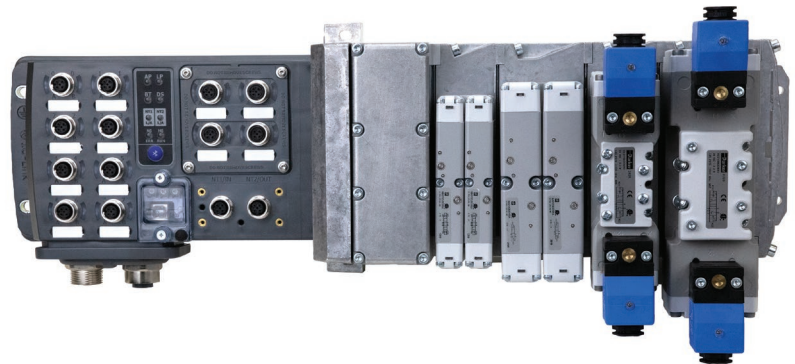
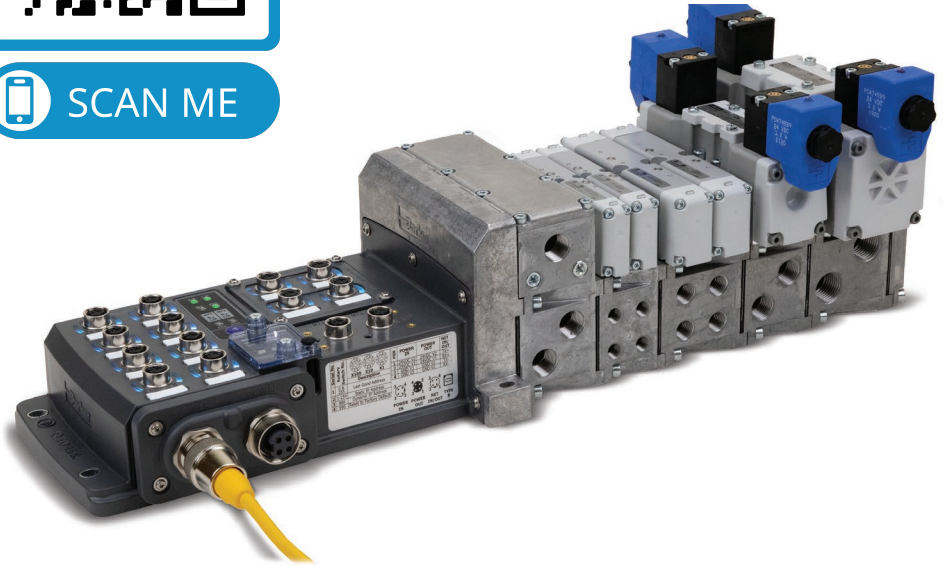


SCAN ME

MFP

AUTOMATION
ENGINEERING



PCH Network Portal

Bulletin 0600-B100



ENGINEERING YOUR SUCCESS.

PCH Network Portal

What is PCH Network Portal?

