EC100

SMART I/O™

APPLICATIONS

- Air Handling Units

- Fan Coil Units

- Roof Top Units

- Heat Pumps

- VAVs

- Chillers

- Boilers

- Lighting

- Energy Management

- Refrigeration

- Custom Applications

FEATURES

- LonTalk Protocol

- Free Topology Communication (FTT-10)

- 5 universal inputs: UI1-UI4 has 0-5V, thermistor or dry contact and UI5 is voltage only with 0-5V or 0-10V

- 5 digital outputs (Triac, 1 A)

- FLASH Memory Standard

- Optional selectable memory (Flash, SRAM)

- DIN-rail mounting

- Compact Size for Minimal Panel Space

- Fully programmable

- 2 Year Limited Warranty

DESCRIPTION

The Smart I/O™ EC100 programmable controller incorporates 10 channels of cost effective analog and digital I/O. The I/O is monitored and controlled by a Neuron 3150 chip with Free Topology communication over a LonWorks® network. As an option, the EC100 can be specified with selectable FLASH/SRAM memory. The EC100 can be utilized in many custom or fixed distributed control applications.

The I/O of the EC100 makes it perfect for a variety of equipment control applications. The wide operating temperature range, -20 to 70 °C, makes the EC100 well suited for many demanding applications.

The five universal inputs (UI) can be configured in a variety of ways. Universal inputs 1 through 4 (UI1-UI4) can interface with resistive type sensors for temperature measurements. These four inputs can also measure 0-5 volts from typical low output resistance sensors. Universal inputs 1 through 4 are also well suited for reading digital inputs and dry contacts for status or alarm conditions. Universal input 5 (UI5) is specifically set-up to measure only voltage. The default voltage range is 0-5 volts and can be set to measure 0-10 volts with the change of an option jumper. The UI's are well suited to measure voltage values from humidity and many other transducer output signals. With 12 bits of resolution, the universal inputs are field adaptable and accurate for many types of measurements.

The five digital outputs (DO) are Triac outputs for control of additional on/off or pulsed external devices where the current does not exceed 1A at 24 VAC.

The EC100 controller is protected from reverse power supply input wiring, over-voltages, transients, and other common events that can damage unprotected inputs and outputs.

The versatile I/O allows numerous applications to be development and implemented with the EC100.

User defined algorithms and functions can be programmed using VisualControl™, NodeBuilder, LonBuilder or other third party LONWORKS programming tools. The application program can be downloaded over the free topology network and is stored in non-volatile memory so it is retained even after loss of power.

The enclosure snaps right onto a 35mm DIN-rail for quick and easy mounting. Its spring-loaded latching mechanism makes it easy to remove.

SELECTION GUIDE

S-EC100P-F-☐

   B - STANDARD 56K Flash Memory Only

   M - Selectable Memory (FLASH, SRAM)

DIMENSIONS

$$\frac{mm}{inches}$$

58 (2.28)

86 (3.39)

105 (4.13)

111 (4.38)

Install   **Power/Service**

SMART CONTROLS

EC100
Multifunctional I/O Module

Universal Inputs   Digital Outputs

NET A	1 NET A	GND 13	GND
NET B	2 NET B	PWR 14	PWR
UI1	3 UI1	DO1 15	DO1
GND	4 GND	GND 16	GND
UI2	5 UI2	DO2 17	DO2
GND	6 GND	GND 18	GND
UI3	7 UI3	DO3 19	DO3
GND	8 GND	GND 20	GND
UI4	9 UI14	DO4 21	DO4
GND	10 GND	GND 22	GND
UI5	11 UI5	DO5 23	DO5
GND	12 GND	GND 24	GND

CONTACT

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AGENCY

SPECIFICATIONS

General
Communication:	LONTALK™ Protocol
Transceiver:	FTT-10, Free Topology
Processor:	Neuron 3150 @ 10 MHz
Memory:	56K bytes FLASH
	2K bytes SRAM (Neuron)
	24K bytes SRAM (External)*
	0.5K bytes EEPROM (Neuron)

Power
Nominal Input Voltage:	24 VAC
Input Voltage Range:	21-28 VAC or 21-39 VDC
Maximum Consumption:	6 VA, does not include Triac loading

