IECEx Certificate of Conformity

INTERNATIONAL ELECTROTECHNICAL COMMISSION
IEC Certification Scheme for Explosive Atmospheres
for rules and details of the IECEx Scheme visit www.iecex.com

Certificate No.: **IECEx BKI 07.0001X** Issue No.: **0**

Status: **Current**

Date of Issue: **2007-01-16** Page **1** of **3**

Applicant: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30
D-74638 Waldenburg (Württ.)
Germany
Germany

Electrical Apparatus: **Plug and socket system "mini CLIX"**
Optional accessory: **Type 8591/…-..-….**

Type of Protection: **General requirements, Flameproof enclosure, Increased safety, Intrinsic safety,**

Marking: **Ex de IIC T6 or Ex ia/ib IIC T6**
Ex tD A21 IP66 T52°C
-25 °C ≤ Tamb ≤ +40 °C (Plastic version)
-55 °C ≤ Tamb ≤ +40 °C (Plastic version, shockproof)
-55 °C ≤ Tamb ≤ +40 °C (Metal version)
-55 °C ≤ Tamb ≤ +75 °C (Metal version, Ith max. 2 A)
-55 °C ≤ Tamb ≤ +75 °C (Plastic version, Ith max. 2 A; shockproof)

Approved for issue on behalf of the IECEx Certification Body: János HANKÓ

Position: Director

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 the Official IECEx Website.

Certificate issued by:

Testing Station for Explosion Proof Equipment
H 1037 BUDAPEST
MIKOVINY S.u. 2-4
Hungary

Robbanásbiztos Berendezések ® BKI Vizsgáló Állomása Ex

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Manufacturer: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30
D-74638 Waldenburg (Württ.)
Germany
Germany

Manufacturing location(s):

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 manufacture'rs 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 electrical apparatus 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 : 2004 Edition: 4.0	Electrical apparatus for explosive gas atmospheres - Part 0: General requirements
IEC 60079-1 : 2001 Edition: 4	Electrical apparatus for explosive gas atmospheres - Part 1: Flameproof enclosures 'd'
IEC 60079-7 : 2001 Edition: 3	Electrical apparatus for explosive gas atmospheres - Part 7: Increased safety 'e'
IEC 61241-0 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 0: General requirements
IEC 61241-1 : 2004 Edition: 1	Electrical apparatus for use in the presence of combustible dust - Part 1: Protection by enclosures "tD"

*This Certificate **does not** indicate compliance with electrical 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:

HU/BKI/ExTR06.0009/00

Quality Assessment Report:

DE/PTB/QAR06.0001/00

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Schedule

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

See details in Addendum to IECEx BKI 07.0001 X.

CONDITIONS OF CERTIFICATION: YES as shown below:

See details in Addendum to IECEx BKI 07.0001 X.

Annexe: +Addendum to IECEx BKI 07.0001 X.pdf

1. Description

The plug and socket system „miniCLIX", type 8951/…-..-…., consists of the plug, the appliance connector, coupling, flange-mounting socket outlet, and angle unit. It is used for cable connections in potentially explosive atmospheres and comes as a metal version for Flameproof Enclosure and Increased Safety types of connection, or as a plastics version for Increased Safety type of connection.
Offset pin assignment (30 degree offset with reference to the thicker ground terminal) is to make sure that only plugs and socket outlets of the same identification code can be used together.
Connection is by means of the integrated terminals connected to cage or piercing clamps or crimp termination or by means of prefabricated connecting cables (open-ended line, single conductors).
For adequate connection of the cable and proper installation, due regard shall be given to the instructions for operation.
The plug and socket system „miniCLIX", type 8951/…-..-…., will be manufactured with the following modifications:
The metal version of the appliance connectors and the flange-mounting socket outlet with encapsulated connecting wires may also be installed in enclosures > 2.000 cm^3.
Connectors and coupling provided with a stainless-steel or CuZn enclosure with adequately modified cable entries may be connected by means of armoured cables.
In systems with safety extra-low voltage, the coding pin (thicker pin) may also be used as a current carrying connection.
For the ease of handling, the shape of the connection facility was geometrically modified.
The application of the connection facility was extended to cover the connection of circuits of intrinsically safe protection as well.

2. Type assortment

8951/…-..-….
Legend of the signs from left to right

1._ 2._, 3._, 4._	Code for type series
5._,	Number of poles 1 = 4 2 = 6+1 3 = T pieces 4 = 4+1
6._	Design 1 = Elbow, single piece 3 = Coupler 4 = Free 5 = Flange socket, flameproof (Ex de IIC) 6 = Apparatus plug- flameproof (Ex de IIC) 7 = Plug 8 = Flange socket ≤ 2000 cm^3 (Standard) 9 = Apparatus plug ≤ 2000 cm^3 (Standard)
7._, 8._, 9._	Type of connection and Time setting
10._	Connector version 0 = Moulded plastic 1 = Stainless steel 2 = Stainless steel with gland for armoured cable 3 = Brass 4 = Brass with gland for armoured cable 5 = Stainless steel with NPT-thread 6 = Brass with NPT-thread
11._, 12._, 13._	No influence on the explosion protection

3. General parameters

Electrical data

Crimp termination cage clamp connecting cable
Rated voltage ..... up to 250 V
Rated current *) ..... max. 10 A
Utilization category AC-1
*) depending on conductor size

Piercing clamp
Rated voltage ..... up to 60 V
Rated current *) ..... max. 6 A
Utilization category AC-1
*) depending on conductor size

Rated voltage up to	60 V	
Rated current Ie max	2,5 A	0,5 A
Utilization category	L/R 10 ms	DC-3

Rated current Ie for connection technic
Crimp- and cage clamp max. 10 A
QUICKON-connection max. 6 A

Provided the making and breaking capacities are met, rated values other than those specified above are acceptable and will be defined by the manufacturer on the basis of the operating mode, utilization category, etc.

