

Programming Manual

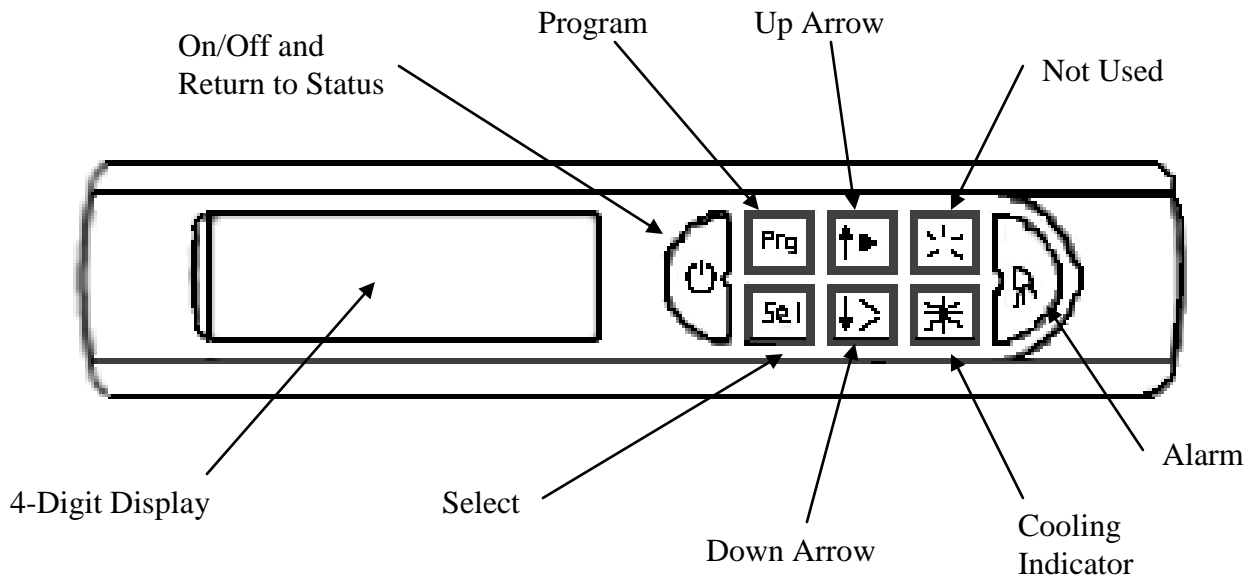


Undercounter Incubator

Table of Contents

	Page
User Interface Detail.....	2
Status Screens	3
Configuration Selection Screens	3
Set Points	4
Parameters.....	6
7-Segment Display Table	8
Alarms	8
Technical Specifications	9
Modbus(RTU) Communications Card.....	11

User Interface Detail



On/Off and Return to Status: Pressing this button quickly(holding for less than 1 second) will display the product temperature. Holding this key down for 5 seconds will disable/enable cooling and heating and the product temperature will flash when cooling and heating is disabled.

Program: Pressing this button will display the programming selections.

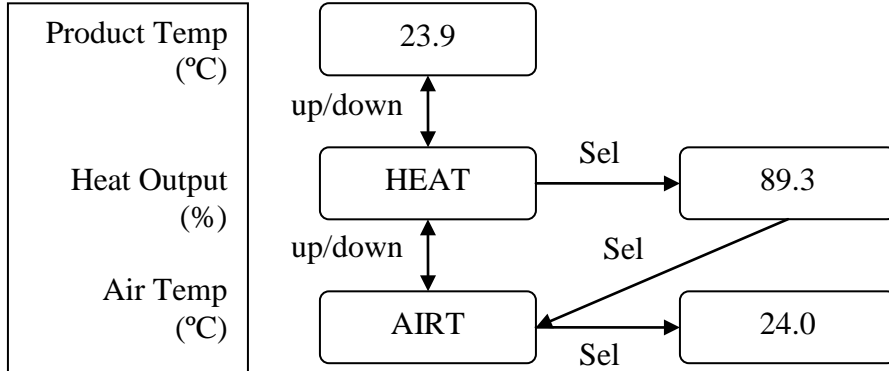
Up/Down Arrow: These keys navigate the user through the menu structure and increase/decrease values of set points.

