

P2M Node 24 DO

P2M2HBVE12400

EtherNet/IP™



USER MANUAL



**Important !**

Before carrying out any service work, ensure that the valve and manifold have been vented. Remove the primary supply air hose to ensure total disconnection of the air supply before dismantling valves or blank connection blocks.

**NB !**

All technical data in this catalogue is typical only. The air quality is decisive for the valve life: see ISO 8573.

**WARNING**

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P2M2HBVE12400

User Manual

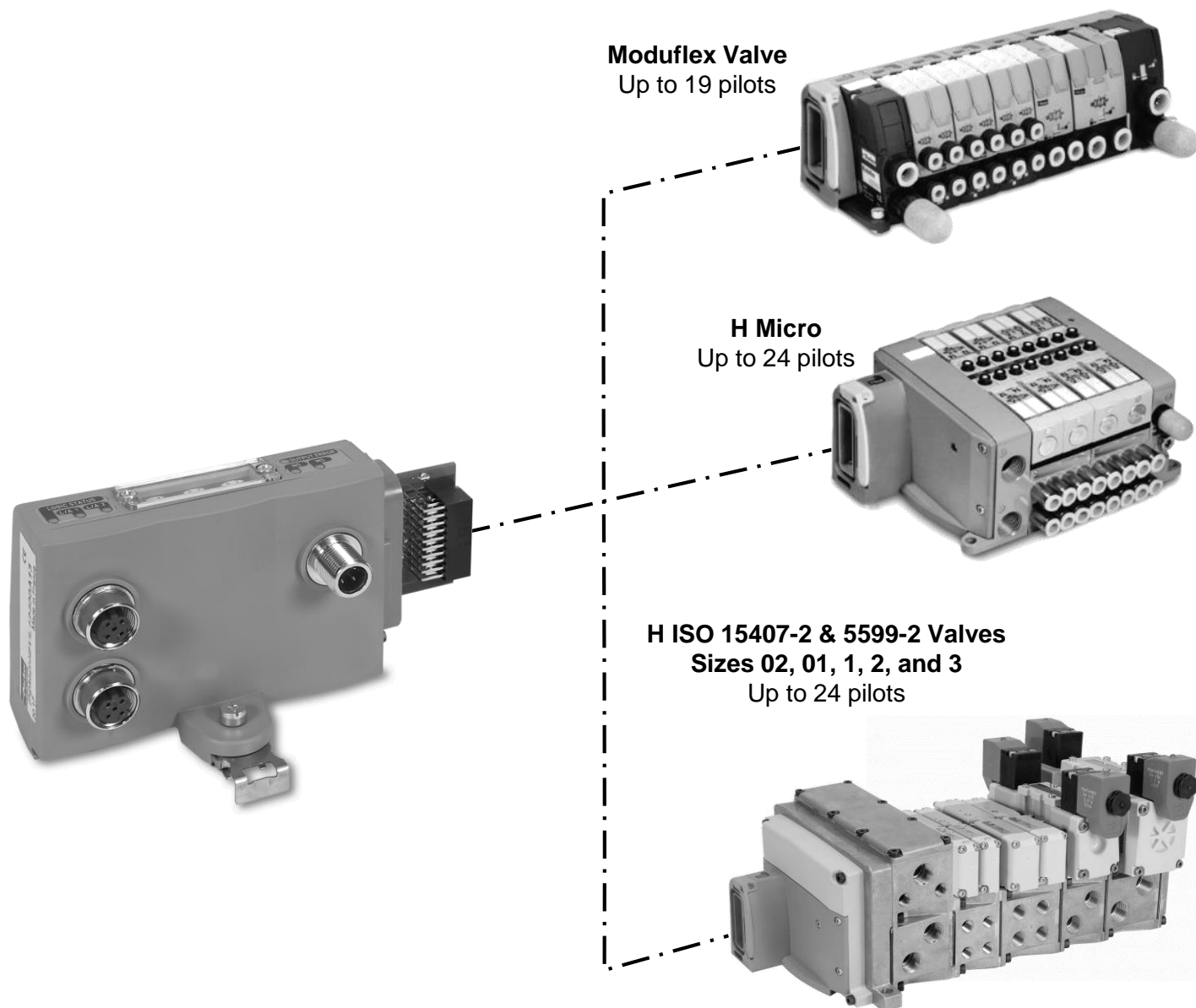
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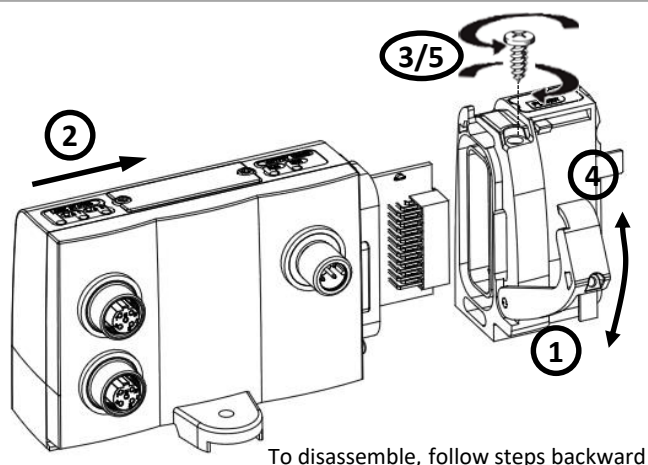
Product general overview

Purpose of the P2M Node 24 DO

The P2M Node 24DO can be used with either the Moduflex Valve System, H Micro or H ISO 15407-2 and 5599-2 Valves Series. Depending on the valve series the module is connected to, it can control up to 24 pilot solenoid valves, as shown on the illustration below:



Module assembly / disassembly



For details on appropriate valve adaptor to use, please refer to the respective valve series technical catalogue and instruction sheets.

Technical Data

P2M Node 24DO electrical specifications

| Description | Value |
|-------------------------------|---|
| Network power supply | According to Ethernet/IP standard |
| Speed communication | According to Ethernet/IP standard |
| Auxiliary power supply | Voltage 20,4 Vdc to 26,4 Vdc |
| | Current limit per channel 150 mA |
| | Max. current limit 2 A |
| Polarity inversion protection | YES |
| Short circuit protection | YES |
| Operating temperature | 0°C to +55°C |
| Storage temperature | -25°C to +70°C |
| Shock | According to IEC 60068-2-27:2008 |
| Vibration | According to IEC 60068-2-6:2007 |
| EMC | According to EN 55011 & EN 61000-4-2 up to -4-6 |

Auxiliary power consumption calculation

Depending on the valve range the module is connected to, the pilot solenoids differ in power consumption. In order to determine the minimum required power to supply, the table below may be used:

