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 PTB 06.0026

Issue No: 0

Certificate history:
Issue No. 1 (2011-12-09)
Issue No. 0 (2006-03-30)

Status: **Current**

Date of Issue: **2006-03-30**

Applicant: **R. STAHL Schaltgeräte GmbH**
Am Bahnhof 30
74683 Waldenburg (Württ.)
Germany

Equipment: **Junction and Terminal Box Type 8118/...-...**
Optional accessory:

Type of Protection: **Increased Safety "e"**

Marking: Ex em II T6, T5 or T4
Ex ia/ib IIA, IIB, IIC T6 or T5
Ex tD A21 IP66 T 80 °C , T 95 °C or T 130 °C

Approved for issue on behalf of the IECEx Certification Body: Dr.-Ing. Uwe Klausmeyer

Position: Head of Section "Flameproof Enclosure"

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:

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

Physikalisch-Technische Bundesanstalt
Braunschweig und Berlin

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

Additional 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 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 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 60079-11 : 1999 Edition:4	Electrical apparatus for explosive gas atmospheres - Part 11: Intrinsic safety 'i'
IEC 60079-18 : 1992 Edition:1	Electrical apparatus for explosive gas atmospheres - Part 18: Encapsulation 'm'
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:

DE/PTB/ExTR06.0048/00

Quality Assessment Report:

DE/PTB/QAR06.0001/00

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Schedule

EQUIPMENT:

Equipment and systems covered by this certificate are as follows:

Description of equipment

The junction and terminal box, type 8118/…-… is a polyester-resin housing for stationary installation. It is used to conduct or distribute electrical power in hazardous locations. Type of protection is Increased safety "e" and Protection by Enclosure "tD". The box is equipped with terminals and fuses.

Nomenclature

Junction and terminal boxes	**Type**	**8118/abc-def**
a	Design 1 = Increased Safety "e" 2 = Intrinsic Safety "i"	
b	Enclosure size (length x width x height) in mm 1 = 85 x 85 x 55 2 = 115 x 115 x 64 3 = 145 x 145 x 71	
c	Specification of enclosure 1 = Junction box 2 = Terminal box 3 = Junction box with fuse 4 = Terminal box with fuse	
d, e, f	numerals or letters without influence to explosion-protection	

Technical data

Rated voltage	up to up to	1100 V for terminal box without fuse 550 V for terminal box with fuse
Rated current	max.	50 A
Conductor cross section	max.	10 mm
Ambient temperature for type 8118/1..-…		T_{amb} -50 °C to +55 °C
Ambient temperature for type 8118/2..-…		T_{amb} -50 °C to +75 °C
Protection against contact, entry of solids and water:	IP66 in accordance with IEC 60529	

Current rating, number of conductors and conductor size are defined in the relevant specification sheets.
The composition of the protection symbol will be based on the types of protection of components actually used.
The ratings represent maximum values, actual values will be subject to the electrical equipment used from case to case. Depending on the system conditions, the mode of operation, the utilization category, etc. the manufacturer will specify the definitive ratings which will be within the range of these limiting values and will comply with the relevant standards.

Notes for installation and use

The maximum number of conductors that can be used for each enclosure size is subject to the cross section and the admissible current rating and is shown in the attached specification sheets.
The surface resistance of the material used for the enclosure is 10^{13} ohms. Due regard shall, therefore, be given to the note "To be cleaned with moist cloth only".

Annex: Specification sheets of current rating, number of conductors and conductor size.

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SPECIFIC CONDITIONS OF USE: NO

Annex:

Specification sheets.pdf

Junction and Terminal Box type 8118/…-…
R. STAHL Schaltgeräte GmbH, Waldenburg (Württ.), Germany

SUPPLEMENTARY SHEET 1

Fitting of the junction boxes Type 8118/111 or Type 8118/113 and terminal boxes Type 8118/112 or Type 8118/114

Maximum permissible continuous current of the terminal or maximum number of conductors [1] depending on the conductor size and the number of loaded terminals, for the temperature class T6 at $T_a \leq 40$ °C or T5 at $T_a \leq 55$ °C [4]:

junction boxes Type 8118/111 or Type 8118/114 [4]

number of loaded terminals	permissible rated current in A at conductor size		
	1,5 mm²	2,5 mm²	4 mm²
5	13	18	24
4	15	19	25
≤ 3	16	20	25

terminal boxes Type 8118/112 or Type 8118/114 [4]

current in A	number of conductors [1] at conductor size			
	1,5 mm²	2,5 mm²	4 mm²	
3	16			2)
6				
10		12	12	3)
16	6			
20	-	6		
25	-	-	8	
	8	6	6	
	max. number of terminals depending on the cross section or the max. permissible conductor size of the terminals installed			

Note

1) Every entered conductor and every internal connection wire counts as conductor. Bridges and earth conductors are not counted.

