

Data sheet

Danfoss gas detection Expansion module



The gas detection Controller Expansion module is used for expansion of the cable coverage in terms of number of fieldbus loops and the total wire length. Each Controller Unit can handle up to 7 Expansion modules allowing 7 additional loops of 900 meters (2953 ft) length available for local Gas Detection Units. Communication between the Controller, the Expansion modules and the Gas Detection Units is done via Analog or RS485 fieldbus.

Additional 4 relays for external looped alarm devices is made available for each Expansion module.

Expansion modules can be installed close to the Controller (Controller Solution) or alternatively in the field.

Features

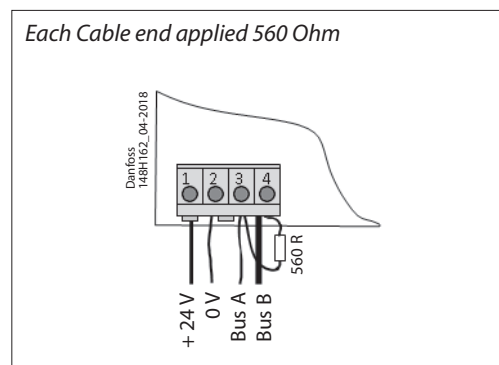
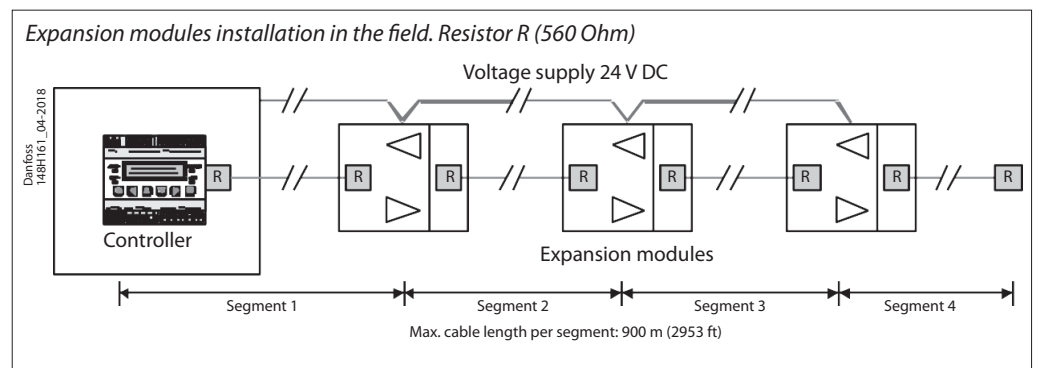
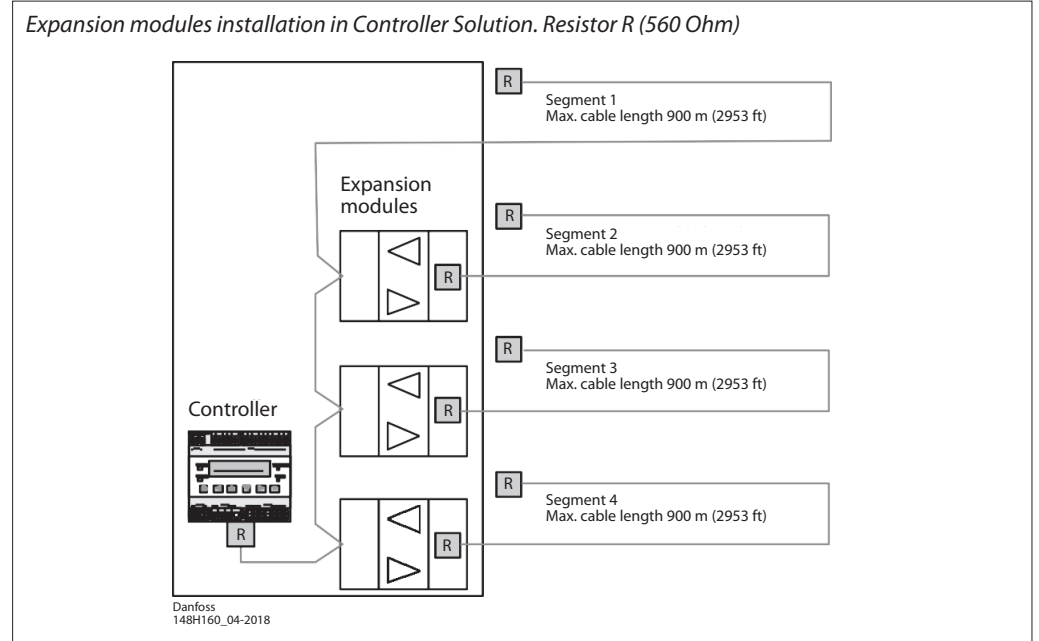
- For extension of the covered site area for gas detection sensors
- 4 relays for external alarm device circuits per Expansion module
- Up to 7 Expansion modules per Controller possible; allows additional 7 segments with a total of 7200 meters (23622 ft.) wiring and a total of 32 relays for alarm device circuits.
- Flexible connection to local gas detection units by either Analog or RS485 fieldbus communications
- Located in Controller Solution or in the field
- Easy configuration via intuitive user-interface; helps simplify operator handling and minimize risk of operational setting errors
- Simple commissioning by standard parameter configuration
- Enables regulatory compliance with EN 378:2016, ISO 5149:2014,

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Installation/Connection

Expansion modules are installed close to the Controller (Controller Solution) or in the field. Examples shown below:

Each cable end must be applied a Resistor of 560 Ohm.