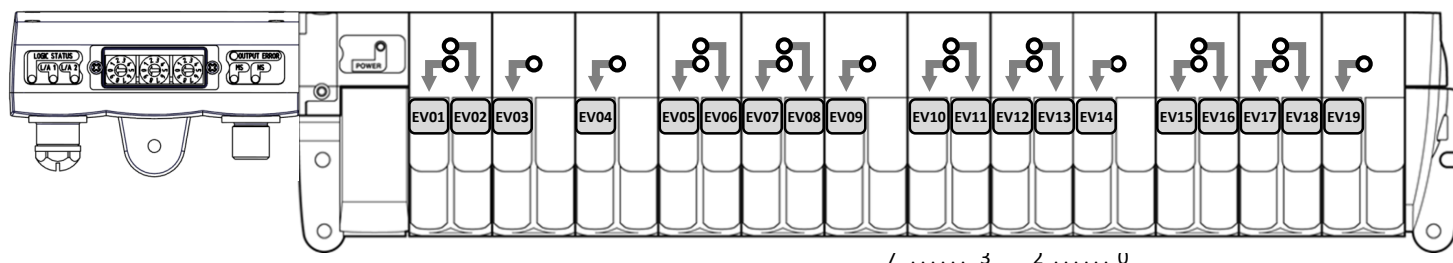
| Valve Range | Number of Pilots simultaneously powered | Power | Total |
|---|---|----------|-----------|
| Moduflex Valve System | | x 40 mA | mA |
| H Micro | | x 40 mA | mA |
| H ISO - 15407-2 - Sizes 02 & 01 | | x 40 mA | mA |
| H ISO - 5599 - Sizes 1, 2 & 3 (Energy Efficiency Coils) | | x 54 mA | mA |
| H ISO - 5599-2 - Sizes 1, 2 & 3 (Standard Coils) | | x 133 mA | mA |
| Total : | | | mA |

NOTE: it is recommended that the total outputs current consumption does not exceed 2A

Solenoid Pilots addressing and Process Data mapping

P2M Node 24DO addressing used with Moduflex Valve System

The P2M Node 24DO used with Moduflex Valve System can handle up to 19 pilot solenoid valves. Addressing is as shown below:



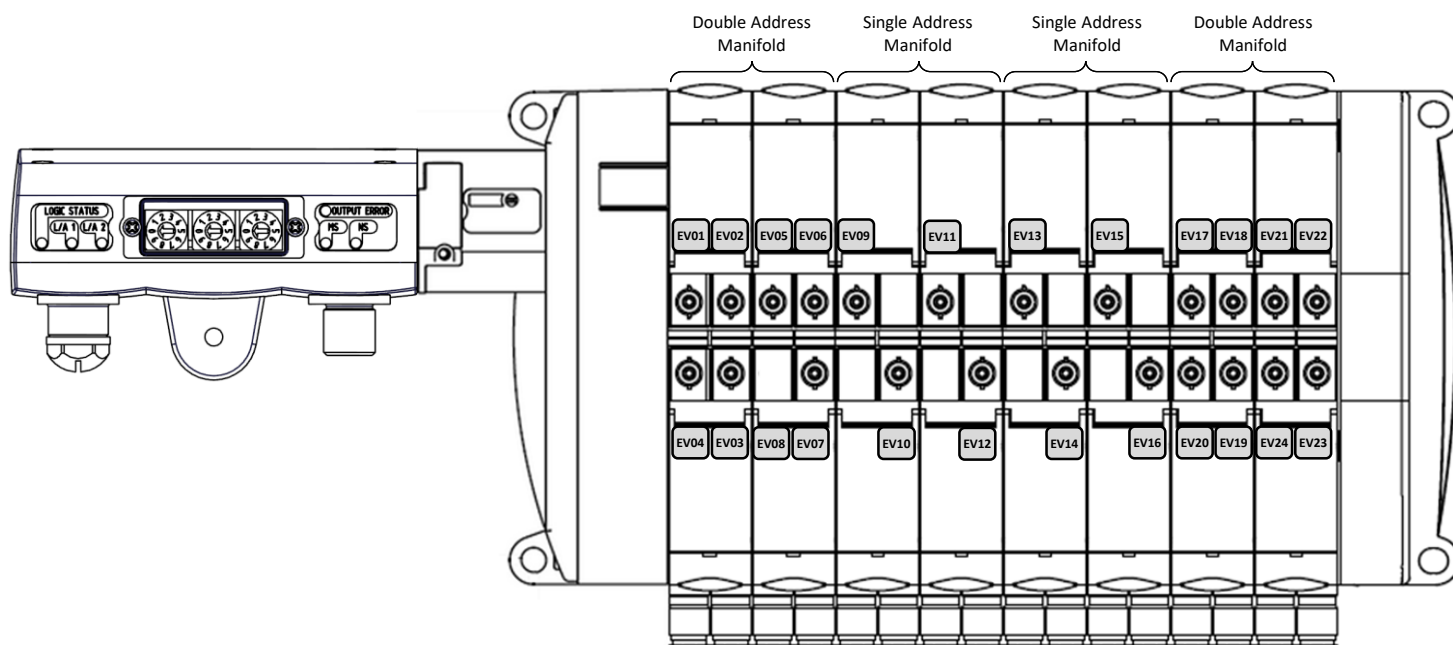
PLC Process outputs data mapping

| | |
|---------|-------------------------------|
| Byte 1 | EV08 EV01 |
| Byte 2 | EV16 EV09 |
| Byte 3* | EV24 EV20 EV19 ... EV17 |

* Byte 3 / Bits 3 to 7 are not connected to valves with Moduflex Valve Range

P2M Node 24DO addressing used with H Micro Valve Series

The P2M Node 24DO used with H Micro Valve Series can handle up to 24 pilot solenoid valves. Addressing is as shown below:

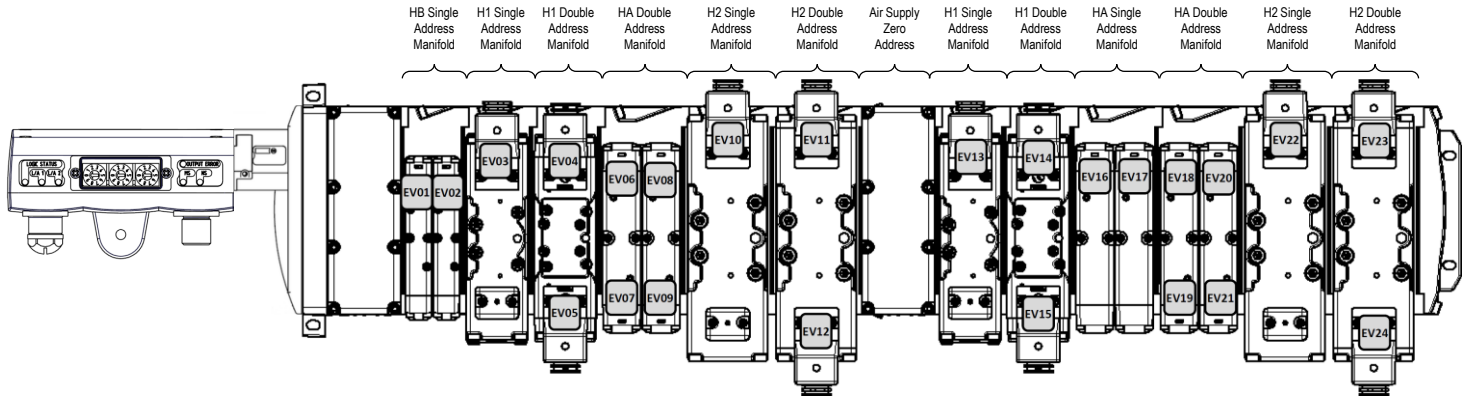


PLC Process outputs data mapping

| | |
|--------|-----------------|
| Byte 1 | EV08 EV01 |
| Byte 2 | EV16 EV09 |
| Byte 3 | EV24 EV17 |

