Notified Body of TÜV Rheinland Industrie Service GmbH, Am Grauen Stein 51105 Köln
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Precisely Right.

(13) Annex to

(14) # Type Examination Certificate
TÜV 14 ATEX 7557 X

(15) **Description of equipment**

15.1 Equipment and type:

The HIQuad systems H41q and H51q are compact and modular automation systems, in which the HIQuad modules can be inserted into slots. The modules are:
II 3 G Ex nA IIC T4 Gc:
F 8650X, F 8652X, F 8621A, F 8627X, F 8628X, F 3221, F 3224A, F 3236, F 3237, F 3238, F 3240, F 3248, F 3322, F 3325, F 3330, F 3331, F 3333, F 3334, F 3335, F 3349, F 5220, F 6215, F 6217, F 6220, F 6221, F 6705, F 6706, F 7126, F 7130A, F 7131, F 7553, H 7505, H 7506
II 3 G Ex nA nC IIC T4 Gc:
F 3422, F 3430, F 7133, B 4235, B 4237-1, B 4237-2, B 5231, B 5233-1, B 5233-2, B 9302, B 9361

15.2 Description

HIQuad is a safety-related programmable control system and is intended for high availability. HIQuad is a modular system which consists of 19 inch subracks for central devices and modules for binary and analog input or output signals.
Depending on the required safety and availability, HIQuad can be supplied as one-channel or dual-channel (redundant) devices with the same modules in the central device, as well as in the input or output layer. Redundant modules increase the availability, as in case of an error in a safety-related module this module is automatically switched off, while the redundant module continues the operation.

15.3 Technical Data

Rated voltage: 20.4 ... 28.8 V DC
Ambient temperature: $0°C < T_a < 60°C$

(16) **Test-Report No.** 557/Ex557.00/14

Parts of the device, which already fullfill the requirements for the category, were not approved and assessed by TÜV Rheinland Industrie Service.

The applicability and assembly of mechanical and electrical parts and components were assessed and approved by TÜV Rheinland Industrie Service with respect to the requirements of explosion protection.

(17) **Special Conditions for safe use**

1. The system shall be supplied with a SELV or PELV supply only.
2. The equipment shall only be used in an area of not more than pollution degree 2, as defined in IEC 60664-1.
3. The equipment shall be installed in an enclosure that provides a degree of protection not less than IP 54 in accordance with IEC 60079-15.
4. The enclosure in use must be able to safely dissipate the generated heat.
5. Only voltages of the same potential are allowed to be connected to the I/O s of the module F 3422.
6. The I/O subrack must be provided with forced ventilation.

(18) **Basic Safety and Health Requirements**

Covered by afore mentioned standard

TÜV Rheinland ExNB für explosion protected equipment

Cologne, 2016-03-15

Dipl.-Ing. Andreas Maschke