

## ems55advanced Technical Specification - Glass Door Cooler

The ems55advanced and ems55Radvanced are designed for use within drinks coolers and are available with either an *integrated* motion sensor, or a *remote* motion sensor (sold separately). The parameters listed on the rear of this specification are for Glass Door Coolers.

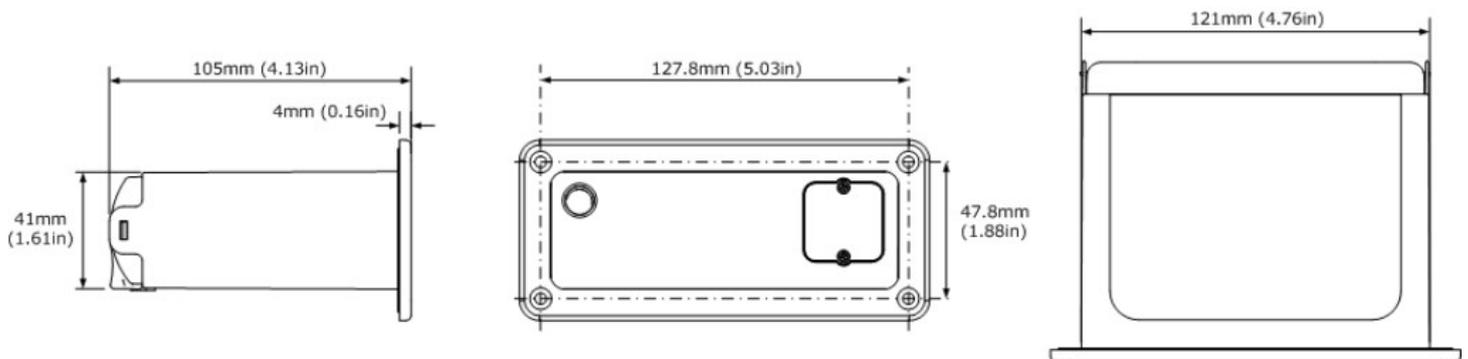


### User interface:

Display:	3 digit LED
	0.1°C (1°F) Resolution

Buttons:	LEDs:
 Defrost	 Compressor
 Set	 Fan
 Up	 Saving temperature disable
 Down	 Motion

### Dimensional drawings:



### Relay ratings:

Relay	IEC 60730 rating @ 100-120VAC and 220-240VAC 50-60Hz
Compressor	10 (10) A, p.f. 0.6
Lights	4 (4) A, p.f. 0.6
Fan	4 (4) A, p.f. 0.6

### Temperature sensors:

Sensor	Input range ( °C)	Input range ( °F)
Appliance	-10 °C to 23.3 °C +/- 0.5 °C	14 °F to 74 °F +/- 1°F
Condenser	50 °C to 125 °C +/- 5.0 °C	122 °F to 257 °F +/- 10 °F

### Environmental ratings:

Characteristic	Value
IP Rating:	
Controller	IPX5
Maximum ambient	50 °C (122 °F)

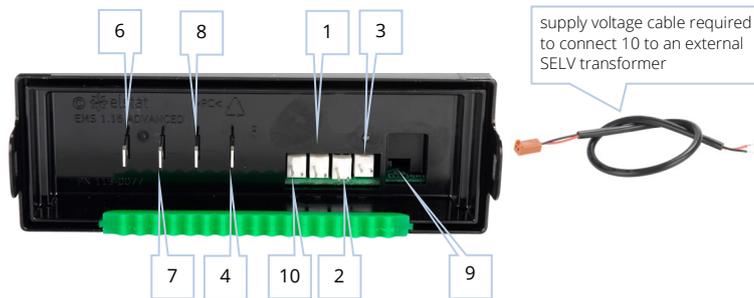
### Delivery and packaging:

Controller	50 per box
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### Product approval:

 EN603730-1 EN60730-2-9	 IEC60730-1 IEC60730-2-9 Glow wire: IEC60335-1	 UL 60730-1 / CSA E60730-1 UL 60730-2-9 / CSA E60730-2-9
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## Electrical connections



