

# Quick Chill Application

rev.: 1.0

## FREE SMART



## REVISION

Version	Author	Data	Description	Checked	Approved
1.0	TT	22/01/2015	First release		

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## ALIAS

Acronimi	Definizione
SMP	Eliwell SMP5500 Panel programmable controller
HMI	Human Machine Interface

# INDEX

<b>FREE SMART .....</b>	<b>1</b>
<b>REVISIONI.....</b>	<b>2</b>
<b>ACRONIMI E ALIAS .....</b>	<b>2</b>
<b>INDICE.....</b>	<b>ОШИБКА! ЗАКЛАДКА НЕ ОПРЕДЕЛЕНА.</b>
<b>1. NOTE.....</b>	<b>4</b>
<b>REFERENCE.....</b>	<b>4</b>
<b>1.1. PREMESA.....</b>	<b>4</b>
<b>2. Electrical Wiring.....</b>	<b>4</b>
<b>3. DataLogger.....</b>	<b>5</b>
<b>4. Alarm History .....</b>	<b>5</b>
<b>4.1. PARAMETER .....</b>	<b>5</b>
<b>4.2. ALARM HISTORY CONTROL REGISTER .....</b>	<b>6</b>
<b>5. Alarm codes .....</b>	<b>6</b>
<b>6. Display – LED.....</b>	<b>7</b>
<b>6.1. STATIC DISPLAY .....</b>	<b>7</b>
<b>6.2. DYNAMIC DISPLAY .....</b>	<b>7</b>
<b>6.3. LED CONFIGURATION.....</b>	<b>7</b>
<b>7. Function key.....</b>	<b>8</b>
<b>7.1. FUNCTION KEY CONFIGURATION .....</b>	<b>8</b>
<b>7.2. KEY FUNCTION OPTION.....</b>	<b>8</b>
<b>8. Miscellaneous .....</b>	<b>9</b>

# 1.NOTE

## Reference

- [01] Quick Chill Application Manual:  
9MA10244\_EWFCBaseLine\_BlastChill\_Application\_EN\_1213.pdf

### 1.1.Premessa

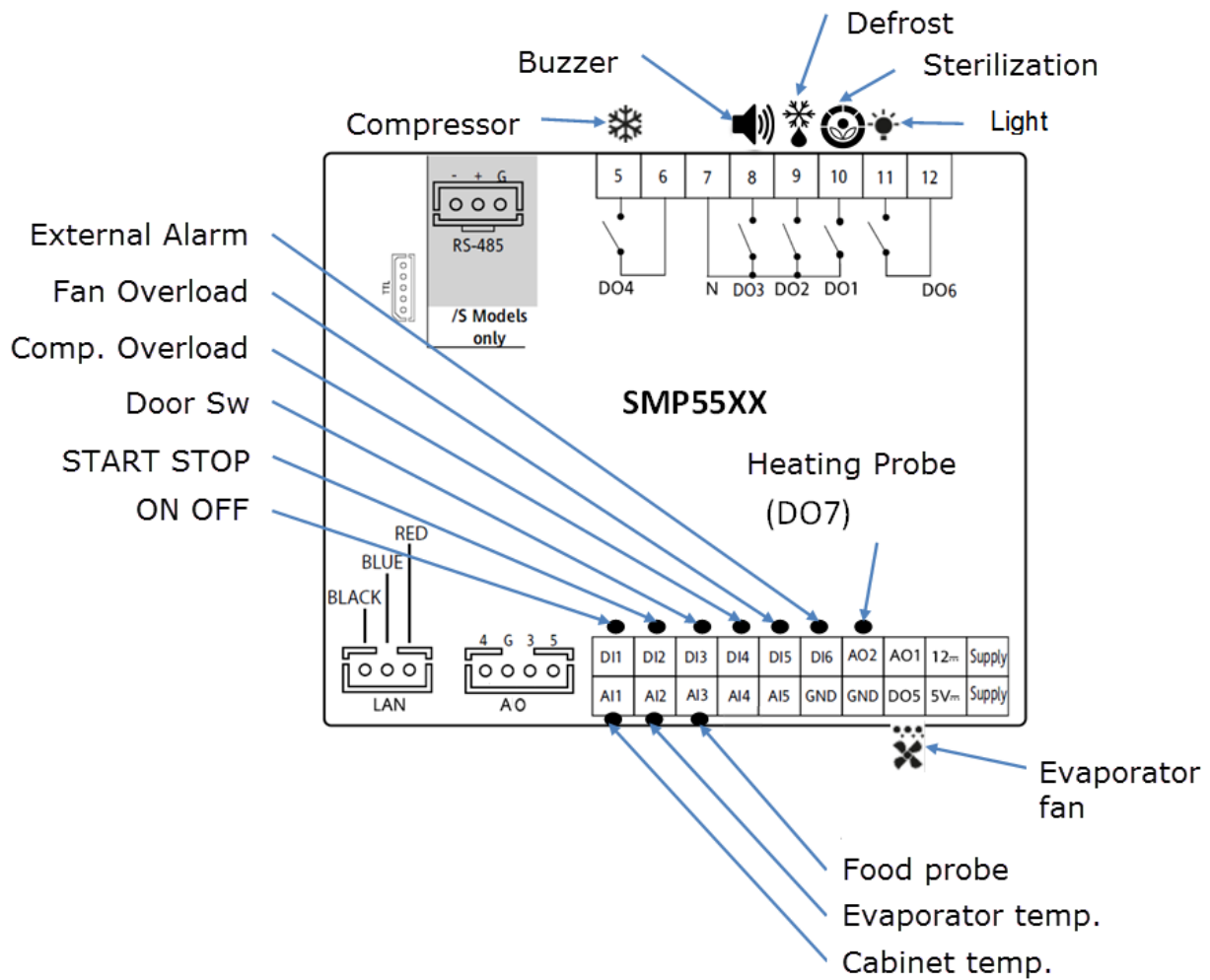
The purpose of this document is to describe the changes made to the application EWFC for FREE Evolution in order to be executed on a programmable device Free SMART.