Select: This key is used to navigate through the menu structure.

Cooling Indicator: This key is only used for indicating cooling status via the LED.

Alarm: The LED indicates the unit is in an alarm condition. Pressing this key while the buzzer is sounding will silence the alarm buzzer.

Status Screens

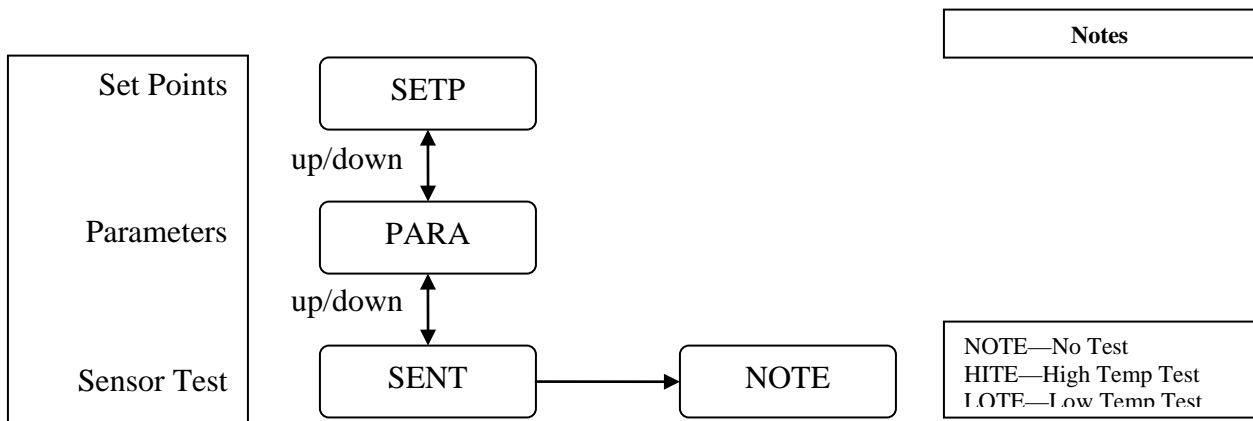


The product temperature is the first screen displayed upon power up.

Pressing the UP and DOWN arrow keys displays the adjacent screen in the left column.

