C4X
Advanced Multi-Loop PID Controller

- **DIN Rail or Panel Mount**
- **Controls Up To 4 Independent Process Loops**
- **4 Main Universal Inputs**
- **4 Heat/Cool Independent PID Loops**
- **4 Main Outputs**
- **4 Auxilliary Analog Inputs**
- **4 Configurable Output Options Including Relay, Logic, TRIAC, Continuous**
- **2 Configurable Relay Alarm Output**
- **2 Digital Inputs**
- **Standard ModBus RTU Communication**
- **8 Optional Fieldbus Communications Including Modbus RTU, Modbus/TCP, Profibus, Profinet, Real Time Ethernet IP, DeviceNet, EtherCat, and CANopen Available**
- **Powerful C-PWR Configuration Software**
- **Compact Footprint**
- **UL, cUL, CE Marking**

NEW!

Description

The C4X Multiple Zone PID Controller is the brains of the C4 controller, but with the capability to drive even larger loads. The controller features four universal main process inputs, two digital inputs, and two configurable relay alarm outputs as standard, so you get the same benefits as the C4 when greater loads are required. When even more flexibility is required, the C4X controller can be customized with four analog inputs, and up to four configurable outputs.

The C4X boasts an extremely slim 1" wide-footprint capable of either DIN rail mounting or direct panel mount, making it ideal for minimizing space.

Communications

With a default Modbus RTU/RS485 communications port and option for second port from a variety of different communication protocols including Modbus TCP, Profibus, ProfiNet, Real Time Ethernet (Ethernet IP), DeviceNet, EtherCat, and CANopen, the C4X can be fully integrated into any host PLC network or DCS. Like the C4, the fieldbus card can be installed at the time of order, or field installed at any time.

Complete Process Control Package

While the C4X includes diverse process control capability, it also features efficient thermal and electrical monitoring, allowing users to anticipate failures and malfunctions so corrective steps can be taken in a timely manner.

With an option for independent current transformer input on each zone, full diagnostics can be performed from loop break alarm, heater break, SSR short circuit, input opening or short circuit, and even over temperature alarm.

The C4X also features the powerful and detailed C-PWR configuration software, which allows you to run trends, save historical data and read or write device parameters quickly and easily. Configurations may be saved locally for later retrieval or sent across a network for cloning of other units. This significantly reduces mistakes and system setup time.

Applications

- Packaging
- Extrusion
- Thermoforming
- Injection molding
- Heat treatment
- Mold & dye heating/cooling
- Chemical Processing
- Textile production
- Multizone Furnaces

And many more…

C4X
Advanced Multi-Loop PID Controller *(cont'd.)*

C4-OP Local Programming Interface

The C4-OP local interface display is a great tool to use when remote programming or monitoring isn't enough. It is comprised of a Lexan membrane, IP65 display, including three 4-digit displays, and a 2-digit display. A total of 6 function keys allow navigation through the C4-OP software menus and adjustment of process parameters on the spot.

Its built-in memory gives users the ability to save complete configurations for up to ten C4 family devices, which can then be uploaded to a PC for seamless integration with the C-PWR

software. The opposite is also true if users prefer to download C-PWR settings on to the C4-OP, making this controller an ideal addition for routine plant maintenance where local programming and monitoring is necessary.

With no external power requirements, the C4-OP is powered directly from the C4 host device and can either be DIN rail mounted, or installed directly on the front panel of the enclosure where permanent installations are required. With its minimal footprint, the C4-OP continues the compact trend of the C4 family.

C4X Dimensions, In. (mm)
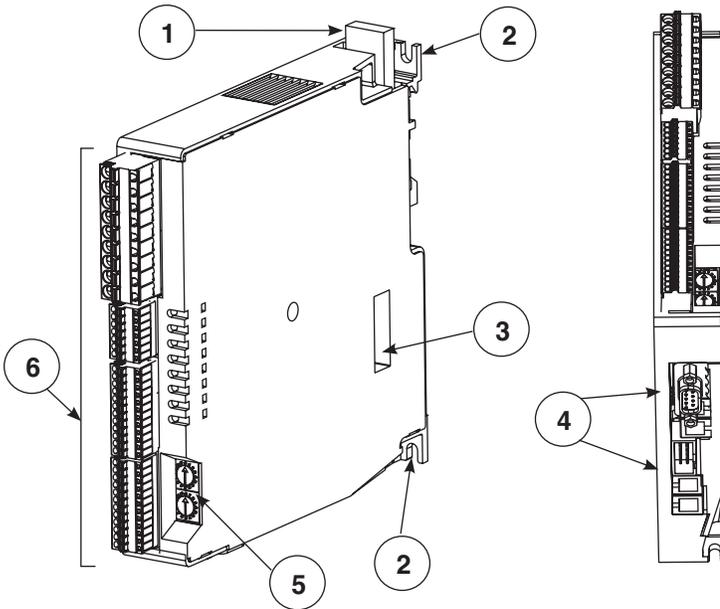
1. Tab For Addition of DIN Bar Attachment
2. Screwdriver Access For Power Connector Screws
3. Dip Switches For Function Configuration
4. Connectors For Communication Ports (Port 1, Port 2)
5. Rotary Switches For Assigning Node Address
6. Signal And Power Supply Connectors (J1, J2, J3, J4)

