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 01 ATEX 1016

(4) Equipment: Terminal box, type 8146/1...-.. and type 8146/2...-..

(5) Manufacturer: R. STAHL Schaltgeräte GmbH

(6) Address: Am Bahnhof 30, 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 01-11019.

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

EN 50014:1997 + A1 + A2 **EN 50018:1994** **EN 50019:1994**
EN 50020:1994 **EN 50028:1987**

(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 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:

Ex II 2 G EEx edm ia/ib [ia] IIC/IIB/IIA T6, T5 or T4

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. U. Klausmeyer
Regierungsdirektor

Braunschweig, June 13, 2001

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 24

(13) # SCHEDULE

(14) ## EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

(15) Description of equipment

The terminal box of types 8146/1...-.. and 8146/2...-.. is a polyester-resin housing designed to type of protection increased safety "e". It is used to house terminals for intrinsically safe and non-intrinsically safe circuits and may optionally be provided with disconnect terminals and fuses. The box area intended for intrinsically safe circuits will be marked by a special colour (e.g. light-blue). Connection will be made by means of explosion-proof cable entries.

The enclosure as well as any installed and attached components have been tested and certified under a separate test certificate.

Technical data

Rated voltage*	up to	1100	V
Rated current*	max.	500	A
Rated cross section*	max.	300	mm^2

*) depending on type of terminal and explosion-proof components used

Ambient temperature	depending on temperature class and sealing used -20°C to +40°C, T6 -40°C to +40°C, T6 -20°C to +55°C, T5 -40°C to +55°C, T5

The ratings specified are 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 utilisation category, etc., the manufacturer will define the definitive ratings which will be within the range of these limiting values and will comply with the relevant standards.

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

(16) Test report PTB Ex 01-11019

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SCHEDULE TO EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

(17) Special conditions for safe use

None;

Notes for installation and use

For the maximum number of conductors, which for each size of enclosure is determined by the cross section and the admissible continuous current, reference is made to the specification sheets.

Equipment of the type of protection Intrinsic Safety "i" shall be installed in such a way that the clearances and creepage distances between intrinsically safe and non-intrinsically safe circuits as set forth in 60079-14 are duly accounted for.

If the clearance requirements for the connectors as specified in EN 50020 cannot be safe-guarded with the system installation and layout, wiring that meets the quality criteria Increased Safety "e" shall be used, or the wiring shall be of the fail-safe type.

When using more than one intrinsically safe circuit, the rules and regulations for interconnection shall duly be observed.

This EC type-examination certificate as well as any future supplements thereto shall at the same time be regarded as supplements to Certificate of Conformity PTB No. Ex-90.C.3145.

(18) Essential health and safety requirements

The tests and the favourable results these have produced reveal that the terminal box of types 8146/1...-.. and 8146/2...-.. meets the requirements of directive 94/9/EC as well as those of the standards quoted on the cover sheet.

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. U. Klausmeyer
Regierungsdirektor

Braunschweig, June 13, 2001

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

1st SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

(Translation)

Equipment: Terminal box, type 8146/1...-.. and type 8146/2...-..

Marking: ⟨Ex⟩ **II 2 G EEx edm ia/ib [ia] IIC/IIB/IIA T6, T5 or T4**

Manufacturer: R. STAHL Schaltgeräte GmbH

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

Description of supplements and modifications

The terminal box, type 8146/1...-.., may also be fitted with bolt-type screw terminals connected with busbars.

Technical data

Rated voltage	up to	750 V
Rated current.....	max.	315 A for T6 400 A for T5
Rated short-circuit current.....	max.	70 kA
Rated cross section	max.	185 mm^2, connection with cable lug

Notes for manufacture and operation

The line-side fuse or protective device shall be selected so as to provide for safe interruption of the max. rated current, the max. rated short-circuit current, and the max. rated short-time current (1 s).

The supplement for the EC type-examination certificate shall at the same time be regarded as a supplement for Certificate of Conformity PTB No. Ex-94.C.3147.

Test report: PTB Ex 01-11145

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. U. Klausmeyer
Regierungsdirektor

Braunschweig, January 30, 2002

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

2nd SUPPLEMENT

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

to EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

(Translation)

Equipment: Terminal box, types 8146/1...-.. and 8146/2...-..

Marking:  **II 2 G EEx edm ia/ib [ia] IIC/IIB/IIA T6,T5,T4**

Manufacturer: R. STAHL Schaltgeräte GmbH

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

Description of supplements and modifications

The terminal box, types 8146/1...-.. and 8146/2...-.., may also be employed in areas in which a potentially explosive atmosphere as a mixture of dust and air can occasionally form.

