

(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 01 ATEX 2053

(4) Apparatus: Safety Barrier Type 9002/...-...-...-...1

(5) Manufacturer: R. STAHL SCHALTGERÄTE GMBH

(6) Address: 74638 Waldenburg, DEUTSCHLAND

(7) The construction of this apparatus and any acceptable variation thereto is specified in the schedule to this type examination 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 apparatus 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 results of the test are recorded in the confidential report No. PTB Ex 01-29099.

(9) The Essential Health and Safety Requirements are met by compliance with

EN 50014:1997+ A1 + A2

EN 50020:1994

(10) If the sign "X" is placed after the certificate number, it indicates special conditions for safe use of the apparatus specified in the schedule to this certificate.

(11) This EC Type Examination Certificate relates only to the design and construction of the specified apparatus 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 apparatus shall include the following:

 **II (1/2) G [EEx ia/ib] IIB/IIC**

Zertifizierungsstelle Explosionsschutz
by order
PTB
(signature)
Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

Braunschweig, 30 May 2001

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

S h e d u l e

(13)

(14) **EC Type Examination Certificate PTB 01 ATEX 2053**

(15) Description of the equipment

The safety barriers Type 9002/...-...-...1 are associated apparatus for the safe separation of intrinsically safe from non-intrinsically safe circuits. They include limitation equipment for two circuits with current limitation and voltage limitation by reference to the equipotential bonding conductor.

As determined, the connections for the equipotential bonding conductor are fail-safely connected with the local system of the equipotential bonding conductor.

The maximum permissible ambient temperature range is $-20^{\circ}\text{C} \leq T_a \leq +60^{\circ}\text{C}$ ($+50^{\circ}\text{C}$).

Electrical data

non-intrinsically safe circuits

safety maximum voltage $U_m = 250 \text{ V}$

intrinsically safe circuits

with type of protection Intrinsic safety EEx ia/ib IIB/IIC, linear characteristic, according to the following table:

(C_o u. L_o : characteristics to EN 50020, table A.2, or illustration A.4 at $U_o \leq 24 \text{ V}$ or PTB table at $U_o > 24 \text{ V}$)

Type/channel	U_o [V]	I_o [mA]	P_o [W]		IIC	IIB
9002/00-260-138-001 and 9002/11-260-138-001						
I	26	87	0,57	Lo / mH	2,7	15,5
				Co / μF	0,099	0,77
II	20	51	0,26	Lo / mH	14	54
				Co / μF	0,22	1,41
I + II	26	138	0,85	Lo / mH	0,81	5,1
				Co / μF	0,087	0,67
9002/00-120-024-001 and 9002/11-120-024-001						
I	12	12	0,04	Lo / mH	240	850
				Co / μF	1,41	9
II	12	12	0,04	Lo / mH	240	850
				Co / μF	1,41	9
I + II	12	24	0,07	Lo / mH	63	230
				Co / μF	1,1	7,1
9002/10-187-020-001						
I	9,33	20	0,05	Lo / mH	90	330
				Co / μF	3,9	29
II	9,33	20	0,05	Lo / mH	90	330
				Co / μF	3,9	29
I + II	18,7	20	0,09	Lo / mH	90	330
				Co / μF	0,27	1,64

