Physikalisch-Technische Bundesanstalt

Braunschweig and Berlin

(1) # EC-TYPE-EXAMINATION CERTIFICATE

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

(3) EC Type Examination Certificate Number

PTB 99 ATEX 3103

(4) Equipment: Junction and Terminal Boxes Type 8118/...-...

(5) Manufacturer: R. Stahl Schaltgeräte GmbH

(6) Address: Bergstraße 2, D-74653 Künzelsau

(7) This equipment and any acceptable variation thereto are specified in the schedule to this certificate.

(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 99-30041.

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

EN 50 014:1997 EN 50 019:1994 EN 50 020:1994

(10) If "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 and construction of the specified equipment in accordance with Directive 94/9/EC. Further requirements of this Directive apply to the manufacture and supply of this equipment.

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

II 2 G EEx e II T6/T5 or EEx ia/ib IIA/IIB/IIC T6/T5

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, 19 April 1999

signed: U. Engel *L.S.*

Dr.-Ing. U. Engel
Regierungsdirektor

Physikalisch-Technische Bundesanstalt

Braunschweig and Berlin

(13) # S C H E D U L E

(14) ## EC-Type Examination Certificate PTB 99 ATEX 3103

(15) Description of the equipment

Junction and terminal boxes of polyester resin with a surface resistance ≥ 1 GΩ, Type series 8118/...-..., for fixed installation, with built-in - separately certified - line-up or hood-type terminals for non-intrinsically safe or - separately certified - intrinsically safe circuits.

Marking of explosion protection

Fitting with terminals

- only for non-intrinsically safe circuits	EEx e II T6 or T5 for $T_{amb} \leq + 55$ °C
- only for intrinsically safe circuits	EEx ia/ib IIC/IIB /IIA T6
- only for intrinsically safe circuits	EEx ia/ib IIC/IIB /IIA T5 for $T_{amb} \leq +55$ °C

Technical data

Rated voltage:	max. 1100 V (depending on the operating voltage range of the terminals used)

Rated current, number of conductors and conductor cross section are determined in the associated additional sheets.

Ambient temperature range, max.:	-50 °C ≤ T ≤ +55 °C
Contact, foreign particles and water protection	min. IP 54 to EN 60 529: 1991

Note

The degree of protection - at least IP 54 - is achieved only when the tested gaskets, cable glands and stopping plugs are used properly.
Instruction of the manufacturer "Clean only with wet cloth" is to be followed.
The suitability for low ambient temperatures is visible by special marking. Only such separately certified sealing gaskets and built-in and built-on components, which are suitable for these temperatures, are used. Additional instructions of the manufacturer are to be followed.

(16) Test report PTB Ex 99-30041 (consisting of 6 pages, description and 2 drawings)

(17) Special requirements not applicable

(18) Essential health and safety requirements covered by standards

Zertifizierungsstelle Explosionsschutz Braunschweig, 19 April 1999
By order:

signed: U. Engel *L.S.*
Dr.-Ing. U. Engel
Regierungsdirektor

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1st SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 3103

(Translation)

Equipment: Branching boxes or terminal boxes, type 8118/...-...

Marking: **II 2 G EEx e II T6/T5 or EEx ia/ib IIA/IIB/IIC T6/T5**

Manufacturer: R. STAHL Schaltgeräte GmbH

Address: Am Bahnhof 30
74638 Waldenburg (Württ.)

Description of supplements and modifications

The branching boxes or terminal boxes of type 8118/...-... can be used to house fuses designed to type of protection Encapsulation "m", which are covered by a separate certificate.

The enclosure may in addition be made from an alternative polyester resin.

The marking is extended to read

II 2 G EEx em II T6/T5/T4 or EEx ia/ib IIA/IIB/IIC T6/T5

Technical data

Rated voltage:	up to	1100 V for terminal box without fuse
	up to	550 V for terminal box with fuse
Rated current:	max.	50 A
Conductor cross section:	max.	6 mm
Ambient temperatures:.....	max.	-50 °C to +55 °C

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.

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1st SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 3103

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".

Test report: PTB Ex Ex 01-11021

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, March 22, 2001

Dr.-Ing. U. Klausmeyer
Regierungsdirektor

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

2nd SUPPLEMENT

according to Directive 94/9/EC Annex III.6

to EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 3103

(Translation)

Equipment: Branching / terminal boxes, type 8118/...-...

