

**Enclosure Mounted  
 Input/Output Stations**



**FDN20-4S-4XSG**  
**FDN20-4S-4XSG-E\***  
**FDN20-4S-4XSG-DIN\***

\* Not UL



- In-Cabinet I/O
- IP 20 Protection
- Ideal for Retrofits
- Automatic Baud Rate Sensing

**Electrical**

- Operating Current: <75 mA (from DeviceNet) plus I/O currents (from bus power)
- Input Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

**Power Distribution**

- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

**Mechanical**

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: IEC IP 20

**Material**

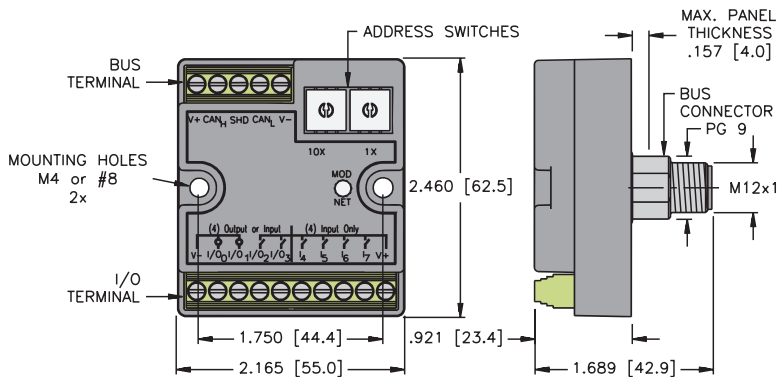
- Connectors: Nickel-plated brass (*eurofast* option only)
- Housing: Nylon

**Diagnostics (Logical)**

- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs and one bit indicates a fault for all outputs

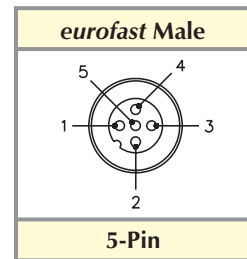
**Diagnostics (Physical)**

- LED to indicate status of DeviceNet communication



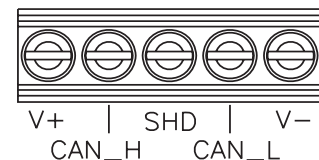
FDN20-4S-4XSG-E shown

**DeviceNet Pinout**



FDN20-4S-4XSG-E only

**DeviceNet Connector**

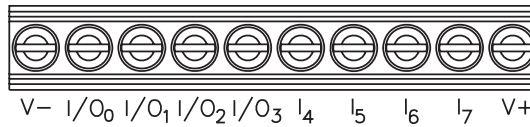


Note: A DIN rail mounting bracket (FDN20-BKT-DIN) may be purchased separately for use with the FDN20-4S-4XSG.

| Part Number       | Inputs      |        |              |       |            |                      | Outputs      |        |         |            | Data                 |          |
|-------------------|-------------|--------|--------------|-------|------------|----------------------|--------------|--------|---------|------------|----------------------|----------|
|                   | Input Count | Pinout | Sensor Style | Group | Individual | Wire-Break Detection | Output Count | Pinout | Current | Individual | Wire-Break Detection | Data Map |
| FDN20-4S-4XSG     | 8           | FS     | PNP          | X     |            |                      | 4            | FS     | 0.5 A   |            |                      | 1        |
| FDN20-4S-4XSG-E   | 8           | FS     | PNP          | X     |            |                      | 4            | FS     | 0.5 A   |            |                      | 1        |
| FDN20-4S-4XSG-DIN | 8           | FS     | PNP          | X     |            |                      | 4            | FS     | 0.5 A   |            |                      | 1        |

## Input/Output Connectors

FS



\*Note: I/O<sub>0</sub> to I/O<sub>3</sub> can be used as inputs or outputs

I/O Data Map 1

|            | Byte | Bit 7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|------------|------|-------|-------|-------|-------|-------|-------|-------|-------|
| <b>In</b>  | 0    | I-7   | I-6   | I-5   | I-4   | I-3   | I-2   | I-1   | I-0   |
|            | 1    | IGS   | OGS   | -     | -     | -     | -     | -     | -     |
| <b>Out</b> | 0    | -     | -     | -     | -     | O-3   | O-2   | O-1   | O-0   |

