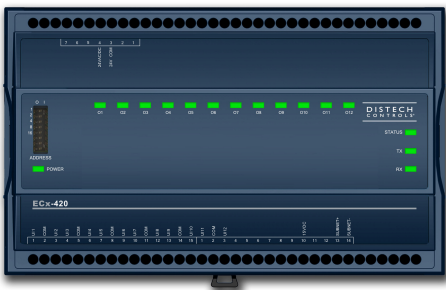
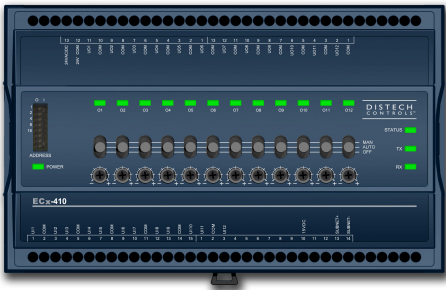
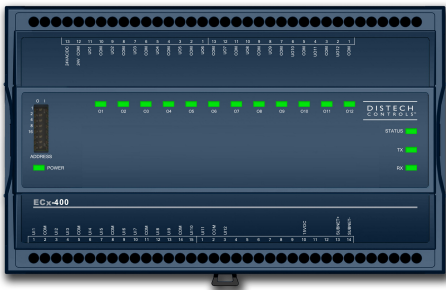


ECx-400 Series

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 loads¹, 50 VA max.
 Power Consumption 10 VA typical plus all external loads¹, 16 VA max.
 ECx-400 / ECx-410
 ECx-420

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 64 kB Non-volatile Flash Memory
 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

Load Resistance	Output is internally protected against short circuits Minimum 200 Ω for 0-10VDC and 0-12VDC outputs Maximum 500 Ω for 0-20mA output
Auto-reset fuse	Provides 24VAC over voltage protection

0 to 10VDC

Range	0 to 10VDC (40k Ω input impedance)
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0 to 5VDC

Range	0 to 5VDC (high input impedance)
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0 to 20mA

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

Range	0 to 350 K Ω
Supported Thermistor Types	Any that operate in this range

Pre-configured Temperature Sensor Types:

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

0 or 12VDC (On/Off)

Range	0 or 12VDC
Source Current	Maximum 60 mA at 12VDC (minimum load resistance 200 Ω)

PWM

Range	Adjustable period from 2 to 65 seconds
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Thermal Actuator Management	Adjustable warm up and cool down time
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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 200 Ω)

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

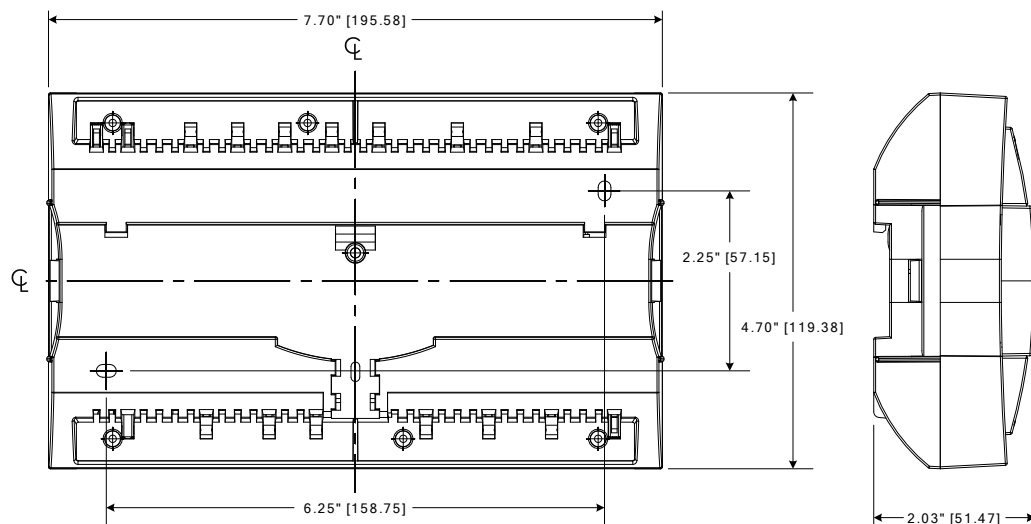
0 to 20mA

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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