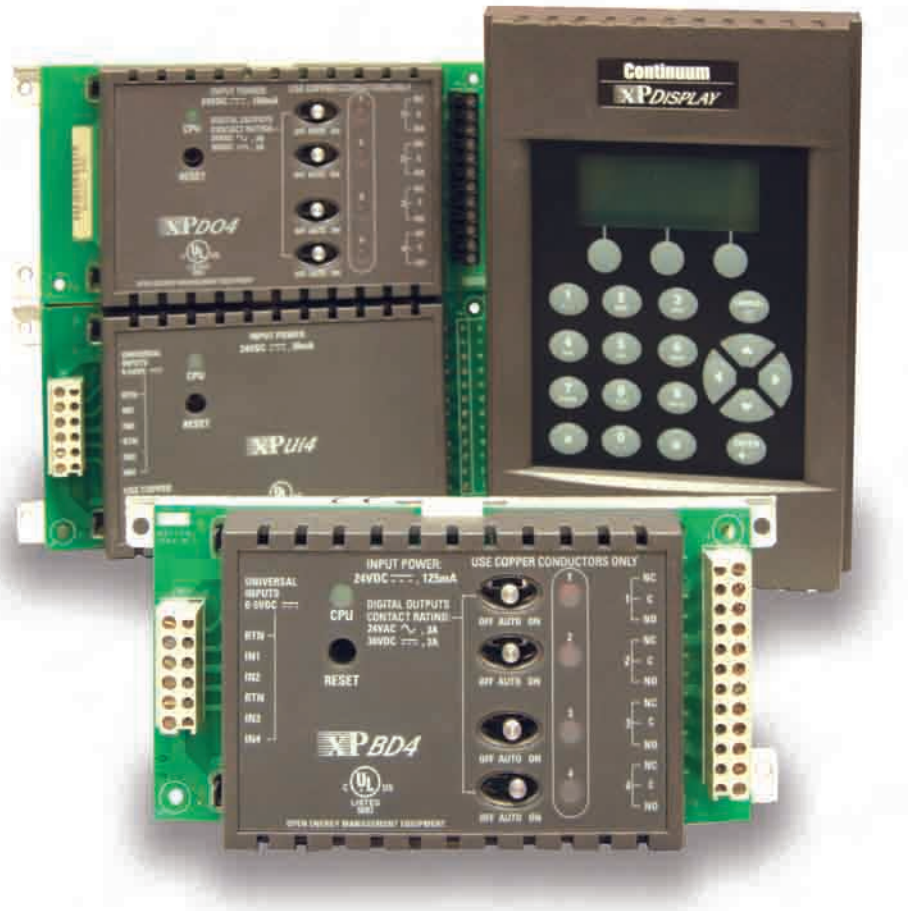
Andover Continuum™

xP Expansion I/O Family

The Andover Continuum xP Expansion I/O Family provides a convenient and cost-effective means to add additional inputs, outputs, or a local display to the Andover Continuum Infinet™ II and BACnet™ family of distributed controllers.



Schneider Electric

Andover Continuum xP Expansion I/O Family Features

Up to two modules plus a local display can be powered directly from any of the following controllers in the Andover Continuum Infinet II (i2) or BACnet (b3) families: i2/b3 920, i2/b3 810, i2/b3 814, i2/b3 850, i2/b3 851, or i2/b3 853.

The bCX1 Controller/Router models can also be used to connect xP Expansion Modules (and Display) and are the only controllers that support the xPBA4 and xPBD4 module types. No external power supply is required to power the Module(s). Consult the xP Modules and Local Display Modules User Guide for valid configurations.

