

C930-C22 ✓



C930-C62 ✓



✓ C930-C82



C930-C83 ✓



✓ C930-C72



C930-C42 ✓

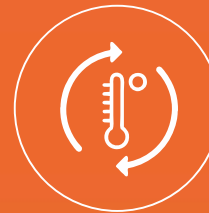


✓ C930-R22



High Performance Process

& Temperature Controllers



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Caratteristiche

01. Multi Color LCD Display	02. High Accuracy 18 Bit A-D Input & 15 Bit D-A Output
03. Tempo Campionamento 200 millisecondi	04. Universal Inputs per Termocoppie, RTD, mA, VDC
05. Fuzzy + PID Control & Auto-Tuning	06. Soft-Start Function
07. RS485 & Ritrasmissione Analogica Insieme	08. Ramp & Soak Profiler - Funzione Programmatore Multirampa
09. CT Inputs per Funzione Heater-Break	10. Bumpless Transfer
11. Remote Setpoint & Fino 6 Event Inputs	12. Menu Navigazione Parametri Circolare
13. Protezione Password	14. Approvazione: UL, cUL, CE, RoHS, REACH, WEEE



MODEL SPECIFICATIONS



C930-C22



C930-C62



C930-C82



C930-C83



C930-C72



C930-C42



C930-R22

Alimentazione	90 to 250 VAC, 47–63 Hz; 11 to 40 VDC / 20 to 28 VAC, 47–63 Hz
Consumo Max	C930 - C22/R22: 8VA, 4W maximum, C930 - C62: 10VA, 5W maximum, C930 - C72/C82/C83/C42: 12VA, 6W maximum

Segnali d'Ingresso	C930-C22	C930-C62	C930-C82	C930-C83	C930-C72	C930-C42	C930-R22
Type	Termocouple (J, K, T, E, B, R, S, N, L, U, P, C, D), ETD (Pt100 (DIN), P100 (JIS)), Current (mA), Voltage (V, mV)						
Risoluzione	18 Bits						
Tempo Campionamento	5 Volte al Second (200 msec)						
Maximum Rating	-2 VDC minimum, 12 VDC maximum						
Caratteristiche Ingressi	Tipo	Range		Precisione @ 25°C		Impedenza	
	J	-120°C ÷ 1,000.0°C (-184°F to 1,832°F)		± 2°C		2.2 MΩ	
	K	-200°C ÷ 1,370.0°C (-328°F to 2,498°F)		± 2°C		2.2 MΩ	
	T	-250°C ÷ 400.0°C (-418°F to 752°F)		± 2°C		2.2 MΩ	
	E	-100°C ÷ 900.0°C (-148°F to 1,652°F)		± 2°C		2.2 MΩ	
	B	0°C ÷ 1,820.0°C (32°F to 3,308°F)		± 2°C (200°C to 1,800°C)		2.2 MΩ	
	R	0°C ÷ 1,767.8°C (32°F to 3,214°F)		± 2°C		2.2 MΩ	
	S	0°C ÷ 1,767.8°C (32°F to 3,214°F)		± 2°C		2.2 MΩ	
	N	-250°C ÷ 1,300.0°C (-418°F to 2,372°F)		± 2°C		2.2 MΩ	
	L	-200°C ÷ 900.0°C (-328°F to 1,652°F)		± 2°C		2.2 MΩ	
	U	-200°C ÷ 600.0°C (-328°F to 1,112°F)		± 2°C		2.2 MΩ	
	P	0°C ÷ 1,395.0°C (32°F to 2,543°F)		± 2°C		2.2 MΩ	
	C	0°C ÷ 2,300.0°C (32°F to 4,172°F)		± 2°C		2.2 MΩ	
	D	0°C ÷ 2,300.0°C (32°F to 4,172°F)		± 2°C		2.2 MΩ	
	PT100 (DIN)	-200°C ÷ 850.0°C (-328°F to 1,562°F)		± 0.4°C		1.3 KΩ	
	PT100 (JIS)	-200°C ÷ 600.0°C (-328°F to 1,112°F)		± 0.4°C		1.3 KΩ	
mA	-3 mA ÷ 27 mA		± 0.05 %		2.5 Ω		
V	-1.3 VDC ÷ 11.5VDC		± 0.05 %		1.5 MΩ		
mV	0 ÷ 50 mV		± 0.05 %		2.2 MΩ		
Influenza Temperatura	1.5 μV / °C per tutti gli ingressi eccetto mA input, 3.0 μV / °C for mA						
Sensor Lead Resistance Effects	Termocoppie : 0.2 μV / Ω; 3- wire RTD : 2.6°C / Ω of Differenza di resistenza dei due filamenti 2- wire RTD : 2.6°C / Ω of Somma resistenza de due filamenti						
Burn-out Current	200 nA						
Common Mode Rejection Ratio (CMRR)	120 dB						
Normal Mode Rejection Ratio (NMRR)	55 dB						
Rilevamento Sensor Break	Sensore aperto per Thermocouple & RTD inputs, sensor short for RTD input, di seguito 1 mA for 4 – 20 mA input, di seguito 0.25 VDC for 1 – 5 VDC input, non disponibile per altri ingressi						
Sensor Break Tempo di Risposta	Entro 4 seconds per Thermocouple & RTD inputs, 0.1 second per 4 – 20 mA & 1 – 5 VDC inputs						