It has been re-inspected on the basis of Standards EN 60079-0, EN 60079-1, EN 60079-7, EN 60079-11, and EN 60079-18.

The marking will thus change to:

 **II 2 G Ex dem ia/ib [ia] IIA, IIB, IIC T6, T5, T4**

 **II 2 D Ex tD A21 IP66 T 80 °C, T 95 °C, T 130 °C**

The maximum temperature range changes to:
Type 8146/1 ...-.. -40 °C to +55 °C
Type 8146/2 ...-.. -40 °C to +75 °C

Technical data

Rated voltage:* ..... up to 1100 V
Rated current:* ..... max. 500 A
Conductor cross section:* ..... max. 300 mm^2

*) depending on type of terminal and Ex components used

Ambient temperature range:
Type 8146/1 ...-.. ..... -40 °C to +55 °C
Type 8146/2 ...-.. ..... -40 °C to +75 °C

The actual temperature range depends on the admissible temperature range of the components used and on the temperature class.

Protection against el. shock, foreign objects
and water:..... min. IP66 in accordance with EN 60529

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2nd SUPPLEMENT TO EC-TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

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.

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

Applied standards

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

Test report: PTB Ex 07-17094

Zertifizierungsstelle Explosionsschutz
By order:

Dr.-Ing. M. Thedens
Oberregierungsrat

Braunschweig, October 17, 2007

S U P P L E M E N T A R Y S H E E T 01

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1031

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2				
	1,5	2,5	4		
3					2)
6					
10	42				
16	14	28	108		4)
20	6	16	31		
25		7	17		
35			5		
50					3)
	14	14	14		
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals				

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm²	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 02

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1041

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2							
	1,5	2,5	4	6	10	16		
3								
6								
10	44							
16	15	29	114					2)
20	6	17	33					
25		8	18	36				
35			5	14	35			
50				2	11	29		
63					3	13		4)
80						5		
100								3)
	28	28	28	10	10	8		
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals							

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 03

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1241

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2								
	1,5	2,5	4	6	10	16	25	35	
3									
6									
10	45								
16	15	29	116						2)
20	6	17	33						
25		8	19	36					
35			5	14	35				
50				2	11	29			
63					3	13	48		
80						5	15	54	
100							6	14	4)
125								5	
150									3)
	56	56	33	20	10	8	6	5	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals								

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm²	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 04

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1242

Max. number of conductors [1] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2								
	1,5	2,5	4	6	10	16	25	35	
3									
6									
10	55								
16	19	37	143						2)
20	8	21	41						
25		10	23	45					
35			7	17	44				
50				2	14	36			
63					4	17	60		
80						6	19	67	
100							8	17	4)
125								7	
160									3)
	56	56	33	20	10	8	6	5	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals								

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 05

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1051

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2							
	1,5	2,5	4	6	10	16		
3								2)
6								
10	50							
16	17	33	129					
20	7	19	37					
25		9	21	41				
35			6	16	39			
50				2	13	33		4)
63					4	15		
80						5		
100								3)
	46	46	46	17	17	13		
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals							

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 06

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1052

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2							
	1,5	2,5	4	6	10	16		
3								
6								
10	61							
16	21	41	159					2)
20	8	24	46					
25		11	26	50				
35			7	19	49			
50				2	16	40		
63					5	18		4)
80						7		
100								3)
	46	46	46	17	17	13		
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals							

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm²	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 07

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1061

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2								
	1,5	2,5	4	6	10	16	25	35	
3									
6									
10	53								
16	18	35	137						2)
20	7	20	39						
25		9	22	43					
35			6	17	42				
50				2	13	35			
63					4	16	57		
80						6	18	64	
100							7	17	4)
125								6	
160									3)
	92	92	66	34	24	19	11	9	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals								

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 08

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1062

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2								
	1,5	2,5	4	6	10	16	25	35	
3									
6									
10	64								
16	22	42	166						2)
20	9	25	48						
25		11	27	52					
35			8	20	51				
50				3	16	42			
63					5	19	69		
80						7	21	78	
100							9	20	4)
125								8	
160									3)
	92	92	66	34	24	19	11	9	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals								

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 09

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1071 and Type 8146/1S71

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2								
	1,5	2,5	4	6	10	16	25	35	
3									
6									
10	55								
16	19	36	142						2)
20	7	21	41						
25		10	23	45					
35			6	17	44				
50				2	14	36			
63					4	17	60		
80						6	18	67	
100							8	17	4)
125								7	
160									3)
	138	138	104	51	38	30	22	9	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals								