The version of the application starting EVO\_EWHT is the 1p8.

The control algorithm is unchanged and authentic on the reference manual [01].

## 2. Electrical Wiring

In the follow drawing, the electrical connections with the default parameter settings.



### 3. Data Logger

The data logger has been removed.

### 4. Alarm History

The alarm history function allows you to record some information for each alarm such as:

- Alarm Code (es. 1 = *E-01*; 2, *E-03* ecc.)
- Alarm Date (XX.YY)
- Alarm Hour , Minutes Allarme (HH.MM)
- *Pb1* regulation probe value
- *Pb2* evaporator probe value
- *Pb3* humidity probe value

The activation of each alarm in the alarm history is recorded in a circular queue of 10 elements. Reached the maximum number of alarms, with activation of a new alarm, the oldest recorded alarm will be overwrite with the information coming from the last alarm.

#### 4.1. Parameter

In the following table has been listed the parameter added for the alarm history features.

Address	Variable	Lable	Visibility	Note
16722	LogData_NextEntry_Code		no	Reserved
16723	LogData_FULL_Code		no	Reserved
16724	LogDataE2_00	<i>L000</i>	si	First historical element
...	...	...	...	...
16783	LogDataE2_60	<i>L059</i>	si	Last historical element
16784	LogData_NextEntry_Date		no	Reserved
16785	LogData_FULL_Date		no	Reserved
16786	LogData_NextEntry_Time		no	Reserved
16787	LogData_FULL_Time		no	Reserved
16788	LogData_NextEntry_V1		no	Reserved
16789	LogData_FULL_V1		no	Reserved
16790	LogData_NextEntry_V2		no	Reserved
16791	LogData_FULL_V2		no	Reserved
16792	LogData_NextEntry_V3		no	Reserved
16793	LogData_FULL_V3		no	Reserved

## 4.1. Alarm history control register

In the following table has been listed the status variable added for the alarm history feature.

Address	Label	Read/ Write	Description
9141	<i>HYS P</i>	R/W	Location Alarm history (number from 1 to 8)
9142	<i>HYS C</i>	R	Code Alarm identified (eg. 1 = <i>E-01</i> ; 2 = <i>E-03</i> etc.).
9143	<i>HYS d</i>	R	Date Alarm identification (XX.YY)
9144	<i>HYS t</i>	R	Now and minutes Alarm identification (HH.MM)
9145	<i>HYS 1</i>	R	Value control probe recorded in the current event
9146	<i>HYS 2</i>	R	Evaporator probe value recorded in the current event
9147	<i>HYS 3</i>	R	Value probe humidity recorded in the current event
9148	<i>H 15 F</i>	R	Number of alarms stored in the historical records
9149	<i>rH 15</i>	R/W	Request reset alarm log 0 = OK / Idle, 1 = reset historical inquiry

## 5. Alarm codes

In the following table has been listed the alarm codes and their descriptions.

