

## 6 Port Ethernet Switch

P/N: AX141400

PHOTO PENDING

### Features:

- 12V, 24Vdc input power (nominal)
- Optional accessory input switch connection
- 6 ports – Ethernet (10/100 Mbps) for multiple Ethernet devices on a machine
- 2 power outputs (feed-through) to power external devices, and 4 of 48V 0.35A outputs
- LED indicators
- Surge, Reverse polarity, input overvoltage, input undervoltage, and output overcurrent protection
- IP66
- Suitable for high vibration and shock environments
- CE marking
- cURus to UL60950 pending
- EN60950-1 pending
- Suitable for applications -3048 m below sea level to +4572 m above sea level

### Applications:

- Off-highway equipment, mining equipment

**Description:** The Ethernet Switch operates as an unmanaged switch that is capable of handling communication of 6 different Ethernet capable devices. The device can be utilized to reduce machine cabling. Each port can communicate up to 100mbps and has LED indicators showing the status of the ports. This module can be powered through either the power input connector, or through port 1. It can also power two external devices through ports 2 and 3, connecting them to the input power. Each of these two ports has over current protection that triggers at 1A. An output of 48V 0.35A is available at ports 1, 4, 5, and 6.

**Ordering Part Numbers:** 6 port Ethernet Switch: AX141400

**Technical Specifications:** *Specifications are indicative and subject to change.*

**Input Specifications**

|                              |   |
|------------------------------|---|
| Power Supply Input - Nominal | 12V, 24Vdc nominal (9...36VDC power supply range)   |
| Protections                  | Surge and reverse polarity protection are provided. Input overvoltage, input undervoltage and output overcurrent protection are provided.   |
| Accessory Switch Input       | Provided<br>0-36Vdc<br>Switch enabled > 2.0 Vdc<br>Switch disabled < 0.8 Vdc<br>The input accessory switch can shut down the device and Port and 3 power sourcing. If power is applied through port 1, the input accessory switch is ignored. |
| Power LED                    | RED<br>ON = Power ON  |

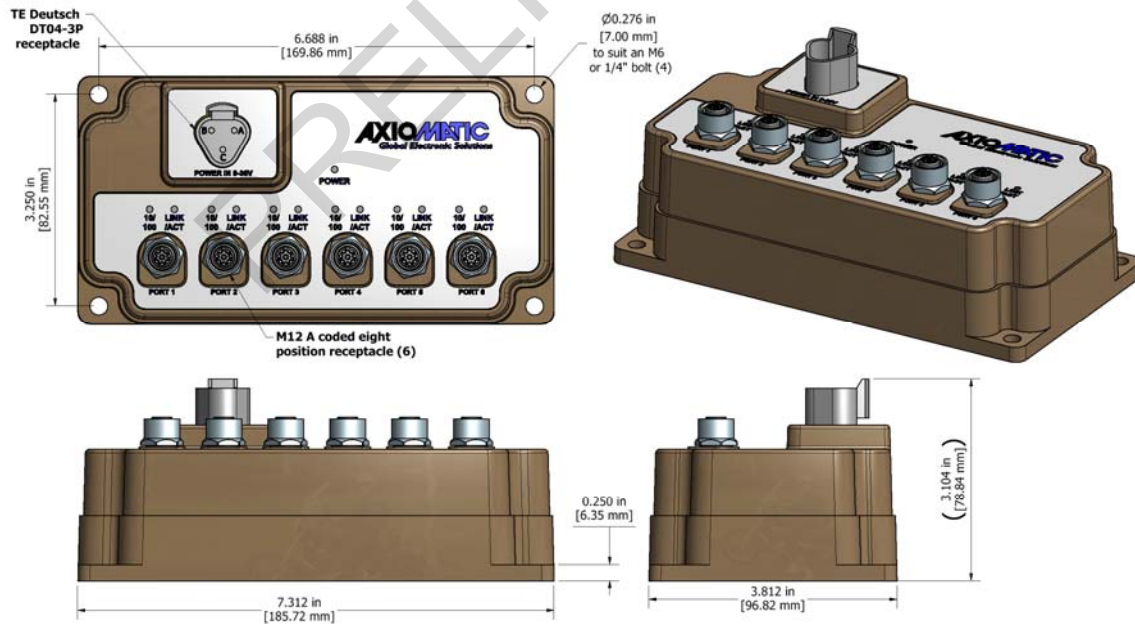
**Output Specifications**

|       |  |
|-------|--|
| Power | Power output is available from Ports 2 and 3.<br>9...36Vdc (Vps)<br>1A current maximum<br>48V 0.35A available at Ports 1, 4, 5, and 6. |
|-------|--|

