

COOKING CONTROLLERS



- Large quadruple display
- 3 outputs
- TC and RTD inputs
- Internal warning buzzer
- On/Off or Proportional control forms
- Adjustable cooking times from 1 - 99 sec. or 1-99 min.
- Integrated STEAM button with SSR or relay output



- Custom temperature controllers
- SSR or relay output(s)
- TC and RTD inputs
- Control gas or electric appliances
- On/Off or Proportional control forms

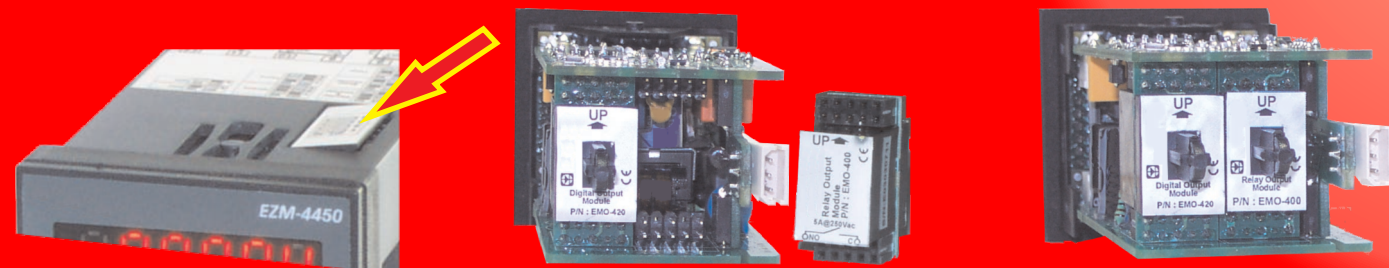
COOLING & Mini CONTROLLERS



- Adjustable defrost parameters
- Compressor protection delays and fail safe operation
- Sensor included
- Internal warning buzzer
- On/Off control form
- Large 14 mm 3 digits display
- Heating, Cooling or Heating and Cooling models



INSTALLING / REPLACING I/O MODULES ESM xx00 and ESMxx50 controllers only



1 Remove power. Gently pry the unit apart top and bottom and extract the unit from its case. Wiring remains intact!

2 Slide I/O module(s) into cavity.

3 Possibility for 2 modules. Re-insert unit into case. No re-programming!

Our 7-in-1 EZM Counter/Timer has the same great advantages and plug-in design.

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Represented by

PROCESS & TEMPERATURE CONTROLLERS & INDICATORS

Easy setup via the pushbuttons or FREE downloadable software

ESM process controllers can be used to control temperature or a wide variety of process parameters.

- Large 20.3mm (0.80") high 4 digit display on ESM4900
- Plug-in I/O module design for up to 3 outputs
- Universal process input TC, RTD, mV, mA, 10vdc
- Dual or multi-point calibration for V, mV and mA inputs
- High limit manual or automatic reset
- Adjustable input filtering 0.0 - 900.0 sec.
- Password protection (2 levels)
- Standard RS-232 or optional RS-485 serial interface

- ESM4400
48 x 48mm
- ESM4900
48 x 96mm
- ESM7700
72 x 72mm
- ESM9900
96 x 96mm

PROCESS INDICATORS



- Plug-in I/O module design - up to 3 outputs or 2 in + 2 out
- Accepts all TC, RTD, mV, mA, 10vdc inputs
- Dual or multi-point calibration
- Separate PID loops for heating and cooling
- Second input (field installable)
- Heating, cooling and alarm functions
- Ramp & Soak automatic or manual restart
- Sensor power supply
- Standard RS-232 or optional RS-485 serial interface

- ESM4450
48 x 48mm
- ESM4950
48 x 96mm
- ESM7750
72 x 72mm
- ESM9450
96 x 48mm
- ESM9950
96 x 96mm

INDUSTRY'S PREFERENCE



- Accepts all TC, RTD, mV, mA, 10vdc inputs
- Dual or multi-point calibration
- Programmable ON/OFF, and PID control forms
- Autotune and Selftune selection, Manual/Automatic
- Heating, cooling and alarm functions
- Sensor power supply
- 2 dry contacts plus 1 SSR outputs

- ESM4430
48 x 48mm
- ESM4930
48 x 96mm
- ESM7730
72 x 72mm
- ESM9430
96 x 48mm
- ESM9930
96 x 96mm