Specifications

| Electrical | |
|--|---|
| Power supply | 24 V DC \pm 20 % |
| Power consumption | 3 W, 120 mA |
| Analog input (4) | 4 to 20 mA, overload and short-circuit protected, input resistance 200 Ω |
| Tension for external analog transmitter | 24 V DC (same as power supply), max. 100 mA / per sensor |
| Analog output (2) configurable for each input | Proportional, overload and short-circuit- protected, charge \leq 500 Ω 4 - 20 mA = measuring range 3.0 < 4 mA = underrange > 20 - 21.2 mA = overrange 2.0 mA = fault |
| Alarm relay (4) | 250 V AC, 5 A, potential-free, change-over (SPDT) |

| Interface fieldbus | |
|---------------------------|---------------------|
| Transceiver | RS 485 / 19200 Baud |

| Environmental | |
|----------------------|------------------------------------|
| Humidity | 15 - 95 % RH non-condensing |
| Working temperature | -10 °C to +40 °C (14 °F to 104 °F) |
| Storage temperature | 0 °C to +40 °C (32 °F to 104 °F) |

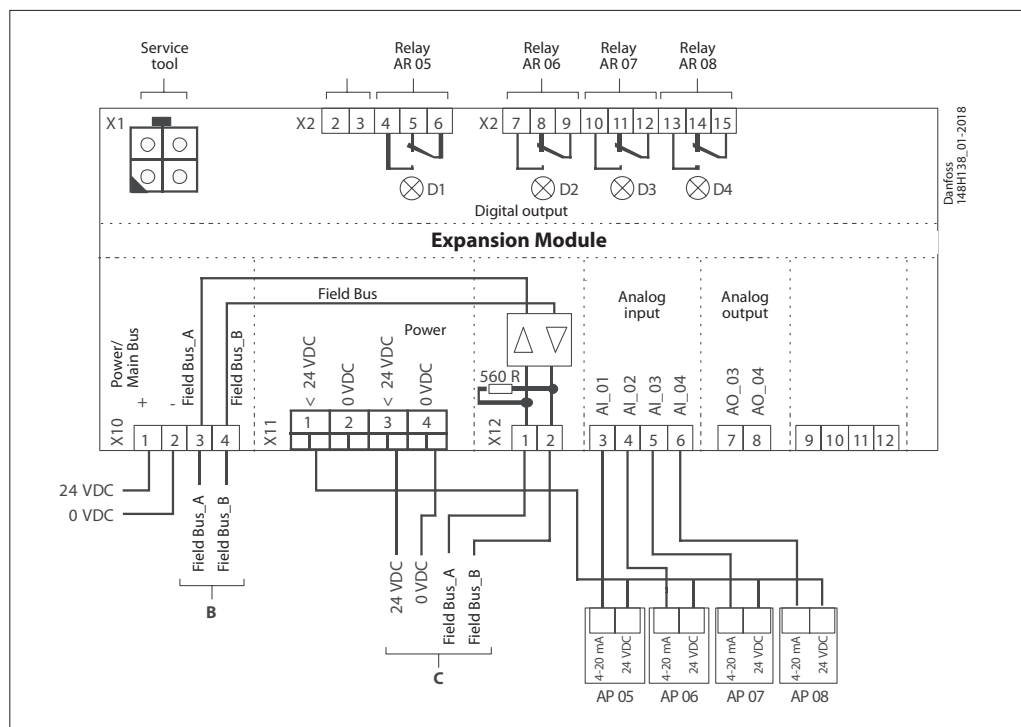
| Physical | |
|---|--|
| Enclosure | Plastic housing ABS |
| Colour | Black |
| Protection class | IP 40 |
| Weight | 0.2 kg (0.5 lb.) |
| Packaging volumes | Ca. 4.4 l |
| Mounting | Top hat DIN rail mounting |
| Dimensions | (W x H x D) 104 x 86 x 56 mm (4.1 x 3.4 x 2.2 in.) |
| Wire connection: Power supply Output Input | Screw type terminal: 2.5 mm ² (14 AWG) 2 x spring type terminal: min. 0.5 mm ² , max. 1.5 mm ² (22 to 16 AWG) Spring type: min. 0.5 mm ² , max. 1.5 mm ² (22 to 16 AWG) |

| Directives | |
|--|--|
| EMC Directive 2014/30/EU | |
| Low voltage directive 2014/35/EU | |
| Conformity to: EN 50 545-1, EN 50271, EN 61010-1:2010, ANSI/UL 61010-1, CAN/CSA-C22.2 No. 61010-1 | |

| Options - control of external warning devices | |
|--|----------------------------|
| Power supply of the external warning devices | 24 V DC |
| Measuring resistance at the warning device | 12 k Ω , 0.5 W, 5 % |

Note:
If expansion modules are distributed along the communication bus it is recommended that each be powered by a separate DC power supply with only the ground connected to the bus.

Wiring configuration



Ordering

| Description | Code number |
|------------------|-----------------|
| Expansion module | 148H6222 |

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