For details of the causes activation refer to the manual for EWHT Evolution [1].

Error Code	Alarm Description
<i>E 1</i>	Probe control temperature outside the measuring range
<i>E 2</i>	Evaporator temperature sensor outside measuring range
<i>E 3</i>	Food sensor outside measuring range
<i>E A</i>	External alarm input signal
<i>E t C A</i>	Compressor overload alarm
<i>o P d</i>	Fan overload alarm
<i>A H 1</i>	High temperature alarm
<i>A L 1</i>	Low temperature alarm
<i>E d t A</i>	Alarm time out defrosting
<i>E 10</i>	Error clock

## 6. Display – LED

The display can be configured to see always the same value “static mode” or to change continuously the information “dynamic mode”.

### 6.1. Static display

The parameter Fond\_Displ\_Start\_SMART (*Fd55*) can be use to select witch value show on the main display.

The value can be 1=*Pb1*; 3=*Pb2*; 5=*Pb3*; 9=*StEP*.

The parameter *Fd70* (Fond\_Dynamic\_Mode\_SMART) shall be set to false.

### 6.2. Dynamic Display

The parameter *Fd70* (Fond\_Dynamic\_Mode\_SMART) enable the dynamic display option.

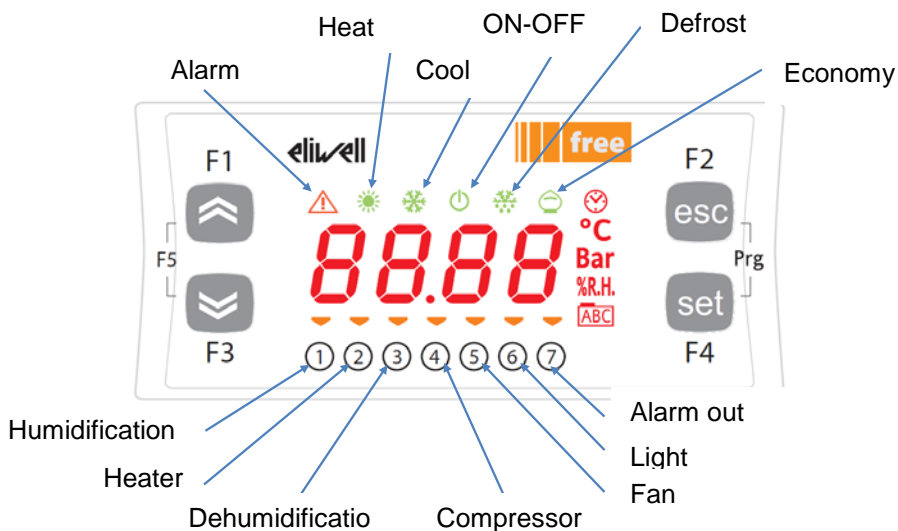
This features will show a different information every 2 seconds.

In the follow table a description of the information loop.

Valore	Condizioni visibilità	Note
<i>Pb1</i>	_1180_H41 <> 0	Case Temperature
<Probe Value>		
<i>Pb2</i>	_1181_H42 <> 0	Evaporator Temperature
<Probe Value>		
<i>Pb3</i>	_1182_H43 <> 0	Food Temperature
<Probe Value>		
<i>StEP</i>		
<step number >		

Note: You can enable / disable the dynamic display by configuring a function key or by changing the parameter *Fd70* (Fond\_Dynamic\_Mode\_SMART).

### 6.3. Led Configuration



## 7. Function key

The functions associated with the keys can be configured.

### 7.1. Function key configuration

It can bind to the six function keys seven different functions. For this purpose are defined the following parameters:

Address	Label	Description
16399	<i>UPSF</i>	UP short function
16400	<i>UPLF</i>	UP long function
16401	<i>d'IFS</i>	DW short function
16402	<i>d'LF</i>	DW long function
16404	<i>ESCF</i>	ESC long function
16414	<i>SEtF</i>	SET long function

### 7.2. Key function option

The following table lists the functions associated with each key.

Parameter value	Related Function
0	not Assigned
1	System ON - OFF Toggle
2	Start Defrost
3	Light ON - OFF Toggle
4	reset Alarms
5	Request Method Statement
6	Start - Stop Program
7	Start - Stop Dynamic Display



## **8.Miscellaneous**

1. 2. The logic output is controlled DOL7 on AO2 configured as open collector.