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9002/10-187-270-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	9,33	270	0,63	Lo / mH	0,23	2,2
				Co / μF	3,9	29
II	9,33	270	0,63	Lo / mH	0,23	2,2
				Co / μF	3,9	29
I + II	18,7	270	1,26	Lo / mH	0,23	2,2
				Co / μF	0,27	1,64
9002/10-210-030-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	10,5	30	0,08	Lo / mH	40	150
				Co / μF	2,41	16,8
II	10,5	30	0,08	Lo / mH	40	150
				Co / μF	2,41	16,8
I + II	21	30	0,16	Lo / mH	40	150
				Co / μF	0,188	1,27
9002/00-280-186-001 and 9002/11-280-186-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	28	93	0,65	Lo / mH	2	13
				Co / μF	0,083	0,65
II	28	93	0,65	Lo / mH	2	13
				Co / μF	0,083	0,65
I + II	28	186	1,3	Lo / mH	-	2,8
				Co / μF	-	0,551
9002/11-130-360-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	13	321	1,04	Lo / mH	0,19	1,6
				Co / μF	1	6,2
II	1,6	39	0,016	Lo / mH	24	91
				Co / μF	100	1000
I + II	13	360	1,17	Lo / mH	0,17	1,3
				Co / μF	0,79	5
9002/11-137-029-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	13,7	14,5	0,05	Lo / mH	160	560
				Co / μF	0,79	5
II	13,7	14,5	0,05	Lo / mH	160	560
				Co / μF	0,79	5
I + II	13,7	29	0,1	Lo / mH	43	160
				Co / μF	0,67	4,18
9002/11-280-112-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	28	109	0,76	Lo / mH	1,3	9
				Co / μF	0,083	0,65
II	28	3	0,02	Lo / mH	50	150
				Co / μF	0,083	0,65
I + II	28	112	0,78	Lo / mH	0,76	8,4
				Co / μF	0,065	0,551
9002/11-280-244-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	28	184	1,29	Lo / mH	-	2,9
				Co / μF	-	0,65
II	28	60	0,42	Lo / mH	-	25
				Co / μF	-	0,65
I + II	28	244	1,71	Lo / mH	-	1,1
				Co / μF	-	0,62

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9002/11-280-293-001 and 9002/11-280-293-021	Uo [V]	Io [mA]	Po [W]		IIC	IIB
I	28	89	0,63	Lo / mH	2,2	14
				Co / μ F	0,083	0,65
II	9,56	180	0,43	Lo / mH	0,6	5
				Co / μ F	3,6	26
I + II	28	269	1,05	Lo / mH	-	0,56
				Co / μ F	-	0,62
9002/11-199-030-001	Uo [V]	Io [mA]	Po [W]		IIC	IIB
I	19,9	15	0,075	Lo / mH	160	560
				Co / μ F	0,223	1,42
II	19,9	15	0,075	Lo / mH	160	560
				Co / μ F	0,223	1,42
I + II	19,9	30	0,15	Lo / mH	40	150
				Co / μ F	0,223	1,42
9002/13-199-225-001	Uo [V]	Io [mA]	Po [W]		IIC	IIB
I	19,9	222	1,1	Lo / mH	0,39	3,18
				Co / μ F	0,223	1,42
II	19,9	3	0,015	Lo / mH	1000	1000
				Co / μ F	0,223	1,42
I + II	19,9	225	1,12	Lo / mH	0,37	3,15
				Co / μ F	0,213	1,38
9002/13-252-121-041	Uo [V]	Io [mA]	Po [W]		IIC	IIB
I	25,2	118	0,74	Lo / mH	1,3	7,4
				Co / μ F	0,107	0,82
II	25,2	0	0,02	Lo / mH	50	150
				Co / μ F	0,107	0,82
I + II	25,2	121	0,76	Lo / mH	1,25	7,35
				Co / μ F	0,104	0,8
9002/13-280-093-001	Uo [V]	Io [mA]	Po [W]		IIC	IIB
I	28	90	0,63	Lo / mH	2,2	14
				Co / μ F	0,083	0,65
II	28	3	0,021	Lo / mH	50	150
				Co / μ F	0,083	0,65
I + II	28	93	0,651	Lo / mH	2	13
				Co / μ F	0,08	0,636
9002/13-280-100-041	Uo [V]	Io [mA]	Po [W]		IIC	IIB
I	28	97	0,679	Lo / mH	1,8	12
				Co / μ F	0,083	0,65
II	28	0	0,021	Lo / mH	50	150
				Co / μ F	0,083	0,65
I + II	28	100	0,7	Lo / mH	1,55	11
				Co / μ F	0,08	0,635
9002/13-280-110-001	Uo [V]	Io [mA]	Po [W]		IIC	IIB
I	28	107	0,749	Lo / mH	1,35	9,6
				Co / μ F	0,083	0,65
II	28	3	0,021	Lo / mH	50	150
				Co / μ F	0,083	0,65
I + II	28	110	0,77	Lo / mH	1,25	9
				Co / μ F	0,08	0,635