- 1 Door switch
- 2 Condenser sensor (ht)
- 3 Appliance sensor (app)
- 4 Lights - white cable
- 5 Not used
- 6 Compressor - red cable
- 7 Live - brown cable
- 8 Fan - blue cable
- 9 microRMD (ems55*advanced* variant)
- 10 Supply voltage - 12VAC

## Parameter set:

<b>CF</b>	Celsius (°C) or Fahrenheit (°F) sets the temperature scale.	<b>rt</b>	<b>Condenser high temperature</b> is the maximum permitted temperature measured in the refrigeration system. On reaching Ht, the controller disables the compressor and activates an alarm.	<b>LO</b>	<b>Low voltage protection</b> defines the minimum voltage allowed before switching off the compressor. Values are <b>not</b> voltages.
<b>SPC</b> <b>SPF</b>	<b>Set Point</b> temperature in Fahrenheit (SPF) or Celsius (SPC) sets the lower ready mode temperature (cut out temperature).	<b>ds</b>	<b>Delay to standby</b> is the delay in switching to saving mode from the operational mode.	<b>bo</b>	<b>Buzzer enable</b> is the option to disable a warning buzzer for alarm conditions. Does not affect door alarms.
<b>dIF</b>	<b>Differential</b> temperature added to SP temperature.	<b>Ld</b>	<b>Light delay</b> is the delay to switch off the cooler lights after switching to the saving mode.	<b>bl</b>	<b>Buzzer duration</b> for open door alarm conditions. After the buzzer duration, the controller switches off the compressor.
<b>CA1</b>	<b>Calibration 1</b> adds an offset to temperatures measured by the appliance sensor.	<b>Sr</b>	<b>Saving restart</b> is the maximum time allocated to lower the product temperature to the set point temperature from the saving mode.	<b>Ad</b>	<b>Alarm delay</b> is the maximum time a door can be open before sounding the alarm buzzer.
<b>SSP</b>	<b>Saving mode set point</b> sets the lower saving mode temperature (cut out temperature).	<b>Ct</b>	<b>Refrigeration system failure</b> is the maximum continuous runtime of the compressor without reaching the set point temperature (cut out temperature)	<b>AF</b>	<b>Activity frequency</b> is the minimum number of door openings or motion counts to indicate an active 30 minute period in the self-learning matrix.
<b>Sd</b>	<b>Saving differential</b> is the temperature added to SSP that sets the upper saving mode temperature (cut in temperature).	<b>dE</b>	<b>Defrost interval</b> is the period between the end of a defrost cycle and beginning of the next defrost cycle.	<b>Sn</b>	<b>Sensor enable</b> enables the motion sensor input.
<b>IPd</b>	<b>Uninterrupted pull down</b> the compressor runs continually until the set point is reached.	<b>dd</b>	<b>Defrost duration</b> is the maximum time of a defrost cycle.	<b>PEr</b>	<b>Saving temperature disable</b> is the option to maintain the ready mode temperature at all times.
<b>dtE</b>	<b>Freeze-up protection</b> is the temperature to disable the compressor and enable the evaporator fan to prevent freeze up due to low temperature.	<b>FcO</b>	<b>Fan cycle on</b> is the active period of the evaporator fan while the compressor is off.	<b>LP</b>	<b>Learning period</b> defines 1-day or 7-day learning period.
<b>dtD</b>	<b>Defrost termination temperature</b> defines the temperature to end a defrost cycle.	<b>FcF</b>	<b>Fan cycle off</b> is the inactive period of the evaporator fan while the compressor is off.	<b>dIS</b>	<b>Display</b> is the option to display the temperature or the word USE.
<b>FSP</b>	<b>Fan set point</b> is the temperature that if exceeded results in the evaporator fan running continuously even if the door is opened.	<b>d2</b>	<b>Display stability</b> sets the rate of change of the displayed temperature	<b>Ar</b>	<b>Marketing mode</b> is the option to keep the lights on at all times.
<b>Ht</b>	<b>Compressor rest time</b> is the minimum time between compressor cycles.	<b>H1</b>	<b>High voltage protection</b> defines the maximum voltage allowed before switching off the compressor. Values are <b>not</b> voltages.		

**Note:** Ar parameter may not appear in all firmware versions.  
**New to GDC firmware July 2012**