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 10

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1072 and Type 8146/1S72

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2										
	1,5	2,5	4	6	10	16	25	35	50	70	
3											2)
6											
10	66										
16	22	44	170								
20	9	25	49								
25		12	28	54							
35			8	21	52						
50				3	17	43					
63					5	20	71				
80						7	22	80			
100							9	21			
125								8	21		
160									7	19	4)
200										6	
225										2	
250											3)
	138	138	104	51	38	30	22	9	6	6	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals										

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 11

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1073 and Type 8146/1S73

Max. number of conductors [1] depending on cross section and the permissible continuous current:

current / A	cross section / mm²										
	1,5	2,5	4	6	10	16	25	35	50	70	
3											
6											
10	71										
16	24	47	184								
20	10	27	53								
25		13	30	58							2)
35			8	22	56						
50				3	18	47					
63					6	21	77				
80						8	24	86			
100							10	22			
125								9	23		
160									8	20	
200										7	4)
225										2	
250											3)
	138	138	104	51	38	30	22	9	6	6	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals										

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm²	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 12

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1075 and Type 8146/1S75

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm²										
	1,5	2,5	4	6	10	16	25	35	50	70	
3											
6											
10	82										
16	28	54	212								
20	11	32	61								
25		15	35	67							
35			10	26	65						2)
50				3	21	54					
63					7	25	89				
80						9	28	99			
100							12	26			
125								10	26		
160									9	23	
200										8	4)
225										3	
250											3)
	138	138	104	51	38	30	22	9	6	6	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals										

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm²	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 13

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1081

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2								
	1,5	2,5	4	6	10	16	25	35	
3									
6									
10	74								
16	25	49	192						2)
20	10	29	55						
25		13	31	61					
35			9	23	59				
50				3	19	49			
63					6	22	80		
80						8	25	90	
100							10	23	4)
125								9	
160									3)
	312	312	208	117	76	60	50	20	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals								

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 14

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1082

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2										
	1,5	2,5	4	6	10	16	25	35	50	70	
3											
6											
10	86										
16	29	57	221								
20	12	33	64								
25		15	36	70							
35			10	27	68						2)
50				4	22	56					
63					7	26	93				
80						10	29	104			
100							12	27			
125								11	28		
160									9	24	
200										8	4)
225										3	
250											3)
	312	312	208	117	76	60	50	20	14	14	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals										

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 15

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1083

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2										
	1,5	2,5	4	6	10	16	25	35	50	70	
3											
6											
10	91										
16	31	60	235								
20	13	35	68								
25		16	38	74							
35			11	29	72						2)
50				4	23	60					
63					8	28	99				
80						10	31	111			
100							13	29			
125								11	29		
160									10	26	
200										9	4)
225										3	
250											3)
	312	312	208	117	76	60	50	20	14	14	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals										

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 16

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1084

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2										
	1,5	2,5	4	6	10	16	25	35	50	70	
3											
6											
10	97										
16	33	64	251								
20	14	37	73								
25		18	41	79							
35			12	31	77						2)
50				4	25	64					
63					8	29	105				
80						11	33	118			
100							14	31			
125								12	31		
160									11	27	
200										10	4)
225										3	
250											3)
	312	312	208	117	76	60	50	20	14	14	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals										

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 17

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1085

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2										
	1,5	2,5	4	6	10	16	25	35	50	70	
3											
6											
10	102										
16	35	68	265								2)
20	14	40	77								
25		19	43	84							
35			12	33	81						
50				4	26	67					
63					9	31	111				
80						12	35	124			
100							15	33			4)
125								13	33		
160									11	29	
200										10	
225										4	
250											3)
	312	312	208	117	76	60	50	20	14	14	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals										

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 18

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1086

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2										
	1,5	2,5	4	6	10	16	25	35	50	70	
3											
6											
10	114										
16	39	76	294								
20	16	44	85								
25		21	48	93							
35			14	36	90						2)
50				5	29	75					
63					10	35	123				
80						13	38	138			
100							16	36			
125								14	37		
160									12	32	
200										11	4)
225										4	
250											3)
	312	312	208	117	76	60	50	20	14	14	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals										

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 19

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1091

Max. number of conductors [1)] depending on cross section and the permissible continuous current:

current / A	cross section / mm^2								
	1,5	2,5	4	6	10	16	25	35	
3									
6									
10	86								
16	29	57	222						2)
20	12	33	64						
25		16	36	70					
35			10	27	68				
50				4	22	56			
63					7	26	93		
80						10	29	104	
100							12	27	4)
125								11	
160									3)
	676	676	468	273	190	128	106	60	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals								