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9002/13-280-188-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	28	185	1,295	Lo / mH	-	2,85
				Co / μ F	-	0,65
II	28	3	0,021	Lo / mH	-	150
				Co / μ F	-	0,65
I + II	28	188	1,316	Lo / mH	-	2,7
				Co / μ F	-	0,635
9002/22-016-383-111	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	0,8	191,5	0,038	Lo / mH	0,54	4,4
				Co / μ F	100	1000
II	0,8	191,5	0,038	Lo / mH	0,54	4,4
				Co / μ F	100	1000
I + II	1,6	383	0,077	Lo / mH	0,16	0,96
				Co / μ F	100	1000
9002/22-032-300-111	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	1,6	150	0,06	Lo / mH	1,3	7
				Co / μ F	100	1000
II	1,6	150	0,06	Lo / mH	1,3	7
				Co / μ F	100	1000
I + II	3,2	300	0,12	Lo / mH	0,2	1,8
				Co / μ F	100	1000
9002/22-048-442-111	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	2,4	221	0,133	Lo / mH	0,4	3,19
				Co / μ F	100	1000
II	2,4	221	0,133	Lo / mH	0,4	3,19
				Co / μ F	100	1000
I + II	4,8	442	0,266	Lo / mH	0,12	0,54
				Co / μ F	100	1000
9002/22-158-200-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	7,9	100	0,198	Lo / mH	4,0	15
				Co / μ F	8,8	115
II	7,9	100	0,198	Lo / mH	4	15
				Co / μ F	8,8	115
I + II	15,8	200	0,395	Lo / mH	0,5	4
				Co / μ F	0,478	2,88
9002/22-240-024-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	12	12	0,04	Lo / mH	240	850
				Co / μ F	1,41	9
II	12	12	0,04	Lo / mH	240	850
				Co / μ F	1,41	9
I + II	24	24	0,08	Lo / mH	41	145
				Co / μ F	0,125	0,93
9002/22-240-160-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	12	80	0,24	Lo / mH	6	22
				Co / μ F	1,41	9
II	12	80	0,24	Lo / mH	6	22
				Co / μ F	1,41	9
I + II	24	160	0,48	Lo / mH	0,7	4
				Co / μ F	0,125	0,93

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9002/33-280-000-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	28	"0"		Lo / mH	1000	1000
				Co / μ F	0,083	0,65
II	28	"0"		Lo / mH	1000	1000
				Co / μ F	0,083	0,65
I + II	28	"0"		Lo / mH	1000	1000
				Co / μ F	0,083	0,65
9002/34-280-000-01	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	20	"0"		Lo / mH	1000	1000
				Co / μ F	0,22	1,41
II	8	"0"		Lo / mH	1000	1000
				Co / μ F	8,4	100
I + II	28	"0"		Lo / mH	1000	1000
				Co / μ F	0,083	0,65
9002/77-093-040-001 (as well as 9002/22 ...)	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	9,3	20	0,05	Lo / mH	90	330
				Co / μ F	4,1	31
II	9,3	20	0,05	Lo / mH	90	330
				Co / μ F	4,1	31
I + II	9,3	40	0,09	Lo / mH	23	87
				Co / μ F	4,1	31
9002/77-093-300-001 (as well as 9002/22 ...)	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	9,3	150	0,35	Lo / mH	1,3	7
				Co / μ F	4,1	31
II	9,3	150	0,35	Lo / mH	1,3	7
				Co / μ F	4,1	31
I + II	9,3	300	0,7	Lo / mH	0,2	1,8
				Co / μ F	4,1	31
9002/77-100-400-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	10	200	0,5	Lo / mH	0,5	4
				Co / μ F	3	20,2
II	10	200	0,5	Lo / mH	0,5	4
				Co / μ F	3	20,2
I + II	10	400	1	Lo / mH	0,15	0,8
				Co / μ F	3	20,2
9002/77-150-300-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	15	150	0,56	Lo / mH	1,3	7
				Co / μ F	0,58	3,55
II	15	150	0,56	Lo / mH	1,3	7
				Co / μ F	0,58	3,55
I + II	15	300	1,13	Lo / mH	0,2	1,8
				Co / μ F	0,58	3,55
9002/77-220-146-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	22	73	0,4	Lo / mH	7	26
				Co / μ F	0,165	1,14
II	22	73	0,4	Lo / mH	7	26
				Co / μ F	0,165	1,14
I + II	22	146	0,8	Lo / mH	1,4	7,4
				Co / μ F	0,165	1,14