P2M Node 24DO addressing used with H Universal ISO Series – 15407-2 & 5599-2

The P2M Node 24DO used with H ISO Series – 15407-2 – sizes 02 & 01 and 5599-2 – sizes 1, 2 & 3 – can handle up to 24 pilot solenoid valves. Addressing is as shown below (on H Universal manifold):



PLC Process outputs data mapping

| | | | |
|--------|------|-------|------|
| | 7 | | 0 |
| Byte 1 | EV08 | | EV01 |
| Byte 2 | EV16 | | EV09 |
| Byte 3 | EV24 | | EV17 |

P2M Node 24DO Electrical Connections

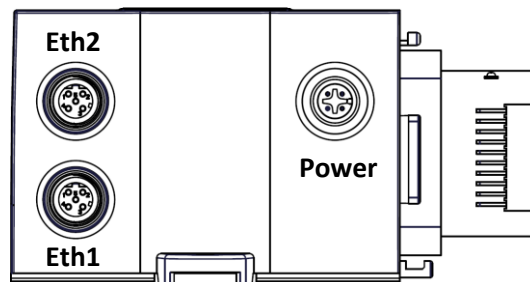
Network Communication and Auxiliary power connection

Network Communication: Standard Female M12 D-Coded connectors – 4 pins

Auxiliary Power Supply: Standard Male M12 A-Coded connector – 4 pins

Use of standard manufactured cables available from usual electrical supplier is recommended.

| Network In & Out M12 D-Coded | | |
|------------------------------|-------|-------------|
| | PIN # | Description |
| | 1 | TxData + |
| | 2 | RxData + |
| | 3 | TxData - |
| | 4 | RxData - |



| Auxiliary Power M12 A-Coded | | |
|-----------------------------|-------|---------------|
| | PIN # | Description |
| | 1 | Logic Power + |
| | 2 | AUX Power - |
| | 3 | Logic Power - |
| | 4 | AUX Power + |



P2M Node 24DO connected to SAFE power supply for Auxiliary Power

The P2M Node 24DO Auxiliary Power for valves can be supplied from a SAFE 24Vdc auxiliary source in PP or PM mode, as well as from Output Switching Signals Device Failsafe Digital Outputs (OSSD FDO).

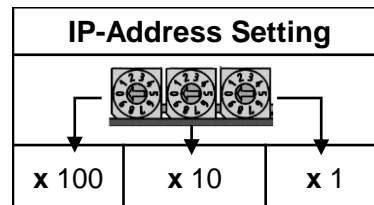
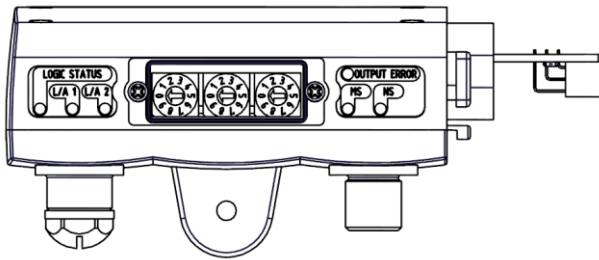
Note : Please check max. power available from the source. Refer to the “Auxiliary power consumption calculation” section

IP-Address Setting

The IP-Address of the device can be assigned via:

- Rotary Switches, DHCP , Web page, Ipconfig Tool or TCP/IP Interface Object.


At power-up the P2M Node 24DO reads the values of the rotary switches and determines how the device obtains its IP-Address. Please refer to the table below for further details. The device comes from the factory with assigned **192.168.1.2**.



| IP Switch Setting | Description |
|-------------------|--|
| 000 | IP-Address setting is stored into the NV-memory of the P2M node |
| 001 – 254 | IP-Address setting is determined by the 3 rotary Switches: <ul style="list-style-type: none"> • IP Address: 192.168.1.xxx • Subnet Mask: 255.255.255.0 • Default Gateway for 001: 192.168.1.2 • Default Gateway for 002 - 254: 192.168.1.1 |
| 888 | The device obtains its address via DHCP |
| 999 | Reset to Factory Status |
| All others | Invalid. The Module will not start (see Local Visual Diagnostic section for details) |

Reset to Factory Status

The “Reset to Factory” restores all the parameters, counters, password and configurations to their default values.

The “Reset to Factory” can be performed either via web page through the button  accessible via the “Parameter” tab on the webserver, or via hardware through the rotary switches setting “999”.

If the reset is performed via hardware, a valid IP-Address must be set and a power cycle is required to restart to normal operations. Once the reset is completed and all the values are restored to default values, the module signals the completed operation by quickly flashing red/green the “Logic Status” LED.

P2M Node Configuration File

The configuration files and integration tools are available for download from the P2M Node 24DO web site:

- www.parker.com/pde/P2M_IE

Explicit Messaging

The various Object Instance Attribute (OIA) specified in the following chapters can be read and/or written by means of explicit messages. An OIA Object is accessible as Class ID 100 (0x64). The instances number of the OIAs are identical to the OIA number. Attribute 5 represents the data of the OIA.

I/O Messaging

Connections

To control the outputs and read back status data, the device accepts an Exclusive Owner Connection with the parameters shown in the table below:

| Parameter | Value |
|-------------------------------------|-----------------------------|
| Consuming Connection Point (O → T) | Assembly Instance – 150 |
| Consumed Data Length (O → T) | 4 Bytes |
| O → T Transport Type | Point to Point |
| Producing Connection Point (T → O) | Assembly Instance – 100 |
| Produced Data Length (T → O) | 7 Bytes |
| T → O Transport Type | Point to Point or Multicast |

Besides the Exclusive Owner Connection the device also accepts the following I/O connections:

| Connection Type | Remark |
|---------------------------------|--|
| Input-Only Connection | Connection Point (O → T) : 3 Connection Point (T → O) : 100 |
| Listen-Only Connection | Connection Point (O → T) : 4 Connection Point (T → O) : 100 |
| Input-Only Extended Connection | Connection Point (O → T) : 6 Connection Point (T → O) : 100 |
| Listen-Only Extended Connection | Connection Point (O → T) : 7 Connection Point (T → O) : 100 |

Further details can be found in the device configuration file.

