

TEMPERATURE, COOKING & REFRIGERATION CONTROLLERS



77 x 35 x 62.5mm
ESM 3710

Features

ESM 3710

- † Heating or Cooling
- † Adjustable hysteresis
- † Adjustable temperature offset
- † SPDT relay or SSR output
- † Compressor protection delays

- † Password protection
- † LED status indicators
- † Large 3 digits display
- † Select from continuous, periodic or compressor stop functions in case of probe defect.



77 x 35 x 62.5mm
ESM 3711

ESM 3711; 7311 & 3712-H

- † Adjustable cooking time
- † Remote start / stop cooking input
- † SPDT relay or SSR output
- † Cooking time begins when temperature reaches set value

- † Password protection
- † User adjustable alarm limits
- † Internal buzzer according to cooking time, probe defect and alarm
- † LED status indicators
- † Large 3 digits display
- † Process & alarm outputs (3712-H only)



77 x 35 x 62.5mm
ESM 3712

ESM 3711 & 7311-C

- † Adjustable defrost time
- † Adjustable temperature offset
- † SPDT relay or SSR output
- † Password protection
- † User adjustable alarm limits

- † Internal buzzer according to defrost time, probe defect and alarm
- † LED status indicators
- † Large 3 digits display
- † Select from continuous, periodic or compressor stop functions in case of probe defect.



35 x 77 x 62.5mm
ESM 7311

ESM 3712-C

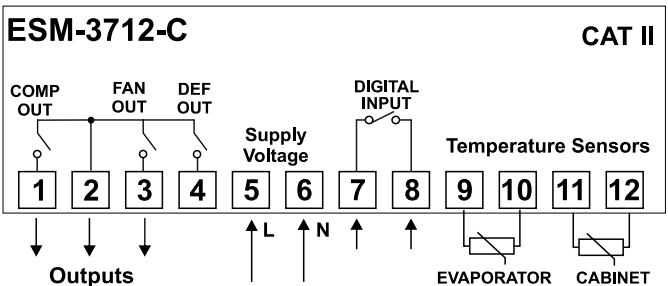
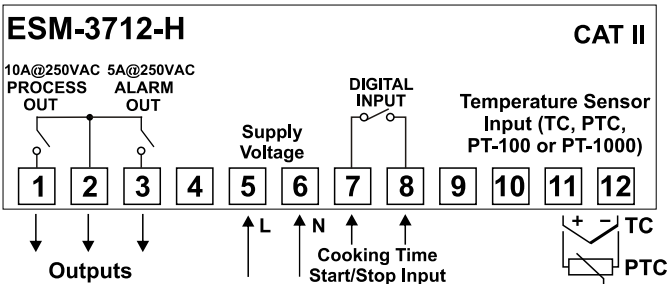
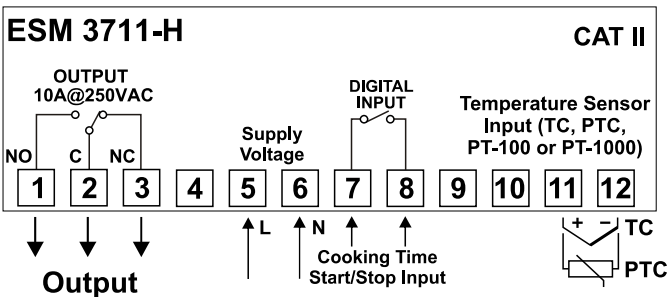
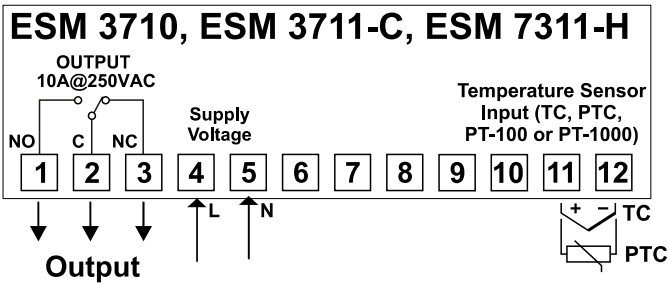
- † 3 outputs: compressor, defrost & fan
- † 2 sensor inputs: cabinet & evaporator
- † Separately adjustable offsets for both sensors
- † Hot gas or electric defrost functions
- † Automatic & manual defrost
- † Compressor protection delays
- † LED status indicators
- † Large 3 digits display

- † Password protection
- † Configurable digital input
- † Internal buzzer according to defrost time, cabinet probe defect and alarm
- † Fan can be operated according to evaporator temperature or cabinet - evaporator temperature
- † Select from continuous, periodic or compressor stop functions in case of cabinet probe defect.

