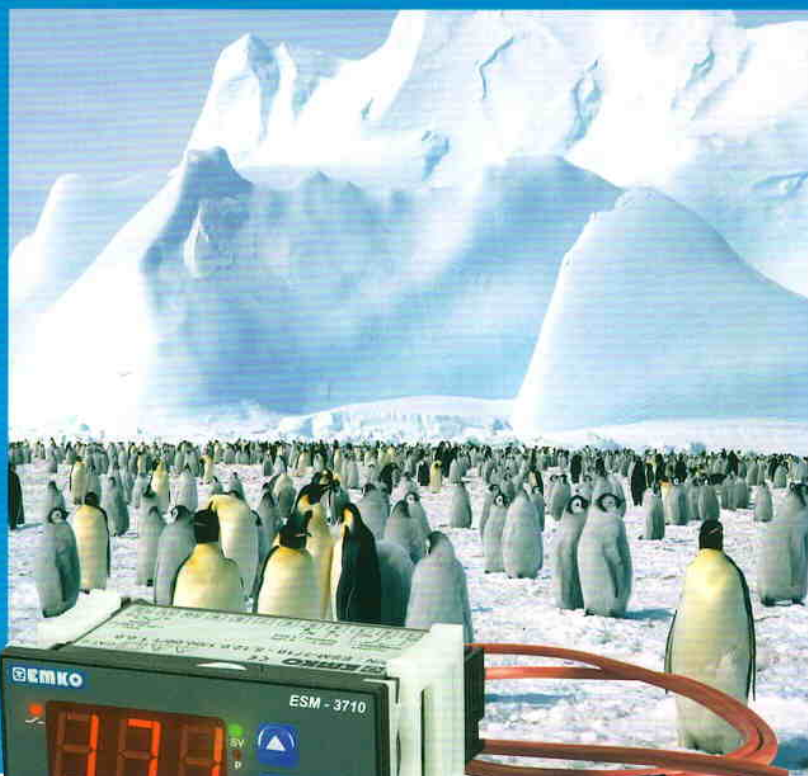


Heating and Cooling Controllers



ESM-3710

Single SET, ON/OFF Controller

ESM-3711-H

Single SET ON/OFF,
Heating + Timer Controller, with Audible alarm

ESM-7311-H

Single SET ON/OFF,
Heating + Timer Controller, with Audible alarm

ESM-3712-H

Dual SET (SET+Alarm) ON/OFF,
Heating + Timer Controller, with Audible alarm

ESM-3711-C

Single SET ON/OFF,
Cooling + Defrost Time Controller, with Audible alarm

ESM-3712-C

Cooling and Defrost Controller, with Audible alarm

ESM-3711-CL

Single SET ON/OFF,
Cooling + Defrost Time Controller, with Audible alarm
Min/Max. data logging

ESM-3712-HC

Dual SET (SET+Alarm) ON/OFF,
Heating and Cooling Controller,

Heating / Cooling applications

Easy to use

3 digits display

PTC, NTC, Pt-100, Pt-1000 thermoresistance input types

Fe-Const (J), NiCr-Ni (K) thermocouple input types

ON / OFF temperature control

Adjustable temperature offset

SET value limit and SET value high limit boundaries

Compressor protection delays

Defrost control

Audible alarm by internal buzzer

Password protection for programming section

Min / Max Data logging

Heating Control



ESM-3710

Single SET, ON/OFF Controller

- ON/OFF temperature control
- Heating and Cooling applications
- Relay or SSR driver output
- Thermoresistance or Thermocouple input
- Compressor protection delay
- Password protection for programming section



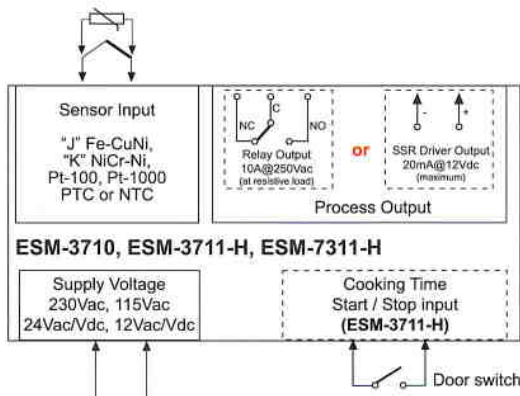
ESM-3711-H

Single SET ON/OFF, Heating + Timer Controller, with Audible alarm

- ON/OFF temperature control
- Adjustable cooking time
- Relay or SSR driver output
- Audible alarm for alarm situation
- Audible alarm at the end of the cooking time
- Button protection
- Adjustable temperature offset
- Digital input for Cooking time Start / Stop