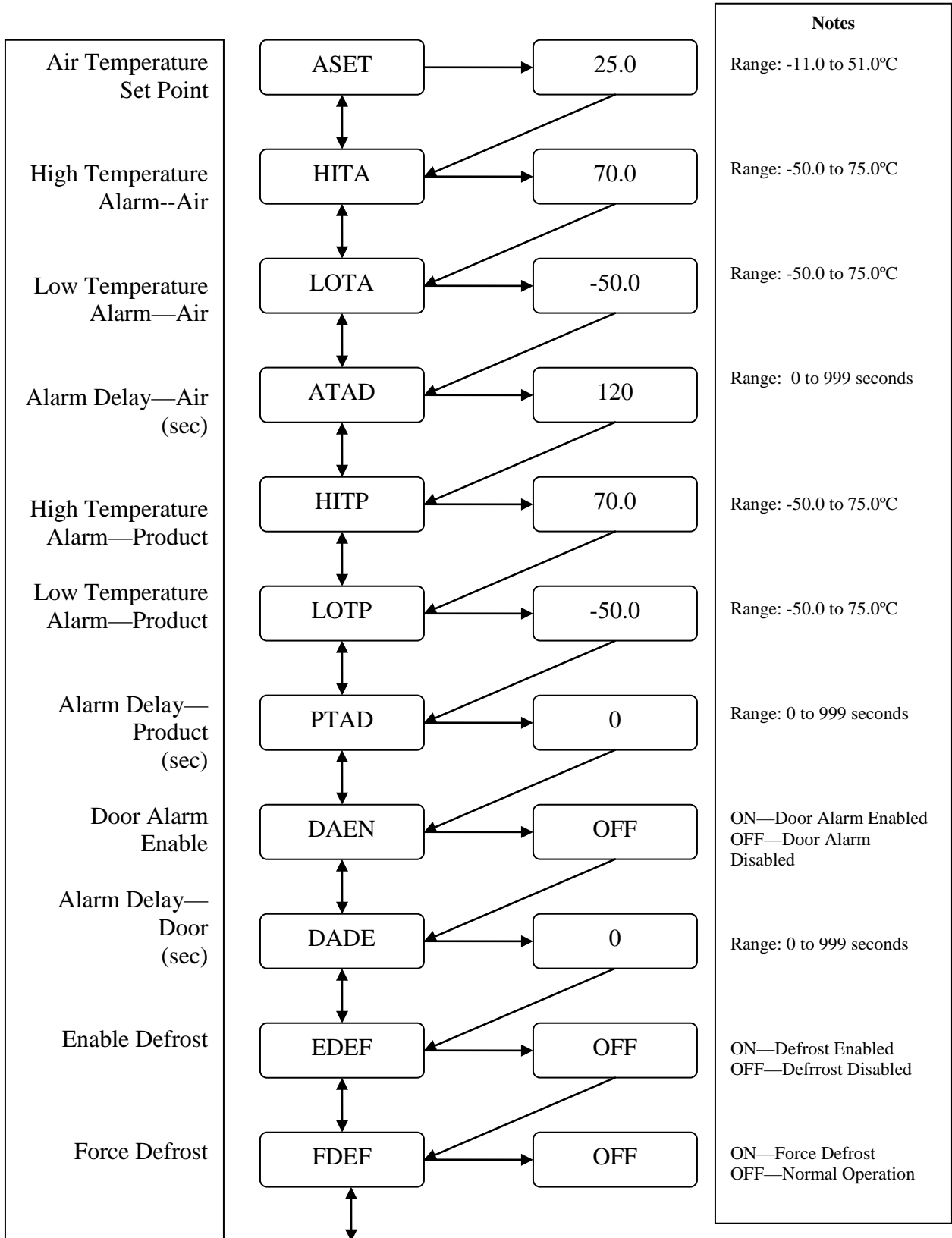
Pressing the Sel key while in the left column displays the screen which is directly horizontal. Pressing the Sel key while in the right column returns the display to the left column and down one screen. Pressing the Sel key while in the last item in the right column displays the first screen in the left column.