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 20

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1092

Max. number of conductors [1] depending on cross section and the permissible continuous current:

current	cross section / mm²																
A	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	
3																	
6																	
10	97																
16	33	64	250														
20	13	37	72														
25		18	41	79													
35			12	31	77												
50				4	25	63											
63					8	29	105										2)
80						11	33	117									
100							14	31									
125								12	31								
160									10	27							
200										10	24	74					
225										3	13	29					
250											7	17	36				
315												3	10	22			
400														4	15	44	4)
500															2	8	
																	3)
	676	676	468	273	190	128	106	60	29	29	8	8	6	6	6	6	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals																

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm²	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 21

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1093

Max. number of conductors [1] depending on cross section and the permissible continuous current:

current	cross section / mm^2																
A	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	
3																	
6																	
10	102																
16	35	68	263														
20	14	39	76														
25		18	43	83													
35			12	32	81												
50				4	26	67											
63					9	31	110										2)
80						12	34	123									
100							15	32									
125								13	33								
160									11	29							
200										10	25	78					
225										4	14	30					
250											7	18	38				
315												4	11	23			
400														5	16	46	4)
500															2	9	
																	3)
	676	676	468	273	190	128	106	60	29	29	8	8	6	6	6	6	
	max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals																

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

S U P P L E M E N T A R Y S H E E T 22

to EC TYPE-EXAMINATION CERTIFICATE PTB 01 ATEX 1016

Fitting of terminal boxes Type 8146/1095

Max. number of conductors [1] depending on cross section and the permissible continuous current:

current	cross section / mm^2																
A	1,5	2,5	4	6	10	16	25	35	50	70	95	120	150	185	240	300	
3																	
6																	
10	113																
16	38	75	291														
20	16	44	84														
25		20	48	92													
35			14	36	89												
50				5	29	74											2)
63					10	34	122										
80						13	38	137									
100							16	36									
125								14	36								
160									12	32							
200										11	28	86					
225										4	16	33					
250											8	20	43				
315												4	12	25			
400														5	17	51	4)
500															2	10	
																	3)
	676	676	468	273	190	128	106	60	29	29	8	8	6	6	6	6	

max. number of terminals depending of the above mentioned enclosure size and the cross section resp. max. permissible conductor cross section of the built-in terminals

Notes

1) Each incoming conductor and each internal connection wire is counted as a conductor. Bridges and earthing conductors are not counted.

2) additional conductors optional

3) to be specified by the manufacturer (including temperature rise test)

4) When applying the values of this table simultaneous factors or load factors to IEC 439 may be considered. Mixed equipment with circuits of different cross sections and currents is possible if the various values of the table are applied proportionally:

Example: (general)	cross section / mm^2	current / A	number of conductors	utilization
	2,5	16	10 (of 30)	= 33 %
	16	50	12 (of 48)	= 25 %
	25	63	36 (of 90)	= 40 %
			total	= 98 % < 100 %

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

Wir *(we; nous)*

R. STAHL Schaltgeräte GmbH, Am Bahnhof 30, 74638 Waldenburg, Germany

8146/1
8146/2

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

Klemmenkasten
Terminal box
Boîtier de raccordement

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

PTB 01 ATEX 1016

auf das sich diese Erklärung bezieht, mit den folgenden Normen oder normativen Dokumenten übereinstimmt
which is the subject of this declaration, is in conformity with the following standards or normative documents
auquel cette déclaration se rapporte, est conforme aux normes ou aux documents normatifs suivants

Bestimmungen der Richtlinie *terms of the directive prescriptions de la directive*	**Nummer sowie Ausgabedatum der Norm** *Number and date of issue of the standard Numéro ainsi que date d'émission de la norme*
94/9/EG: ATEX-Richtlinie *94/9/EC: ATEX Directive* *94/9/CE: Directive ATEX*	EN 60079-0:2006 EN 60079-1:2007 EN 60079-7:2007 EN 60079-11:2007 EN 60079-18:2004 EN 61241-0:2006 EN 61241-1:2004
2004/108/EG: EMV-Richtlinie *2004/108/EC: EMC Directive* *2004/108/CE: Directive CEM*	EN 60947-1:2007

Qualitätssicherung Produktion:
Production Quality Assessment:
Assurance Qualité Production:

PTB 96 ATEX Q006-6

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

Waldenburg, 25. März 2009 i.V. B. Limbacher

Ort und Datum
Place and date
Lieu et date

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