| Serie |



C930-C22

C930-C62

C930-C82

C930-C83

C930-C72

C930-C42

C930-R22

Remote Set Point Input	C930-C22	C930-C62	C930-C82	C930-C83	C930-C72	C930-C42	C930-R22
Tipo	In Corrente (Lineare) , In Tensione (Lineare)						
Range	-3 mA to 27 mA, -1.3 VDC to 11.5 VDC						
Precisione	± 0.05 %						
Remote Set Point Option	Not Available	Not Available	Available	Available	Available	Available	Not Available
Impedenza Ingresso	Corrente: 2.5 Ω, Tensione: 1.5 MΩ						
Risoluzione Digitale	18 Bits						
Tempo di Campionamento	1.66 Times / Second						
Maximum Rating	280 mA maximum for Current Input, 12 VDC maximum for Voltage Input						
Effetti Temperatura	± 1.5 μV /°C for Voltage Input, ± 3.0 μV /°C for Current Input						
Sensor Break Rilevamento	Below 1 mA for 4 – 20 mA input, below 0.25 VDC for 1 – 5 VDC input, not available for other inputs						
Sensor Break Tempo di Rsposta	0.1 Seconds						

Event Input							
Numero di Event Input	1	2	6	6	2	6	2
Logic Low	-10 VDC minimum, 0.8 VDC maximum						
Logic High	2 VDC minimum, 10 VDC maximum						
Funzionalità	Riferirsi al Manuale						

CT Input (Trasformatore Amperometrico)	
CT Type	CT98-1
Precisione	± 5 % of Full Scale Reading, ± 1 digit maximum
Impedenza Ingresso	294 Ω
Range di Misura (Corrente)	0 to 50 A VAC
Output of CT	0 to 5 VDC
Montaggio CT (Trasformatore)	Montaggio con Viti
Tempo di Campionamento	1 Volta / Second

Output 1 / Output 2	
Tipo	Relay, Pulsed Voltage, Linear Voltage and Linear Current
Portata Relè	2 A, 240 V AC, 200.000 Cicli di vita @ carichi resistivi
Pulsed Voltage	Source Voltage 5 VDC, Current Limiting Resistance 66 Ω
Linear Output Resolution	15 Bits
Linear Output Regulation	0.02 % for full load change
Linear Output Settling Time	0.1 Second (Stable to 99.9 %)
Linear Output Ranges	0 - 22.2mA (0 - 20mA / 4 - 20mA), 0 - 5.55VDC (0 - 5VDC, 1 - 5VDC), 0 - 11VDC (0 - 10VDC)
Isolation Breakdown Voltage	1,000 V AC
Effetto della Temperatura	± 0.01% of Span /°C
Max Load delle uscite Lineari	Linear Current : 500Ω maximum, Linear Voltage : 10KΩ minimum

Allarmi	
Tipo di Relè	N/O = Normalmente Aperto (Form A)
Portata Max Relè	2 A, 240 V AC, 200,000 Life Cycles for Resistive Load
Funzioni Allarmi	Dwell Timer, Deviation Low, Deviation High, Deviation Band Low, Deviation Band High, Process High, Process Low, Range Low, Range High, Range High Low, Heater Break, Heater Short, Profile End, Profile Holdback
Modalità Allarmi	Latching, Holding, Normal, Latching / Holding, Set Point Holding
Dwell Timer	0.1 to 4,553.6 Minutes