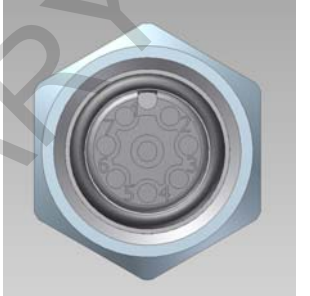
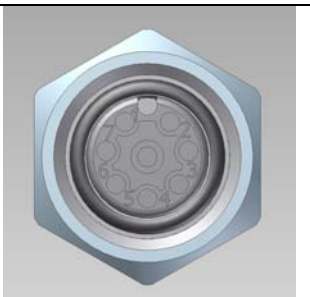
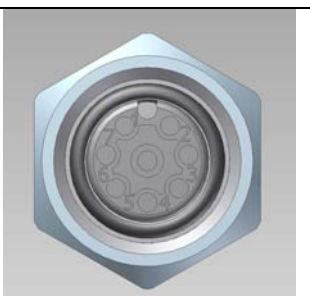
**Communications**

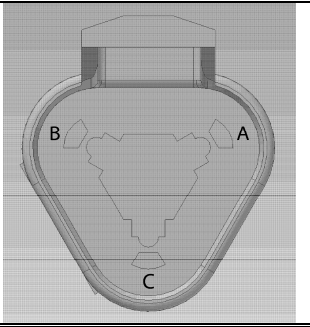
|          |  |
|----------|--|
| Ethernet | 6 ports (Ethernet 802.3, 802.3u, 802.3x)<br>10/100 Mbit Ethernet compliant<br>Auto-MDIX LAN 10/100 Base-T<br>Up to 100m transmission distance<br>10 or 100 Mbps transmission speed |
| LEDs     | 2 per port<br>GREEN<br>LINK/ACT: ON means connection (LINK)<br>Flashing means activity (ACT)<br>Transmission Speed: 100 Mbit/s = ON<br>10 Mbit/s = OFF                             |

