X26

MODEL

Temperature & Humidity Environmental Chamber Controller

Designed for:

- **Climate simulation**
- **Component testing**
- **Ceramic drying rooms**
- **Plant growth chambers**

Features:

- **50 stored programs**
- **500 program steps**
- **0.1% accuracy**
- **Real time clock**
- **iTool program editor software**
- **OPC link to Labview**
- **Modbus digital communications**

Accurate programming of temperature and humidity is provided by the advanced X26 controller. 50 customer named programs can be stored with up to 100 steps per program and 500 steps in total.

Boost heat, boost cool and compressor On/Off outputs are included as standard.

Two user programmable event outputs are available to activate external devices - such as vibration test equipment.

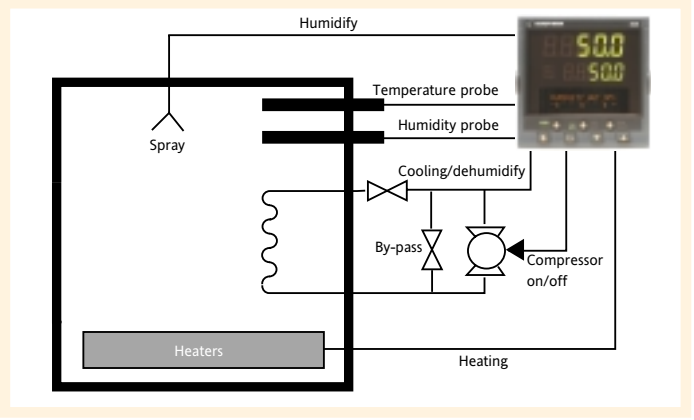
A real time clock can be set to start a program at defined times of the day and week.

Program profiles can be set up either through the controller front panel from iTools or via a Windows setpoint program editor. This allows the storage of an unlimited number of programs and easy editing and transfer of programs between controllers. iTools software will save and reproduce, the complete configuration of the controller. iTools also provides trend plotting facilities for monitoring the process.

The advance features include program holdback, to guarantee soak time at temperature and humidity and six sets of PID parameters to give accurate control under varying combinations of temperature and humidity.

The humidity can be derived from wet and dry bulb inputs or taken directly from a humidity probe.

Modbus digital communications is available for connection to supervisory computers or Programmable Logic Controllers.