Enclosure Mounted  
Input/Output Station

- In-Cabinet I/O
- IP 20 Protection
- Ideal for Retrofits
- Automatic Baud Rate Sensing



FDN20-4S-4XSG-0189  
FDN20-S0404G-0220\*

\* Not CE



Electrical

- Operating Current: <75 mA plus I/O currents (from bus power)
- Input Current: <700 mA sum of all inputs (from DeviceNet)
- Output Current: <500 mA per output (from DeviceNet)

Power Distribution

- Inputs: DeviceNet power supply
- Outputs: DeviceNet power supply

Mechanical

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: IEC IP 20

Material

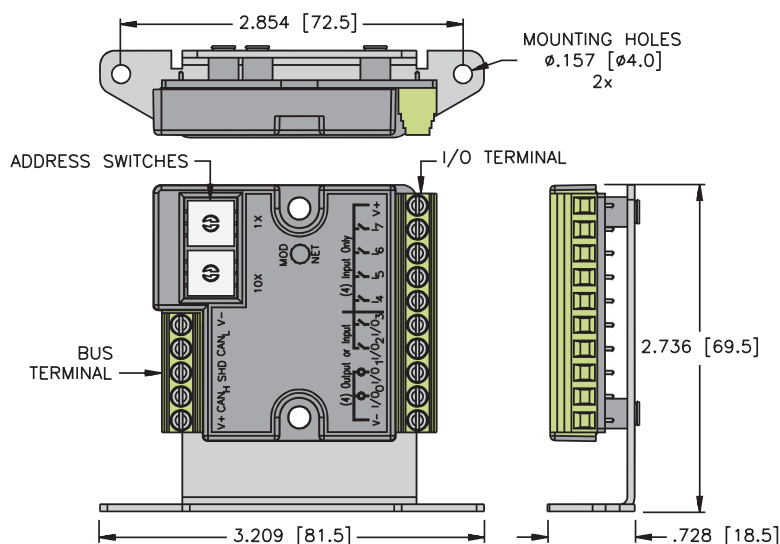
- Housing: Nylon

Diagnostics (Logical)

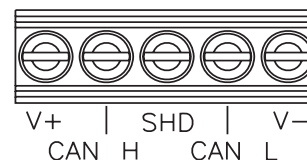
- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs and one bit indicates a fault for all outputs

Diagnostics (Physical)

- LED to indicate status of DeviceNet communication



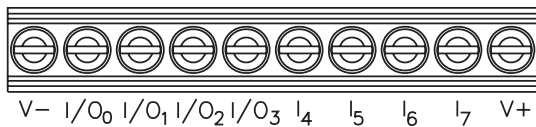
DeviceNet Connector



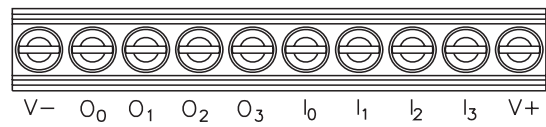
| Part Number        | Inputs      |        |              |       |            |                      | Outputs      |        |         |            | Data                 |          |
|--------------------|-------------|--------|--------------|-------|------------|----------------------|--------------|--------|---------|------------|----------------------|----------|
|                    | Input Count | Pinout | Sensor Style | Group | Individual | Wire-Break Detection | Output Count | Pinout | Current | Individual | Wire-Break Detection | Data Map |
| FDN20-4S-4XSG-0189 | 8           | FS     | PNP          | X     |            |                      | 4            | FS     | 0.5A    |            |                      | 1        |
| FDN20-S0404G-0220  | 4           | FS-2   | PNP          | X     |            |                      | 4            | FS-2   | 0.5 A   |            |                      | 2        |