OEM STANDARD



- Accepts all TC and RTD inputs
- Programmable ON/OFF, and PID control forms
- Quick disconnect terminal block
- Heating, cooling and alarm functions
- 1 SPDT or 1 SSR process plus 1 alarm output

- ESM4420
48 x 48mm
- ESM7720
72 x 72mm
- ESM9920
96 x 96mm

TEMPERATURE (PID)



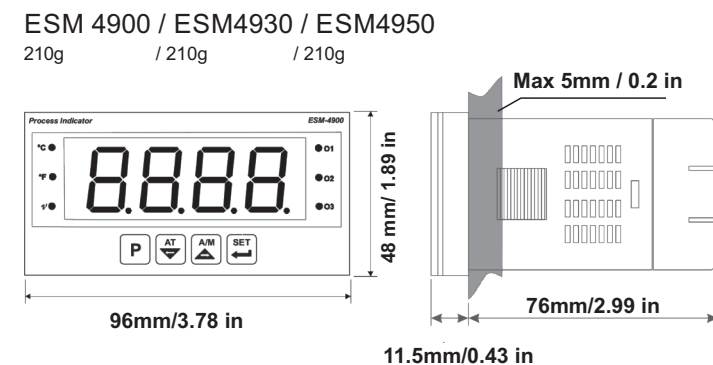
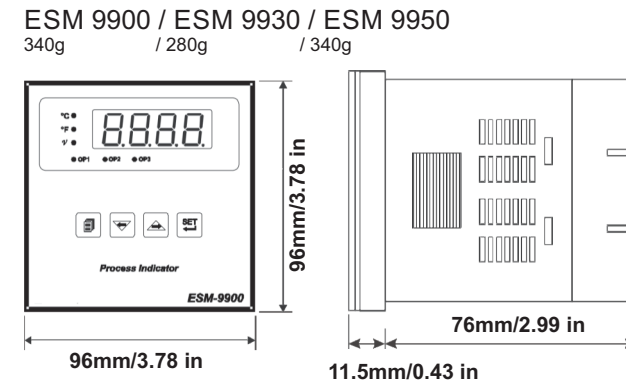
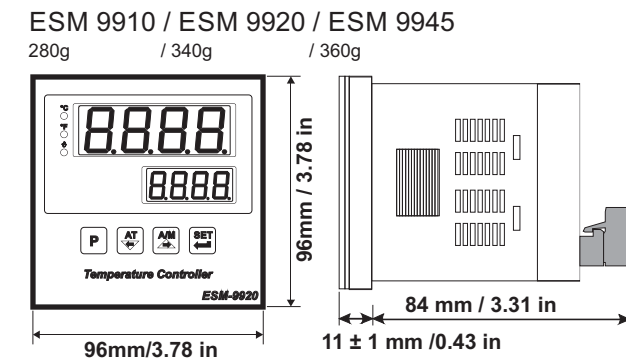
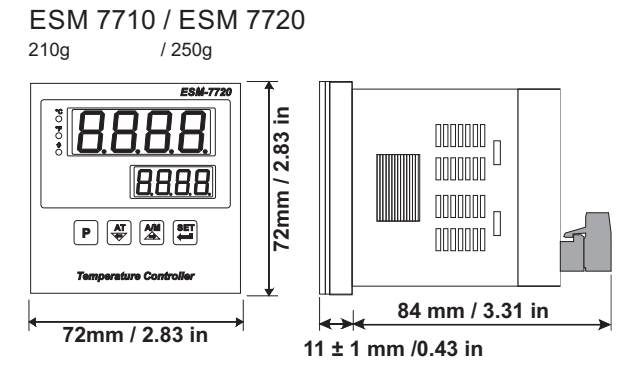