Configuration Selection Screens

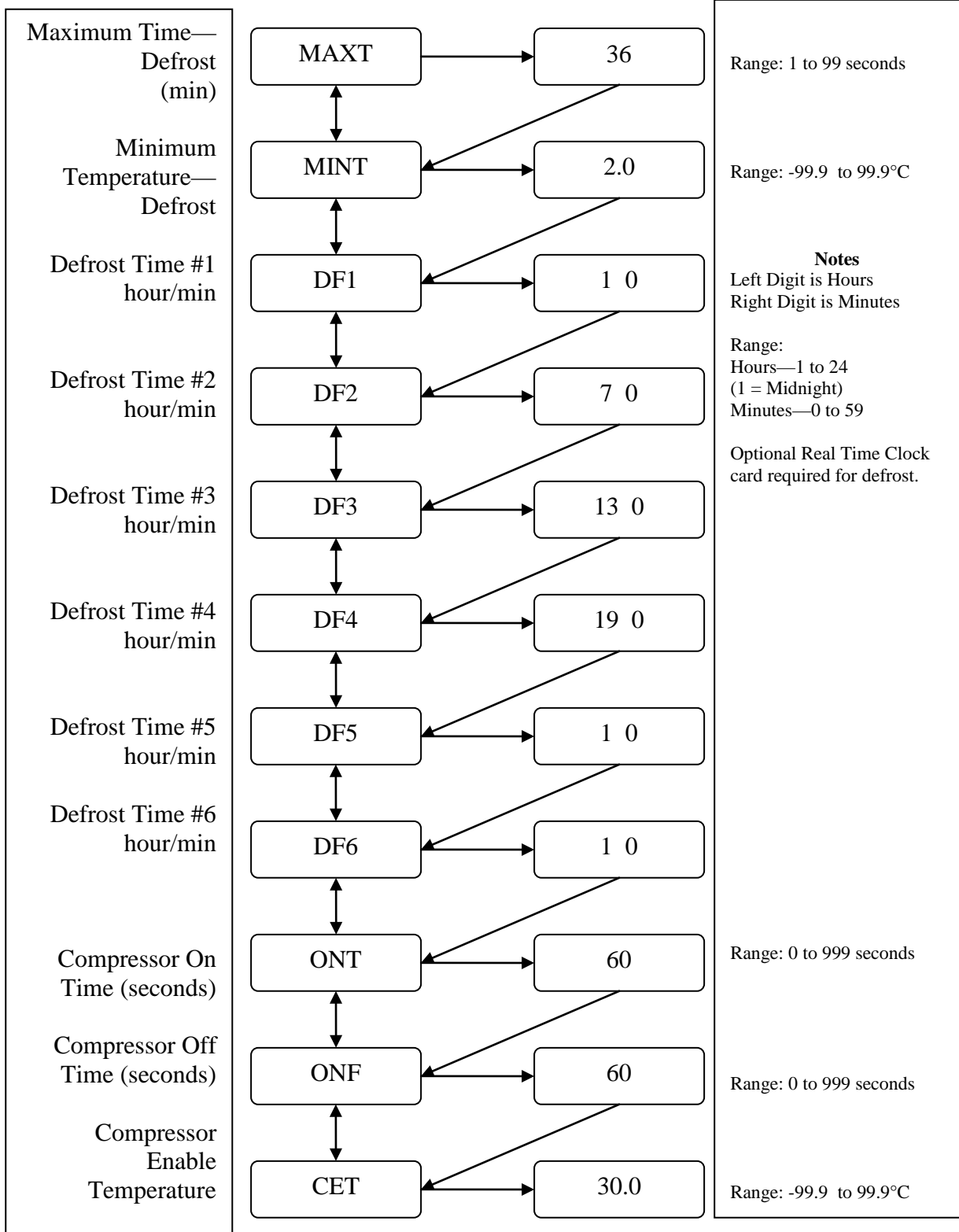


Pressing the Sel key while in the respective screen displays the respective configuration screens—see below.

Set Points

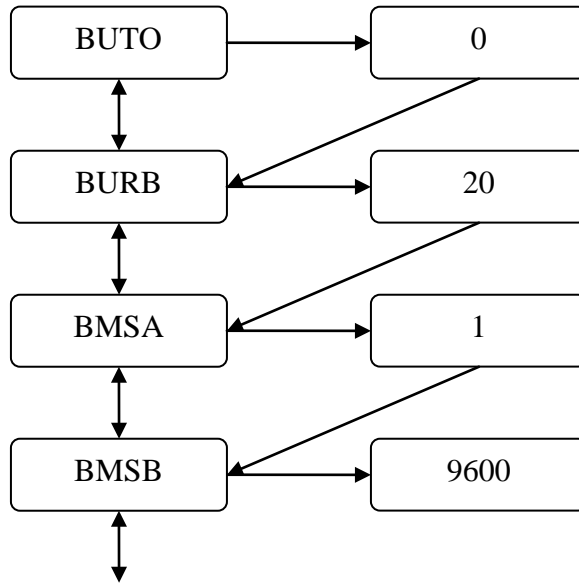


Set Points (continued)