## Input/Output Connectors

FS



FS-2



\*Note: I/O<sub>0</sub> to I/O<sub>3</sub> can be used as inputs or outputs

I/O Data Map 1

|     | Byte | Bit 7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|
| In  | 0    | I-7   | I-6   | I-5   | I-4   | I-3   | I-2   | I-1   | I-0   |
|     | 1    | IGS   | OGS   | -     | -     | -     | -     | -     | -     |
| Out | 0    | -     | -     | -     | -     | 0-3   | 0-2   | 0-1   | 0-0   |

I/O Data Map 2

|     | Byte | Bit 7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|
| In  | 0    | IGS   | OGS   | -     | -     | I-3   | I-2   | I-1   | I-0   |
| Out | 0    | -     | -     | -     | -     | 0-3   | 0-2   | 0-1   | 0-0   |

Enclosure Mounted  
Input/Output Stations

- In-Cabinet I/O
- IP 20 Protection
- Ideal for Retrofits
- Automatic Baud Rate Sensing



FDN20-16XSG  
FDN20-16S

**Electrical**

- Operating Current: <75 mA plus applicable I/O currents (from bus power)
- Input Current: <700 mA sum of all inputs
- Output Current: <500 mA per output

**Power Distribution**

- Inputs: Optionally DeviceNet or Auxiliary power supply as shown in wiring diagram
- Outputs: Optionally DeviceNet or Auxiliary power supply as shown in wiring diagram

**Mechanical**

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: IEC IP 20

**Material**

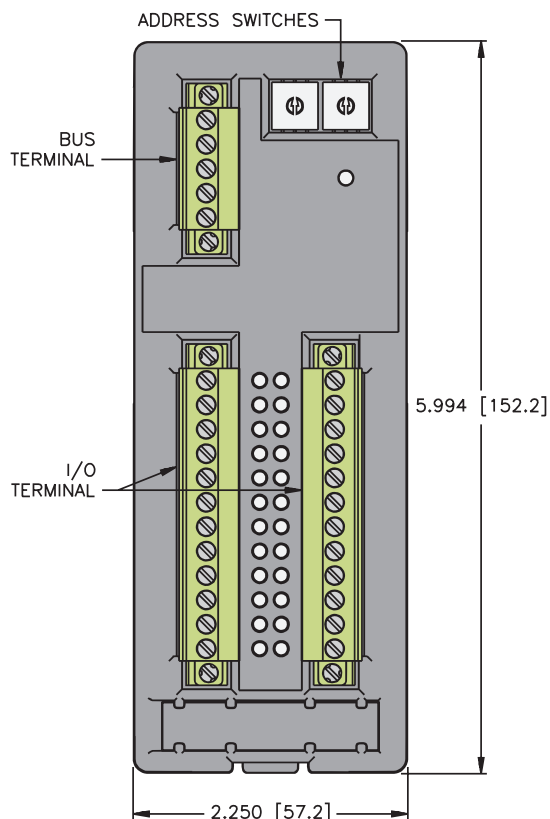
- Housing: Nylon

**Diagnostics (Logical)**

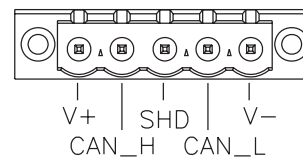
- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs, on bit indicates a fault for all outputs