EUROTHERM

CONTROLS
DATA MANAGEMENT
PROCESS AUTOMATION

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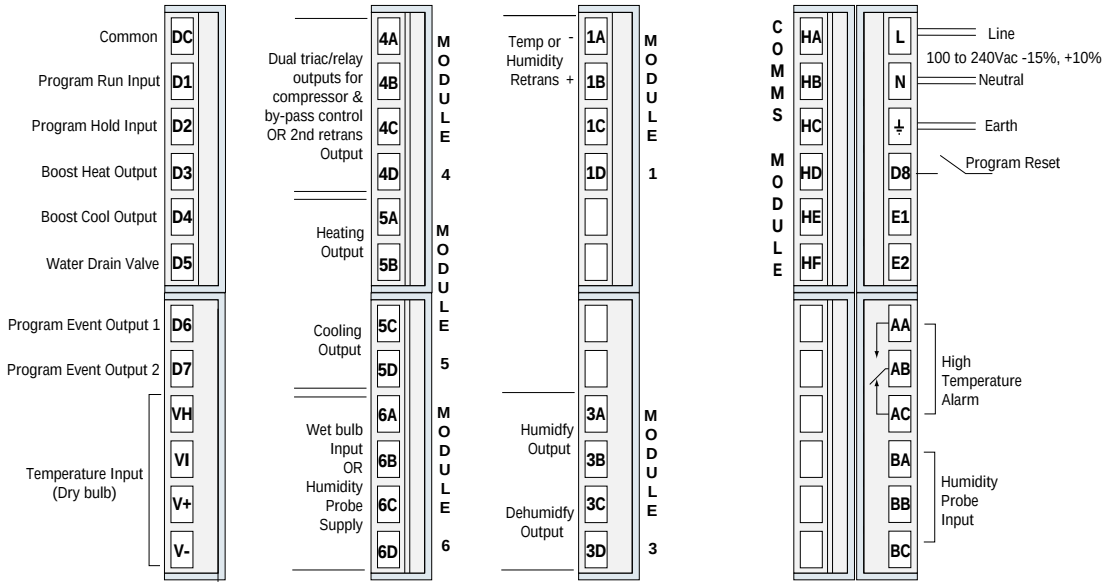
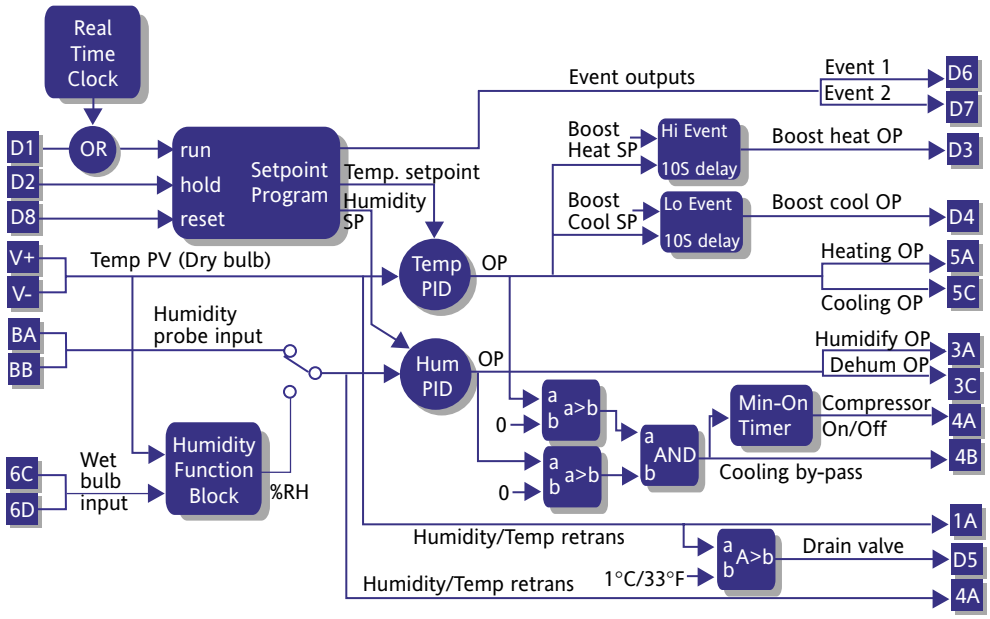
Rear Terminal Connections



Control Block Diagram



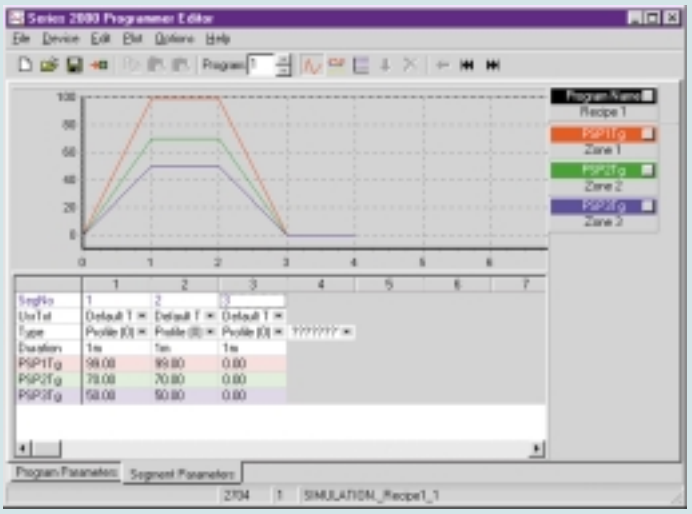
iTools Software

iTools is an advanced sofware tool for configuring the X26 and setting up the setpoint programs. The iTools configurator will edit, store and 'clone' complete controller configurations. iTools employs an OPC to Modbus server to communicate with the X26. The OPC server can be used as a link to other client software packages such as Labview and Wonderware.

Setpoint Program Editor

The setpoint program editor is a simple way of setting up the humidity and temperature profiles and the programmable event outputs. The editor will store, retrieve and download program profiles. It will work 'on-line', when program values are edited 'live' in a connected controller, or 'off-line, when programs are edited before being downloaded to a selected controller. The number of stored programs is limited only by the capacity of the PC hard disk.

OPC scope is an iTools utility providing trend plots of the process variables. The time axis can be adjusted between 1 minute and 1 month. Data can also be logged to hard disk in CSV format. This can then be recalled and analysed in an Excel spreadsheet.