Output Data

The P2M Node 24DO consumes 4 bytes of output data dedicated to solenoid status and system commands:

| System Commands (1 Byte – “Byte 0”) | | Solenoids / Digital Outputs (3 Bytes – “Byte 1” to” Byte 3”) | | | | | | | | | | | |
|--|------------------------|---|-------|-----|-------|-------|-----|--------|--------|-----|--------|--|--|
| 0x00 | Normal Operation | Byte | 1 | | | 2 | | | 3 | | | | |
| 0x01 | Leave Failsafe Command | Bit | 0 | ... | 7 | 0 | ... | 7 | 0 | ... | 7 | | |
| 0x02 | Store Cycle Counters | Solenoid | Sol 1 | ... | Sol 8 | Sol 9 | ... | Sol 16 | Sol 17 | ... | Sol 24 | | |
| See OIA#8 for details | | See OIA#1 for details | | | | | | | | | | | |

Input Data

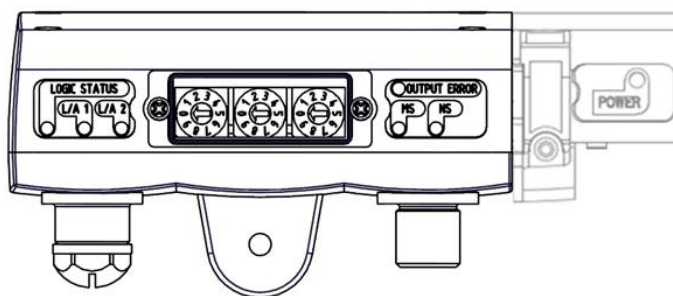
The P2M Node 24DO produces 7 bytes of input data dedicated to diagnostic:

| Error Inputs (2 Bytes) | Channel Error (3 Bytes) | | | | | | | | | | Module Info Flags (2 Bytes) |
|---------------------------|----------------------------|-------|-----|-------|-------|-----|--------|--------|-----|--------|--------------------------------|
| See OIA#9 for details | Byte | 2 | | | 3 | | | 4 | | | See OIA#7 for details |
| | Bit | 0 | ... | 7 | 0 | ... | 7 | 0 | ... | 7 | |
| | Solenoid | Sol 1 | ... | Sol 8 | Sol 9 | ... | Sol 16 | Sol 17 | ... | Sol 24 | |
| | See OIA#6 for details | | | | | | | | | | |

Local Visual Diagnostic

The P2M Node 24DO module offers local diagnostics through 6 LED's status with interpretation described in the table below:

| LOGIC STATUS Green / Red LED | | | L/A 1 L/A 2 Green / Yellow LEDs | | | MS Green / Red LED | | | NS Green / Red LED | | |
|------------------------------|--|--|---------------------------------|----------------------------|---------------------------------|---------------------|--|---|---------------------|--|--|
| LED Status | Description | Troubleshooting | LED Status | Description | Troubleshooting | LED Status | Description | Troubleshooting | LED Status | Description | Troubleshooting |
| OFF ○ | Logic lines not powered | Check power supply (pin's 1 & 3 on Power M-12) | OFF ○ | Not link, no activity | Check connection to the Network | OFF ○ | No Power | Check power supply | OFF ○ | Module off line (no IP address) or not powered | Check power supply and connection to the Network. Check IP address setting |
| ON GREEN ○ | Logic power OK | N/A | ON GREEN ○ | Link 100Mbit/s established | N/A | ON GREEN ○ | Normal operations | N/A | ON GREEN ○ | Module online, one or more connections established | N/A |
| ON RED ● | Presence of any fault requiring acknowledgment | N/A | Blinking GREEN ✱ | Ongoing activity 100Mbit/s | N/A | Blinking GREEN ✱ | Module not configured or controller in idle state | Check Network configuration and controller status | Blinking GREEN ✱ | Online, no connection established | Check module configuration into engineering environment |
| Blinking RED ✱ | Invalid rotary switch setting | Check rotary switch setting | ON YELLOW ○ | Link 10Mbit/s established | N/A | ON RED ● | Major fault. Exception or Fatal Error | Power cycle the module. If error persists exchange the module | ON RED ● | IP-Address inconsistency | Check IP-Addresses onto the network and look for duplicates |
| Blinking G/R ✱ | Firmware version error or Completed "Reset to Factory" | If switches setting different from "999" and no "Reset to Factory" performed via webpage, then contact technical support | Blinking YELLOW ✱ | Ongoing activity 10 Mbit/s | N/A | Blinking RED ✱ | Recoverable fault(s). Module is configured but stored parameters differs from currently used parameter | Check parameters and restart the module | Blinking RED ✱ | One or more connections timed out | Check network. Restart the module |



| OUTPUT ERROR Red LED | | |
|----------------------|--|---|
| LED Status | Description | Troubleshooting |
| OFF ○ | Standard mode (No error active) | N/A |
| ON RED ● | One (or more) active "outputs stage failure" | Check diagnostic message through the Network and relative troubleshooting |

Diagnostic through network via OIA #9 – "Module Error Input"

The P2M Node 24DO module offers diagnostic data transmitted to the PLC as Process Data Input or via the Object Instance Attribute (OIA) #9:

| OIA | Instance Name | Data Type | Access |
|-----|--------------------|-----------|--------|
| #9 | Module Error Input | UINT16 | Read |

| | |
|--------|-------------------------|
| Byte 0 | Diag 7 Diag 0 |
| Byte 1 | Reserved |

| Bit # | Error Name | Error Description |
|-----------|-----------------------------|---|
| Diag 0 | Ack-Required | Set if any major fault active. Outputs are switched OFF and acknowledge is required to restart the module to normal operation |
| Diag 1 | Auxiliary Voltage Warning | Set if Auxiliary Voltage in Warning range. Module keeps normal operation |
| Diag 2 | Auxiliary Voltage Failure | Auxiliary Voltage in Error range. Outputs are switched OFF and acknowledge is required to restart the module to normal operation |
| Diag 3 | Temperature Warning | Set if a temperature increase above warning levels is detected by the output drivers |
| Diag 4 | Output Driver Channel Error | Set if a major fault is detected at the output stage – solenoid short circuit. Outputs are switched OFF and acknowledge is required to restart the module to normal operation |
| Diag 5 | Module Error | Set if an internal communication error is active. Depending on the fault the module might require acknowledgment. |
| Diag 6 | Outputs Stage Not Available | Set if auxiliary power is missing. No acknowledge is required |
| Diag 7-15 | Reserved | These bits will be always set as 0 |