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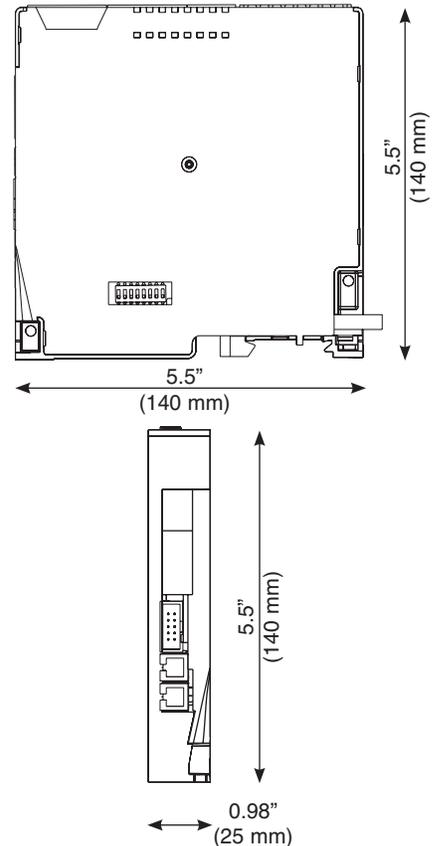
C4X
Advanced Multi-Loop PID Controller *(cont'd.)*

Specifications

Power	
Thermocouple	J, K, R, S, T
RTD	3 Wire PT100
DC Linear	0 to 20mA, 4 to 20mA, 0 to 60mV, 12 to 60mV, 0 to 1V, 0.2 to 1V
Accuracy	±0.2% of full scale ±1 scale points at 77°F (25°C)
Sampling	120msec on all four inputs
Impedance	>1MΩ resistive, except DC mA (50Ω) and Thermoresistance (20Ω)
Selectable Range	°C/°F
Digital Input	PNP, 24VDC, 8mA (isol. 3500V)
CT Input	50mAac, 50/60Hz, 10Ω
CT Sampling	60msec, 1% of full range ±1 scale points at 77°F (25°C)
Outputs 1-4	
Function	Default heating control. (Configurable)
Outputs 5-8	
Connector	J1
Relay	NO contact, max 3A, 250V/30VDC, cosϕ = 1, resistive load
Logic	24Vdc, 35mA
Voltage	0 to 10V, 2 to 10V, max 25mA Short Circuit Protection
Current	0 to 20mA, 4 to 20mA, 500Ω max
Insulation	1500V
TRIAC	230V/4A AC51, 1A for four, 4A for two
Outputs 9-10	
Connector	J1a / J1
Relay	NO contact, max 5A, 30 Vdc, cosϕ = 1
Operating Conditions	
Protection	IP20
Work/Storage Temperature	32 - 122°F (0 - 50°C) / -4 to 158°F (-20 to 70°C)
Ambient Conditions	20-85% UR not condensing
Installation	DIN EN50022 RAIL / Panel Mount with Screws
Weight	320g

C4X
Advanced Multi-Loop SCR Power Controller *(cont'd.)*

Ordering Information

To Order — Complete the Model Number using the Matrix provided.

Model	C4X SCR Power Controller			
C4X	The C4X Series Multiple Zone PID Controller manages both single phase and 3-phase industrial heating load applications. Load management options include: Up to 4 independently controlled single phase loads or one 3-phase/3-leg load (with or without an additional single phase load) or up to two 3-phase/2-Leg loads. Standard features: Four universal main process inputs, two digital inputs, two configurable alarm outputs, Modbus RTU/RS485 digital communications, DIN Rail/Panel mountable. Optional features: Input for four current transformers, four analog inputs, four configurable outputs, several Fieldbus Communication protocols.			
	Code	**Auxiliary Outputs**		
	O	None		
	R	Relay		
	D	Logic		
	A	Analog		
	T	Triac		
		Code	**Auxiliary Inputs**	
		0	None	
		2	4 Current Transformers	
		4	4 Linear Inputs[1]	
			Code	**Second Fieldbus Option**
			00	None
			MR	Modbus RTU (RS485)
			ET	Modbus TCP/Ethernet
			ER	Ethernet IP, Real Time1
			PB	Profibus DP
			PN	ProfiNET1
			EC	EtherCAT1
			CN	CANopen
			DN	DeviceNet
			EM	Euromap 66
C4X-	**D**	**4-**	**ET**	**Typical Model Number**

[1]Not available with EC, PN & ER Fieldbus Codes.

Accessories

Description	PCN
Communication Cable, USB to TTL	309171
Communication Cable, USB to RS485	309180

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