



# 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](http://www.iecex.com)

Certificate No.:	<b>IECEX PTB 06.0069</b>	Page 1 of 4	<u>Certificate history:</u>
Status:	<b>Current</b>	Issue No: 4	Issue 3 (2014-07-31)
Date of Issue:	2022-05-02		Issue 2 (2013-04-15)
			Issue 1 (2012-01-26)
			Issue 0 (2006-08-15)
Applicant:	<b>R. STAHL Schaltgeräte GmbH</b> Am Bahnhof 30 74638 Waldenburg Germany		
Equipment:	<b>Control Panel type 8220/*50-***</b>		
Optional accessory:			
Type of Protection:	<b>Flameproof enclosure "d", Increased Safety "e", Intrinsic Safety "i", Protection by enclosure "t"</b>		
Marking:	Ex db ia ib [ia Ga] IIC T6...T4 Gb (without terminal box)		
	Ex db eb ia ib [ia Ga] IIC T6...T4 Gb (with terminal box)		
	Ex db I Mb		
	Ex tb IIC T80 °C, T95 °C, T130 °C Db		

Approved for issue on behalf of the IECEx  
Certification Body:

**Dr. Ing. Detlev Markus**

Position:

**Head of Department "Explosion Protection in Energy Technology"**

Signature:  
(for printed version)

Date:  
(for printed version)

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Certificate issued by:

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





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

Manufacturing locations: **R. STAHL Schaltgeräte GmbH**  
Am Bahnhof 30  
74638 Waldenburg  
**Germany**

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 60079-1:2014-06](#) Explosive atmospheres - Part 1: Equipment protection by flameproof enclosures "d"  
Edition:7.0

[IEC 60079-11:2011](#) Explosive atmospheres - Part 11: Equipment protection by intrinsic safety "i"  
Edition:6.0

[IEC 60079-31:2022-01](#) Explosive atmospheres – Part 31: Equipment dust ignition protection by enclosure "t"  
Edition:3.0

[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/ExTR06.0096/03](#)

Quality Assessment Report:

[DE/BVS/QAR10.0002/17](#)



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## **EQUIPMENT:**

Equipment and systems covered by this Certificate are as follows:

Description of equipment:

The control panel type 8220/\*50 is a welded structure which is made from sheet steel or stainless steel and provided with an aluminium or bronze screw-on cover. It is designed to accommodate switching and control gear, measuring equipment and display units. Cover and side walls may be fitted with actuator rods and/or sight glasses.

Connection is by means by – separately certified - flameproof cable bushings or wire bushings with terminal compartment designed to type of protection Increased Safety "e" or by means of –separately certified - direct cable entries or conduit systems, which are separately certified.

Further information see Annex.

**SPECIFIC CONDITIONS OF USE: NO**



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**DETAILS OF CERTIFICATE CHANGES (for issues 1 and above)**

- 1) Additional Ex components added to list of components
- 2) Standard update to latest IEC standards
- 3) New Certification Instruction

**Annex:**

[COCA060069-04.pdf](#)



Applicant: R. STAHL Schaltgeräte GmbH  
Am Bahnhof 30  
74638 Waldenburg  
Germany

Electrical Apparatus: Control Panel  
Type 8220/\*50-\*\*\*

### Description

The control panel type 8220/\*50 is a welded structure which is made from sheet steel or stainless steel and provided with an aluminium or bronze screw-on cover. It is designed to accommodate switching and control gear, measuring equipment and display units. Cover and side walls may be fitted with actuator rods and/or sight glasses.

Connection is by means of – separately certified - flameproof cable bushings or wire bushings with terminal compartment designed to type of protection Increased Safety “e” or by means of –separately certified - direct cable entries or conduit systems, which are separately certified.