**Diagnostics (Physical)**

- LED to indicate status of DeviceNet communication

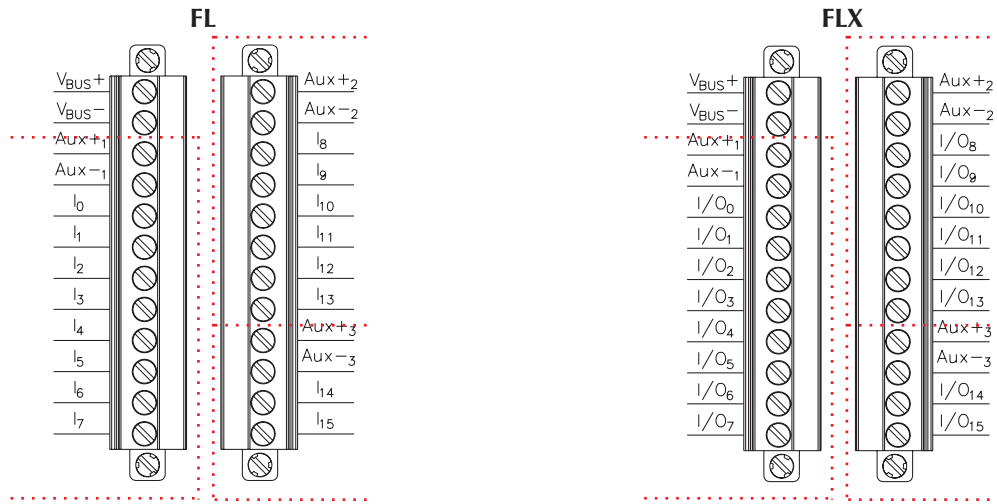


**DeviceNet Connector**



| Part Number | Inputs      |        |              |       |            |                      | Outputs      |        |         |            | Data                 |          |
|-------------|-------------|--------|--------------|-------|------------|----------------------|--------------|--------|---------|------------|----------------------|----------|
|             | Input Count | Pinout | Sensor Style | Group | Individual | Wire-Break Detection | Output Count | Pinout | Current | Individual | Wire-Break Detection | Data Map |
| FDN20-16XSG | 16          | FLX    | PNP          | X     |            |                      | 16           | FLX    | 0.5 A   |            |                      | 1        |
| FDN20-16S   | 16          | FL     | PNP          | X     |            |                      | 0            |        |         |            |                      | 2        |

## Input/Output Connectors



..... Indicates I/O groups which can be powered from separate Aux. Power supplies if desired.

I/O Data Map 1

| In  | Byte | Bit 7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | 0    | I-7   | I-6   | I-5   | I-4   | I-3   | I-2   | I-1   | I-0   |
| 1   | I-15 | I-14  | I-13  | I-12  | I-11  | I-10  | I-9   | I-8   |       |
| 2   | IGS  | OGS   | -     | -     | -     | -     | -     | -     |       |
| Out | 0    | 0-7   | 0-6   | 0-5   | 0-4   | 0-3   | 0-2   | 0-1   | 0-0   |
|     | 1    | 0-15  | 0-14  | 0-13  | 0-12  | 0-11  | 0-10  | 0-9   | 0-8   |

I/O Data Map 2

| In | Byte | Bit 7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|----|------|-------|-------|-------|-------|-------|-------|-------|-------|
|    | 0    | I-7   | I-6   | I-5   | I-4   | I-3   | I-2   | I-1   | I-0   |
| 1  | I-15 | I-14  | I-13  | I-12  | I-11  | I-10  | I-9   | I-8   |       |
| 2  | IGS  | OGS   | -     | -     | -     | -     | -     | -     |       |

**Enclosure Mounted  
 Input/Output Stations**

- In-Cabinet I/O
- IP 20 Protection
- Ideal for Retrofits
- Automatic Baud Rate Sensing



**FDN20-16SN-16XSG**  
**FDN20-32SN**



**Electrical**

- Operating Current: <75 mA plus applicable I/O currents (from bus power)
- Input Current: <700 mA sum of all inputs
- Output Current: 1.8 A per output

**Power Distribution**

- Inputs: Optionally DeviceNet or Auxiliary power supply as shown in wiring diagram
- Outputs: Optionally DeviceNet or Auxiliary power supply as shown in wiring diagram

