IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification System for Explosive Atmospheres

for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.:	**IECEx PTB 14.0039**	Page 1 of 5	Certificate history: Issue 0 (2014-09-30)
Status:	**Current**	Issue No: 1	
Date of Issue:	2019-10-25		
Applicant:	**R. STAHL Schaltgeräte GmbH** Am Bahnhof 30, 74638 Waldenburg, Germany **Germany**		
Equipment:	**CPU & Power Module, type CPM 9440/15-**-1***		
Optional accessory:			
Type of Protection:	**Increased Safety and Intrinsic Safety**		
Marking:	**Ex ec [ia, ib Gb] IIC T4 Gc**		

Approved for issue on behalf of the IECEx Certification Body:	**Dr.-Ing.Frank Lienesch**
Position:	**Head of department "Explosion Protection in Sensor Technology and Instrumentation"**
Signature: (for printed version)	
Date:	

1. This certificate and schedule may only be reproduced in full.
2. This certificate is not transferable and remains the property of the issuing body.
3. The Status and authenticity of this certificate may be verified by visiting www.iecex.com or use of this QR Code.

Certificate issued by:

Physikalisch-Technische Bundesanstalt (PTB)
Bundesallee 100
38116 Braunschweig
Germany

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

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Date of issue: 2019-10-25 Issue No: 1

Manufacturer: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30, 74638 Waldenburg, Germany
Germany

Additional manufacturing locations:

This certificate is issued as verification that a sample(s), representative of production, was assessed and tested and found to comply with the IEC Standard list below and that the manufacturer's quality system, relating to the Ex products covered by this certificate, was assessed and found to comply with the IECEx Quality system requirements.This certificate is granted subject to the conditions as set out in IECEx Scheme Rules, IECEx 02 and Operational Documents as amended

STANDARDS :
The equipment and any acceptable variations to it specified in the schedule of this certificate and the identified documents, was found to comply with the following standards

IEC 60079-0:2017 Explosive atmospheres - Part 0: Equipment - General requirements
Edition:7.0

IEC 60079-11:2011 Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"
Edition:6.0

IEC 60079-7:2017 Explosive atmospheres - Part 7: Equipment protection by increased safety "e"
Edition:5.1

This Certificate **does not** indicate compliance with safety and performance requirements other than those expressly included in the Standards listed above.

TEST & ASSESSMENT REPORTS:
A sample(s) of the equipment listed has successfully met the examination and test requirements as recorded in:

Test Report:

DE/PTB/ExTR14.0047/01

Quality Assessment Report:

DE/BVS/QAR10.0002/14

EQUIPMENT:
Equipment and systems covered by this Certificate are as follows:

The CPU & Power Module CPM, type 9440 /15-**-1* is the central unit for the intrinsically safe “IS1” Remote I/O-System. Together with the system-internal intrinsically safe I/O-modules it is snapped onto a 35 mm DIN rail provided with a BusRail, type 9494 that was mounted in the rail before.

A power supply unit in the CPU & Power Module supplies the I/O-modules themselves and sensors and actuators connected to the I/O-modules via the BusRail. One system can be comprised of up to two CPU & Power Modules and up to two BusRails each carrying 16 I/O-Modules as a maximum.

As a Gateway the CPU in the CPU & Power Module controls data communication with the I/O-modules via the BusRail. By means of an RS 485 interface it can also communicate with primary computers.

The CPU & Power Module is an associated electrical apparatus according to IEC 60079-11 as well as an apparatus designed to Increased Safety type of protection “ec” according to IEC 60079-7 that may be operated in areas where equipment of zone 2 is required.

SPECIFIC CONDITIONS OF USE: NO

Notes for manufacture and operation:

When used as EPL-Gc equipment, the device shall be installed in a protective enclosure or in a cabinet according to IEC 60079-0. This enclosure (or cabinet) shall provide a suitable degree of protection (at least IP54).

DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)

- Alteration of the test specification (substitution of IEC 60079-15 by IEC 60079-7)
- Alteration of the marking (Ex ec instead of Ex nA)
- Modification of the circuit board CPU LP2
- Verification of thermal conditions of the CPU-PCB
- Revision of the documentation, the operating instructions manual and the type label
- Summarized presentation of the current state of production of the device

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Additional information:
For thermal and electrical specifications as well as further information, reference is made to the Annex.

Annex:

Annex to IECEx PTB 14.0039-issue-1_1.pdf

Applicant: R. STAHL Schaltgeräte GmbH

Electrical Apparatus: CPU & Power Module, type CPM 9440/15-**-1*

Description of equipment

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The permissible ambient temperature range reads: $-20\ °C \leq T_a \leq 65\ °C$

Electrical data

Auxiliary power (input U_H / primary) (connectors X5-C (+), X5-B (-)	U_m = 253 V AC Nominal values: $U_{H\,n}$ = 24 V DC (20 V ... 35 V DC) $I_{H\,n}$ = 5.2 A
Data interfaces RS 485 (primary) (connectors X1, X2, X3 on Pins 3, 5, 6, 8 (Screen) Data circuits, pins 3, 8: 5 V – output, pins 5, 6:	U_m = 253 V AC Nominal values: U_n = - 7 V ... +12 V U_n = 5 V ± 1 % I_n = 100 mA
BusRail interface	
Auxiliary power (output U_{A1} /secondary) (Plug V102: pins 7, 8, 9, 10 (+); pins 27, 28, 29, 30 (-))	Nominal values: $U_{n\,A1}$ = 24 V DC (20 V ... 35 V) $I_{N\,A1}$ = 4 A (limited by a 4 A fuse) type of protection Intrinsic Safety Ex ia IIC Maximum value: $U_{o\,A1}$ = 26.2 V The circuit requires an external current limitation as provided by the system

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BusRail data/address circuits (secondary)

Data/address circuits for I/O modules 1-16
(Plug V102: pins 4, 5, 14, 15, 16, 24, 25, 26

type of protection Intrinsic Safety Ex ib IIC
Maximum values:
$U_{o\ Bus}$ = 6.6 V
$I_{o\ Bus}$ = 105 mA
$P_{o\ Bus}$ = 173 mW
linear characteristic

$U_{i\ Bus}$ = 6.6 V
L_i = negligibly low
C_i = negligibly low

BusRail sub-address circuits (secondary)
(Plug V102: pins 1, 11, 21

type of protection Intrinsic Safety Ex ib IIC
Maximum values:
$U_{o\ Sub\text{-}address}$ = 6.6 V
$I_{o\ Sub\text{-}address}$ = 13.7 mA
$P_{o\ Sub\text{-}address}$ = 22.5 mW
linear characteristic

The intrinsically safe circuits (secondary) are interconnected via the reference conductor. They are safely electrically isolated from ground and from all primary circuits up to a peak value of the nominal voltage of 375 V.

Special conditions for safe use

none

Notes for manufacture and operation

When used as EPL-Gc equipment the device shall be installed in a protective enclosure or in a cabinet according to IEC/EN 60079-0. This enclosure (or cabinet) shall provide a suitable degree of protection (at least IP54).

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