Model	Control Form	Password Protection	Buzzer	Outputs		Inputs						
				process	alarm	J	K	PTC	NTC	Pt100	Pt1000	Remote Start / Stop
ESM 3710	Digital ON/OFF	Yes	No	SPDT relay or 1 x SSR	No	•	•	•	•	•	•	
ESM 3711-H			•			•	•	•	•	•		
ESM 3711-C			•			•	•	•	•	•		
ESM 7311-H			•			•	•	•	•	•		
ESM 3712-H			Yes	Yes	3 x SPST or 2 x SSR	Yes	•	•	•	•	•	•
ESM 3712-C			2 x SPST or 2 x SSR	No	2 x PTC or NTC or Pt100 or Pt1000							

Wiring diagrams

For general reference only.



Specifications

Accuracy:..... $\pm 1\%$ of scale
 Cold junction compensation: automatic $\pm 0.1^{\circ}\text{C}/1^{\circ}\text{C}$
 Control form:.....ON/OFF with adjustable hysteresis
 Display:.....3 LED, 14mm tall
 Humidity:.....0 to 90% RH non condensing
 Operating Temp.:.....0 to 50°C
 Power consumption.....1.5VA
 Protection:.....Nema 4x with optional gasket

Distributed by:

Ordering Information

Complete the model number with the appropriate suffix.
 eg. ESM 3710-40501/00.00-1 for a temperature controller requiring 120vac supply voltage and having a SPDT relay output and a PTC air probe.

ESM 3710 - **A** **BC** **D** **E** **FG** **HI** **U** **V**
ESM 3711-H- **0** **00**
ESM 3711-C-
ESM 3712-H-
ESM 3712-C-
ESM 7311-H-

A	Supply Voltage
2	24 Vac/dc (-15% +10%) 50/60 Hz
4	115 Vac ($\pm 15\%$) 50/60 Hz
5	230 vac ($\pm 15\%$) 50/60 Hz
6	12 Vac/dc ($\pm 15\%$) 50/60 Hz

Note: ESM 3712 is only available in 24Vac/dc version.

BC	Input Type	Scale	ESM 3710	ESM 3711-H	ESM 3711-C	ESM 3712-H	ESM 3712-C	ESM 7311-H
05	J, Fe CuNi	0 to 800 °C	•	•				
10	K, NiCr Ni	0 to 999 °C	•	•				
11	Pt 100	-50 to 400 °C	•	•	•	•	•	•
09	Pt 100	-19.9 to 99.9 °C	•	•	•	•	•	•
12	PTC 1K	-50 to 150 °C	•	•	•	•	•	•
15	PTC 1K	-19.9 to 99.9 °C	•	•	•	•	•	•
14	Pt 1000	-50 to 400 °C	•	•	•	•	•	•
13	Pt 1000	-19.9 to 99.9 °C	•	•	•	•	•	•
18	NTC 10K	-50 to 100 °C	•	•	•	•	•	•
19	NTC 10K	-19.9 to 99.9 °C	•	•	•	•	•	•

•Denotes that the model can accept this type of sensor input.

E	Output
1	SPDT Relay 10 A resistive @ 250Vac
2	SSR maximum 20mA @ 12Vdc

V	Sensor Type
0	None
1	PTC-M6L40.K1.5 (air probe c/w 1.5m silicone cable)
2	PTCS-M6L30.K1.5 (liquid probe c/w 1.5m silicone cable)
3	NTC-M5-L20.K1.5S (silicon cable w/ protective tube)
4	NTC-M6-L50.K1.5M (silicon cable w/ metal protective tube)
9	To customer's specifications

Note on sensors: M_ indicates the diameter of the probe (5 = 5mm; 6 = 6mm); L_ refers to its length in mm (20 = 20mm). All are supplied with 1.5 meter cable.