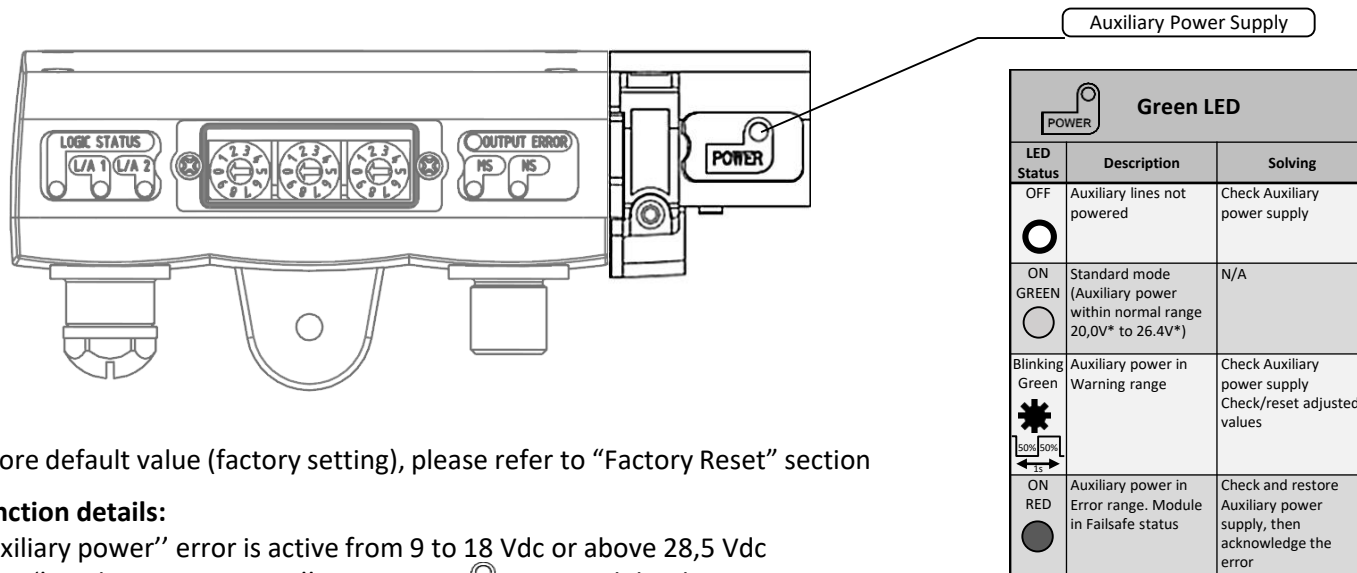
NOTE: Errors caused by solenoid(s) must be fixed first and then the error must be acknowledged by either one of the following actions::

- switching OFF/ON Auxiliary power supply (once error is fixed)
- sending the "Acknowledge Error" command ****SEE OIA#8**

Auxiliary Power Management


Power supply diagnostic through LED

The P2M Node 24DO monitors the auxiliary power supply voltage and manages two levels of diagnostics; warning and error range. The normal range can be modified through parameter data.



To restore default value (factory setting), please refer to “Factory Reset” section

LED function details:

- “Auxiliary power” error is active from 9 to 18 Vdc or above 28,5 Vdc
- When “Auxiliary power error” is active,  LED is solid red

* Warning level values could have been modified by the user! Default values can be restored at any time (please refer to "Aux power management" section)

Power supply diagnostic through Network and Process Data mapping

| | | | | | | | | | |
|---------------------------|--------|--------------|---|---|---|---|----------|----------|---|
| | | 7 | 6 | 5 | 4 | 3 | 2 | 1 | 0 |
| PLC mapping Process input | Byte 0 | Diag 7 | | | | | | Diag 0 | |

- Diag 1 : Auxiliary Voltage in Warning range. The limits of the Warning range can be adjusted via OIA#11 and OIA#12
- Diag 2 : Auxiliary Voltage failure. < 18 Vdc or > 28,5 Vdc. Module goes in Failsafe Status. Acknowledge is required to restart the module. Values cannot be adjusted

Auxiliary Voltage Reading

The auxiliary voltage measured by the module can be accessed via the Object Instance Attribute #4. The displayed value is in mV.

| OIA | Data Type | Access | Name | Min Value | Max Value | Default |
|-----|-----------|--------|-------------|-----------|-----------|---------|
| #04 | UINT16 | Read | AUX Voltage | 0 | 36300 | N/A |

Auxiliary power supply range adjustment

Normal auxiliary power supply range is set as $20,0V < \text{Aux power supply} < 26,4V$

The low and high limits of the Voltage Warning levels are adjustable via Object Instance Attributes #11 and #12.

Values shown in mV.

| OIA | Data Type | Access | Name | Min Value | Max Value | Default |
|-----|-----------|--------------|--------------------------------|-----------|-----------|---------|
| #11 | UINT16 | Read / Write | AUX Voltage Warning Low Limit | 18000 | 24000 | 20000 |
| #12 | UINT16 | Read / Write | AUX Voltage Warning High Limit | 24000 | 28500 | 26400 |

Process Data Outputs

Object Instance Attribute #01 – Solenoids

The OIA #01 contains the process output data to the valves. A value of 1 assigned to a bit in the OIA #01 indicates that the associated solenoid shall be energized, whereas zero indicates that the power at the solenoid shall be off.

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-------------------|---------------|--------------|----------|-----------|----------------|---------|
| #01 | Array of bits (8) | 3 | Read / Write | OUT Data | 0 | 0xFF 0xFF 0xFF | 0 |

The 24 solenoids are represented by one bit each, where the LSB (Least Significant Bit) is associated with Solenoid-1 and the MSB (Most Significant Bit) is associated with Solenoid-24.

| Byte | 3 | | | | 2 | 1 | | | |
|---------------------|----------------|-----------------|----------------|-----|-----|-----|----------------|---------------|----------------|
| Bit # | 23 (MSB) | 22 | 21 | ... | ... | ... | 2 | 1 | 0 (LSB) |
| Example Output Data | 1 | 0 | 1 | ... | ... | ... | 0 | 1 | 0 |
| Controlled Output | Out_23 HIGH | Out_22 LOW | Out_21 HIGH | ... | ... | ... | Out_2 LOW | Out_1 HIGH | Out_0 LOW |
| Solenoid Energized | Solenoid_24 ON | Solenoid_23 OFF | Solenoid_22 ON | ... | ... | ... | Solenoid_3 OFF | Solenoid_2 ON | Solenoid_1 OFF |

Object Instance Attribute #08 – System Commands

The OIA #08 contains the “System Command Byte”. This byte is used for specific functions; such as “Leave Failsafe / Error Acknowledgment” and others detailed in the table below. In order to execute the desired function the specific value associated with the command has to be written in the OIA #08.

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-----------|---------------|--------------|----------------|-----------|-----------|---------|
| #08 | UINT8 | 1 | Read / Write | System Command | 0 | 0xFF | 0 |

The System Command Byte supports the commands as defined in the table below.

| Command Value | Command Name | Description |
|---------------|--|--|
| 0x01 | Leave Failsafe State (Acknowledge Error) | <p>This command allows the module to leave failsafe state* (acknowledge error). Meaning that, if no error is pending at the time the Leave Failsafe State command is executed, then the device returns to normal operation and the outputs are set according to process data.</p> <p>* If Failsafe state is reached, then it is not automatically left if the error conditions are no longer existent.</p> |
| 0x02 | Store Switching Cycle Counters | <p>When this command is executed, the current values of the switching cycle counters are stored into EEPROM. This command is intended to be used before powering off the device.</p> |

Status / Diagnostic Data and Parameters

Object Instance Attribute #02 – Switching Cycles Counters

The OIA #02 contains the 24 switching cycle counters for the valves. The counter values are automatically stored by the module every 30 minutes.

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-----------------|---------------|--------|--------------------------|-----------|-----------|---------|
| #02 | Array of UINT32 | 24 | Read | Switching Cycle Counters | 0 | * | 0 |

* Max value for OIA #2 is circa 4,3 billion (UINT32 max representable value). Once that the max value is reached, this is held in memory and additional cycles are not counted.

Object Instance Attribute #03 – Clear Switching Cycles Counters

The OIA #03 allows the switching cycle counter for the solenoids to be reset to zero. The counter for each solenoid can be reset individually by setting the associated bit on the OIA #03 – i.e.: for each bit set to 1 in the OIA #03, the associated counter is set to zero.