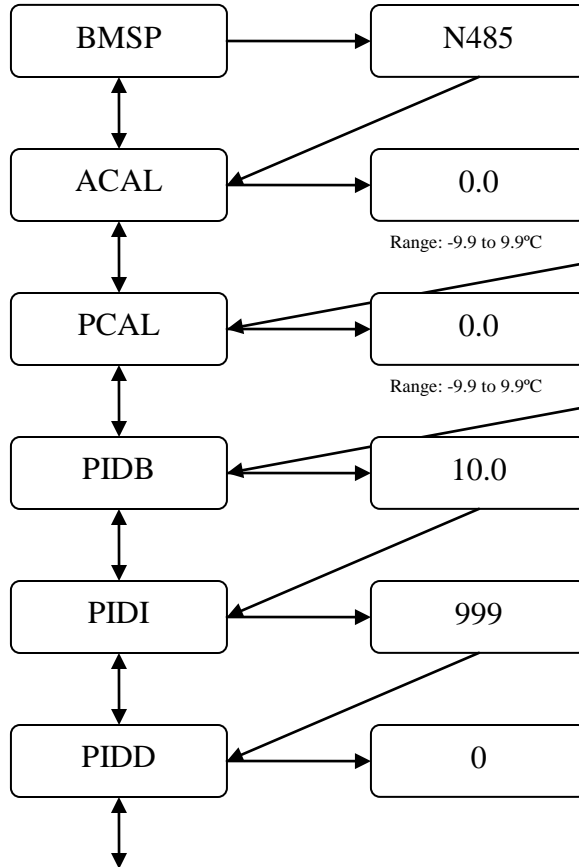
Parameters

Buzzer Tone
 Buzzer Ring Back (min)
 Communications Address
 Communications BAUD Rate



Notes
 0 = Constant
 1 = 1 second on 2 seconds off
 2 = 2 seconds on 5 seconds off
 Range: 0 to 20 minutes
 Range: 1 to 240
 1200 = 1200 BAUD
 2400 = 2400 BAUD
 4800 = 4800 BAUD
 9600 = 9600 BAUD
 19.2 = 19200 BAUD

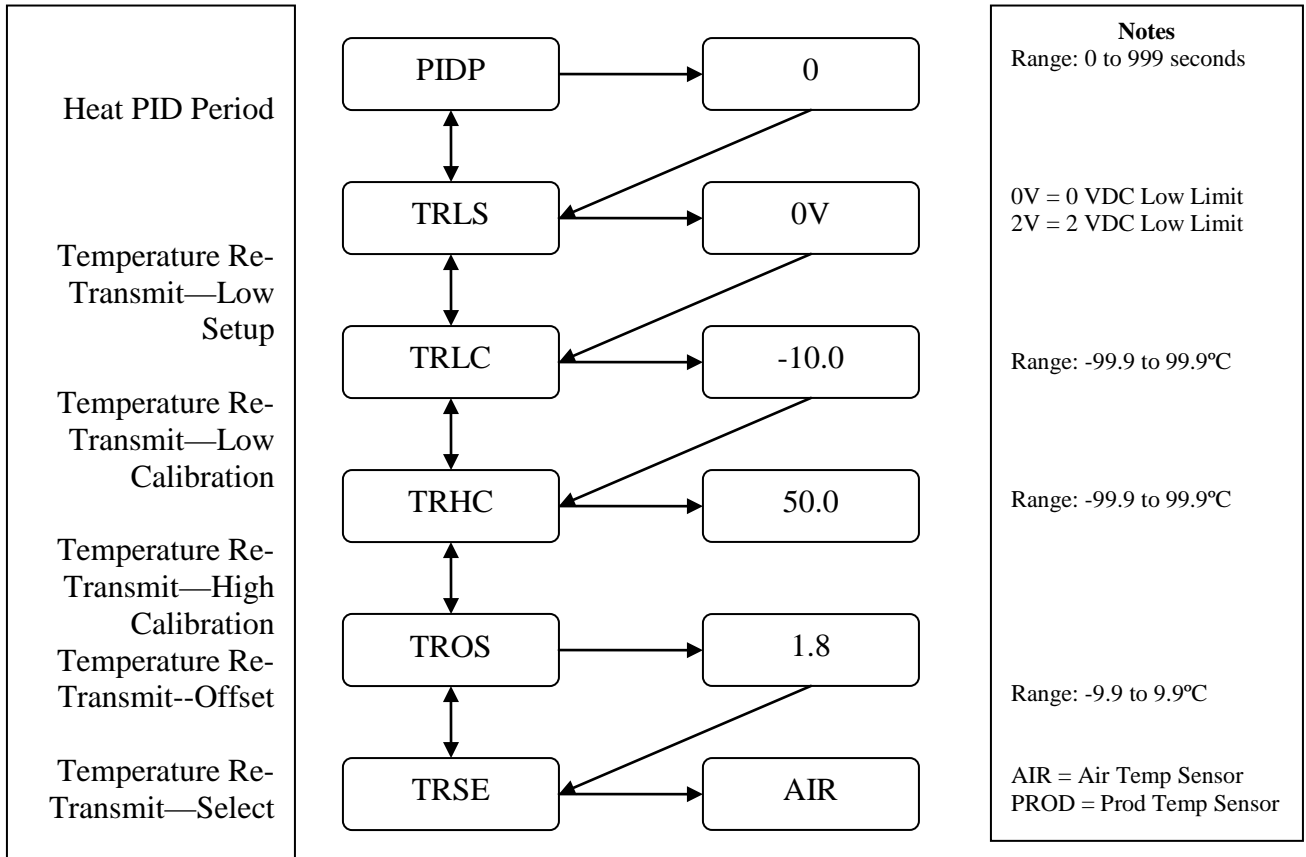
Communications Protocol
 Air Temperature Calibration
 Product Temperature Calibration
 Heat PID Band
 Heat PID Integral
 Heat PID Derivative