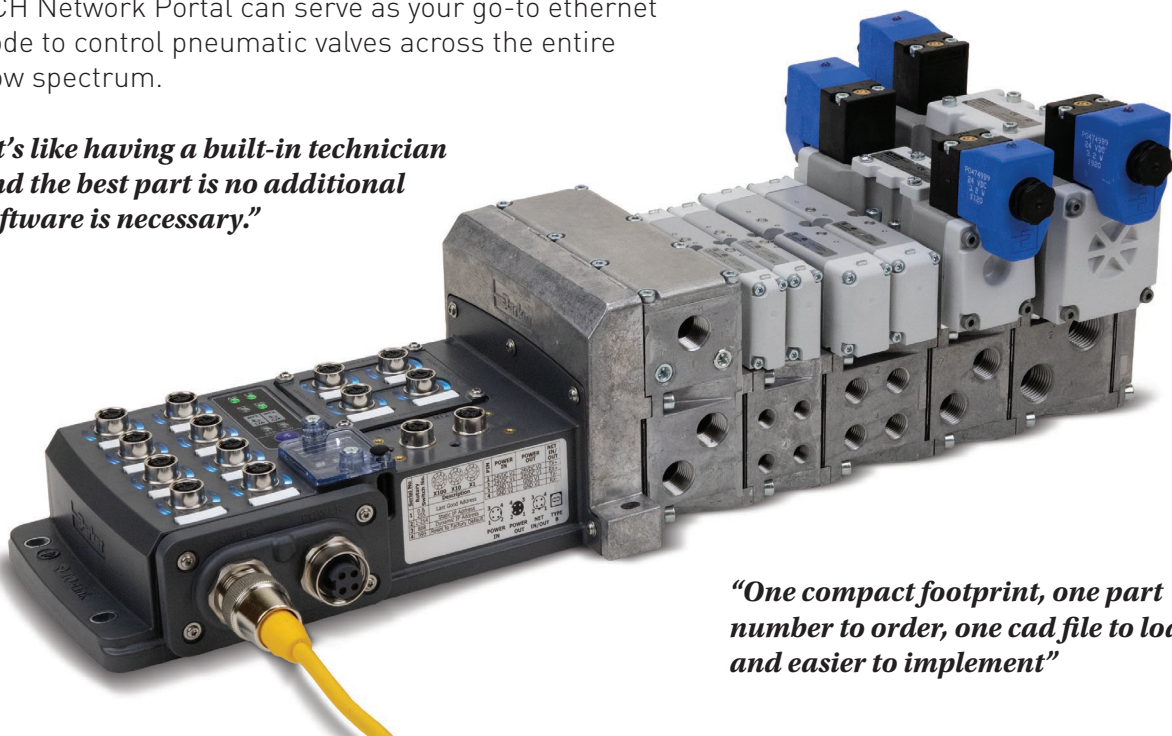
PCH Network Portal is a new approach to ethernet communication modules that **redefines and revolutionizes machine I/O architecture** (inputs and outputs). As an ethernet node with **IO-Link master capability** that supports **multiple Industrial Ethernet communication protocols** (EtherNet/IP, PROFINET, Modbus TCP and EtherCAT), the PCH Network Portal can communicate with many industrial controllers used in the automation industry. It is classified as a Cyber Physical System for its ability to communicate across machinery while offering maximum function integration, simplicity of use, and significant architecture cost reductions.

The PCH Network Portal was engineered for flexible manufacturing applications where machine changes are common, PLC's are not always accessible, and where obstacles on the plant floor make setup, configuration and troubleshooting time consuming. The PCH Network Portal was engineered with configurable I/O with true PNP / NPN circuitry switching and the open protocol, IO-Link, on each port for easy machine design changes. With built-in configurable IO-Link master ports all packed into an IP65, weld splatter resistant housing, the PCH Network Portal can future-proof your machine to changes in your network architecture. Built-in programming functions such as debounce timers and time stamped rolling 40 errors, warnings and events logs make troubleshooting and integration easy, even for an unseasoned programmer.

When commissioning or troubleshooting, many intuitive interfaces can be used in conjunction with a PLC, such as the embedded webpage version of the PCH Portal Configuration Tool. Configuration can be done via a laptop, tablet, or phone via a secure and lockable Bluetooth connection, providing remote control of the PCH Network Portal which enhances safety; especially when dealing with robot controllers or end effector tooling.

Assembled with Parker's H ISO Universal Manifold, the PCH Network Portal can serve as your go-to ethernet node to control pneumatic valves across the entire flow spectrum.

"It's like having a built-in technician and the best part is no additional software is necessary."



