# Physikalisch-Technische Bundesanstalt

**Braunschweig und Berlin**

(1) # EC-TYPE-EXAMINATION CERTIFICATE

**(Translation)**

(2) Equipment and Protective Systems Intended for Use in Potentially Explosive Atmospheres - **Directive 94/9/EC**

(3) EC-type-examination Certificate Number:

**PTB 07 ATEX 1028 X**

(4) Equipment: Plug connector, type 8591/2..-.....

(5) Manufacturer: R. STAHL Schaltgeräte GmbH

(6) Address: 74638 Waldenburg(Württ), 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 Physikalisch-Technische Bundesanstalt, notified body No. 0102 in accordance with Article 9 of the Council Directive 94/9/EC of 23 March 1994, certifies that 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 atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in the confidential report PTB Ex 07-17174.

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

EN 60079-0:2004 EN 60079-1:2004 EN 60079-7:2003

(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 EC-type-examination Certificate relates only to the design, examination and tests of the specified equipment in accordance to the Directive 94/9/EC. Further requirements of the Directive apply to the manufacturing process and supply of this equipment. These are not covered by this certificate.

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

**II 2 G Ex de IIC T6**

Zertifizierungsstelle Explosionsschutz Braunschweig, June 7, 2007

By order:

Dipl.-Phys.

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 30

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 1028 X

(15) Description of equipment

The plug connector, type 8591/2..-..... , with plug, appliance connector, coupling, flange-mounting socket outlet and angle unit is to provide for cable connection in potentially explosive areas. It comes as a metal version for Flameproof Enclosure and Increased Safety type of connection, and as a plastic version for Increased Safety type of protection.

Offset pin assignment (30 degree offset with reference to the thicker ground terminal) ensures that only plugs and socket outlets of the same identification code can be used together.

Connection is by means of integrated terminals connected to cage clamps or by means of crimp termination or prefabricated connection wiring (unconnected cable end, single conductors).

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

**Electrical data**

| **Crimp termination** | **Cage clamp** | **Connecting cable** |
|---|---|---|
| Rated voltage ..... up to | 400 V | |
| Rated current *) ..... max. | 16 A | 1.0 A |
| Utilization category ..... | AC-1 | AC 1/DC 1 |

*) depending on conductor size

*) depending on conductor size and contact (3 x 16 A, 2 x 1 A or 6 x 1 A)

Provided the making and breaking capacities defined in the relevant regulations 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, utilisation category, etc.

| | |
|---|---|
| Number of plug-in contacts ..... | 6 +1 |
| Rated cross section | |
| Crimp termination ..... | 0.75 mm² to 2.5 mm² |
| Cage clamp ..... | 0.5 mm² to 1.5 mm² |
| Connecting cable ..... | 1.0 mm² to 2.5 mm² |

| Ambient temperature, max., for temperature class | T6 |
|---|---|
| Plastic version ..... | -20 °C to 40 °C |
| Metal version ..... | -55 °C to 40 °C |
| Metal version, $I_{th}$ max. 1 A ..... | -55°C to 75 °C |
| Plastic version, $I_{th}$ max. 1 A; ..... | -20°C to 75 °C |

(16) Test report PTB Ex 07-17174

(17) Special conditions for safe use

The elements of the plug connector are prefabricated with connecting cable (unconnected cable end) or they are provided with crimp termination or cage clamp for connection at site. For adequate connection of the cable and proper installation, due regard shall be given to the instructions for operation.

The connecting cable (unconnected cable end) of the plug connector 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.

Should the connecting cable (unconnected cable end) be connected in the potentially explosive area, a terminal compartment shall be used which meets the requirements of an approved type of protection in accordance with EN 60079-0, section 1.

The metal versions of 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. For selection criteria and installation conditions, reference is made to the notes furnished with the operating instructions.

The tapped holes of flameproof enclosures receiving the flange-mounting socket outlet, the appliance connector, or the angle unit with their screw thread shall meet the minimum requirements as set forth in EN 60079-1, section 5.3 (table 3).