**Mechanical**

- Operating Temperature: -40 to +70°C (-40 to +158°F)
- Protection: IEC IP 20

**Material**

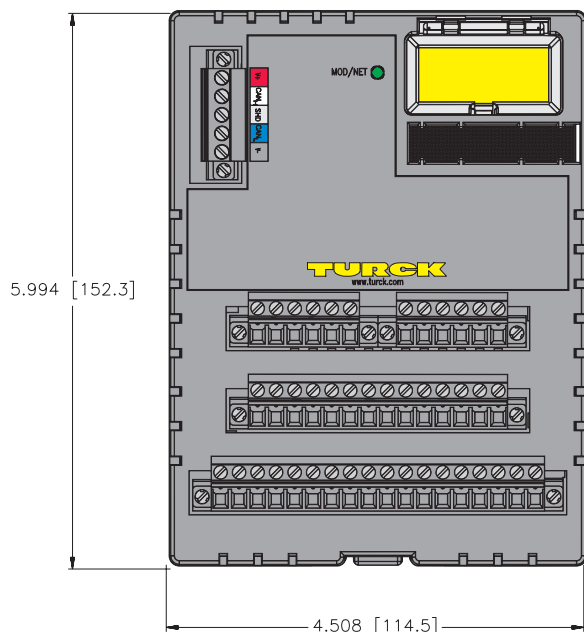
- Housing: Nylon

**Diagnostics (Logical)**

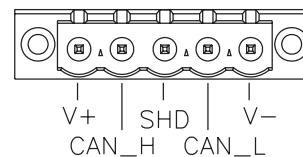
- Open/short-circuit status mapped to DeviceNet I/O table, one bit indicates a fault for all inputs, on bit indicates a fault for all outputs

**Diagnostics (Physical)**

- LED to indicate status of DeviceNet communication

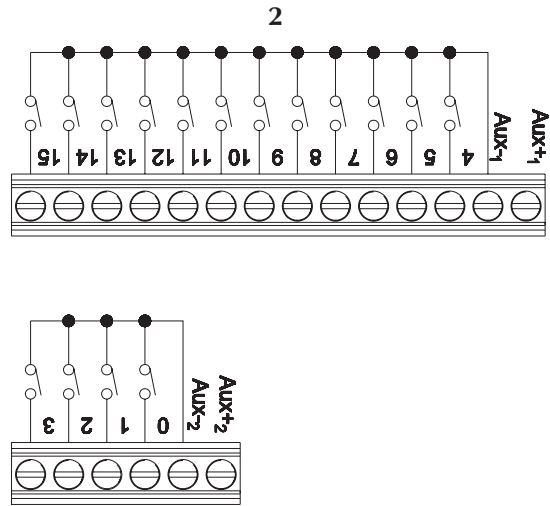
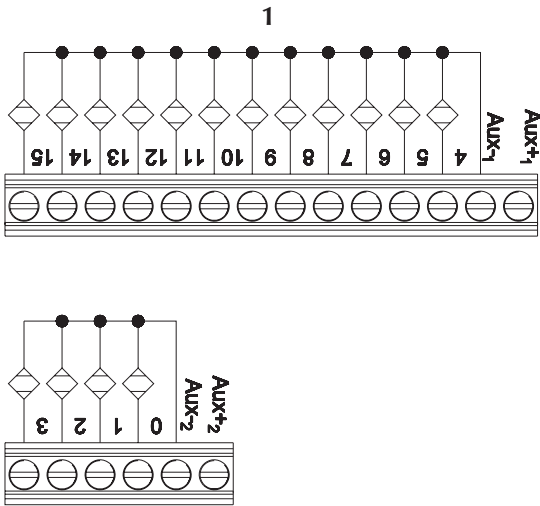


**DeviceNet Connector**



| Part Number      | Inputs      |        |              |       |            |                      | Outputs      |        |         |            | Data                 |          |
|------------------|-------------|--------|--------------|-------|------------|----------------------|--------------|--------|---------|------------|----------------------|----------|
|                  | Input Count | Pinout | Sensor Style | Group | Individual | Wire-Break Detection | Output Count | Pinout | Current | Individual | Wire-Break Detection | Data Map |
| FDN20-16SN-16XSG | 32*         | 1      | NPN/PNP      | X     |            |                      | 16*          | 2      | 1.8 A   |            |                      | 1        |
| FDN20-32SN       | 32          | 1      | NPN/PNP      | X     |            |                      |              |        |         |            |                      | 2        |

\* 16 dedicated inputs and 16 points which can be used as inputs or outputs.