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-------------------|---------------|---------------|--------------------------------|-----------|----------------|---------|
| #03 | Array of bits (8) | 3 | Read */ Write | Clear Switching Cycle Counters | 0 | 0xFF 0xFF 0xFF | 0 |

* The Read service for this OIA always returns all zeros.

Object Instance Attribute #04 – AUX Voltage Value

The OIA #04 contains the measured value of the Auxiliary Voltage

Values shown in mV

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-----------|---------------|--------|-------------|-----------|-----------|---------|
| #04 | UINT16 | 1 | Read | AUX Voltage | 0 | 36300 | N/A |

Object Instance Attribute #06 – Channel Error

In case an error occurs in the outputs stage (e.g.: short circuit or over-temperature), the OIA #06 provides information about which channel caused the error. The bits corresponding to the outputs that caused the fault are set to 1 in the OIA #6.

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-------------------|---------------|--------|---------------|-----------|----------------|----------|
| #06 | Array of bits (8) | 3 | Read | Channel Error | 0x000000 | 0xFF 0xFF 0xFF | 0x000000 |

Object Instance Attribute #07 – Module Info Flag

The OIA #07 contains information about possible module states and faults / errors that might affect the module. The faults identified in the module error flag are not recoverable; therefore a power cycle is required to clear them. If the faults are still present following a power cycle the module has to be replaced. The message headers and flag definitions associated with each bit in the OIA are detailed in the table (see next page).

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-----------|---------------|--------|-------------------|-----------|-----------|---------|
| #07 | UINT16 | 1 | Read | Module Info Flags | 0 | 0xFF 0xFF | 0 |

Status / Diagnostic Data and Parameters

Object Instance Attribute #07 – Module Info Flags (Continued)

| Bit # | Module Error Header | Fault Description |
|-------|------------------------|---|
| 0 | Watchdog Valve μ C | Set if the watchdog caused the last reset of the output stage |
| 1 | EEPROM Error | Set if any of the (expected) data stored in the EEPROM has been detected as not-valid |
| 2-7 | Reserved | |
| 8 | Watchdog COM μ C | Set if the watchdog caused the last reset of the communication stage |
| 9 | Heartbeat Not Toggling | Heartbeat is currently not toggling whilst it should |
| 10 | Heartbeat State | Used to troubleshoot the cause of the “Heartbeat Not Toggling” error |
| 11-15 | Reserved | |

Object Instance Attribute #09 – Module Error Input

The OIA #09 contains user-friendly diagnostics (in case of errors or faults) provided as Process Data Input.

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-----------|---------------|--------|--------------------|-----------|-----------|---------|
| #09 | UINT16 | 1 | Read | Module Error Input | 0 | 0xFF 0xFF | 0 |

| Bit # | Module Error Header | Fault Description |
|-------|-----------------------------|---|
| 0 | Ack Required | Set if a major fault requiring acknowledgment is detected. All outputs are set to 0. If this bit is set, then a “Leave Failsafe Command” is required to restart the module. |
| 1 | AUX Voltage Warning | Set if the Auxiliary Voltage is outside Normal range and within Warning range. |
| 2 | AUX Voltage Error | Set if the Auxiliary Voltage is outside Warning and within Error range. The outputs are switched off and an acknowledge is required to restart the module. |
| 3 | Temperature Warning | Set if a temperature warning (in one of the output driver chips) is detected. Outputs are switched off and an acknowledge is required to restart the module. |
| 4 | Output Driver Channel Error | Set if an over current / short-circuit error has occurred. Outputs are switched off and an acknowledge is required to restart the module. |
| 5 | Module Error | Depending on the source of the fault, this error either requires acknowledge or is unrecoverable. |
| 6 | Output Stage Not Available | Set if no Auxiliary Power is available. No acknowledge is required |
| 7-15 | | Reserved |

Status / Diagnostic Data and Parameters

Object Instance Attribute #11 – AUX Voltage Warning Low Limit

The OIA #11 contains the value for the AUX Voltage Warning Low Limit – i.e.: the (low) AUX Voltage value that will trigger the AUX Voltage Warning diagnostic

Values shown in mV

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-----------|---------------|------------|-------------------------------|-----------|-----------|---------|
| #11 | UINT16 | 1 | Read/Write | AUX Voltage Warning Low Limit | 18000 | 24000 | 20000 |

Object Instance Attribute #12 – AUX Voltage Warning High Limit

The OIA #12 contains the value for the AUX Voltage Warning High Limit, in millivolts – i.e.: the (high) AUX Voltage value that will trigger the AUX Voltage Warning diagnostic

Values shown in mV

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-----------|---------------|------------|--------------------------------|-----------|-----------|---------|
| #12 | UINT16 | 1 | Read/Write | AUX Voltage Warning High Limit | 24000 | 28500 | 26400 |

Object Instance Attribute #13 – Output State Behaviour

The OIA #13 applies in case of communication lost (between Controller and P2M Node) and determines the outputs behavior in case of loss of communication, as follow:

OIA#13 = 0 → Outputs are set to “0”

OIA#13 = 1 → Outputs are hold to last valid state

| OIA | Data Type | N° of Element | Access | Name | Min Value | Max Value | Default |
|-----|-----------|---------------|------------|-----------------------|-----------|-----------|---------|
| #13 | UINT8 | 1 | Read/Write | Output State Behavior | 0 | 1 | 0 |

Additional EtherNet/IP Features

| Feature | Remark |
|----------------------------------|---------------|
| ACD (Address Conflict Detection) | NOT Supported |
| DLR (Device Level Ring protocol) | Supported |
| QuickConnect | Supported |

Web Server

The P2M Node 24 DO module has web-server capability for monitoring and controlling purposes. The user's write access to the OIAs via web-server is protected by username / password (Default: PARKER / PARKER).

For accessing the module web-server, simply power it up and connect it to the Ethernet Network. The web-server is then accessible by entering the IP-address of the module in the web browser's address field.

The web-server has four tabs:

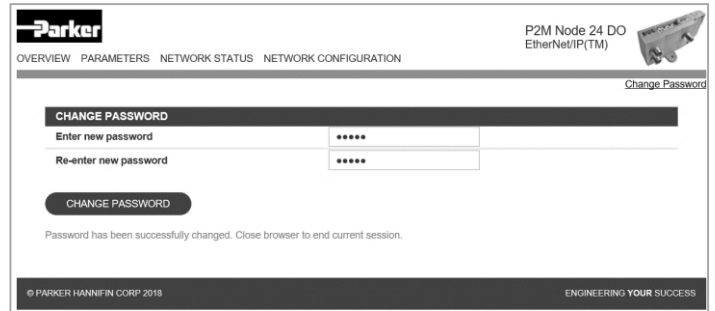
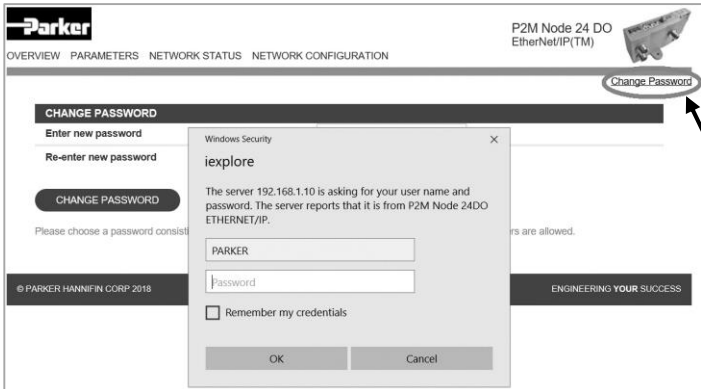
- **Overview:** Main product information is available via this page
- **Parameters:** OIAs (Read and Write) are accessible via this page
- **Network Status:** Information about current network status is available via this page
- **Network Configuration:** The module's network configuration can be displayed and set via this page