PRODUCT AT A GLANCE

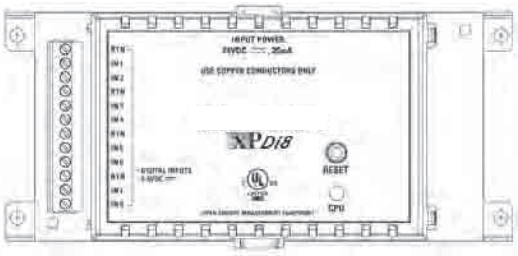
- Powerful, Flexible System Allows for Simple Addition of a Few I/O Points
- Individual Overrides of All Digital Outputs
- Universal Inputs Provide the Most Flexibility, Including a Single High Speed Counter Input
- Individual Overrides and Potentiometers for All Analog Outputs
- Full Function Manual Overrides Provide Status Feedback
- 4-Line, 16-character Display with Keypad Provides Simple and Convenient Operator Interface
- Locally Mounted or Remote Mount of Modules and Display
- Module Power Supplied by the Controller, Reducing Installation Time and Cost

- **xPDI8 –** The xPDI8 module allows the addition of 8 Digital Inputs in a small enclosure.
- **xPUI4 –** The xPUI4 module allows the addition of 4 Universal Inputs. Each can be configured independently based on your needs for Digital, Temperature, Motion Sensor, or Pulse Counter Inputs, etc., providing built-in flexibility for your different application requirements.
- **xPAO2/xPAO4 –** Both the xPAO2 (2 Analog Outputs) and the xPAO4 (4 Analog Outputs) allow the addition of Analog Outputs. Each output has individual manual override switches to select Manual, Off, or Auto for program control. When in Manual mode, each output also has a potentiometer to allow control of the override point.
- **xPDO2/xPDO4 –** Both the xPDO2 (2 Digital Outputs) and the xPDO4 (4 Digital Outputs) allow the addition of Digital Outputs. Each output has individual manual override switches to select On, Off, or Auto for program control.
- **xPBA4/xPBD4 –** Both the xPBA4 and the xPBD4 combine the functions of two xP Expansion modules. Similar to the xPUI4, both allow the addition of 4 Universal Inputs. The xPBA4 allows the addition of 4 Analog Outputs (like the xPAO4), and the xPBD4 allows for the addition of 4 Digital Outputs (like the xPDO4). (Note: The xPBA4 and xPBD4 Expansion Modules can only be connected to the bCX1 Controller/Routers and ACX Series Access Controllers.)

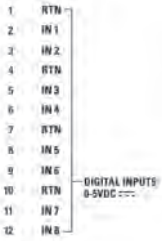
Andover Continuum xP Expansion I/O Family Features (continued)

Expansion I/O Family

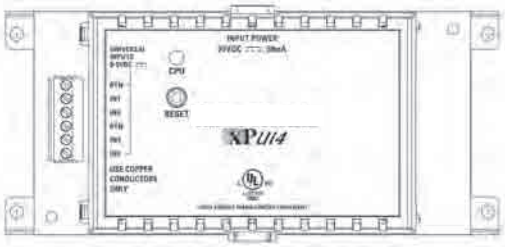
xPDI8



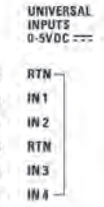
INPUTS



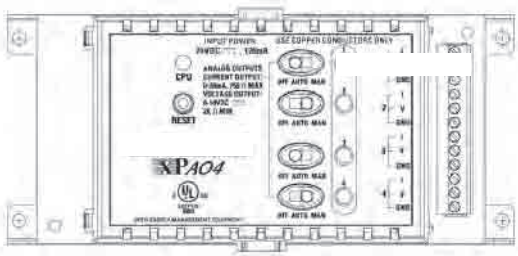
xPUI4



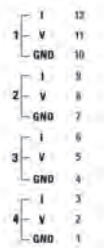
INPUTS



xPAO4

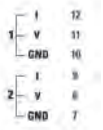


OUTPUTS



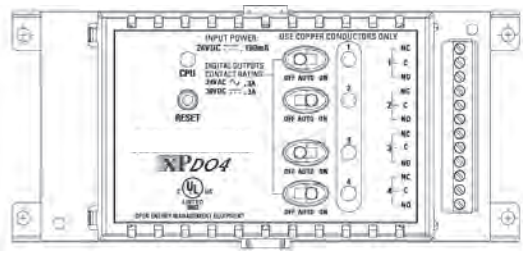
xPAO2

OUTPUTS

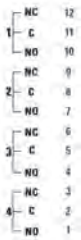


Similar to xPAO4; however only the first 2 outputs are populated.

xPDO4

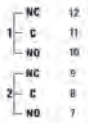


OUTPUTS



xPDO2

OUTPUTS



Similar to xPDO4; however only the first 2 outputs are populated.

