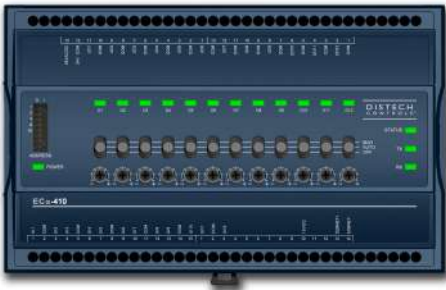


ECx-400 Series

24-Point I/O Extension Modules



Overview

The ECx-400 Series I/O Extension Modules are designed to add extra inputs and outputs to any Distech Controls ECB-600 Series controller.

Features & Benefits

- Flexible inputs and outputs support all industry-standard HVAC unitary applications
- Rugged hardware inputs and outputs eliminate the need for external protection equipment
- Models available with HOA switches and potentiometers are ideal for equipment testing or commissioning
- Supports EC-*gfx*Program, making Building Automation System programming effortless
- Supports the Allure™ Series Communicating Sensors, providing intelligent sensing and environmental zone control

Model Selection

Example: ECx-410

| Series | Model | Options |
|--------|--|--|
| ECx- | 400: 24 Points, 15Vdc Power Supply, 12 UI, 12 UO | UUKL: UL 864, 10 th Edition UUKL and California State Fire Marshal Listed ¹ |
| | 410: 24 Points, 15Vdc Power Supply, 12 UI, 12 UO, HOA | |
| | 420: 24 Points, 15Vdc Power Supply, 12 UI | |

1. The UL 864 UUKL Listed Smoke Control Equipment is used only in Distech Controls' UUKL smoke control system. For detailed specifications, requirements and procedures for installing and operating UUKL Listed equipment refer to the Distech Controls' UUKL Smoke Control documentation.

BACnet Objects List

BACnet Objects

- Input Objects (AI, BI, MSI)¹ 12^{2,3}
- Output Objects (AO, BO)¹ 12^{4,3} (ECx-400 / 410 models)
- Alarm Notification Classes³ 5

1. Supports object internally-generated alarms (intrinsic reporting).
2. This consists of Hardware Inputs, Allure Series Communicating Sensor Inputs, and Open-to-Wireless Inputs.
3. Objects are in the connected ECB-600, ECB-610, or ECB-650 controller (master)
4. This consists of Hardware Outputs.

Product Specifications

Power Supply Input

- Voltage Range 24VAC/DC; ±15%; Class 2
- Frequency Range 50/60Hz
- Overcurrent Protection Field replaceable fuse
- Fuse Type 3.0A
- Power Consumption 22 VA typical plus all external ECx-400 / ECx-410 loads¹, 50 VA max.
- Power Consumption 10 VA typical plus all external ECx-420 loads¹, 16 VA max.

1. External loads must include the power consumption of any connected modules such as an Allure Series Communicating Sensor. Refer to the respective module's datasheet for related power consumption information.

Communications

- Communication Bus RS-485
- Baud Rates 38 400
- Addressing Dip switch

Hardware

- Processor STM32 (ARM Cortex™ M3) MCU, 32 bit
- CPU Speed 64 MHz
- Applications and Storage Memory 64 kB Non-volatile Flash
- RAM Memory 20 kB RAM
- Green LEDs Power status & LAN Tx
- Orange LEDs Controller status & LAN Rx
- Communication Jack BACnet 1/8" (3.5mm) stereo audio jack

Mechanical

- Dimensions (H × W × D) 4.7 × 7.7 × 2.03" (119.38 × 195.58 × 51.47 mm)
- Shipping Weight 1.17lbs (0.53 kg)
- Enclosure Material¹ FR/ABS
- Enclosure Rating Plastic housing, UL94-5VB flammability rating Plenum rating per UL1995
- Installation Direct DIN-rail mounting or wall mounting through mounting holes

1. All materials and manufacturing processes comply with the RoHS directive and are marked according to the Waste Electrical and Electronic Equipment (WEEE) directive

Environmental

- Operating Temperature 32°F to 122°F (0°C to 50°C)
- Storage Temperature -4°F to 122°F (-20°C to 50°C)
- Relative Humidity 0 to 90% Non-condensing

Standards and Regulation

- CE Emission EN61000-6-3: 2007; A1:2011
- CE Immunity EN61000-6-1: 2007
- FCC Compliance with FCC rules part 15, subpart B, class B
- UL Listed (CDN & US) UL916 Energy management equipment
- UL 864 UL 864, 10th Edition, UUKL Listed Smoke Control Equipment (ECx-400 UUKL model only)¹
- California State Fire Marshal Listing CSFM: 7300-2187:0100 (ECx-400 UUKL model only)¹
- CEC Appliance Database Appliance Efficiency Program²



1. For detailed specifications regarding the ECx-400 UUKL model, refer to the Distech Controls UUKL Smoke Control Design Guide.
2. California Energy Commission's Appliance Efficiency Program: The manufacturer has certified this product to the California Energy Commission in accordance with California law.