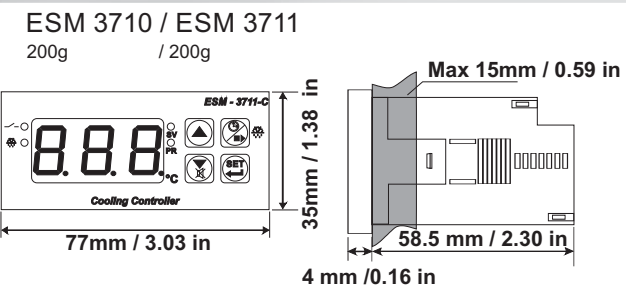
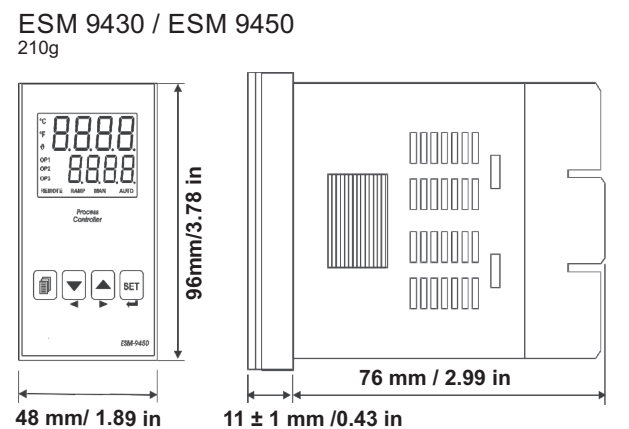
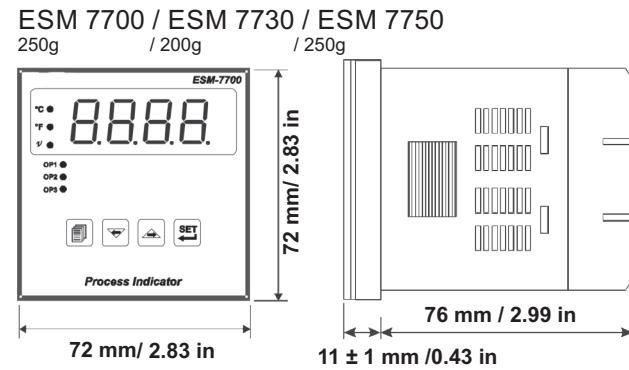
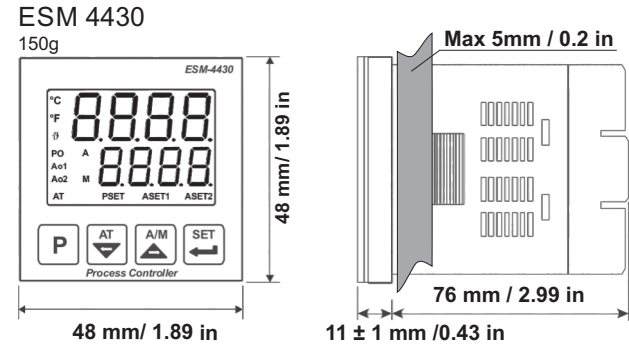
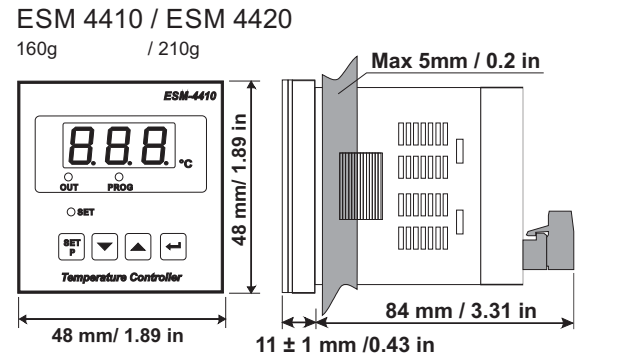
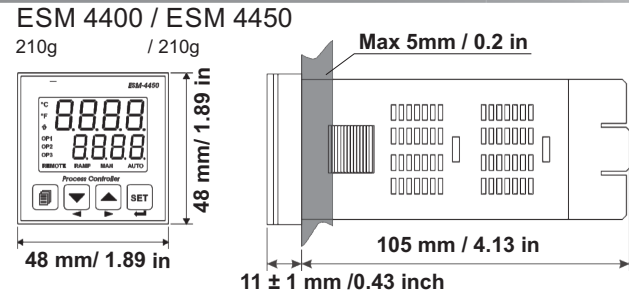
- Accepts J, K or PT100 inputs
- ON/OFF with adjustable hysteresis
- Single and dual output models
- Quick disconnect terminal block

- ESM4410
48 x 48mm
- ESM7710
72 x 72mm
- ESM9910
96 x 96mm

TEMPERATURE (ON/OFF)