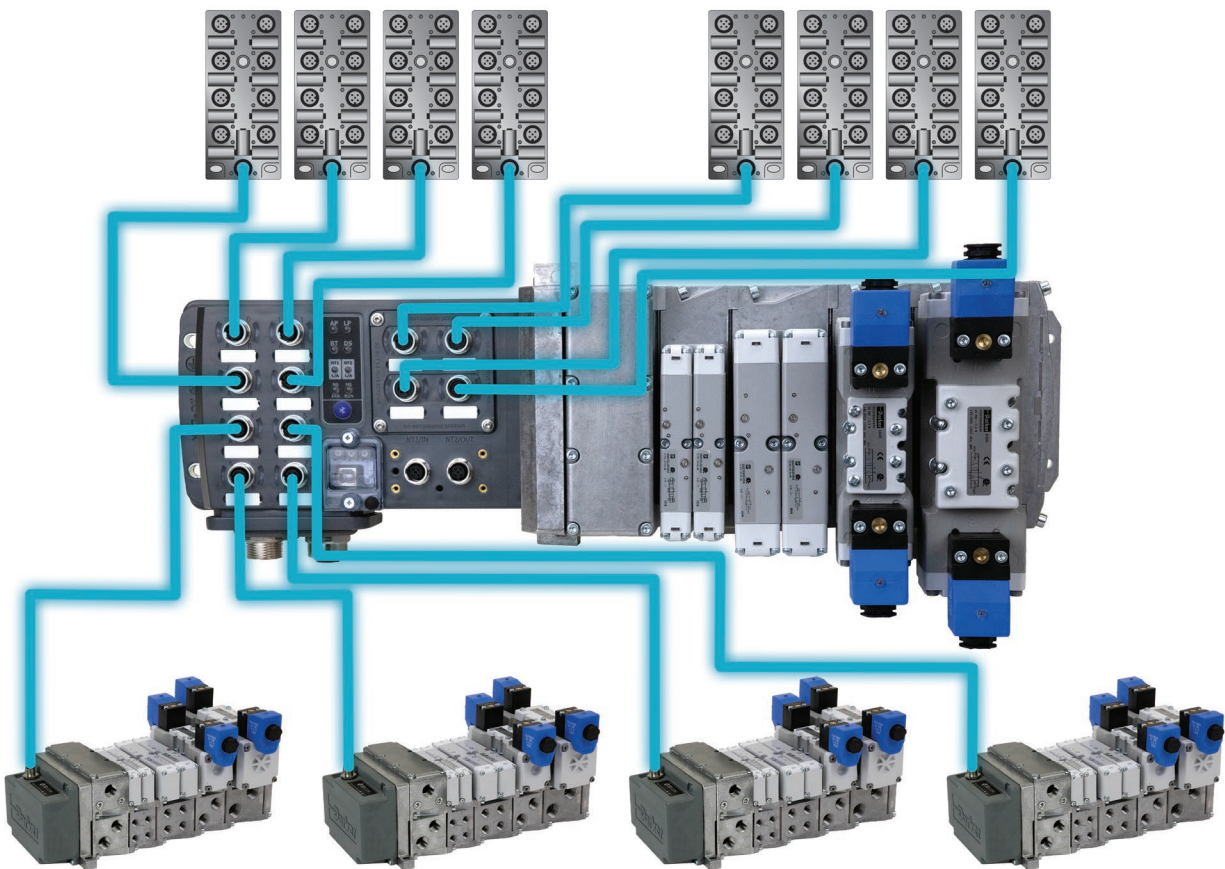
"One compact footprint, one part number to order, one cad file to load, and easier to implement"

PCH Network Portal

Architecture Savings, Dramatic versatility

The modularity of the PCH Network Portal can significantly optimize the layout and architecture of a machine offering significant cost reductions in machine design, during integration or simply through rapid troubleshooting and maintenance benefits. **Reducing architecture complexity, increasing compatibility and interchangeability of connected devices, together with an ease of set-up and programming, allows the PCH Network Portal to achieve incredible savings in machinery design.**

Utilizing the PCH Network Portal allows applications the flexibility of expanded I/O. Furthermore, taking advantage of the PCH Network Portal's IO-Link master capabilities can dramatically increase the available I/O on a machine. IO-Link opens the door to low cost integration of devices like RFID read head integration, smart lights, distribution blocks, and inductive couplers all in one fixed form factor. This integrated flexibility eliminates the need for expensive ethernet masters, safety blocks, and cabling. As your application grows, that same PCH Network Portal on your warehouse shelf can adapt to meet your needs.