Web Server

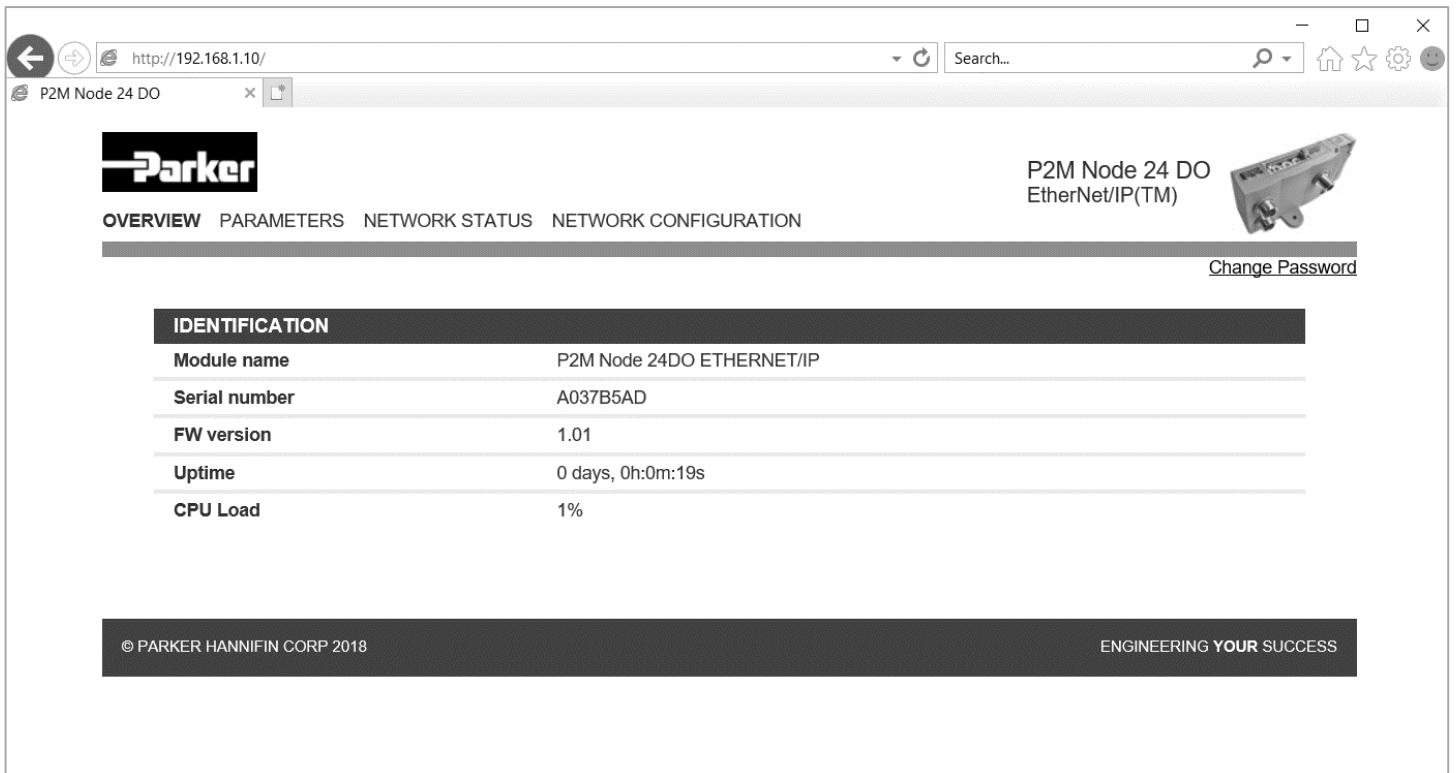
Change Password

It is possible to modify the password via a dedicated button on the top right corner of all the tabs of the web server. The web server will require the user to enter the current password (left image below) before entering the new value for the field (right image below).

The password can be restored to default values (PARKER) via a “Reset to Factory”.





Overview Page



Web Server

Parameters Page



P2M Node 24 DO
EtherNet/IP(TM)


OVERVIEW
PARAMETERS
NETWORK STATUS
NETWORK CONFIGURATION

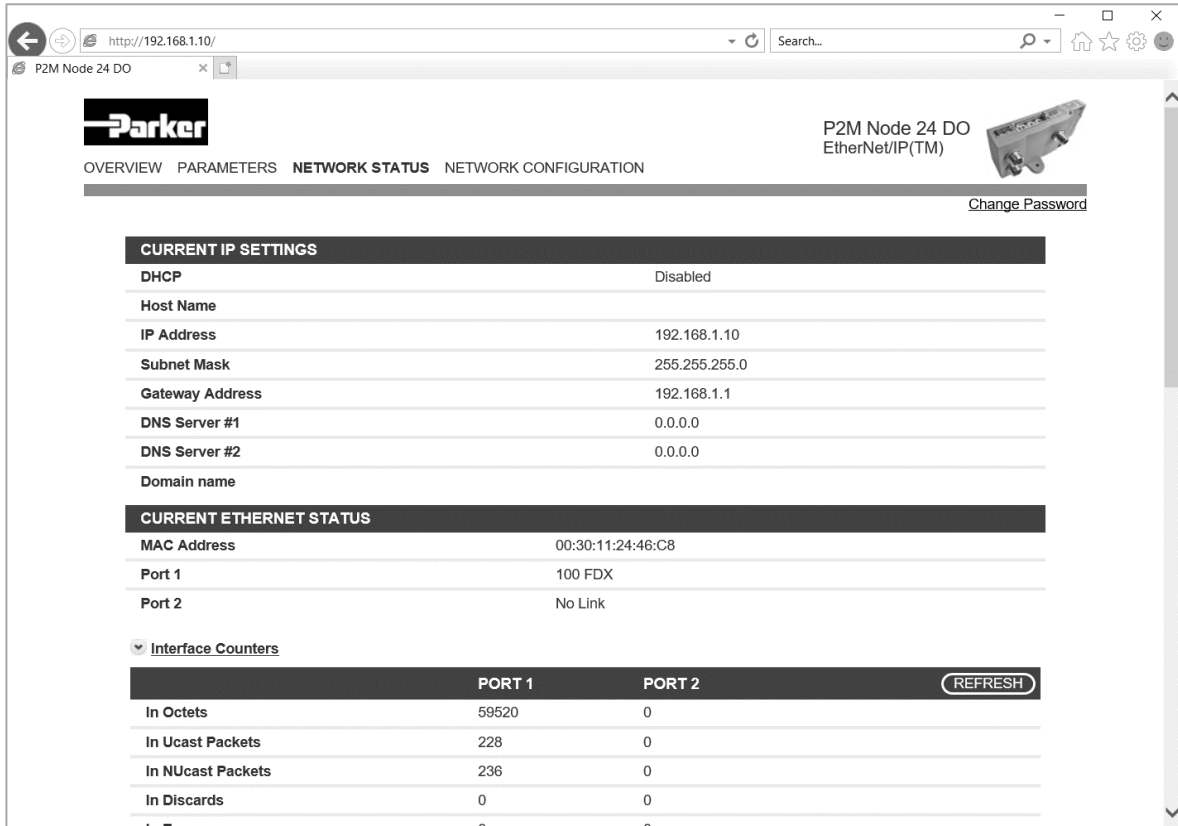
[Change Password](#)