I/O Data Map 1

|     | Byte | Bit 7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|-----|------|-------|-------|-------|-------|-------|-------|-------|-------|
|     | In   | 0     | I-7   | I-6   | I-5   | I-4   | I-3   | I-2   | I-1   |
| 1   |      | I-15  | I-14  | I-13  | I-12  | I-11  | I-10  | I-9   | I-8   |
| 2   |      | I-23  | I-22  | I-21  | I-20  | I-19  | I-18  | I-17  | I-16  |
| 3   |      | I-31  | I-30  | I-29  | I-28  | I-27  | I-26  | I-25  | I-24  |
| 4   |      | IGS   | OGS   | -     | -     | -     | -     | -     | -     |
| Out | 0    | 0-7   | 0-6   | 0-5   | 0-4   | 0-3   | 0-2   | 0-1   | 0-0   |
|     | 1    | 0-15  | 0-14  | 0-13  | 0-12  | 0-11  | 0-10  | 0-9   | 0-8   |

I/O Data Map 2

|   | Byte | Bit 7 | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |
|---|------|-------|-------|-------|-------|-------|-------|-------|-------|
|   | In   | 0     | I-7   | I-6   | I-5   | I-4   | I-3   | I-2   | I-1   |
| 1 |      | I-15  | I-14  | I-13  | I-12  | I-11  | I-10  | I-9   | I-8   |
| 2 |      | I-23  | I-22  | I-21  | I-20  | I-19  | I-18  | I-17  | I-16  |
| 3 |      | I-31  | I-30  | I-29  | I-28  | I-27  | I-26  | I-25  | I-24  |
| 4 |      | IGS   | OGS   | -     | -     | -     | -     | -     | -     |

Enclosure Mounted  
Input/Output Stations

- In-Cabinet I/O
- IP 20 Protection
- Ideal for Retrofits
- Automatic Baud Rate Sensing



FDN20-4DR



**Electrical**

- Bus Power: 11-26 VDC
- Internal Current Consumption:  $\leq 75$  mA plus sum of sensor and output currents (from bus power)

**Input Circuits: (4) Negative switched dry contacts**

- Input Voltage (V+): 0-26 VDC
- Input Signal Current (Input): OFF  $> 3$  V,  $< 0.5$  mA  
ON 0-1 V, 2-3 mA
- Input Delay: 1 ms

**Output Circuits: (12) Solid state relays**

- Output Voltage: 0-26 VDC
- Output Load Current: 120 mA (max.)

**Output Circuits (Analog): (4) 0-10 V**

- Output Voltage 0-10 V
- Representation 16-bit signed integer
- Analog Supply Voltage 10-24 V

**Network Status LED**

- Status: Green: Established connection  
Flashing Green: Ready for connection  
Red: Connection not possible  
Flashing Amber: autobaud/125k/250k/500k

**Adjustments**

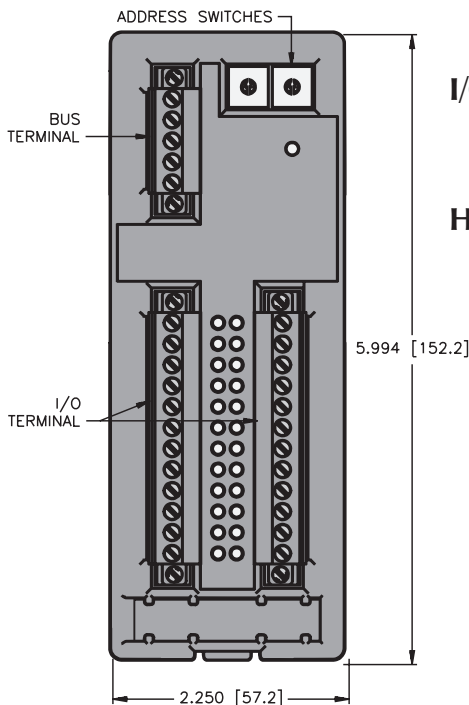
- Slave Side (Network address): 0-63 via rotary switches
- Master Side (Node count): 0-8 via rotary switches
- Master Baud Range (5,6,7): 5=125 K, 6=250 K, 7=500 K