Number of plug-in contacts ..... max. 6+1

Rated cross section
Crimp termination ..... 0.75 mm^2 to 2.5 mm^2
Cage termination ..... 0.5 mm^2 to 1.5 mm^2
Piercing clamp ..... 0.34 mm^2 to 0.75 mm^2
Connecting cable ..... 1.0 mm^2 to 2.5 mm^2

4. Ambient temperature

Ambient temperature max. for temperature class T6
Plastic version ..... -20 °C to 40 °C
Plastic version, shockproof ..... -55 °C to 40 °C
Metal version ..... -55 °C to 40 °C
Metal version, I_{th} max. 2 A ..... -55 °C to 75 °C
Plastic version, I_{th} max. 2 A; shockproof ..... -55 °C to 75 °C

5. Ingress protection: IP66 according to IEC 60529

6. **Conditions of certification:**

6.1 The elements of the plug and socket system „miniCLIX" are prepared with connecting cable (open-ended line) or they are provided with crimp termination, cage clamp or piercing clamp for connection at site.

6.2 For adequate connection of the cable and proper installation, due regard shall be given to the instructions for operation.

6.3 The connecting cable (open ended line) of the plug and socket system „miniCLIX" shall be installed to provide for permanent wiring and adequate protection against mechanical damage. The quality of the connecting cable shall be such that it complies with the local thermal and mechanical requirements.

6.4 Should the connecting cable (open-ended line) be connected in an area with potentially explosive atmosphere, a terminal compartment shall be used which meets the requirements of an approved type of protection in accordance with IEC 60079-0:2004, section 1.2.

6.5 If made from metal, the flange-mounting socket outlet, appliance connector, and angle unit may be installed in the walls of enclosures designed to Flameproof Enclosure „d" or Increased Safety „e" type of protection. The flameproof terminal compartment may have a volume of 2,000 cm^3 as a maximum. For the selection criteria and the installation conditions, reference is made to the notes furnished with the operating instructions.

6.6 If made from plastics, the flange-mounting socket outlet, appliance connector, and angle unit shall be installed in the walls of enclosures designed to Increased Safety „e" type of protection.

6.7 When using terminal compartments designed to Increased Safety „e" type of protection as specified in IEC 60079-7:2001, the clearance and creepage distances specified in section 4.3, section 4.4 and table 1 shall be duly considered.

6.8 Equipotential bonding and earthing shall be safeguarded by the way the metal flange-mounting socket outlet, appliance connector and/or angle unit are connected with the complete system.

6.9 At temperatures less than -20 °C, the plastic version of the plug-in connector shall be installed in a mechanically protected way.

6.10 The plastic angle unit may not be used if temperatures are lower than -20 °C.

6.11 In the non-plugged condition, the appliance connector must not be alive.

6.12 The plug and socket system „miniCLIX" consists of two or more parts which have to be installed in an appropriate way. This has been especially considered by the instructions. For a safe use these assembling instructions are to be followed precisely.

6.13 The operator/user shall be informed of the Special Conditions in a suitable form.

7. Instructions for manufacturing and operation

7.1 The tapped holes receiving the metal version of the appliance connectors and the flange mounting socket outlet with encapsulated connecting wires with internal thread shall meet the minimum requirements set forth in IEC 60079-1:2001, section 5.3 (table 3).

7.2 This metal version of the appliance connectors and the flange mounting socket outlet with encapsulated connecting wires is suited for installation in electrical apparatus designed to Flameproof Enclosure „d" type of protection of groups I, IIA, IIB or IIC.

7.3 If the reference pressure exceeds 20 bar, the metal version of the appliance connectors and the flange mounting socket outlet with encapsulated connecting wires shall be included in the type test of IEC 60079-1:2001, section 15.1.3 (overpressure test) as required for I, IIA, IIB or IIC classification of the corresponding operator/apparatus.

7.4 The cable bushing shall be fixed in the electrical apparatus in such a way that rotation and accidental loosening will be prevented.

7.5 The components of the connection facility of old and new design are not interchangeable, thus the spare parts shall be replaced in pair.

7.6 The operator shall order the spare parts according to the corresponding design.

Drawings

Description No. 859100300.0-01.08.2006-SGZ/M.Ehrmann 4 Sheets 2006.08.01.
File reference TRs HU/BKI/Ex TR06.0009/00 Test Report
85 910 04 00 0 Example of marking 2006.01.12.