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9002/77-220-296-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	22	148	0,81	Lo / mH	1,35	7,2
				Co / μ F	0,165	1,14
II	22	148	0,81	Lo / mH	1,35	7,2
				Co / μ F	0,165	1,14
I + II	22	296	1,63	Lo / mH	0,24	1,84
				Co / μ F	0,165	1,14
9002/77-280-094-001	U _o [V]	I _o [mA]	P _o [W]		IIC	IIB
I	28	47	0,33	Lo / mH	10,1	30
				Co / μ F	0,083	0,65
II	28	47	0,33	Lo / mH	10,1	30
				Co / μ F	0,083	0,65
I + II	28	94	0,66	Lo / mH	1,96	12,5
				Co / μ F	0,083	0,65

All intrinsically safe and non-intrinsically safe circuits are galvanically connected with each other and with the connections for the equipotential bonding conductor via their reference conductors.

- (16) Test report PTB Ex 01-29099
- (17) Special conditions
see operating instructions
- (18) Essential health and safety requirements
covered by compliance with the above standards

Zertifizierungsstelle Explosionsschutz
by order
PTB
signed: Johannsmeyer L.S.

Braunschweig, 30. May 2001

Physikalisch-Technische Bundesanstalt


Braunschweig und Berlin

1st A M E N D M E N T

according to Directive 94/9/EC Appendix III Subparagraph 6

to EC-Type Examination Certificate PTB 01 ATEX 2053

Equipment: Safety Barrier Type 9002/00-260-138-001 and 9002/11-260-138-001

Marking:  II (1/2) G [EEx ia/ib] IIB/IIC

Manufacturer: R. STAHL Schaltgeräte GmbH

Address: Am Bahnhof 30
74638 Waldenburg, GERMANY

Description of the additions and modifications

The electrical data regarding power P_o mentioned in the following can also be assigned to the safety barriers Type 9002/00-260-138-001 and 9002/11-260-138-001 - they result without technical amendments from the drop of the rounding in no-load operation and short circuit current.

All other data remain unchanged.

Electrical data:

(C_o and L_o : reference data to EN 50 020, Tab. A.2, or picture A.4 with $U_o \leq 24$ V or PTB table with $U_o > 24$ V)

Type / Channel						
9002/00-260-138-001 and 9002/11-260-138-001	U_o [V]	I_o [mA]	P_o [W]		IIC	IIB
I	26	87	0,54	L_o / mH	2,7	15,5
				C_o / μ F	0,099	0,77
II	20	51	0,245	L_o / mH	14	54
				C_o / μ F	0,22	1,41
I + II	26	138	0,785	L_o / mH	0,81	5,1
				C_o / μ F	0,087	0,67

Test report: PTB Ex 01-21402

Zertifizierungsstelle Explosionsschutz
On behalf of

Braunschweig, 26. October 2001

(signature)
Dr.-Ing. U. Johannsmeyer
Regierungsdirektor


Physikalisch-Technische Bundesanstalt

Braunschweig and Berlin

2 nd A M E N D M E N T

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

to EC Type Examination Certificate PTB 01 ATEX 2053

Equipment: Safety Barrier Type 9002/..-...-...-..1
Marking:  II (1/2) G D [EEx ia/ib] IIB/IIC
Manufacturer: R. STAHL Schaltgeräte GmbH
Address: Am Bahnhof 30, 74638 Waldenburg, GERMANY

Description of supplements and modifications

The Safety Barriers Type 9002/..-...-...-..1 may be also used as associated apparatus for hazardous locations endangered by dusts.