If the reference pressure exceeds 20 bar, the flange-mounting socket outlet, appliance connector, and angle unit have to be included in the type test of EN 60079-1, section 15.1.3 (overpressure test) of the corresponding operator/apparatus.

The flange-mounting socket outlet and the appliance connector have to be fixed in the electrical apparatus in such a way that rotation and accidental loosening will be prevented.

The plastic versions of the flange-mounting socket outlet, appliance connector, and angle unit have to be installed in the walls of enclosures designed to Increased Safety "e" type of protection.

When using terminal compartments designed to Increased Safety "e" type of protection in compliance with EN 60079-7, the clearance and creepage distances specified in section 4.4, section 4.5 and table 1 must be maintained.

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

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

The flange-type socket outlet, the appliance connector, and the angle unit, as well as the terminal compartment the wall of which they are fitted into, are considered to be sub-units as defined in Directive 94/9/EC (see ATEX guideline, July 2005, section 3.7.5). The sub-units have to be completed by the responsible person.

The plug connector is made up of two or more parts requiring proper installation. The operating instructions account for this fact in a special way. The instructions for assembly have to be carefully followed to ensure safe operation.

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

# Physikalisch-Technische Bundesanstalt

**Braunschweig und Berlin**

**SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 07 ATEX 1028 X**

(18) Essential health and safety requirements

Met by compliance with the afore-mentioned Standards.

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, 7. June, 2007

Dipl.-Phys.

# EG-Konformitätserklärung
*EC-Declaration of Conformity*
*CE-Déclaration de Conformité*

**Wir** *(we; nous)*

R. STAHL Schaltgeräte GmbH, Am Bahnhof 30, D-74638 Waldenburg

**8591/2..-.....**

**erklären in alleiniger Verantwortung, dass das Produkt**
*hereby declare in our sole responsibility, that the product*
*déclarons de notre seule responsabilité, que le produit*

**Steckverbindung**
*Plug and socket system*
*Fiche et prise*

**mit der** *(under; avec)*
**EG-Baumusterprüfbescheinigung:**
*EC-Type Examination Certificate:*
*Attestation d'examen CE de type:*

**PTB 07 ATEX 1028 X**

**auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokumenten übereinstimmt**
*which is the subject of this declaration, is in conformity with the following standard(s) or normative documents*
*auquel cette déclaration se rapporte, est conforme aux normes ou aux documents normatifs suivants*

| **Bestimmungen der Richtlinie**<br>*terms of the directive*<br>*prescription de la directive* | **Titel und/oder Nr. sowie Ausgabedatum der Norm**<br>*title and/or No. and date of issue of the standard*<br>*titre et/ou No. ainsi que date d'émission des normes* |
|---|---|
| **94/9/EG: Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen**<br>*94/9/EC: Equipment and protective systems intended for use in potentially explosive atmospheres*<br>*94/9/CE: Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles* | EN 60079-0:2004<br>EN 60079-1:2004<br>EN 60079-7:2003 |
| **89/336/EWG: Elektromagnetische Verträglichkeit**<br>*89/336/EEC: Electromagnetic compatibility*<br>*89/336/CEE: Compatibilité électromagnétique* | EN 60529:2000<br>EN 61984:2001<br>EN 60999-1:2000<br>EN 60947-1:2004 |

**Qualitätssicherung Produktion:**
*Production Quality Assessment:*
*Assurance Qualitée Production:*
PTB 96 ATEX Q006-4

**Kenn-Nr. der benannten Stelle** / *Notified Body number / N° de l'organisme de certification:* 0102

Waldenburg, 27.06.2007
**Ort und Datum**
*Place and date*
*lieu et date*

i.V.
**B. Limbacher**
**Leiter Entwicklung**
*Head of Development*
*Directeur Développement*

i.V.
**Dr. S. Jung**
**Leiter Qualitätsmanagement**
*Director Quality Management Dept.*
*Directeur Dept. Assurance de Qualité*

ALB 5/2002-d