2) additional conductors optional

3) When applying these tabular values, simultaneity factors or load factors according to IEC 439 may be considered.
Mixed equipment with circuits with different cross sections and currents is possible by proportional utilization of the different tabular values:

example:	cross section / mm²	current / A	number of conductors	utilization
(generally)	1,5	10	10 (of 16)	= 63 %
	2,5	16	4 (of 12)	= 33 %
			total	= 96 % < 100 %

4) When mounting fuses ≤ 2 A ..... temperature class „T6“
When mounting fuses > 2 A bis ≤ 5A ..... temperature class „T5“
When mounting fuses ≤ 6,3 A ..... temperature class „T4“

S U P P L E M E N T A R Y S H E E T 2

Fitting of the junction boxes Type 8118/121 or Type 8118/123 and terminal boxes Type 8118/122 or Type 8118/124

Maximum permissible continuous current of the terminal or maximum number of conductors [1] depending on the conductor size and the number of loaded terminals, for the temperature class T6 at $T_a \leq 40$ °C or T5 at $T_a \leq 55$ °C [4].

junction boxes Type 8118/121 or Type 8118/123 [4]

number of loaded terminals	permissible rated current in A at conductor size			
	1,5 mm²	2,5 mm²	4 mm²	6 mm²
7	13	17	24	32
6	14	18	25	33
5				
≤ 4	16	20		35

terminal boxes type 8118/122 or Type 8118/124 [4]

current in A	number of conductors [1] at conductor size				
	1,5 mm²	2,5 mm²	4 mm²	6 mm²	
3	26				2)
6					
10		26	22		
16	6	14		20	3)
20	-	6			
25	-	-	8		
35	-	-	-	4	
	13	13	11	10	
	max. number of terminals depending on the cross section or the max. permissible conductor size of the terminals installed				

Note

1) Every entered conductor and every internal connection wire counts as conductor. Bridges and earth conductors are not counted.

2) additional conductors optional

3) When applying these tabular values, simultaneity factors or load factors according to IEC 439 may be considered.
Mixed equipment with circuits with different cross sections and currents is possible by proportional utilization of the different tabular values:

example:	cross section / mm²	current / A	number of conductors	utilization
(generally)	1,5	10	10 (of 16)	= 63 %
	2,5	16	4 (of 12)	= 33 %
			total	= 96 % < 100 %

4) When mounting fuses ≤ 2 A ..... temperature class „T6“
When mounting fuses > 2 A bis ≤ 5A ..... temperature class „T5“
When mounting fuses ≤ 6,3 A ..... temperature class „T4“

SUPPLEMENTARY SHEET 3

Fitting of the junction boxes Type 8118/131 or Type 8118/133 and terminal boxes Type 8118/132 or Type 8118/134

Maximum permissible continuous current of the terminal or maximum number of conductors [1] depending on the conductor size and the number of loaded terminals, for the temperature class T6 at $T_a \leq 40$ °C or T5 at $T_a \leq 55$ °C [4]:

junction boxes Type 8118/131 or Type 8118/133 [4]

number of loaded terminals	permissible rated current in A at conductor size				
	1,5 mm²	2,5 mm²	4 mm²	6 mm²	10 mm²
7	13	17	24	32	44
6	14	18	25	33	46
5					49
≤ 4	16	20		35	50

terminal boxes Type 8118/132 or Type 8118/134 [4]

current in A	number of conductors [1] at conductor size					
	1,5 mm²	2,5 mm²	4 mm²	6 mm²	10 mm²	
3	36					2)
6		36				
10	26		32			
16	6	18		24		
20	-	6	22		20	3)
25	-	-	8			
35	-	-	-	6		
50	-	-	-	-	4	
	18	18	16	12	10	
	max. number of terminals depending on the cross section or the max. permissible conductor size of the terminals installed					

Note

1) Every entered conductor and every internal connection wire counts as conductor. Bridges and earth conductors are not counted.

2) additional conductors optional

3) When applying these tabular values, simultaneity factors or load factors according to IEC 439 may be considered.
Mixed equipment with circuits with different cross sections and currents is possible by proportional utilization of the different tabular values:

example:	cross section / mm²	current / A	number of conductors	utilization
(generally)	1,5	10	10 (of 16)	= 63 %
	2,5	16	4 (of 12)	= 33 %
			total	= 96 % < 100 %

4) When mounting fuses ≤ 2 A ..... temperature class „T6“
When mounting fuses > 2 A bis ≤ 5A ..... temperature class „T5“
When mounting fuses ≤ 6,3 A ..... temperature class „T4“