



제12-512호

안 전 인 증 서

R. STAHL Schaltgeraete GmbH

Am Bahnhof 30, 74638 Waldenburg, Germany

위 사업장에서 제조하는 아래의 품목이 「산업안전보건법」 제34조 및 같은 법 시행규칙 제58조의4제4항에 따른 안전인증 심사 결과 안전·보건기준에 적합하므로 안전인증표시의 사용을 인증합니다.

_____ 품 목 _____

Fieldbus isolating repeater

_____ 형식 · 모델 / 용량 · 등급 / 인증번호 _____

형식·모델	용량 · 등급	인증번호
Type 9185/1*--**--10	첨부 인증조건(12-512) 참조 Ex nAc [ib] IIC T4 and [Ex ib] IIIC Ex nAc IIC T4	12-GA4BO-0512X

_____ 인 증 기 준 _____

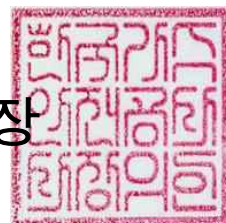
방호장치 의무안전인증 고시(고용노동부고시 제2010-36호)

_____ 인 증 조 건 _____

-20 °C ≤ Ta ≤ +70 °C

2012 년 8 월 27 일

한국가스안전공사 사장





인 증 조 건

1. 제조공장:

Am Bahnhof 30, 74638 Waldenburg, Germany에 위치한 R. STAHL Schaltgeraete GmbH 공장에서 생산한 제품 중 아래 인증범위의 제품에 한함.

2. 제품개요

The Fieldbus Isolating Repeaters are designed to transmit and convert data from different interfaces and transmission protocols. The devices are designed for DIN rail mounting and are equipped with detachable terminals for the external power supply available in screw terminal, cage clamp terminal and insulation cutting terminal versions, while the data interfaces connect via Sub-d type connectors.

If mounted in zone 2, the repeater has to be assembled into an enclosure in acc. with IEC 60079-15

3. 인증범위: 본 인증서는 아래의 형식번호에 한하여 유효함

품목 명 Fieldbus isolating repeater, 모델 명 Type 9185/1*-**-10에 한하여 인증함.
첨부 인증조건(12-512) 참조.

4. 안전한 사용을 위한 조건

If mounted in Zone 2, the Fieldbus Isolating Repeater has to be assembled into an enclosure in acc. with IEC 60079-15

5. 인증(변경)사항

6. 그 밖의 사항

안전인증품의 품질관리, 확인심사 수검, 변경사항 신고 등 인증 받은 자의 의무 준수



[첨 부]

인 증 조 건(12-512)

Type designation

Fieldbus Isolating Repeater

Type 9185 / 1 * - * * - 1 0

1

Interface field : Ex i

1

not Ex i

2

Interface field : RS485IS

3

RS422 + RS485

4

Functionality Repeater

5

Bridge

6

1

0



인 증 조 건(12-512)

Electrical data

1. Power supply circuit (terminals 7 (L+) - 9 (L-) and pac-bus connector V007/1 - V007/2)

Nominal voltage	U_{in}	DC	24	V
Range of nominal voltage		DC	18-31.2	
Nominal current			80	mA
Max. voltage	U_m	AC	253	V

2. Non-intrinsically safe bus interfaces

Max. voltage	U_m	AC	253	V
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2.1 RS232 interface : connection : sub-d plug X1

Types 9185/11-35-10, 9185/11-46-10 and 9185/12-4*-10:

Pin 2 (RXD), 3 (TXD), 5 (GND), 7 (RTS), 8 (CTS)

Type 9185/11-45-10 : Pin 2 (TXD), 3 (RXD), 5 (GND), 7 (RTS), 8 (CTS)

Nominal voltage			± 15	V
Iput resistance $R_{Receiver}$			≥ 3	K Ω

2.2 RS485/RS422 interface : connection : sub-d socket X2

Types 9185/11-**-10

RS485 Data line or RS422-receiver (TXD) : Pin 3 (B+), Pin 8 (A-)

Power supply termination resistance : Pin 6 (U+), Pin 5 (U-)

RS 485 Repeater signal or RS422 transmitter (RXD) : Pin 4 (B+), Pin 9 (A-)

Types 9185/12-4*-10

RS485 or RS422 TXD : Pin 3 (B+), Pin 5 (U-), Pin 6 (U+), Pin 8 (A-)

RS422 RXD : Pin 4 (B+), Pin 9, (A-)

Nominal voltage		DC	5	V
Iput resistance $R_{Receiver}$			≥ 12	K Ω

3. Interface field side

3.1 Non IS Type 9185/12-46-10 (RS422) (connection : sub-d socket X3)

TXD : Pin 3 (B+), Pin 8 (A-), RXD : Pin 4 (B+), Pin 9, (A-)

Nominal voltage		DC	5	V
Iput resistance $R_{Receiver}$			≥ 12	K Ω



인증조건(12-512)

- 3.2 Non IS Type 9185/12-45-10 (RS422/RS485) (connection : sub-d socket X3)
 RS485 or RS422 TXD : Pin 3 (B+), Pin 8 (A-)
 RS422 RXD : Pin 4 (B+), Pin 9, (A-)

Nominal voltage	DC	5	V
Iput resistance $R_{Receiver}$		≥ 12	$K\Omega$

- 3.3 IS Type 9185/11-35-10 (RS485 IS)
 (connections : sub-d socket X3), Pin 3 (B+), Pin 5 (U-), Pin 6 (U+), Pin 8 (A-)
 The intrinsically safe bus interface is galvanically isolated from the non-intrinsically safe circuits and form earth.

Voltage	U_o	DC	3.73	V
Current	I_o		149	mA
Power	P_o		139	mW
Linear output characteristic				

For the connection of intrinsically safe fieldbus circuits RS485 IS with the following max. value :

Voltage	U_i	DC	± 4.2	V
Effective internal capacitance	C_i		negligible	
Effective internal inductance	L_i		negligible	

- 3.4 IS Type 9185/11-45-10 and type 9185/11-46-10 (RS422/RS485)
 (connections : sub-d socket X3), Pin 3 (B+), Pin 5 (U-), Pin 6 (U+), Pin 8 (A-)
 The intrinsically safe bus interface is galvanically isolated from the non-intrinsically safe circuits and form earth.

Voltage	U_o	DC	5.88	V
Current	I_o		50	mA
Power	P_o		73.3	mW
Linear output characteristic				

The values for the external capacitances C_o and inductances L_o are shown in the following table :

	IIB	IIC
max. external inductance L_o	56 mH	15 mH
max. external capacitance C_o	1000 μ F	43 μ F

For explosive dust atmospheres the maximum allowed values for inductance and capacitance as for gas group IIB apply.

For the connection of intrinsically safe fieldbus circuits with the following max. value :

Voltage	U_i	DC	± 5.88	V
Effective internal capacitance	C_i		negligible	
Effective internal inductance	L_i		negligible	

4. Ambient temperature range T_a -20 $^{\circ}$ C up to +70 $^{\circ}$ C