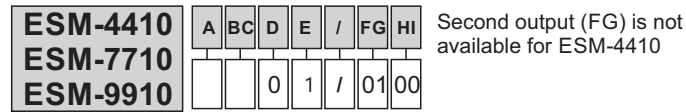


WEIGHTS & DIMENSIONS (not for construction purposes)



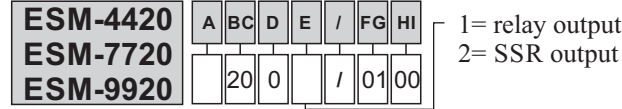
ORDERING INFORMATION

Complete the model number with the appropriate suffix.
Eg. ESM 9910-10501/01.00 is a 96 x 96mm controller with supply voltage of 115vac (± 15%), J type input, standard relay plus a second relay output.



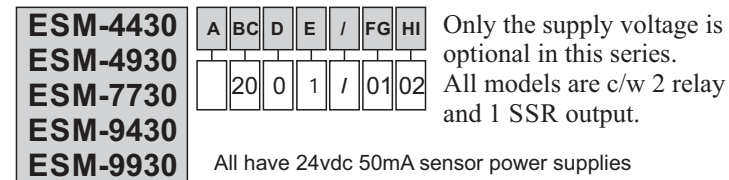
A	Supply Voltage	BC	Input Types	Scales
2	24Vac/dc 50/60 Hz	03	PT100	0 to 400°C
4	115Vac 50/60 Hz	05	J	0 to 800°C
5	230Vac 50/60 Hz	09	PT100	-19.9 to 99.9°C
9	Custom (please specify)	10	K	0 to 999°C

Complete the model number with the appropriate suffix.
Eg. ESM 4420-12001/01.00 is a 48 x 48mm controller with supply voltage of 115vac (± 15%), configurable input, standard relay plus a second relay output.



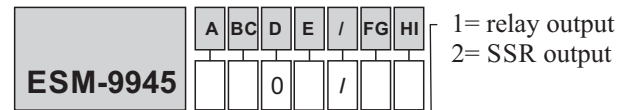
A	Supply Voltage	BC	Input Types
2	24Vac/dc 50/60 Hz	20	Units accept the following input types: J, K, R, S, T thermocouples and 2 or 3 wire PT100. User configurable. Please see Table-1 for scales.
4	115Vac 50/60 Hz		
5	230Vac 50/60 Hz		
9	Custom (please specify)		

Complete the model number with the appropriate suffix.
Eg. ESM 4430-12001/01.02 is a 48 x 48mm controller with supply voltage of 100-240Vac, configurable input, 2 relay plus 1 SSR output.



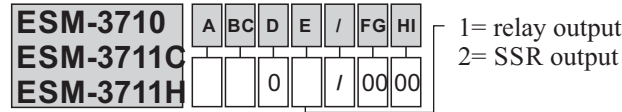
A	Supply Voltage	BC	Input Types
1	100-240Vac 50/60Hz	20	Units accept any thermocouple, 2 or 3 wire PT100 or process input. User configurable. Please see Table-1 for scales.
2	24Vac/dc 50/60Hz		
9	Custom (please specify)		

Complete the model number with the appropriate suffix.
Eg. ESM 9945-40501/01.02 is a 96 x 96mm controller with supply voltage of 115Vac, J input, 2 relay plus 1 SSR output.



A	Supply Voltage	BC	Input Types	Scales
3	24Vac 50/60 Hz	03	PT100	0 to 400°C
4	115Vac 50/60 Hz	05	J	0 to 800°C
5	230Vac 50/60 Hz	10	K	0 to 999°C
9	Custom (please specify)			

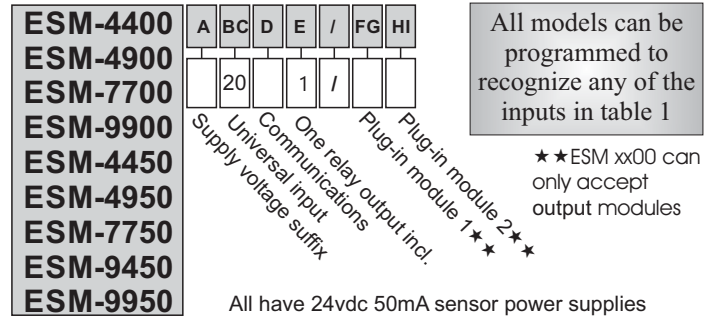
Complete the model number with the appropriate suffix.
Eg. ESM 3710-40501/00.00 is a 77 x 35mm controller with supply voltage of 115vac (± 15%), J input and a relay output.



