

(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 7556 X

(4) **Equipment:** HIMax 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/Ex556.00/14

(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
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TÜV Rheinland ExNB for explosion protected equipment

Cologne, 2016-02-01

Dipl.-Ing. Andreas Maschke



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TÜV Rheinland Notified Body of TÜV Rheinland Industrie Service GmbH, Am Grauen Stein 51105 Köln
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(13)

Annex to

(14)

Type Examination Certificate

TÜV 14 ATEX 7556 X

(15)

Description of equipment

15.1 Equipment and type:

HIMax System

Type	HW	Description
X-BASE PLATE	00	Base Plate
X-FAN nn 01/02	05	System Fan for higher thermal requirement
X-FAN nn 03/04	03	System Fan
X-SB 01	01	System Bus Module (SIL3)
X-CPU 01	01	Processor Module for high performance requirements and critical control applications (4 x RJ-45, SIL 3)
X-CPU 31	00	Processor module for small and midsize safety applications (2x RJ-45, SIL 3)
X-COM 01	02	Communication Module (4 x RJ-45, 2 x 9-pole D-Sub, up to 6 different Protocols)
X-AI 16 51	00	Analog Input/ Temperature Module (16 Channels, galvanically isolated channels, TC, Pt100, 4...20 mA, +/-280 mV, SIL 1)
X-AI 32 01	13 / 14	Analog Input Module (32 Channels, 4...20 mA, Line Monitoring, SIL 3)
X-AI 32 02	12	Analog Input Module (32 Channels, 4...20 mA, SOE, Line Monitoring, SIL 3)
X-AI 32 51	00	Analog Input Module (32 Channels, 4...20 mA, Line Monitoring)
X-AO 16 01	10	Analog Output Module (16 Channels, 4...20 mA, pairwise galvanically isolated, SIL 3)
X-AO 16 51	00	Analog Output Module (16 Channels, 4...20 mA)
X-CI 24 01	11	Counter Module (24 Channels, 0...20 kHz, SIL 3)
X-CI 24 51	00	Counter Module (24 Channels, 0...20 kHz)
X-DI 16 01	00	Digital Input Module (16 Channels, 120 VAC, SIL 3)
X-DI 32 01	11 / 12	Digital Input Module (32 Channels, 24 VDC, SIL 3)
X-DI 32 02	12	Digital Input Module (32 Channels, 8.2 VDC, Proximity Switch, Line Monitoring, SIL 3)
X-DI 32 03	10	Digital Input Module (32 Channels, 48 VDC, SIL 3)
X-DI 32 04	10	Digital Input Module (32 Channels, 24 VDC, SOE, SIL 3)
X-DI 32 05	10	Digital Input Module (32 Channels, 8.2 VDC, Proximity Switch, Line Monitoring, SOE, SIL 3)
X-DI 32 51	00	Digital Input Module (32 Channels, 24 VDC)
X-DI 32 52	00	Digital Input Module (32 Channels, 8.2 VDC, Proximity Switch)
X-DI 64 01	10 / 11	Digital Input Module (64 Channels, 24 VDC, SIL 3)
X-DI 64 51	00	Digital Input Module (64 Channels, 24 VDC)
X-DO 12 01	03	Relay Output Module (12 Channels, 230 VAC/DC, Current Measurement, Cycle Counting, SIL 3)
X-DO 12 02	11	Digital Output Module (12 Channels, 24 VDC, 2 A, Short-Circuit Monitoring LS, Individual Channel Shut-Off, SIL 3)
X-DO 12 51	10	Relay Output Module (12 Channels, 230 VAC/DC)
X-DO 24 01	13 / 14	Digital Output Module (24 Channels, 24 VDC, 0.5 A, Line Monitoring LS/LB, Individual Channel Shut-Off, SIL 3)

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X-DO 24 02	11	Digital Output Module (24 Channels, 48 VDC, 0.5 A, Line Monitoring LS/LB, Individual Channel Shut-Off, SIL 3)
X-DO 32 01	11 / 12	Digital Output Module (32 Channels, 24 VDC, 0.5 A, Short-Circuit Monitoring LS, Individual Channel Shut-Off, SIL 3)
X-DO 32 51	00	Digital Output Module (32 Channels, 24 VDC, 0.5 A, Protected Outputs, Group Shut-Off)
X-HART 32 01	10	HART Interface Module (32 Modems, SIL 3)
X-MIO 7/6 01	10	Over Speed Trip Module (3 Counter, 4 digital Input, 5 digital Output, 1 Relay Channels, SIL 3)

Accessories:

- communication modules CM-***
- connector boards X-CB-*** **
- field termination assemblies X-FTA *** ***

15.2 Description

HIMax is a safety-related control system and is intended for continuous operation. HIMax is a modular system. Functions such as processing, input and output, and communication are distributed on plug-in modules. These modules must be inserted in one or multiple base plates. A controller specific to the concrete application can be created by selecting appropriate modules. Ethernet cables are used to interconnect the base plates.

15.3 Technical Data

Rated voltage: 20.4 ... 28.8 V DC

Ambient temperature: $0^{\circ} < T_a < 60^{\circ}\text{C}$

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(16) **Test-Report No.** 557/Ex556.00/14

Parts of the device, which already fulfill 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 information of the HIMax safety manual concerning the selection criteria for the enclosure (ability of heat dissipation) has to be considered.

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

Covered by afore mentioned standard

TÜV Rheinland ExNB für explosion protected equipment

Cologne, 2016-02-01

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