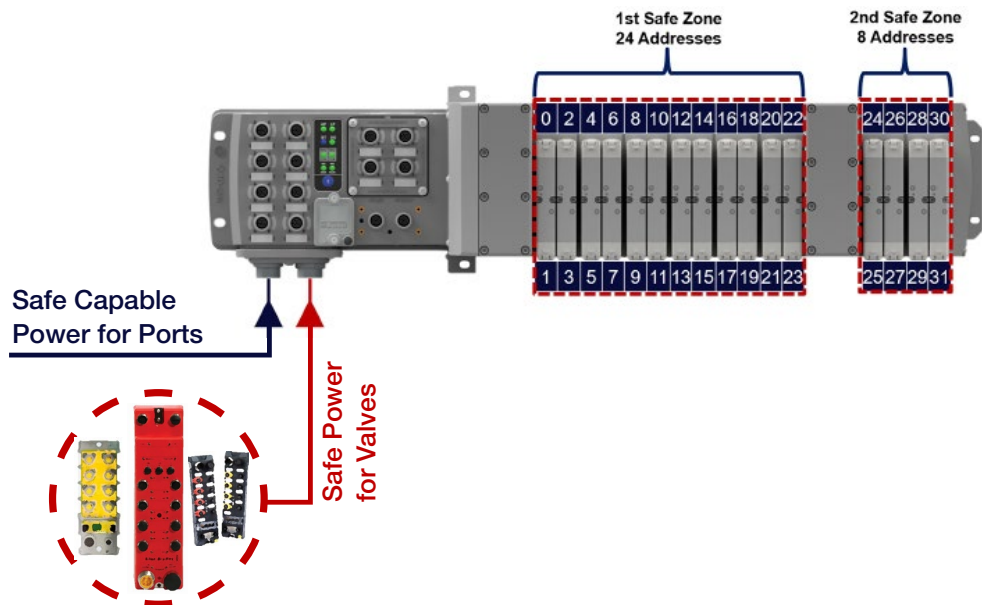


The example above shows the PCH Network Portal expanded to 128 inputs via 8 IO-Link discrete I/O blocks, 4 additional valve manifolds via IO-Link each expandable to 24 valves. All of these connections are done using the non-proprietary, open-protocol, IO-Link, with standard inexpensive M12 cables. **The PCH Network Portal provides the opportunity to control an entire cell or line by with just one ethernet connection.**

PCH Network Portal

Flexible Design, Value Redefined

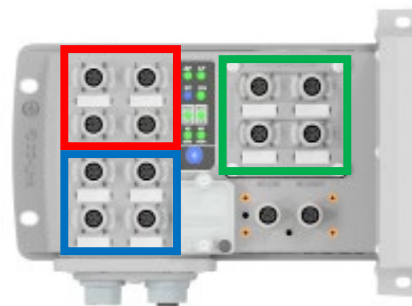
Safe power enhances the security of important connections such as light curtains that require OSSD test pulsing following machinery directives to achieve safety conformance. The illustration below shows the flexibility offered by the PCH Network Portal when separated into two isolated safe power zones using the S4 or S5 power options. The left power connector ('Safe Power Capable for Ports') provides safe capable power to the PCH Network Portal I/O auxiliary ports. The right power connector ('Safe Power for Valves') provides **2 safe power zones** for attached pneumatic valves via isolated pins and safe grounds. The first safe power zone covers the first 24 valve solenoids of the pneumatic manifold. The second safe power zone covers the final 8 valve solenoids of the pneumatic manifold. These safe power zones can be used to implement safe process lines and safe machines all in one compact and powerful solution.



Designing Your System

The PCH Network Portal can accommodate up to three module variants (A, B, and C), each offering uniquely customizable ports. Once you select your module those ports become fully configurable as IO-Link A or IO-Link B master ports or configurable PNP or NPN digital I/O ports. This makes changes on the machine flexible without having to purchase new components.

Module Variant	Description	Each port can have any of the following behavior:
A	Class A IO-Link or Dual I/O	1 IO-Link Class A Master (pin 2 can be configured as input or output) 2 Inputs 24V DC (PNP or NPN) 2 Outputs 250 mA, @ 24V DC
B	Class B IO-Link or Single I/O	1 IO-Link Class B Master 1 Input 24V DC (PNP or NPN) 1 Output (Logic Power), 250 mA, @ 24V DC
C	Class B IO-Link or Dual I/O	2 M12 Ports with digital output (each port will have 2 outputs (aux power) 500 mA, @ 24V DC) 2 M12 Ports, each port will be configured as one of the following: 1 IO-Link Class B Master OR 1 Input, 24VDC (PNP/NPN) OR 1 Output (Logic Power), 250mA @ 24V DC



PCH Network Portal

Streamlined Diagnostics

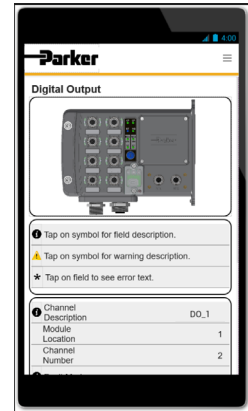
Can't access the PLC? No Problem!