**I/O Status LED**

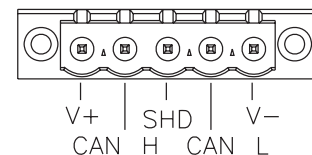
- OFF = off
- Green = On

**Housing**

- Material: Nylon
- Operating Temperature:  $-40^{\circ}$  to  $70^{\circ}$  C ( $-40^{\circ}$  to  $158^{\circ}$  F)



**DeviceNet Connector**



| Part Number | Inputs      |        |                      |       |            |                      |                             | Outputs |                |            |                      | Data     |
|-------------|-------------|--------|----------------------|-------|------------|----------------------|-----------------------------|---------|----------------|------------|----------------------|----------|
|             | Input Count | Pinout | Sensor Style         | Group | Individual | Wire-Break Detection | Discrete Relay Output Count | Pinout  | Analog Outputs | Individual | Wire-Break Detection | Data Map |
| FDN20-4DR   | 4           | 1      | Sinking Dry Contacts | X     |            |                      | 12                          | 1       | 4              |            |                      | 1        |

## Input/Output Connectors

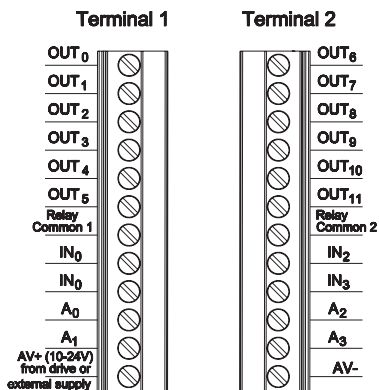


Diagram A

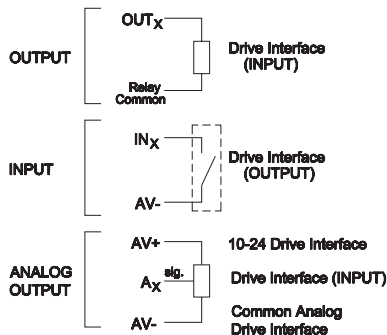


Diagram B

**NOTE:**  
Relay Common and Relay Common 2 are isolated from each other and can be connected to either 10-24 V or AV-

### I/O Data Map 1

|     | Byte | Bit 7        | Bit 6 | Bit 5 | Bit 4 | Bit 3 | Bit 2 | Bit 1 | Bit 0 |  |
|-----|------|--------------|-------|-------|-------|-------|-------|-------|-------|--|
| In  | 0    | -            | -     | -     | -     | -     | -     | I-1   | I-0   |  |
|     | 1    | -            | -     | -     | -     | -     | -     | I-3   | I-2   |  |
| Out | 0    | -            | -     | 0-5   | 0-4   | 0-3   | 0-2   | 0-1   | 0-0   |  |
|     | 1    | -            | -     | 0-11  | 0-10  | 0-9   | 0-8   | 0-7   | 0-6   |  |
|     | 2    | A0 Low Byte  |       |       |       |       |       |       |       |  |
|     | 3    | A0 High Byte |       |       |       |       |       |       |       |  |
|     | 4    | A1 Low Byte  |       |       |       |       |       |       |       |  |
|     | 5    | A1 High Byte |       |       |       |       |       |       |       |  |
|     | 6    | A2 Low Byte  |       |       |       |       |       |       |       |  |
|     | 7    | A2 High Byte |       |       |       |       |       |       |       |  |
|     | 8    | A3 Low Byte  |       |       |       |       |       |       |       |  |
|     | 9    | A3 High Byte |       |       |       |       |       |       |       |  |