Notes
 N485/N232: RS485/RS232 comm to software.
 MODB: MODBUS(RTU)
 WINL: Factory use.

Notes
 Range: 0.0 to 999.9
 Range: 0 to 999 seconds
 Range: 0 to 999

Parameters (continued)



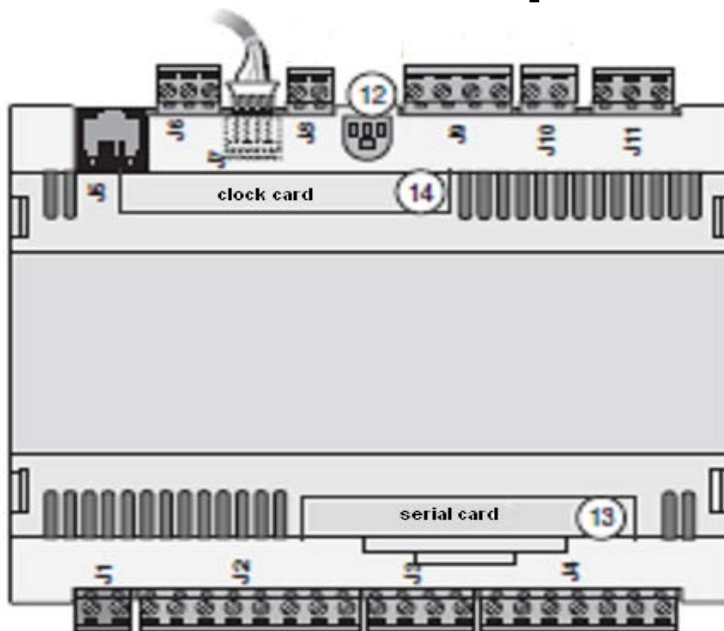
7 Segment Display Table

A	B	C	D	E	F	G	H	I	J	K	L	M
N	O	P	Q	R	S	T	U	V	W	X	Y	Z

Alarms

Display	Description
LOWT	Low Air Temperature
HIT	High Air Temperature
AIRF	Air Temperature Sensor Failure
LOWP	Low Product Temperature
HIP	High Product Temperature
PROF	Product Temperature Sensor Failure
DOOR	Door Ajar
PWRR	Power Reset
ENDA	End of Alarms Pressing the Sel key will clear all alarms.

Technical Specifications



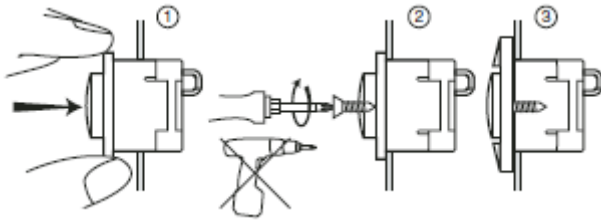
Controller

Key

- J1** Power supply connector [G (+), G0 (-)] 24Vac or 24 to 48 Vdc
- J2** Phase cutting and analogue inputs: NTC, 0 to 1 V, 0 to 5 V, 0 to 20 mA, 4 to 20 mA, +5 VREF for power supply to 5 V ratio metric probes and +24 Vdc power supply to active probes
- J3** 0 to 10 V analogue outputs and PWM phase-cutting outputs
- J4** Free contact digital inputs
- J5** Connector for all the pCO* series standard terminals and for downloading the application software
- J6** pLAN connector
- J7** tLAN terminal connector
- J8** tLAN network connector or MP-Bus
- J9** Relay digital outputs with shared common
- J10** Relay digital output
- J11** Alarm relay digital output with changeover contact