Environmental
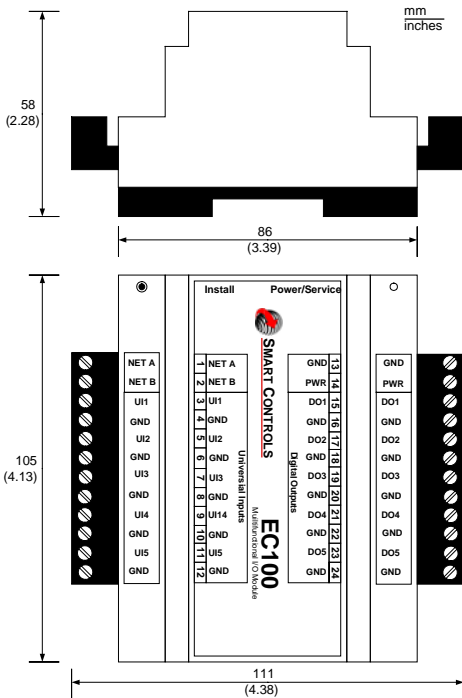|	
Operating Temperature:	-20 °C to +70 °C, -4 °F to 158 °F
Storage Temperature:	-40 °C to +70 °C, -40 °F to 158 °F
Relative Humidity:	5% to 95% (non-condensing)

Warranty
Period:	2 Years (Limited)

Inputs
Number:	5

UI1-UI4
Voltage:	0-5 Volts
Thermistor:	Type 2, 3: 10Kohms (25°C, 77°F) (UI1-UI4 Only)
Digital:	Dry Contact

UI5 Only
Voltage:	0-5 Volts
	0-10 Volts (Option Jumper)

All Inputs
Resolution:	12 bits
Accuracy:	±1% FS (25°C, 77°F)
Protection Circuitry:	Transient Over voltage, ESD

Outputs
Number:	5
5- Digital:	Triac 1.0 A @ 24 VAC Voltage Sourcing
Protection Circuitry:	ESD

Enclosure
Dimensions:	L 105 x W 86 x H 58 mm (4.13" x 3.39" x 2.28")
Cover:	Lexan 940, UL94-V0 rated
Base:	Noryl VO1550, UL94-V0 rated

*Optional – Only available on models with "M" option

OPTION JUMPER SELECTIONS

ALL JUMPERS SHOWN IN FACTORY DEFAULT POSITION

FT-X1

JP3   JP2

E D   E D

16K   8K

RAM SELECT

UI5

5V

10V

JP1
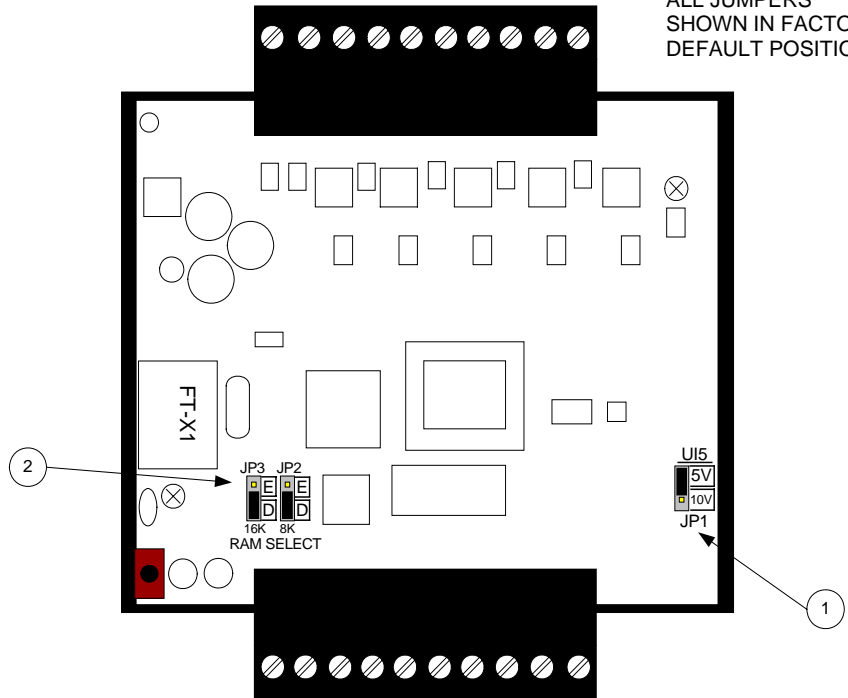
1- 5V/10V Selection
5V – Input Sensing for 5V Signals
10V – Input Sensing for 10V Signals
Note: UI5 only.

2- RAM Memory Selection*
E – Enable
D – Disable
*Optional – Only available on models with "M" option.

FLASH	RAM	16K(JP3)	8K(JP2)
56K	0K	D	D
48K	8K	D	E
40K	16K	E	D
32K	24K	E	E