



Intrinsically safe RS 485 for Fieldbus connection:

CPM Type 9440/12-01-11

Connections: X1, X2, X3, Pin 8, Pin 3

Maximum safety values:

$V_{OC} = \pm 3.7 \text{ V}$; $I_{SC} = 107 \text{ mA}$; $P_O = 96 \text{ mW}$
(linear characteristics)

CPM Type 9440/22-01-11 and 9440/22-01-21

Connections: X1, X2, X3, Pin 3, 5, 6, 8

Maximum safety values:

$V_{OC} = \pm 3.7 \text{ V}$; $I_{SC} = 134 \text{ mA}$; $P_O = 124 \text{ mW}$
(linear characteristics)

CPU Module 9441, Power Module 9444 and Socket 9492

Servicebus interface (X9 d-Sub connector at the sockets)

Maximum safety values:

$V_{OC} = \pm 3.7 \text{ V}$; $I_{SC} = 134 \text{ mA}$; $P_O = 124 \text{ mW}$
(linear characteristics)

Fieldbus Isolating Repeater Type 9185/11-35-10

Connections: X3, Pin 3, 5, 6, 8

Entity parameters:

$V_{OC} = \pm 3.73 \text{ V}$
 $I_{SC} = 149 \text{ mA}$
 $P_O = 139 \text{ mW}$
 $V_i = 4.2 \text{ V}$

Fiber Optic Isolating Repeater Type 9186/12-11-1*

Connections: X1, Pin 3, 5, 6, 8

Entity parameters:

$V_{OC} = \pm 3.7 \text{ V}$
 $I_{SC} = 148 \text{ mA}$
 $P_O = 137 \text{ mW}$
 $V_i = 4.2 \text{ V}$

For the connection to an intrinsically safe RS 485 Field bus system with the type of protection intrinsically safe Class I, II, III, DIV 1, Group A-G; Class I, Zone 1, AEx ib IIC

1. Maximum voltage value of each pair of terminals:
 $V_{max} < \pm 3.75 \text{ V}$
2. Maximum current value of the sum of terminal pairs:
 $I_t = 2.66 \text{ A}$
3. Wiring: cables with the following parameters:
 $L' \leq 1.2 \text{ mH / km}$ [0.366 mH / 1000 ft]
 $R' > 2 \times 40 \text{ ohms / km}$ [24.39 ohms / 1000 ft] (loop resistance)
 $C' \leq 250 \text{ nF / km}$ [76 pF / ft]

Standard wire diameter $\geq 0.2 \text{ mm}$ (#34AWG)

Concentrated inductances and capacitances are not permissible along the intrinsically safe RS 485 Field bus system.

4. Associated electrical apparatus
5. Intrinsically safe apparatus
6. Terminating resistor Z: value $> 143 \text{ ohms} + 1\%$, $> 400 \text{ mW}$, with a thermal rating of 140 K/W. This resistor is included in the STAHL Fieldbus connector.
7. Installation should be in accordance with Article 504/505 of the National Electrical Code, ANSI/NFPA 70 and ANSI/ISA RP12.06.01.
8. Installation in Canada should be in accordance with the Canadian Electrical Code, CSA C22.1, Part 1
9. For Installation in Division 1 or Zone 1 see also Certification drawing for IS1 resp. IS1+ Remote I/O System No. 9400 6 031 003 1 as part of the documentation of the CPU & Power Modules.
10. For Installation in Division 2 or Zone 2 see also Certification drawing for IS1 resp. IS1+ Remote I/O System No. 9400 6 031 004 1 or 9400 6 031 006 1 as part of the documentation of the CPU & Power Modules.

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			2016	Date	Name	Certification drawing IS1 resp. IS1+ Remote I/O System Intrinsically Safe RS 485 Fieldbus Connection	Scale
			Drawn by	03.03.	Bagusch		none
			Checked		Kaiser		Sheet
							1 of 1
							Agency
						9400 6 031 005 1	FM
01	09.03.2018	Bagusch					
Version	Date	Name					
						Rep. f.	Rep. t.
							A4

