

# Isolator Barriers

## HART termination board

ISpac

9196/16H-XX0-03c Art. No. 160891



- Cost- and space-saving system for HART communication
- Different variants available with or without signal conversion
- Easy to install on DIN rails

MY R. STAHL 9196A



Used in combination with the HART multiplexer (9192), the 9196 series HART termination board enables the transmission of data using the HART protocol between field devices and an asset management system. The boards are very easy to install on DIN rails and can process 4 to 20 mA signals with HART FSK. If Ex i separation is necessary, this will require separate Ex i isolators.

### Technical Data

| Explosion Protection                             |                                                                                                              |
|--------------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| Application range (Zones)                        | 2                                                                                                            |
| IECEX gas certificate                            | IECEX BVS 10.0042 X                                                                                          |
| IECEX gas explosion protection                   | Ex ec IIC T4 Gc                                                                                              |
| ATEX gas certificate                             | BVS 03 ATEX E 213 X                                                                                          |
| ATEX gas explosion protection                    | Ex II 3 G Ex ec IIC T4 Gc                                                                                    |
| FMus certificate                                 | FM16US0122X                                                                                                  |
| cFM certificate                                  | FM16CA0067X                                                                                                  |
| Marking cFMus                                    | Class I, Div. 2, Groups A,B,C,D;<br>Class I, Zone 2, Group IIC<br>T4 at Ta = 70°C<br>See Doc. 91 926 01 31 1 |
| Certificates                                     | ATEX (BVS), Brazil (ULB), Canada (FM), China (NEPSI), IECEX (BVS), India (PESO), SIL (exida), USA (FM)       |
| Ship approval                                    | CCS, EU RO MR (DNV)                                                                                          |
| Declaration of Conformity                        | ATEX (EUK), China (CCC)                                                                                      |
| Installation                                     | in Zone 2, Division 2 and in the safe area                                                                   |
| Further information                              | see respective certificate and operating instructions                                                        |
| Functional Safety                                |                                                                                                              |
| SIL                                              | 3                                                                                                            |
| HFT                                              | 0                                                                                                            |
| SFF                                              | 91,06%                                                                                                       |
| PFD <sub>avg</sub> at T <sub>proof</sub> 1 year  | 2,04E-06                                                                                                     |
| PFD <sub>avg</sub> at T <sub>proof</sub> 5 years | 1,02E-05                                                                                                     |
| PFDavg at Tproof 10 years                        | 2,04E-05                                                                                                     |
| Electrical Data                                  |                                                                                                              |
| Type of signal                                   | AI, AO                                                                                                       |
| Number of channels                               | 16                                                                                                           |

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### Electrical Data

|                                             |                                                                                                      |
|---------------------------------------------|------------------------------------------------------------------------------------------------------|
| HART-multiplexer connection                 | Yes                                                                                                  |
| Connection isolators / Non-Ex field devices | Via pluggable terminal; connected to the field device/automation system in parallel; input or output |

### Auxiliary Power

|                               |               |
|-------------------------------|---------------|
| Auxiliary power               | 24 V DC       |
| Nominal voltage $V_{nom}$     | 24 V DC       |
| Auxiliary power voltage range | 19 ... 31.2 V |
| Residual ripple               | < 3.6 Vss     |
| Polarity reversal protection  | Yes           |

### Output

|               |                         |
|---------------|-------------------------|
| Application 2 | Transmitter, positioner |
|---------------|-------------------------|

### Ambient Conditions

|                               |                                                                                                         |
|-------------------------------|---------------------------------------------------------------------------------------------------------|
| Ambient temperature °C        | -20 °C ... +70 °C                                                                                       |
| Ambient temperature °F        | -4°F ... +158°F                                                                                         |
| Note                          | "The installation conditions affect the ambient temperature. Observe the "Cabinet installation guide"." |
| Storage temperature °C        | -40 °C ... +80 °C                                                                                       |
| Storage temperature °F        | -40°F ... +176°F                                                                                        |
| Max. relative humidity        | 95%                                                                                                     |
| Use at the height of          | < 2000 m                                                                                                |
| Electromagnetic compatibility | Tested to the following standards and regulations: EN 61326-1 For use in industrial areas; NAMUR NE 21  |

### Mechanical Data

|                           |           |
|---------------------------|-----------|
| Degree of protection (IP) | IP00      |
| Fire resistance (UL 94)   | V0        |
| Enclosure material        | Polyamide |
| Width                     | 80 mm     |
| Width, inches             | 3.15 in   |
| Height                    | 70 mm     |
| Height, inches            | 2.76 in   |
| Length                    | 125 mm    |
| Length, inches            | 4.92 in   |
| Weight                    | 150 g     |
| Weight                    | 0.33 lb   |

### Mounting / Installation

|                                    |                      |
|------------------------------------|----------------------|
| Mounting type                      | DIN rail             |
| Mounting orientation               | Vertical             |
| Connection type                    | Screw terminal       |
| Min. rigid conductor cross section | 0.14 mm <sup>2</sup> |
| Max. rigid conductor cross section | 1.5 mm <sup>2</sup>  |
| Min. flex conductor cross section  | 0.14 mm <sup>2</sup> |
| Max. flex conductor cross section  | 1.5 mm <sup>2</sup>  |
| Connection cross-section AWG       | 26 – 16              |

# Isolator Barriers

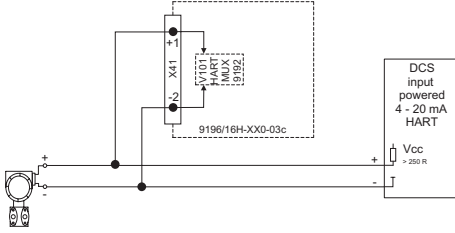
## HART termination board

### ISpac

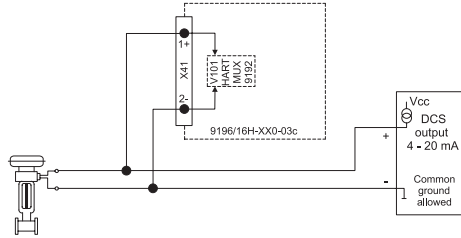
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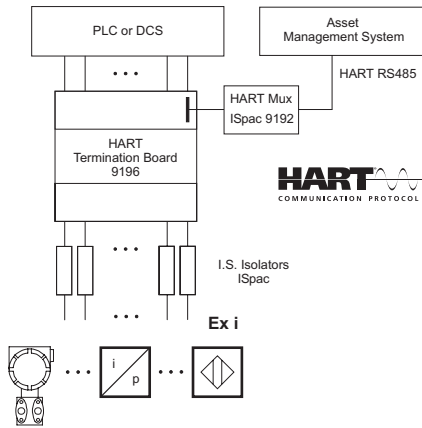
#### Technical Drawings – Subject to Alterations



Connection diagram 9196/...-03c

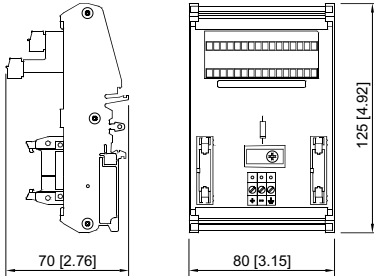


Connection diagram 9196/...-03c



System configuration

#### Dimensional Drawings (All Dimensions in mm [inches]) – Subject to Alterations



HART Termination board Type 9196/16H-XX0-03c

We reserve the right to make alterations to the technical data, dimensions, weights, designs and products available without notice. The illustrations cannot be considered binding.