**Dimensional Drawing**



## General Specifications

| Quiescent Current Draw                | TBD mA @ 24Vdc   |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
|---------------------------------------|--|------|-------------|---|---------|---|---------|---|---------|---|-----|---|-----|---|-----|---|---------|---|-----|------|-------------|---|-----------|---|-----------|---|-----------|---|-----|---|-----|---|-----|---|-----------|---|-----|------|-------------|---|---------|---|---------|---|---------|---|-----|---|-----|---|-----|---|---------|---|-----|
| Operating Conditions                  | -40 to 65 °C (-40 to 149 °F)   |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Weight                                | Contact Axiomatic.   |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Protection                            | IP66   |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Compliance                            | FCC Part 15<br>CE marking:<br>EMC Directive<br>RoHS Directive<br>EN60950-1 pending<br>cURus to UL60950 pending   |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Vibration                             | Random Vibration: TBA Grms peak<br>Sinusoidal Component: 8.9 G peak  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Shock                                 | 50 G half sine pulse, 6 x 6-20ms   |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Atmospheric                           | Tested from 571.6 hPa to 1437.5 hPa @ 30 °C and 40% Humidity<br>(Simulates -3048 m below sea level to +4572 m above sea level)   |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Enclosure and Dimensions              | See dimensional drawing. Cast aluminum, anodized.  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Installation                          | The device can withstand load dump voltage fluctuations.   |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| Electrical Connections<br>– Ports 1-6 | <p>6 CONEC M12 8-pin connectors (A-coded), P/N: 43-01332 (Connectors 1-6)</p> <p>Port 1: Power In, Ethernet 1 (48V 0.35A Out)</p> <table border="1"> <thead> <tr> <th>PIN#</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>1</td><td>48V OUT</td></tr> <tr><td>2</td><td>48V GND</td></tr> <tr><td>3</td><td>48V GND</td></tr> <tr><td>4</td><td>TX-</td></tr> <tr><td>5</td><td>RX+</td></tr> <tr><td>6</td><td>TX+</td></tr> <tr><td>7</td><td>48V OUT</td></tr> <tr><td>8</td><td>RX-</td></tr> </tbody> </table>  <p>Port 2: Power Out, Ethernet 2<br/>Port 3: Power Out, Ethernet 3</p> <table border="1"> <thead> <tr> <th>PIN#</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>1</td><td>Power OUT</td></tr> <tr><td>2</td><td>Power GND</td></tr> <tr><td>3</td><td>Power GND</td></tr> <tr><td>4</td><td>TX-</td></tr> <tr><td>5</td><td>RX+</td></tr> <tr><td>6</td><td>TX+</td></tr> <tr><td>7</td><td>Power OUT</td></tr> <tr><td>8</td><td>RX-</td></tr> </tbody> </table>  <p>Port 4: Ethernet 4, 48V 0.35A Out<br/>Port 5: Ethernet 5, 48V 0.35A Out<br/>Port 6: Ethernet 6, 48V 0.35A Out</p> <table border="1"> <thead> <tr> <th>PIN#</th> <th>Description</th> </tr> </thead> <tbody> <tr><td>1</td><td>48V OUT</td></tr> <tr><td>2</td><td>48V GND</td></tr> <tr><td>3</td><td>48V GND</td></tr> <tr><td>4</td><td>TX-</td></tr> <tr><td>5</td><td>RX+</td></tr> <tr><td>6</td><td>TX+</td></tr> <tr><td>7</td><td>48V OUT</td></tr> <tr><td>8</td><td>RX-</td></tr> </tbody> </table>  | PIN# | Description | 1 | 48V OUT | 2 | 48V GND | 3 | 48V GND | 4 | TX- | 5 | RX+ | 6 | TX+ | 7 | 48V OUT | 8 | RX- | PIN# | Description | 1 | Power OUT | 2 | Power GND | 3 | Power GND | 4 | TX- | 5 | RX+ | 6 | TX+ | 7 | Power OUT | 8 | RX- | PIN# | Description | 1 | 48V OUT | 2 | 48V GND | 3 | 48V GND | 4 | TX- | 5 | RX+ | 6 | TX+ | 7 | 48V OUT | 8 | RX- |
| PIN#                                  | Description  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 1                                     | 48V OUT  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 2                                     | 48V GND  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 3                                     | 48V GND  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 4                                     | TX-  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 5                                     | RX+  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 6                                     | TX+  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 7                                     | 48V OUT  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 8                                     | RX-  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| PIN#                                  | Description  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 1                                     | Power OUT  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 2                                     | Power GND  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 3                                     | Power GND  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 4                                     | TX-  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 5                                     | RX+  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 6                                     | TX+  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 7                                     | Power OUT  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 8                                     | RX-  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| PIN#                                  | Description  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 1                                     | 48V OUT  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 2                                     | 48V GND  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 3                                     | 48V GND  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 4                                     | TX-  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 5                                     | RX+  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 6                                     | TX+  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 7                                     | 48V OUT  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |
| 8                                     | RX-  |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |      |             |   |           |   |           |   |           |   |     |   |     |   |     |   |           |   |     |      |             |   |         |   |         |   |         |   |     |   |     |   |     |   |         |   |     |

|                                |   |                     |
|--------------------------------|---|---------------------|
| Electrical Connection – Port 7 | 1 DT04-3P connector (Connector 7)   |                     |
|                                | Port 7: Power In  |                     |
|                                | PIN#  | Description         |
|                                | A   | Power IN            |
|                                | B   | GND                 |
|                                | C   | Accessory Switch IN |
|                                |  |                     |

Form: TDAX141400-07/23/19

PRELIMINARY