Comunicazione	
Porta	RS-485
Protocollo	Modbus RTU (Slave Mode)
Address	1 to 247
Baud Rate	2.8 KBPS to 115.2 KBPS
Parity Bit	None, Even or Odd
Stop Bit	1 or 2 Bits
Data Length	7 or 8 Bits
Communication Buffer	160 Bytes

Ritrasmissione Analogica	
Segnali Uscita	4 – 20 mA, 0 – 20 mA, 0 – 10 VDC
Risoluzione Digitale D/A	15 Bits
Precisione	± 0.05 % of Span ± 0.0025% °C
Load Resistance	0 to 500 Ω for Current Output, 10 KΩ minimum for Voltage Output
Output Regulation	0.01 % for full load change
Output Settling Time	0.1 Second (Stable to 99.9 %)
Isolation Breakdown	1,000 VAC minimum
Integral Linearity Error	±0.005 % of Span

Link Serie C930 su Sensorstore



C930 Series
Temperature controllers

| MODEL |



Ritrasmissione Analogica	C930-C22	C930-C62	C930-C82	C930-C83	C930-C72	C930-C42	C930-R22
Effetto della Temperatura	±0.0025 % of Span / °C						
Saturation Low	0 mA or 0 VDC						
Saturation High	22.2 mA or 5.55 VDC, 11.1 VDC minimum						
Range Completo Uscite Analogiche	0 – 22.2mA (0 – 20mA / 4 – 20mA), 0 – 5.55VDC (0 – 5VDC / 1 – 5VDC), 0 – 11.1VDC (0 – 10VDC)						

Interfaccia Utilizzatore							
Tastiera	4 Tasti Fisici in Gomma						
Display Type	4 Digit LCD Display						
Numero di Display	2	2	3	3	3	3	2
Dimensione Display Superiore	0.4" (10 mm)	0.58" (15 mm)	0.7" (17.7 mm)	0.7" (17.7 mm)	0.58" (15 mm)	0.98" (25 mm)	0.31" (8 mm)
Dimensione Display Inferiore	0.19" (4.8 mm)	0.3" (7.8 mm)	0.4" (11.2 mm)	0.4" (11.2 mm)	0.32" (8.3 mm)	0.55" (14 mm)	0.25" (6.5 mm)

Porta di Programmazione	
Interfaccia	Micro USB
PC Communication Function	Configurazione generale & Firmware Upgrade

Control Mode	
Output 1	Azione INVERSA (Riscaldamento) oppure DIRETTA (Raffreddamento)
Output 2	PID cooling control, Cooling P band 50 ~ 300 % of PB, Dead band -36.0 ~ 36.0 % of PB
ON-OFF	0.1~50.0°C (0.1~ 90.0°F) hysteresis control (P band = 0)
P or PD	0 –100.0 % offset adjustment
PID	Fuzzy logic modified Proportional band 0.1~500.0°C(0.1~900.0°F), Integral time 0 3,600 Seconds Derivative time z-360 .0 Seconds
Cycle Time	0.1 to 90.0 Seconds
Manual Control	Heat (MV1) and Cool (MV2)
Auto-tuning	Cold Start and Warm Start
Failure Mode	Auto transfer to manual mode while sensor break or A –D Converter dam age
Ramping Control	0~500.0°C (0~900.0°F) / Minute or 0~500.0°C (0~900.0°F) / Hour Ramp Rate

Digital Filter	
Function	First Order
Time Constant	0, 0.2, 0.5, 1, 2, 5, 10, 20, 30, 60 Seconds Programmable

Profiler (Programmatore)							
Disponibilità	No	No	Option	Option	Option	Option	No
Numero di Programmi	N / A	N / A	4 / 2 / 1	4 / 2 / 1	4 / 2 / 1	4 / 2 / 1	N / A
Numero di Segmenti /Programma	N / A	N / A	4 / 8 / 16	4 / 8 / 16	4 / 8 / 16	4 / 8 / 16	N / A