Universal Inputs (UI)

General

- Input Type Universal; software configurable
- Input Resolution 16-Bit analog / digital converter
- Power Supply Output 15VDC; maximum 240mA

Contact

- Type Dry contact

Counter

| | |
|--------------------|----------------------|
| Type | Dry contact |
| Maximum Frequency | 1Hz maximum |
| Minimum Duty Cycle | 500ms On / 500ms Off |

Output is internally protected against short circuits

Load Resistance Minimum 200 Ω for 0-10VDC and 0-12VDC outputs
Maximum 500 Ω for 0-20mA output

0 to 10VDC

Range 0 to 10VDC
(40kΩ input impedance)

Auto-reset fuse Provides 24VAC over voltage protection

0 to 5VDC

Range 0 to 5VDC
(high input impedance)

0 or 12VDC (On/Off)

Range 0 or 12VDC

Source Current Maximum 60 mA at 12VDC
(minimum load resistance 200Ω)

0 to 20mA

Range 0 to 20mA
249Ω external resistor wired in parallel

PWM

Range Adjustable period from 2 to 65 seconds

Thermal Actuator Management Adjustable warm up and cool down time

Resistance/Thermistor

Range 0 to 350 KΩ

Supported Thermistor Types Any that operate in this range

Pre-configured Temperature Sensor Types:

| | |
|------------|---|
| Thermistor | 10KΩ Type 2, 3 (10KΩ @ 77°F; 25°C) |
| Platinum | Pt1000 (1KΩ @ 32°F; 0°C) |
| Nickel | RTD Ni1000 (1KΩ @ 32°F; 0°C) RTD Ni1000 (1KΩ @ 69.8°F; 21°C) |

Floating

Minimum Pulse On/Off Time 500 milliseconds

Drive Time Period Adjustable

0 to 10VDC

Range 0 to 10VDC

Source Current Maximum 60 mA at 10VDC
(minimum load resistance 200Ω)

Universal Outputs (UO)

General

| | |
|-------------------|---|
| Output Type | Universal; software configurable |
| Output Resolution | 10-bit digital to analog converter |
| Output Protection | Built-in snubbing diode to protect against back-EMF, for example when used with a 12VDC relay |

0 to 20mA

Range 0 to 20mA

Type Current source (jumper configurable)

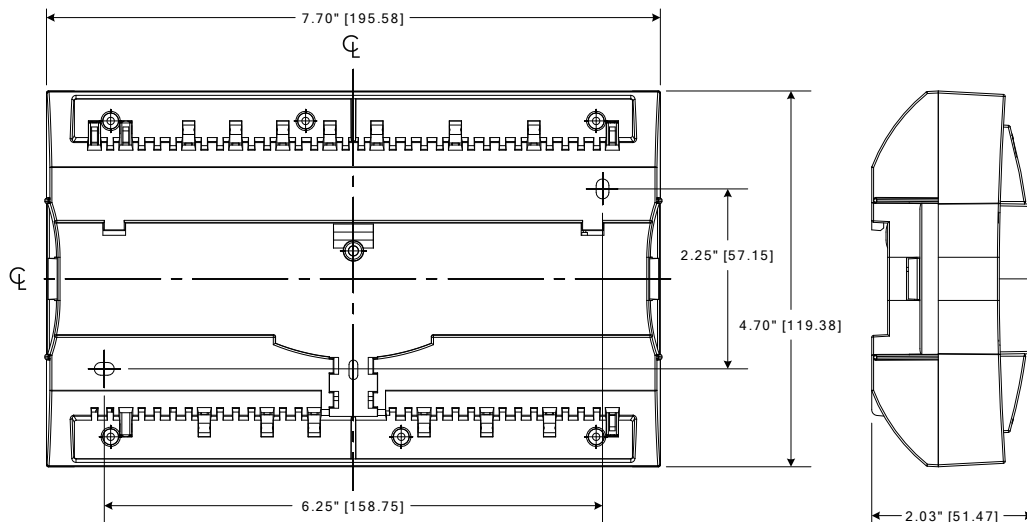
HOA

Hand-Off-Auto switch When equipped. Supervision allows control logic to read the current HOA switch and potentiometer settings

Threshold Configurable

Potentiometer Voltage Range 0 to 12.5VDC

Dimensions



Inches [Millimeters]

Specifications subject to change without notice.

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