Local Display

The local display with keypad (xP Display) allows for the addition of a fully programmable local display module that can be mounted within 10 feet (3 meters) of the controller. Connected via a ribbon cable, the xP Display easily allows the Operator Interface to be mounted on the door of an enclosure or on a wall below or next to the controller.

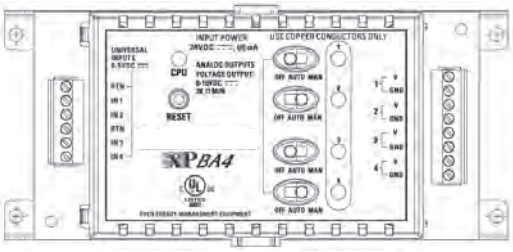
Programming

Programming with the Expansion Modules points are treated in the same manner as the built-in I/O points on the controller. Once the points have been configured, they are available for graphics, Plain EnglishTM programming, or for displaying data on the display.

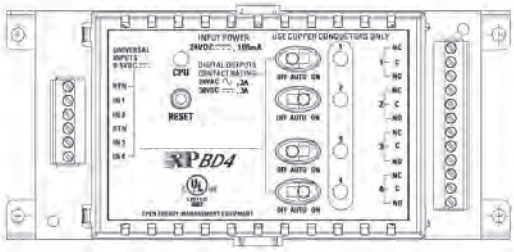
Andover Continuum xP Expansion I/O Family Features (continued)

Expansion I/O Family

xPBA4

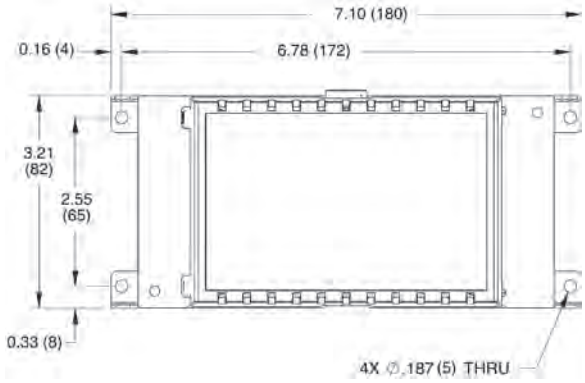


xPBD4

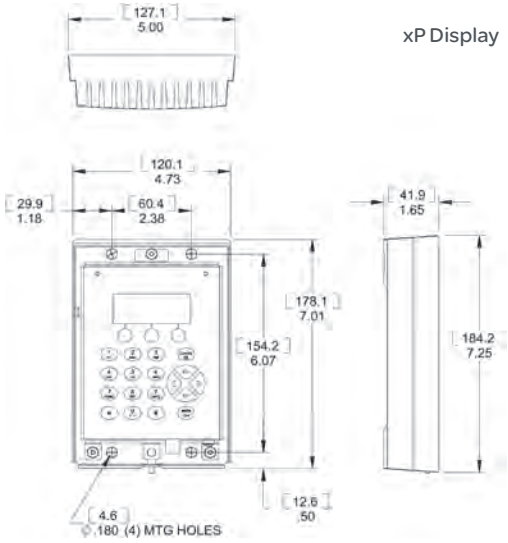


Dimensional Drawings

xP Module



xP Display



Models

xP-Display
(includes 3 foot cable)

xP-Display-10
(includes 10 foot cable)

Power Consumption
70 mA

Display Properties
4 lines x 16 characters, backlit

Enclosure Type
IP54 Rating

Installation

Modules can be connected to the bottom of the controller with the built-in expansion port connector or they may be connected remotely via a 3-foot (~1 m) or 10-foot (~3m) ribbon cable. A total of 10 feet of cable may be used for all Expansion Modules. Mounting and securing of the xP modules is provided through four mounting holes in the base plate.