Condizioni Operative & Specifiche Fisiche							
Temperatura Operativa	-10 °C to 50 °C						
Temperatura Magazzino	-40 °C to 60 °C						
Umidità Relativa	0 to 90 % RH (Non - Condensing)						
Altitudine	2,000 Meters maximum						
Inquinamento	Degree II						
Resistenza D'isolamento	20 MΩ minimum (@ 500 VDC)						
Rigidità Dielettrica	2,000 V AC, 50 / 60 Hz for 1 Minute						
Resistenza Vibrazioni	10 to 55 Hz, 10 m / s ² for 2 Hours						
Resistenza Urti	200 m / s ² (20 g)						
Materiale	Policarbonato Ritardante Fiamma						
Montaggio	Panel	Panel	Panel	Panel	Panel	Panel	DIN Rail
DIN Size	1/32	1/16	1/8	1/8	9/64	1/4	
Dimensioni (W* H* D) (mm)	48* 24* 92	48* 48*59	48* 96* 59	96* 48* 59	72* 72* 59	96* 96* 59	22.5* 96* 83
Profondità da Pannello (mm)	84	50	50	50	50	50	-
Dimensioni Foratura (mm)	45* 22.2	45* 45	45* 92	92* 45	68* 68	92* 92	-
Peso (grammi)	120	160	220	220	190	290	160

Approval Standards	
Sicurezza	UL61010-1, CSA 22.2 No.61010-1-12, EN61010-1 (IEC1010-1), RoHS, REACH
Classe di Protezione	Ip50 Pannello, IP20 per morsetteria e housing, all indoor use
EMC	EN61326

Ceam Group
C930 Series High performance

Link Serie C930 su Sensorstore





CODIFICA STRUMENTI

C930-C22

C930-R22



ALIMENTAZIONE

- 4 : 90 to 250VAC, 47 – 63Hz
- 5 : 11 to 40VDC / 20 to 28VAC, 47– 63Hz

OUTPUT 1

- 1 : Relè N/O (Form A)
- 2 : SSRD (Drive x SSR), 5 V D C /30mA
- 3 : 4÷20 mA / 0÷20 mA Isolata (OM98-3)
- 5 : 0÷10 VDC Isolata (OM98-5)
- C : SSRD (Drive x SSR) , 14 VDC / 40 mA (OM94-7)

OUTPUT 2 / ALARM 1

- 0 : None
- 1 : Relè N/O (Form A)
- 2 : SSRD (Drive x SSR), 5 VDC / 30 mA
- 3 : 4÷20 mA / 0÷20 mA Isolata (OM98-3)
- 5 : 0÷10 VDC Isolata (OM98-5)
- C : SSRD (Drive x SSR), 14 VDC / 40 mA (OM94-7)

OPTION 1

- 0 : None
- 1 : Rs485 Protocollo Modbus RTU
- 2 : 1 Event Input (EI1)
- 3 : 1 CT Input (CT1)

OPTION 2

- 0 : None
- 1 : Ritrasmissione 4÷20mA / 0÷20mA (OM98-3)
- 2 : Ritrasmissione 0÷10VDC (OM98-5)
- 3 : Allarme 2 Relè N/O (Form A)
- 4 : 1 Event Input (EI2 solo per C930 - R22)
- 5 : 1 CT Input (CT2 solo per C930 - R22)

ACCESSORI PER TUTTI I MODELLI

OM94-7 = 14 VDC / 40 mA SSR Drive Module

OM98-3 = 4 – 20 mA / 0 – 20 mA Isolata - Modulo Uscita Analogica

OM98-5 = 0 – 10 VDC Isolata - Modulo Uscita Analogica

CM98-3 = 4 – 20 mA / 0 – 20 mA Isolata - Modulo Ritrasmissione per tutti i modelli eccetto: C930-C22 & C930-R22

CM98-5 = 0 – 10 VDC Isolata - Modulo Ritrasmissione per tutti i modelli eccetto C930-C22 & C930-R22

CT98-1 = TA Trasformatore Corrente (CT) 0-50 A

PA98-1 = USB Programming Adaptor

CC98-1 = Programming Port Cable (1.5 M)

CEAM-BCSET= Configuration Software

PRODOTTI CONNESSI

D9019 = CEAM Din Rail Gateway per Connessione RS485 in Ethernet

CODIFICA STRUMENTI

C930-C62



POWER INPUT

- 4 : 90 to 250VAC, 47 - 63Hz
- 5 : 11 to 40VDC / 20 to 28VAC, 47- 63Hz

OUTPUT 1

- 1 : Relè N/O (Form A)
- 2 : SSRD, 5 V D C /30mA
- 3 : 4÷20 mA / 0÷20 mA Isolata (OM98-3)
- 5 : 0÷10 VDC Isolata (OM98-5)
- C : SSRD (Drive x SSR), 14 VDC / 40 mA (OM94-7)