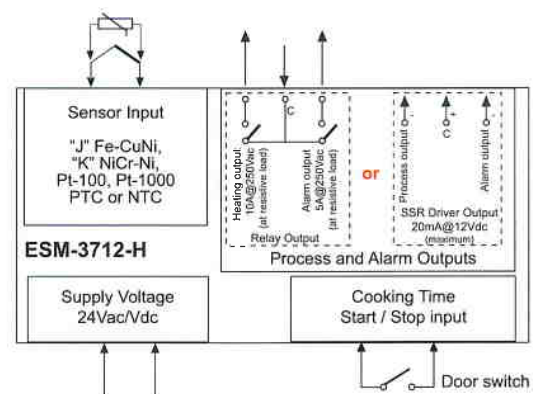
ESM-7311-H



ESM-3712-H

Dual SET (SET+Alarm) ON/OFF,
Heating + Timer Controller, Audible alarm

- Relay or SSR Driver output for Cooking and Alarm
- Adjustable SET value for Cooking and Alarm
- 24Vdc/Vac supply voltage
- Thermoresistance or Thermocouple input types
- Adjustable Cooking time from front panel
- Digital input for Cooking time Start / Stop
- Functional alarm parameters
- Adjustable temperature offset
- Audible alarm for alarm situations
- Button protection
- Password protection for programming section



Application Fields:

- Industrial kitchen applications
- Bakery applications
- Industrial oven control
- Chemical sample testers
- Laboratory test equipments
- Fermentation cabinets
- Heating automation
- Quality control applications
- Jeweller furnace etc.,

Cooling Control



ESM-3711-CL

Single SET ON/OFF,
Cooling + Defrost Time Controller, with Audible alarm
Min/Max. data logging

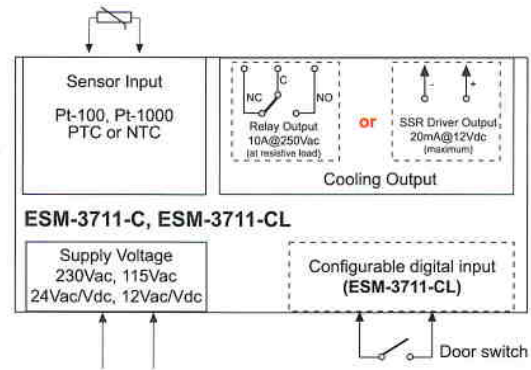
If your product is exposed to critical temperature level, you can
learn it by one button on front panel,
Maximum and minimum temperature values are recorded .

Application Fields:

Refrigerators, Freezing chambers, Cold chain applications
Medicine stores, Blood cabinets, etc.,



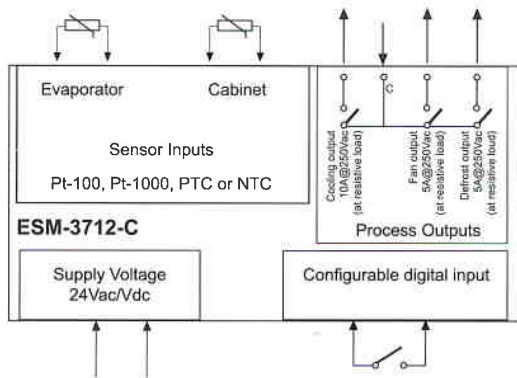
ESM-3711-C



ESM-3712-C

Cooling + Defrost Controller with buzzer

- 3 output for Compressor, defrost and fan control
- 2 sensor inputs for Cabinet and evaporator
- Programmable digital input
- Separately adjustable 2 offset values for Cabinet and evaporator sensor
- SET value boundaries
- Fan can be operated depending on compressor and defrost
- Adjustable defrost time from front panel
- Functional alarm parameters
- Operation selection of compressor operate continuously, stops or operates periodically in case of cabinet probe defect
- Adjustable internal buzzer according to the defrost, cabinet probe defect and status
- Button protection
- Password protection for programming mode



General Specification of Heating and Cooling Controllers

Measurement Range	: It is in ordering information
Accuracy	: +/-1% of scale
Cold Junction Compensation	: Automatically +/- 0.1°C / 1°C
Sensor Break Protection	: Upscale
Sampling Cycle	: 3 samples per second
Control Output	: ON/OFF
ON/OFF Hysteresis	: It can be configured by the user
Operation Temperature	: 0...50°C
Humidity	: %0-90RH (none condensing)
Protection Class	: IP65 at front , IP20 at rear
Dimension	: 77x35mm, Depth: 60mm., 35x77mm, Depth: 60mm. (ESM-7311-H)