Marking: ⟨Ex⟩ **II 2 G EEx em II T6/T5/T4 and EEx ia/ib IIA/IIB/IIC, T6/T5**

Manufacturer: R. STAHL Schaltgeräte GmbH

Address: Am Bahnhof 30, 74638 Waldenburg (Württ.), Germany

Description of supplements and modifications

The branching / terminal boxes, type 8118/...-..., with plastic enclosure, may also be employed in areas in which a potentially explosive atmosphere as a mixture of dust and air can occasionally form.

The maximum ambient temperature is increased to +75 °C.

The branching / terminal boxes have been re-inspected on the basis of Standards EN 60079-0, EN 60079-7, EN 60079-11, EN 60079-18, EN 61241-0 and EN 61241-1.

The marking will thus change to:

⟨Ex⟩ **II 2 G Ex em II T6/T5/T4 and Ex ia/ib IIA/IIB/IIC T6/T5**

⟨Ex⟩ **II 2 D Ex tD A21 IP66 T 80 °/ T 95 °C / T 130 °C**

Technical data

Rated voltage:	up to	1100 V for terminal boxes without fuse
	up to	550 V for terminal boxes with fuse
Rated current:	max.	50 A
Conductor size:	max.	6 mm
Ambient temperature range:	max.	-50 °C to +75 °C
Protection against contact, foreign bodies and water:		IP66 in accordance with EN 60529 as a minimum

Rated current, number of conductors and conductor size are specified in the corresponding companion sheets.

The composition of the protection symbol is based on the types of protection of the components actually used.

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

2nd SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 99 ATEX 3103

Rated values are maximum values, the actual electrical values are determined by mounted electrical apparatus. Within these limiting values complying with the appropriate standards the manufacturer specifies the final limiting values dependent on power supply specifications, operating mode, utilization category, etc.

Notes for manufacturing and operation

For the maximum number of conductors for each enclosure size, which is subject to the cross section and the permissible continuous current, reference is made to the attached companion sheets.

Since the surface resistance of the material used for the enclosure is 10^{13} ohm, due regard must be given to the warning "Only use moist cloth for cleaning!" provided by the manufacturer.

Applied standards

EN 60079-0:2004	**EN 60079-7:2003**	**EN 60079-11:2007**
EN 60079-18:2004	**EN 61241-0:2006**	**EN 61241-1:2004**

Test report: PTB Ex 07-17090

Zertifizierungsstelle Explosionsschutz
By order:

Braunschweig, March 26, 2007

Dr.-Ing. U. Klausmeier
Direktor und Professor

UNCERTIFIED TRANSLATION

Supplementary Sheet 1

to EC-Type Examination Certificate PTB 99 ATEX 3103

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		12		
10			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“

UNCERTIFIED TRANSLATION

Supplementary Sheet 2

to EC-Type Examination Certificate PTB 99 ATEX 3103

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“

UNCERTIFIED TRANSLATION

Supplementary Sheet 3

to EC-Type Examination Certificate PTB 99 ATEX 3103

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						2)
6	36					
10	26	36				
16	6	18	32			
20	-	6	22	24		3)
25	-	-	8		20	
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“

EG-Konformitätserklärung
EC-Declaration Of Conformity
CE-Déclaration De Conformité

PTB 99 ATEX 3103

Wir (we; nous)

R. STAHL SCHALTGERÄTE GMBH, Bergstraße 2, D-74653 Künzelsau

erklären in alleiniger Verantwortung, daß das Produkt	**Abzweigdose und Klemmenkasten Typ 8118/...-...**
hereby declare in our sole responsibility, that the product	Junction Box and Terminal Box Type 8118/...-...
déclarons de notre seule responsabilité, que le produit	Boîte de Dérivation et de Raccordement Type 8118/...-...

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 norme (s) ou aux documents normatifs suivants

Bestimmungen der Richtlinie terms of the directive prescription de la directive	**Titel und/oder Nr. sowie Ausgabedatum der Norm** title and/or No. and date of issue of the standard titre et/ou No. ainsi que date d'émission des normes
94/9 EG: Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen 94/9 EC: Equipment and protective systems intended for use in potentially explosive atmospheres 94/9 CE: Appareils et systèmes de protection destinés á êtré utilisés en atmosphéres explosibles	EN 50014:1997 EN 50019:1994 EN 50020:1994 EN 60529:1991
89/336 EWG: Elektromagnetische Verträglichkeit 89/336 EEC: Electromagnetic compatibility 89/336 CEE: Compatibilité électromagnétique	EN 60947-1:1997

Künzelsau, 07.12.1999

Ort und Datum
Place and date
lieu et date

Geschäftsbereichsleiter
Divisional Director
Directeur de Division

Leiter Qualitätsmanagement
Head of quality management dept.
Chef du dept.assurance de qualité

DIN ISO 9001 R 1146-01

TXV 07/98