OUTPUT 2 / ALARM 1

- 0 : None
- 1 : Relè N/O (Form A)
- 2 : SSRD (Drive x SSR), 5 VDC / 30 mA
- 3 : 4÷20 mA / 0÷20 mA Isolata (OM98-3)
- 5 : 0÷10 VDC Isolata (OM98-5)
- C : SSRD (Drive x SSR), 14 VDC / 40 mA (OM94-7)

ALLARME 2

- 0 : None
- 1 : Relè N/O (Form A)

OPTION 1

- 0 : None
- 1 : Rs485 - Protocollo Modbus RTU

OPTION 2

- 0 : None
- 1 : 2 Event Inputs
- 2 : 1 Event Input and 1 CT Input (CT = Current Transformer = Trasformatore Amperometrico)
- 3 : 2 CT Inputs (CT = Current Transformer = Trasformatore Amperometrico)

OPTION 3

- 0 : None
- 1 : Ritrasmissione 4÷20 mA / 0÷20 mA (CM98/3)
- 2 : Ritrasmissione 0÷10 VDC (CM98-5)
- 3 : Allarme 3 Relè N/O (Form A)

OPTION 4

- 0 : None
- 1 : Cover Morsettiera

CODIFICA STRUMENTI

C930-C82

C930-C83

C930-C72

C930-C42

ALIMENTAZIONE

- 4 : 90÷250 Vac - 47÷63 Hz
- 5 : 11÷40 Vdc / 20÷28 Vac - 47÷ 63Hz

OUTPUT 1

- 1 : Relè N/O (Form A)
- 2 : SSRD (Drive x SSR), 5 Vdc /30mA
- 3 : 4÷20 mA / 0÷20 mA Isolata (OM98-3)
- 5 : 0÷10 Vdc Isolata (OM98-5)
- C : SSRD (Drive x SSR) , 14 Vdc/40 mA (OM94-7)

OUTPUT 2 / ALARM 1

- 0 : None
- 1 : Relè N/O (Form A)
- 2 : SSRD (Drive x SSR), 5 VDC / 30 mA
- 3 : 4÷20 mA / 0÷20 mA Isolata (OM98-3)
- 5 : 0÷10 Vdc Isolata (OM98-5)
- C : SSRD (Drive x SSR), 14 VDC / 40 mA (OM94-7)

ALARM 2 & 3

- 0 : None
- 1 : Uscita Relè N/O (Forma A) Allarme 2
- 2 : Doppia Uscita Relè N/O (Form A) Allarme 2 & Allarme 3

EVENT INPUTS

- 0 : None
- 1 : 6 Event Inputs (2 Event Inputs per C930 - C72)

OPTION 1

- 0 : None
- 1 : Rs485 & Remote Setpoint

OPTION 2

- 0 : None
- 1 : 1 CT Input (CT = Trasformatore Amperometrico) + Remote Setpoint Analogico
- 2 : 2 CT Input (CT = Trasformatore Amperometrico) + Remote Setpoint Analogico

OPTION 3

- 0 : None
- 1 : Ritrasmissione 4÷20 mA / 0÷20 mA (CM98-3) + Remote Setpoint Analogico
- 2 : Ritrasmissione 0÷10 Vdc (CM98-5) + Remote Setpoint Analogico
- 3 : Allarme 4 Relè N/O (Form A) + Remote Setpoint Analogico
- 4 : Allarme 4 Relè N/O (Form A), Ritrasmissione 4÷20 mA / 0÷20mA (CM98-3) + Remote Setpoint Analogico (Non disponibile x C930-C72)
- 5 : Allarme 4 Relè N/O (Form A), Ritrasmissione 0÷10VDC (CM98-5) + Remote Setpoint Analogico (Non disponibile C930-C72)

OPTION 4

- 0 : None
- 1 : Cover Morsettiera
- 2 : Ramp & Soak Profiler (Funzione Multiprogrammatore)
- 3 : Terminal cover + Ramp & Soak Profiler



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Rivenditore Locale

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