A	Supply Voltage	BC	Input Types	Scales
2	24Vac/dc 50/60 Hz	05	J, Fe CuNi	0 to 800°C
4	115Vac 50/60 Hz	09	PT100	-19.9 to 99.9°C
5	230Vac 50/60 Hz	10	K, NiCr Ni	0 to 999°C
9	Custom (please specify)	11	PT100	-50 to 400°C
		12	PT100	-50 to 150°C

ORDERING INFORMATION

Complete the model number with the appropriate suffix.
Eg. ESM 4450-12011/01.04 is a 48 x 48mm controller with supply voltage of 100 - 240vac, universal input, RS232, standard relay plus a second relay and 4 - 20mA outputs.



A	Supply Voltage
1	100-240Vac 50/60Hz
2	24Vac/dc 50/60Hz
9	Custom (please specify)

BC	Input Types	Scales
20	Configurable (Table-1)	Table-1
D	Serial Interface	Product Code
1	RS-232 MODBUS	Supplied on all xx00 and xx50
2	RS-485 MODBUS	Specify at time of order

E	Output
1	One Relay Output 5A @ 250Vac included as standard feature

FG	Module-1	Product Code *		
HI	Module-2			
00	None	-	-	-
01	Relay Output *	EMO-400	EMO-700	EMO-900
02	SSR Output 15-18 Vdc / 50mA	EMO-410	EMO-710	EMO-910
03	Transistor Output 24Vdc/100mA	EMO-420	EMO-720	EMO-920
04	Volt/Current Out (0/4 - 20mA, 0 - 10V)	EMO-430	EMO-730	EMO-930
07	Digital Input (5-30Vdc)	EMI-400	EMI-700	EMI-900
08	Current Input 0/4 to 20 mA	EMI-410	EMI-710	EMI-910
09	CT Input 0 to 5Aac (heater break)	EMI-420	EMI-720	EMI-920
10	TC Input	EMI-430	EMI-730	EMI-930
11	RTD Input	EMI-440	EMI-740	EMI-940
12	Volt Input 0 - 10Vdc	EMI-450	EMI-750	EMI-950

* 3A@250Vac for EMO-400 / 5A@250Vac for EMO-700 & 900

BC	Input- all of the following	Scale(°C)	Scale(°F)
20	L(FeConst DIN43710)	-100°C 850°C	-148°F 1562°F
	J(FeConst IEC-584)	-200°C 900°C	-328°F 1652°F
	K(NiCrNi DIN/IEC)	-200°C 1300°C	-328°F 2372°F
	R(Pt13%RhPt DIN/IEC)	0°C 1700°C	32°F 3092°F
	S(Pt10%RhPt DIN/IEC)	0°C 1700°C	32°F 3092°F
	T(CuConst DIN/IEC)	-200°C 400°C	-328°F 752°F
	B(Pt18%RhPt DIN/IEC)	-200°C 400°C	-328°F 752°F
	E(CrConst DIN/IEC)	-150°C 700°C	-238°F 1292°F
	N(NikrosilNisil DIN/IEC)	-200°C 1300°C	-328°F 2372°F
	C(DIN/IEC)	0°C 2300°C	32°F 4172°F
	PT 100 (2 or 3 wire)	-200°C 650°C	-328°F 1202°F
	0...50 mV		-1999 ... 9999
	0...5 V		-1999 ... 9999
	0...10 V		-1999 ... 9999
	0...20 mA		-1999 ... 9999
	4...20 mA		-1999 ... 9999

I/O MODULES (Any two can be added in the field)

To order I/O modules separately, use the product codes from the table above: EMx-4xx for 48mm H models, EMx-7xx for 72mm H models and EMx-9xx for 96mm H models except ESM-9450 which requires EMx-4xx modules.

eg. Relay out for ESM-4900 order EMO-400; for ESM-9950 order EMO-900

Note: The ESM-xx50 series can be fitted with 2 output modules or 1 output plus 1 input module bringing the total to 1 input and 3 outputs or 2 inputs and 2 outputs.