With meticulously designed embedded configuration tools, the PCH Network Portal can serve as your **virtual technician** to make problems easy to troubleshoot. A laptop, tablet or phone can access usable prognostic/diagnostic data and time stamped event logs to make accessing data and commissioning your machine simple. Once you've finished your configuration, the device's configuration profile can be downloaded and easily uploaded to other PCH Network Portals on your machine.

Secure



Lockable




PCH Portal Configuration Tool

Parker ● PLC Mode ○ Configure Mode

STATUS CONFIGURATION FORCE MODE LOG HELP

Status

PCH10EABC0-P4



LED	Status	Value	Description
Aux Power	●	23.87 V	Connected and within Limit
Logic Power	●	23.96 V	Connected and within Limit
Bluetooth	●	7min	Remaining Time
Device Status	●	-	Normal

Address	Valve Tag	Connect	State	Address	Valve Tag	Connect	State
0	VALVE_1	OFF	●	16	VALVE_17	OFF	●
1	VALVE_2	OFF	●	17	VALVE_18	OFF	●
2	VALVE_3	OFF	●	18	VALVE_19	OFF	●
3	VALVE_4	OFF	●	19	VALVE_20	OFF	●
4	VALVE_5	OFF	●	20	VALVE_21	OFF	●
5	VALVE_6	OFF	●	21	VALVE_22	OFF	●
6	VALVE_7	OFF	●	22	VALVE_23	OFF	●
7	VALVE_8	OFF	●	23	VALVE_24	OFF	●
8	VALVE_9	OFF	●	24	VALVE_25	OFF	●
9	VALVE_10	OFF	●	25	VALVE_26	OFF	●
10	VALVE_11	OFF	●	26	VALVE_27	OFF	●
11	VALVE_12	OFF	●	27	VALVE_28	OFF	●
12	VALVE_13	OFF	●	28	VALVE_29	OFF	●
13	VALVE_14	OFF	●	29	VALVE_30	OFF	●
14	VALVE_15	OFF	●	30	VALVE_31	OFF	●
15	VALVE_16	OFF	●	31	VALVE_32	OFF	●

Device Information

Device Name	PCH Portal	
Protocol	Ethernet/IP	Connection 1
IP Address	192.168.1.1	
Bluetooth	ON	
DHCP	Disabled	
Total Current Available	Logic 0.06 A	Aux <12 A
Maximum Current	Logic 8 A	Aux 12 A
Configuration Data Bytes	390	
Bytes Produced	500	
Bytes Consumed	492	
Serial Number		

● Output Configured	● Input ON	● IO-Link Configured, but no device connected	● IO-Link Configured, device connected
● Output Forced ON	● Output Forced OFF	● IO pin is short - circuited or faulted	● Output ON

Device connected ●

When using the 'PCH Portal Configuration Tool' your built-in technician comes to life with easy to follow screens for readouts, adjustments, and settings. Configuring the PCH Network Portal to the network is easy. Fast and storable configurations combined with embedded smart diagnostic and prognostic tools like built-in debounce times and up/down counters translate to quick change-over and short downtime. Further problems are easy to spot with the rolling 40 error, warnings, and events log which are time stamped. No more guessing at what went wrong in plant. Commissioning and troubleshooting a tool can even be done remotely from outside the work cell via the device's secure and lockable Bluetooth connectivity.

PCH Network Portal

2 easy ways to order

1 Online Configuration

Navigate to the landing page

www.parker.com/pdn/PCHPortal

Customize your manifold assembly

Create and save a unique assembled part number

Generate a CAD model



OR

2 Order Components

- A Select Endplate Kit**
Includes Left and Right Hand Endplate
- B Select Valve Manifold Segments**
Manifold (size HB, HA, H1 or H2)
Air Supply Module
- C Select Valve Stations & Accessories**
Valves (size HB, HA, H1 or H2)
Blanking Plate



For more information on the PCH Network Portal visit our website www.parker.com/pdn/PCHPortal for additional whitepapers:



PDNWP-010 The Benefits of Integrating Cyber Physical Systems



PDNWP-015 Optimize Integration with Flexible Design



PDNWP-014 Streamlined Architecture Reduces Machinery Costs



PDNWP-016 Decrease Downtime by Streamlining Diagnostics



www.parker.com/pdn/PCHPortal



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