

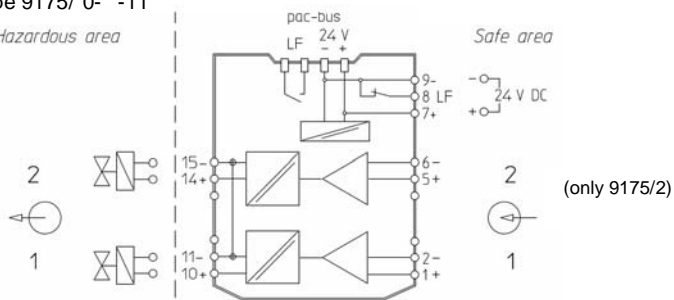
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Type 9175/*0**-11

Hazardous area

Safe area



Hazardous area: Class I, II, III; Div. 1; Group A-G; Hazardous Locations
 Safe area: Non-hazardous Locations

The Digital Output Type 9175 is an associated apparatus and provides intrinsically safe connections for one (or two) field devices located in Class I, II, III, Division 1, Group A-G, hazardous locations according to NEC Article 504 as listed below.

Digital Output Type 9175/a0-1b-11

a = numeral 1 or 2 for number of channels

b = numeral 2, 4 or 6 for characterising the output

Entity parameters for wiring configurations are as follows:

| | V _{OC} | I _{SC} | P _O | L _o CL.I, Div.1, A,B | L _o CL.I, Div.1, C-G | C _o CL.I, Div.1,A,B | C _o CL.I, Div.1, C-G |
|-------------------------------|-----------------|-----------------|----------------|------------------------------------|------------------------------------|-----------------------------------|------------------------------------|
| Type 9175/*0-12-11 EEx ia II* | 11.3 V | 75 mA | 210 mW | 6.3 mH | 25 mH | 1.79 µF | 12.1 µF |
| output 1 and 2 parallel | 11.3 V | 150 mA | 420 mW | 1.5 mH | 6 mH | 1.79 µF | 12.1 µF |
| Type 9175/*0-14-11 EEx ia II* | 19.6 V | 150 mA | 732 mW | 1.5 mH | 6 mH | 235 nF | 1470 nF |
| EEx ib IIB/IIC T* | 19.6 V | 60 mA | 732 mW | 1.5 mH | 6 mH | 235 nF | 1470 nF |
| output 1 and 2 parallel | | | | | | | |
| EEx ia IIB/IIC T* | 19.6 V | 300 mA | 1464 mW | 0.3 mH | 1.5 mH | 235 nF | 1471 nF |
| EEx ib IIB/IIC T* | 19.6 V | 120 mA | 1464 mW | 0.3 mH | 1.5 mH | 235 nF | 1471 nF |
| Type 9175/*0-16-11 EEx ia II* | 27.6 V | 110 mA | 760 mW | 1.2 mH | 9 mH | 85 nF | 667 nF |
| EEx ib IIB/IIC T* | 27.6 V | 50 mA | 760 mW | 1.2 mH | 9 mH | 85 nF | 667 nF |
| output 1 and 2 parallel | | | | | | | |
| EEx ia IIB/IIC T* | 27.6 V | 220 mA | 1520 mW | - | 1.8 mH | - | 665 nF |
| EEx ib IIB/IIC T* | 27.6 V | 100 mA | 1520 mW | - | 1.8 mH | - | 665 nF |

Maximum supply current (at 18 V DC source, terminals 7+ and 9-):

| 9175/10-12-11 | 9175/10-14-11 | 9175/10-16-11 | 9175/20-12-11 | 9175/20-14-11 | 9175/20-16-11 |
|---------------|---------------|---------------|---------------|---------------|---------------|
| 63 mA | 102 mA | 120 mA | 105 mA | 195 mA | 210 mA |

Notes:

- Intrinsically safe apparatus may be Simple Apparatus in accordance with Article 504 of the National Electrical Code, ANSI/NFPA 70 (for example: switches, thermocouples, LEDs, RTDs) a third-party certified or Entity device connected in accordance with the manufacturer's installation instructions.
- For Entity concept use the appropriate parameters to ensure the following:

$$V_t \text{ or } V_{OC} \leq V_{max} \quad C_a \geq C_i + C_{Cable}$$

$$I_t \text{ or } I_{SC} \leq I_{max} \quad L_a \geq L_i + L_{Cable}$$
- Capacitance and inductance of the field wiring from the intrinsically safe equipment to the associated apparatus shall be calculated and must be included in the system calculations as shown above. Cable capacitance (Cc) plus intrinsically safe equipment capacitance (Ci) must be less than the marked capacitance (Ca or Co) shown on any associated apparatus used. The same applies for inductance (Lc, Li and La or Lo, respectively). Where the cable capacitance and inductance per foot are not known, the following values shall be used: Cc=60pF/ft., Lc=0.2µH/ft.
- Electrical apparatus connected to an intrinsically safe system should not use or generate voltages > 250 V (U_{max}).
- Intrinsically safe circuits must be installed, wired and separated in accordance with Article 504.20 of the National Electrical Code (ANSI/NFPA 70)
- Where multiple circuits extend from the same piece of associated apparatus, they must be installed in separate cables or in one cable having suitable insulation. Refer to Article 504 of the National Electrical Code and Instrument Society of America Recommended Practice ISA RP12.6 for installing intrinsically safe equipment.
- Associated Apparatus must be installed in an enclosure suitable for the application in accordance with the National Electrical Code, ANSI/NFPA 70.
- Use an UL or NRTL listed Dust-ignition proof enclosure appropriate for environmental protection in Class II, Division 1, Groups E,F and G; and Class III, hazardous (classified) locations.
- The isolators have not been evaluated for use in electrical combination with other associated apparatus.
- These modules are to be mounted on DIN rail, DIN rail with pac-Bus (type 9194) or pac-Carrier (type 9195). The field wiring in any case is connected to the IS pac device terminals.
- Ambient temperature: -20 °C ... +55 °C (any mounting position)

WARNING: To prevent ignition of flammable or combustible atmospheres disconnect power before servicing

F 4830 503

| | | | | | | | |
|-------|------|------|----------|--------|------------|--|---------|
| | | | 2007 | Date | Name | Certification drawing Digital Output Type 9175 91 756 01 31 3 | Scale |
| | | | Drawn by | 18.04. | Einsiedler | | none |
| | | | Checked | 18.04. | Kaiser | | Sheet |
| | | | | | | | 1 of 1 |
| | | | | | | | Agency |
| | | | | | | | UL |
| Index | Date | Name | | | | Rep. f. | Rep. t. |
| | | | | | | | A4 |