| NAME | VALUE | REFRESH |
|---------------------------------------|---|------------|
| Output state at loss of communication | Set outputs to 0 | Set |
| Solenoid | #1 to #8 | 0 |
| | #9 to #16 | 0 |
| | #17 to #24 | 0 |
| Solenoids Cycles Counters | #1 | 0 |
| | #2 | 0 |
| | #3 | 0 |
| | #4 | 0 |
| | #5 | 0 |
| | #6 | 0 |
| | #7 | 0 |
| | #8 | 0 |
| | #9 | 0 |
| | #10 | 0 |
| | #11 | 0 |
| | #12 | 0 |
| | #13 | 0 |
| | #14 | 0 |
| | #15 | 0 |
| | #16 | 0 |
| | #17 | 0 |
| | #18 | 0 |
| | #19 | 0 |
| | #20 | 0 |
| | #21 | 0 |
| | #22 | 0 |
| | #23 | 0 |
| | #24 | 0 |
| Channel Error | #1 to #8 | 0 |
| | #9 to #16 | 0 |
| | #17 to #24 | 0 |
| Module Info Flag | | 0 |
| Module Error Input | | 0 |
| AUX Voltage | (V) | 23.617 |
| AUX Voltage Warning Level | (V) low: 20 | high: 26.4 |
| System Commands | Leave Fail-Safe Store Counters Reset to Factory Default | |

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Web Server

Network Status Page



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CURRENT IP SETTINGS

| | |
|-----------------|---------------|
| DHCP | Disabled |
| Host Name | |
| IP Address | 192.168.1.10 |
| Subnet Mask | 255.255.255.0 |
| Gateway Address | 192.168.1.1 |
| DNS Server #1 | 0.0.0.0 |
| DNS Server #2 | 0.0.0.0 |
| Domain name | |

CURRENT ETHERNET STATUS

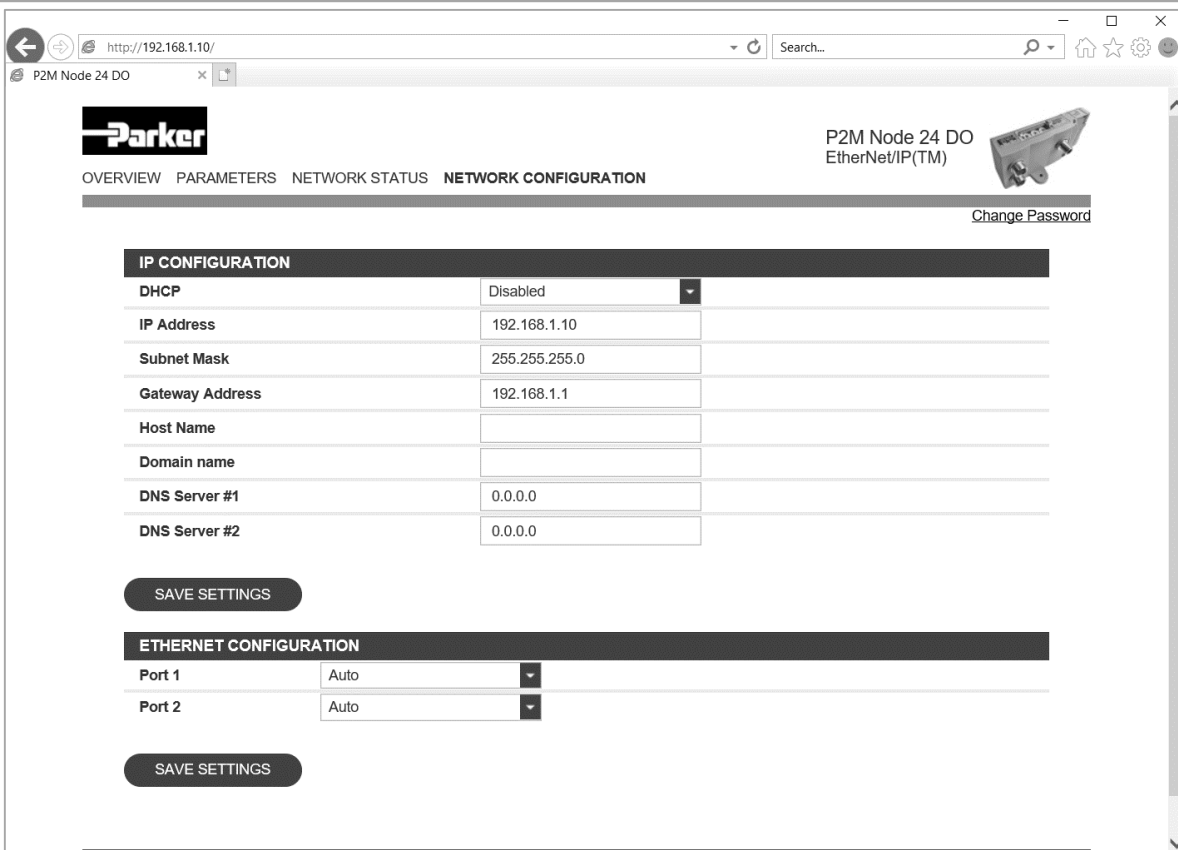
| | |
|-------------|-------------------|
| MAC Address | 00:30:11:24:46:C8 |
| Port 1 | 100 FDX |
| Port 2 | No Link |

☒ [Interface Counters](#)

| | PORT 1 | PORT 2 |
|-------------------|--------|--------|
| In Octets | 59520 | 0 |
| In Ucast Packets | 228 | 0 |
| In NUcast Packets | 236 | 0 |
| In Discards | 0 | 0 |

[REFRESH](#)

Network Configuration Page



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IP CONFIGURATION

| | |
|-----------------|---------------|
| DHCP | Disabled |
| IP Address | 192.168.1.10 |
| Subnet Mask | 255.255.255.0 |
| Gateway Address | 192.168.1.1 |
| Host Name | |
| Domain name | |
| DNS Server #1 | 0.0.0.0 |
| DNS Server #2 | 0.0.0.0 |

[SAVE SETTINGS](#)

ETHERNET CONFIGURATION

| | |
|--------|------|
| Port 1 | Auto |
| Port 2 | Auto |

[SAVE SETTINGS](#)

[illegible]

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P2M Node 24DO **EtherNet/IP**

User Manual

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