



Optimize Integration with Flexible Design White Paper



ENGINEERING YOUR SUCCESS.

Optimize Integration with Flexible Design (PCH Network Portal)

Intuitive Interfaces

Modern factories recognize that plant floor architecture is an important structural part of machine design that can make a real difference in managing costs for future changes, integrations and expansions. The PCH Network Portal design team lived in this environment, therefore intuitive interfaces and complete modularity was the heart of PCH Network Portal design concepts.

As with all Cyber Physical Systems (CPS), intuitive interfaces are the backbone of simplicity in application. The PCH Network Portal0 offers several means of intuitive and embedded interfaces to **shorten commission time**.

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 simple laptop, tablet or phone can access usable prognostic and diagnostic data to make accessing data and commissioning your machine simple. The image below shows the feature rich configuration tool embedded in the PCH Network Portal. Intuitive port/pin configuration simplifies setup and speed for machine connection to the network with built-in programming functions, such as debounce times (up to 120 ms) and up/down counters.

The screenshot displays the 'PCH Portal Configuration Tool 2.0.64' interface. It features a top navigation bar with 'STATUS', 'CONFIGURATION', 'FORCE MODE', 'LOG', and 'HELP'. The main content area is divided into several sections:

- Status:** Shows a photograph of the PCH10EABC0-P4 device and a table of valve configurations.
- Device Information:** Provides details such as Device Name (PCH Portal), Protocol (Ethernet/IP), IP Address (192.168.1.1), Bluetooth (ON), and DHCP (Disabled).
- LED Status Tables:** Two tables at the bottom show the status of various LEDs, including Aux Power, Logic Power, Bluetooth, Device Status, Port 1 LINK/Activity Status, Port 2 LINK/Activity Status, NS/ERR LED, and MS/RUN LED.
- Legend:** A color-coded legend at the bottom explains the status of different LEDs and IO-Link configurations.

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

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

LED	Status	Description
Port 1 LINK/Activity Status	OFF	No link, no activity
Port 2 LINK/Activity Status	OFF	No link, no activity
NS/ERR LED	OFF	---
MS/RUN LED	ON	---

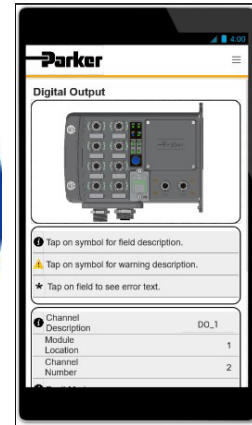
Legend:

- Output Configured (Blue dot)
- Output Forced ON (Orange dot)
- Input ON (Yellow dot)
- Output Forced OFF (Purple dot)
- IO-Link Configured, but no device connected (Grey dot)
- IO pin is short - circuited or faulted (Red dot)
- IO-Link Configured, device connected (Green dot)
- Output ON (Yellow dot)

Device connected (Green dot)

Secure Bluetooth Interface

Accessing data and commissioning the PCH Network Portal can be accomplished through the secure and lockable Bluetooth app for Android or iOS devices. Using the integrated web based or “PCH Network Portal Configuration Tool” application, these interfaces are designed to make set-up easy and eliminate the need for additional software.



Just Brilliant

Minimized space on the plant floor means it is not always easy to get close to the machine for troubleshooting. For this reason, engineers designing the PCH Network Portal opted for super bright LEDs to provide a brilliant high lumen output, so the user can view the PCH Network Portal port configurations (input, output, IO-Link) from outside the machine's safety or work zone. The LEDs are designed with 120-degree viewability to accommodate for placement of cables, splitters, and tees. Large port labels are also offered for easy port to cable identification.



Smart, intuitive, easy and brilliant.

Configurable Inputs/Outputs Save Time

Last minute machine changes are nothing new. Designed with the flexible manufacturing applications in mind, the PCH Network Portal allows for last minute design changes to the configurable ports. Three selectable module variants make up twelve configurable ports whose behavior can be changed on the fly. True PNP/NPN circuitry on each port allows easy point and click setup customization without having to buy additional I/O.

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

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-014 Streamlined Architecture Reduces Machinery Costs



PDNWP-016 Decrease Downtime by Streamlining Diagnostics