- 12** Yellow power supply LED and 3 pCOXS status LEDs
- 13** Cover for inserting the serial card:
 - RS485 for supervisor
 - RS232 for modem interface
 - Gateway (protocol converter)
- 14** Cover for inserting the clock card

User Interface

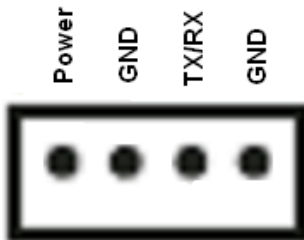


Installation

For the panel fastening, two flaring head screws must be used with a major diameter of max. 3.9 mm.

- Carry out all the necessary electrical connections.
- Insert the instrument in the panel hole and make the connected cables return to their place and check that the gasket is placed correctly. Keeping the front in its position by pressing it in the middle, screw the two side screws until the front is fastened. Don't fasten too much to avoid compressing the gasket excessively.
- Snap on the front plate

Wire Detail



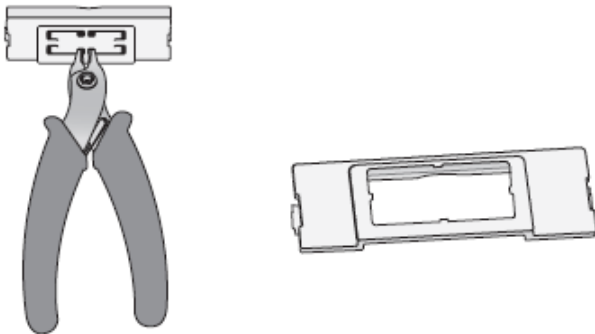
Modbus(RTU) Communication Card

This section details the optional RS485 communications card. It enables the communications of parameters via Modbus(RTU).

Installation



Remove the "Serial Card" placement cover with a screw driver.



Trim a hole in the cover to allow access to the communications card.

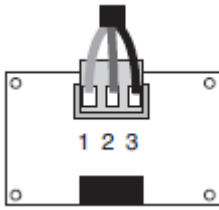


Install communications card. The 4-pin connector on the communications card mates with a 4-pin connector on the main controller.



Install the cover. The 3-pin connector should protrude through the cover.

Pinout



Pin	Description
1	GND
2	RX+/TX+
3	RX-/TX-

Parameter List

Register	Variable	Description	Range
Analog			
1	AIRT	Air Temperature	Read Only
2	PROT	Product Temperature	Read Only
4	ASET	Air Temperature Set Point	2.0 to 50.0°C
5	HITA	High Air Temperature Alarm Set Point	-50.0 to 75.0°C
6	LOTA	Low Air Temperature Alarm Set Point	-50.0 to 75.0°C
7	HITP	High Product Temperature Alarm Set Point	-50.0 to 75.0°C
8	LOTP	Low Product Temperature Alarm Set Point	-50.0 to 75.0°C
Integer			
129	ATAD	Air Temperature Alarm Delay	0 to 999 seconds
130	PTAD	Product Temperature Alarm Delay	0 to 999 seconds
133	BURB	Buzzer Ring Back Time	0 to 20 minutes
134	BUTO	Buzzer Tone	0 = Constant 1 = 1 sec on 2 sec off 2 = 2 sec on 5 sec off
163	---	System Status	1 = On 2 = Off: Switch 3 = Off: Alarm
Digital			
1	---	Air Temperature Sensor Fail Alarm	0 = Off; 1 = On
2	---	Air Temperature High Alarm	0 = Off; 1 = On
3	---	Air Temperature Low Alarm	0 = Off; 1 = On
4	---	Product Temperature Fail Alarm	0 = Off; 1 = On
5	---	Product Temperature High Alarm	0 = Off; 1 = On
6	---	Product Temperature Low Alarm	0 = Off; 1 = On
10	---	Door Ajar Alarm	0 = Off; 1 = On
21	---	Power Reset	0 = Off; 1 = On