Andover Continuum xP Expansion I/O Family Specifications

xP Expansion I/O

Electrical

Power

Up to two I/O module and an xP-Display may be connected to a controller. All controllers provide a total of 180 mA of power, the bCX1 controller/router has 400 mA of power, for the modules. Each module's power consumption is listed below. Reference installation sheet for valid combinations.

Mechanical

Operating Environment

32°–120°F (0–49°C),
10–95% RH (non-condensing)

Size

Module: 3.21˝ H x 7.10˝ W x 1.60˝ D
(82H x 180 W x 41 D) mm
Display: 7.25˝ H x 5.00˝ W x 1.65˝ D
(184H x 127 W x 42 D) mm

Weight

Module: 0.48 lb (0.22 kg)
Display: 1lb (0.45 kg)

Enclosure Type

Modules: UL Open class, IP 10.
Flammability rating of UL94-5V
Display: IP54

Communications

Communications Interface

Through built-in Expansion Port on controller

Connections

Fixed Terminal Connectors

Reference specific module on previous page for terminal point assignments

Input (top)

6-pin shrouded connector

Output (bottom)

6-pin shrouded connector

User LEDs/Switches

Status Indicator LEDs

CPU Module is Active

Switches

RESET

General

xP Modules

Consult the xP Module Installation Guide for the maximum number of inputs/outputs allowed on each controller.

Cable Options

xP-Mod-Cable-3

3-foot (~1m) ribbon cable terminated

xP-Mod-Cable-10

10-foot (~3m) ribbon cable terminated

Agency Listings

UL/CUL 916, FCC CFR 47 Part 15, ICES-003, EN55022, AS/NZS 3548, Class A, CE

xPDI8 (Digital Inputs)

Points

8 Digital Inputs

Power Consumption

25 mA

Voltage

0-5 VDC, or contact closure

Input Impedance

10K ohm ref to +5VDC

Frequency

140Hz, 50% duty cycling, 3.57 ms pulse width min.

Overvoltage Protection

24 VAC/DC +/- 1500 V transients

Andover Continuum xP Expansion I/O Family Specifications (continued)

N1831

xP Expansion I/O

xPUI4/xPBA4/xPBD4 (Universal Inputs)

Points
4 Universal Inputs
Power Consumption
50 mA (xPUI4)
60 mA (xPBA4)
125 mA (xPBD4)
Voltage
0-5.115 VDC
Input Impedance
10K ohm ref to +5VDC
Frequency
4Hz, 50% duty cycling,
125 ms pulse width min. (Inputs 1-3)
140Hz, 50% duty cycling, 3.57 ms
pulse width min. (Input 4)
Overvoltage Protection
24 VAC/DC +/- 1500 V transients

xPAO2/xPAO4/xPBA4 (Analog Outputs)

Points
2 Analog Outputs (xPAO2)
4 Analog Outputs (xPAO4, xPBA4)
Power Consumption
80 mA (xPAO2)
120 mA (xPAO4)
60 mA (xPBA4)
Output Rating
0-10 VDC
4-20mA per channel (xPAO2, xPAO4)
Output Resolution
0.1V for 0-10V
0.1mA for 4-20mA (xPAO2, xPAO4)
Overrides
yes – per output point. Software feedback of the switch position is provided, for display and alarming
Potentiometer
yes – per output point

xPDO2/xPDO4/xPBD4 (Digital Outputs)

Points
2 Digital Outputs (xPDO2)
4 Digital Outputs (xPDO4, xPBD4)
Type
2 or 4 single pole single throw (SPST) Form C relays
Power Consumption
60 mA (xPDO2)
100 mA (xPDO4)
125 mA (xPBD4)
Output Rating
Maximum 3A, 24 VAC/VDC, +/- 1500 V transients (tested according to EN61000-4-4)
Output Accuracy
0.1 sec for pulse width modulation
Output Overrides
Each Output is equipped with a manual override switch. Software feedback of the switch position is provided, for display and alarming

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Schneider Electric One High Street, North Andover, MA 01845 USA Telephone: +1 978 975 9600 Fax: +1 978 975 9674 www.schneider-electric.com/buildings

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