All other data remain unchanged.

Remark: For hazardous areas endangered by dust the maximum inductance and capacitance values as given for gas group IIB apply.

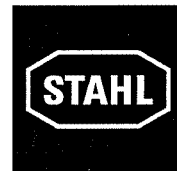
Test Report: PTB Ex 04-24070

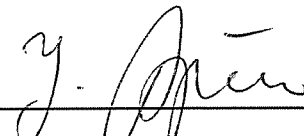

Zertifizierungsstelle Explosionsschutz
by order

Braunschweig, 26. April 2004

(signature)
Dr.-Ing. U. Johannsmeyer
Regierungsdirektor

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



Wir (we; nous) R. STAHL Schaltgeräte GmbH, Am Bahnhof 30, D-74638 Waldenburg		9002/...-...-...-1
erklären in alleiniger Verantwortung, dass das Produkt <i>hereby declare in our sole responsibility, that the product</i> <i>déclarons de notre seule responsabilité, que le produit</i>		Sicherheitsbarriere <i>Safety Barrier</i> <i>Barrière de Sécurité</i>
mit der <i>(under;</i> <i>avec)</i>	EG-Baumusterprüfbescheinigung: <i>EC-Type Examination Certificate:</i> <i>Attestation d'examen CE de type:</i>	PTB 01 ATEX 2053
auf das sich diese Erklärung bezieht, mit der/den folgenden Norm(en) oder normativen Dokumenten übereinstimmt <i>which is the subject of this declaration, is in conformity with the following standard(s) or normative documents</i> <i>auquel cette déclaration se rapporte, est conforme aux normes ou aux documents normatifs suivants</i>		
Bestimmungen der Richtlinie <i>terms of the directive</i> <i>prescription de la directive</i>	Titel und/oder Nr. sowie Ausgabedatum der Norm <i>title and/or No. and date of issue of the standard</i> <i>titre et/ou No. ainsi que date d'émission des normes</i>	
94/9/EG: Geräte und Schutzsysteme zur bestimmungsgemäßen Verwendung in explosionsgefährdeten Bereichen <i>94/9/EC: Equipment and protective systems intended for use in potentially explosive atmospheres</i> <i>94/9/CE: Appareils et systèmes de protection destinés à être utilisés en atmosphères explosibles</i>	EN 50014: 1997 (+ A1:1999 + A2:1999) EN 50020: 1994 EN 60079-0: 2004 EN 60079-15: 2005	
89/336/EWG: Elektromagnetische Verträglichkeit <i>89/336/EEC: Electromagnetic compatibility</i> <i>89/336/CEE: Compatibilité électromagnétique</i>	EN 61326: 1997 (+ A1:1998 + A2:2001 + A3:2003)	
Das Gerät erfüllt die Anforderungen zur Kennzeichnung: <i>The apparatus fulfils the requirements for the marking:</i> <i>L'appareil répond aux exigences pour le marquage:</i>	II 3 G Ex nA II T4 T_a = -20°C ... +60°C (+50°C)	
Konformitätsaussage: und der technischen Dokumentation hinterlegt unter: <i>Certificate of Conformity:</i> <i>And the technical documentation filed under:</i> <i>Certificat de conformité:</i> <i>et documentation technique sous:</i>	PTB 01 ATEX 2054 U-Bericht Nr. 4997/06	
Qualitätssicherung Produktion: <i>Production Quality Assessment:</i> <i>Assurance Qualité Production:</i>	PTB 96 ATEX Q006-4	
Kenn-Nr. der benannten Stelle / Notified Body number / N° de l'organisme de certification: 0102		
Waldenburg, 15.11.2006 <hr/> Ort und Datum <i>Place and date</i> <i>lieu et date</i>	 <hr/> J.-P. Rückgauer Leiter Entwicklung und Technik <i>Director Design and Technology</i> <i>Directeur Développement et Technique</i>	 <hr/> Dr. S. Jung Leiter Qualitätsmanagement <i>Director Quality Management Dept.</i> <i>Directeur Dept. Assurance de Qualité</i>