### Nomenclature

8220	/	*	50	-	*	*	*
1	/	2	3	-	4	5	6

- 1) type series
- 2) version
  - 1= sheet steel
  - 2= stainless steel
  - 3= enclosure: sheet steel / cover: bronze
- 3) control panel
- 4) Enclosure size (length x width)
  - 1= 235 x 235 mm
  - 2= 360 x 360 mm
  - 3= 480 x 480 mm
  - 7= 360 x 480 mm
  - 9= 730 x 730 mm
- 5) Enclosure size (height)
  - 2= 268 mm
  - 3= 325 mm
  - 5= 410 mm
  - 6= 465 mm
- 6) Terminal box
  - 1= with terminal box
  - 2= without terminal box
  - 3= with risen terminal box



**Technical data:**

Rated voltage	max.	11kV
Rated current	max.	1500 A
Rated connecting capacity	max.	630 mm <sup>2</sup>

Size, volume and surface					
type	width	length	height	free volume	surface
	mm	mm	mm	Max. dm <sup>3</sup>	Max. m <sup>2</sup>
8225/*50-12*	235	235	268	10	0.32
8225/*50-22*	360	360	268	25	0.58
8225/*50-23*	360	360	325	31	0.66
8225/*50-32*	480	480	268	43	0.87
8225/*50-33*	480	480	325	55	0.99
8225/*50-35*	480	480	410	75	0.115
8225/*50-72*	360	480	268	33	0.71
8225/*50-73*	360	480	325	43	0.81
8225/*50-96*	730	730	465	180	2.24

Conductor cross-section mm <sup>2</sup>	Number of imported single core or multi core cable, minimum distance "l":		
	1 core [mm]	2 cores [mm]	3 or more cores / or 2 side by side [mm]
2,5	20	20	20
4	20	20	25
6	20	25	30
10	25	30	40
16	230	40	50
25	40	50	60
35	50	60	75
50	60	75	100
70	75	100	125
95	100	125	140
120	125	140	150
150	140	150	160
185	150	160	170
240	160	170	180
300	170	180	190



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Ingress protection according to IEC 60079-0, IEC 60079-7 and IEC 60079-31:  
depends on the assembled Ex components or Ex equipments

The rated values are maximum values, the actual electrical values depend on the electrical equipment incorporated. Within the scope of these maximum permissible values and with due regard to the standards, the manufacturer specifies the final rated values dependent on the system conditions, mode of operation, utilization category, etc. The characteristic values of the intrinsically safe circuits are to be given by the manufacturer on his own responsibility.

The maximum permissible ambient temperature range of the control and distribution box can be limited by the maximum permissible service temperature ranges of the separately certified components.

The composition of the type of protection marking will be based on the types of protection of components actually used.

The control panel may be combined with each other and/or with terminal boxes designed to type of protection Increased Safety "eb" and Protection by Enclosure "tb".

By using as equipment for Group I there are windows and cover out of aluminium not allowed.

### **Notes for manufacturing and operation**

Components attached or installed have to be of a technical standard that complies with the specifications on the cover sheet. They must be suited for the operating conditions and have a separate examination certificate. The special conditions specified for the components must be complied with and may have to be included in the type test. This also applies to components already specified in the technical description.

In order to ensure the ingress protection IP, the cover of the empty enclosure, the flange enclosure, the sealing frame and other Ex-components must be properly installed and with the appropriate torque.

Equipment of the type of protection intrinsic safety "i" is to be installed in such a way that the distances, creepage distances and clearances between intrinsically safe circuits and non-intrinsically safe circuits comply with the requirements of IEC 60079-11.

When more than one intrinsically safe circuit is used, the rules for interconnection are to be observed.

When components are installed into the empty enclosure, clearance and creepage distances specified in the standard IEC 60079-7 and IEC 60079-11 shall duly be complied with.

The control and distribution box with a coating of polyester powder must not be used in areas affected by charge-producing processes, mechanical friction and separation processes, electron emission (e.g. in the vicinity of electrostatic coating equipment), and pneumatically conveyed dust.