ESM-3712-HC

Heating & Cooling Controller

Order Code												ESM-3710	ESM-3711-H	ESM-7311-H	ESM-3712-H	ESM-3711-C	ESM-3711-CL	ESM-3712-C	ESM-3712-HC	
A	BC	D	E	/	FG	HI	/	U	V	W	Z									
		0		/			/	1		0	0									
A	Supply Voltage																			
1	100...240Vac (-%15, +%10) 50/60Hz											-	-	-	-	-	-	-	-	+
2	24Vac/Vdc (-%15, +%10) 50/60Hz											+	+	+	+	+	+	+	+	+
3	24Vac (-%15, -%15) 50/60Hz											+	+	+	-	+	+	-	-	-
4	115Vac (-%15, -%15) 50/60Hz											+	+	+	-	+	+	-	-	-
5	230Vac (-%15, -%15) 50/60Hz											+	+	+	-	+	+	-	-	-
6	12Vac/Vdc (-%15, -%15) 50/60Hz											+	+	+	-	+	+	-	-	-
BC	Input Type																			
05	J, Fe-CuNi, 0...800 °C											+	+	+	+	-	-	-	-	+
10	K, NiCr-Ni, 0...999 °C											+	+	+	+	-	-	-	-	+
11	Pt-100, -50...400 °C											+	+	+	+	+	+	+	+	+
09	Pt-100, -19.9...99.9 °C											+	+	+	+	+	+	+	+	+
12	PTC, -50...150 °C											+	+	+	+	+	+	+	+	+
15	PTC, -19.9...99.9 °C											+	+	+	+	+	+	+	+	+
14	Pt-1000, -50...400 °C											+	+	+	+	+	+	+	+	+
13	Pt-1000, -19.9...99.9 °C											+	+	+	+	+	+	+	+	+
18	NTC, -50...100 °C											+	+	+	+	+	+	+	+	+
19	NTC, -19.9...99.9 °C											+	+	+	+	+	+	+	+	+
E	Output-1																			
1	Relay Output (Max. 10A@250Vac)											+	+	+	+	+	+	-	-	+
1	Compressor Relay Output (Max 10A@250Vac)											-	-	-	-	-	-	+	-	-
2	SSR Driver Output (Max.. 20mA@12Vdc)											+	+	+	+	+	+	-	-	+
FG	Output-2																			
01	Alarm Relay Output (Max. 5A@250Vac)											-	-	-	+	-	-	-	-	+
01	Defrost Relay Output (Max. 5A@250Vac)											-	-	-	-	-	-	+	-	-
02	SSR Driver Output (Max. 20mA@12Vdc)											-	-	-	+	-	-	-	-	+
HI	Output-3																			
01	Fan Relay Output (Max. 5A@250Vac)											-	-	-	-	-	-	+	-	-
V	PTC and NTC Temperature Sensor Selections																			
0	Without Sensor											+	+	+	+	+	+	+	+	+
1	PTC-M6L40.K1,5 PTC Air probe 1,5 m silicon cable											+	+	+	+	+	+	+	+	+
2	PTCS-M6L30.K1,5, 1/8" PTC Liquid probe with 1,5m silicone cable, 1/8" fittingnut											+	+	+	+	+	+	+	+	+
3	NTC-M5L20.K1,5 Thermoplastic covering for cooling application, 1,5 m cable NTC probe											+	+	+	+	+	+	+	+	+
4	NTC-M6L50.K1,5 Metal protection tube, 1,5 m cable NTC probe											+	+	+	+	+	+	+	+	+
Specifications																				
Dimension												77x35mm	77x35mm	35x77mm	77x35mm	77x35mm	77x35mm	77x35mm	77x35mm	
Password protection for programming mode												+	+	+	+	+	+	+	+	+
Functional Internal Buzzer												-	+	+	+	+	+	+	+	-
Adjustable cooking time from Front panel												-	+	+	+	-	-	-	-	-
Digital input (Cooking time start/stop input)												-	+	-	+	-	-	-	-	-
Compressor protection delay												+	-	-	-	+	+	+	+	+
Set value boundaries												+	+	+	+	+	+	+	+	+
Adjustable temperature offset												+	+	+	+	+	+	+	+	+
ON/OFF Heating control												+	+	+	+	-	-	-	-	+
ON/OFF Cooling control												+	-	-	-	+	+	+	+	+
Alarm parameters												-	+	+	+	+	+	+	+	+
Button protection												-	+	+	+	+	+	+	+	-
Minimum and Maximum value's recording												-	-	-	-	-	+	-	-	-
Defrost (Off/Cycle) functions												-	-	-	-	+	+	+	+	-
Compressor, Evaporator and Fan control outputs												-	-	-	-	-	-	+	-	-
2 sensor input for cabinet and evaporator												-	-	-	-	-	-	+	-	-
Configurable digital input												-	-	-	-	-	-	+	-	-