Technical Specification

Temperature inputs (Wet and Dry bulbs)

Input types	J, K, T, L, N thermocouples. 3-wire Pt100
Accuracy	±0.1%
Sample rate	9Hz
Cold Junction Compensation	>30 to 1 rejection of ambient temp. change
3-wire Pt100 input	Bulb current: 0.3mA. Up to 22ohm in each lead without error

Humidity probe input

Probe trans supply	24Vdc, 20mA max
Input signal range	0-1Vdc or 0-10Vdc (equivalent to 0-100%Rh)
Accuracy	±0.1%

Run, hold and reset digital inputs

Open circuit voltage	4Vdc nominal
Closed circuit current	0.8mA nominal

Heating, cooling, humidifying and dehumidifying outputs

Relay rating	2A, 264Vac resistive
Logic output	8Vdc, 12mA
Triac outputs	1A, 264Vac max
DC outputs	0-20mA or 0-10Vdc

Temperature and humidity retransmission outputs

Range	0-20mA or 0-10VDC (isolated)
Resolution	12 bits

Control Functions

Control mode	PID
Tuning	Automatic one-shot tuning
Auto manual control	Bumpless transfer between auto and manual

Alarms

Number of alarms	One high temperature alarm

Setpoint programming

Number of programs	50
Number of setpoints	500
Event outputs	2
Program holdbacks	High and low holdback settable per segment

Communications

Modbus	RS232, RS422 or RS485 (2 or 4-wire)

General

Display range	Five digits with one decimal place
Supply	100 to 240Vac -15%. +10%
Operating ambient	0 to 55°C and 5 to 95% RH non-condensing
Storage temperature	-10 to +70°C
Panel sealing	IP65
Dimensions (mm)	96W x 96H x 150D
EMC standards	Meets generic emissions standard EN50081-1 and immunity standard EN50082-2 for Heavy Industrial, Light Industrial, Residential and Commercial Environments
Safety standards	Meets EN61010, installation category II, pollution degree 2

Ordering codes

Hardware coding

Controller Type	Supply Voltage	Module 1 Retrans	Module 3 Hum + Dehum	Module 4	Module 5 Heat + cool	Module 6	Comms	Manual
X26	VH							

Configuration coding

Temp (dry bulb) Input	Wet bulb Input	Units	Humidity Input

Supply Voltage

VH	85 to 264Vac

Module 1

Retransmission output

XX	Not fitted

First character

T-	Temp. retrans.
H-	Humidity retrans.

Second character

-Y	0-20mA
-A	4-20mA
-W	0-5Vdc
-G	1-5Vdc
-V	0-10Vdc

Module 3

Humidity + dehumidify outputs

XX	Not fitted
TP	Dual logic outputs
RR	Dual relay outputs
TT	Dual triac outputs
DO	Dual 4-20mA OP's

Module 4

XX	Not fitted

Compressor on/off & by-pass outputs

TT	Dual triac
RR	Dual relay output

2nd retransmission OP

First character

T-	Temp. retrans.
H-	Humidity retrans.

Second character

-Y	0-20mA
-A	4-20mA
-W	0-5Vdc
-G	1-5Vdc
-V	0-10Vdc

Module 5

Heating + cooling outputs

XX	Not fitted
TP	Dual logic outputs
RR	Dual relay outputs
TT	Dual triac outputs
DO	Dual 4-20mA OP's

Module 6

Wet bulb or Trans supply

XX	Not fitted
PV	Wet bulb input
MS	24Vdc Humidity transmitter supply

Comms

XX	Not fitted

Modbus

A2	RS232
F2	4-wire, RS485/RS422
Y2	2-wire RS485

Manual

XXX	Not fitted
ENG	English
FRA	French
GER	German
SPA	Spanish

Dry and Wet Bulb Inputs

		°C Range	°F
XX	Not used		
Resistance thermometer			
Z	Pt100(RTD)	-200 to 850	-325 to 1562
Thermocouples			
J	Type J	-210 to 1200	-340 to 2192
K	Type K	-200 to 1372	-325 to 2500
T	Type T	-200 to 400	-325 to 750
L	Type L	-200 to 900	-325 to 1650
N	Type N	-200 to 1300	-325 to 2370
Process inputs (linear)			
M	-100 to +100mV	Scaleable -1999 to 9999	
Y	0 to 20mA	Scaleable -1999 to 9999	
A	4 to 20mA	Scaleable -1999 to 9999	
W	0 to 5Vdc	Scaleable -1999 to 9999	
G	1 to 5Vdc	Scaleable -1999 to 9999	
V	0 to 10Vdc	Scaleable -1999 to 9999	

Units

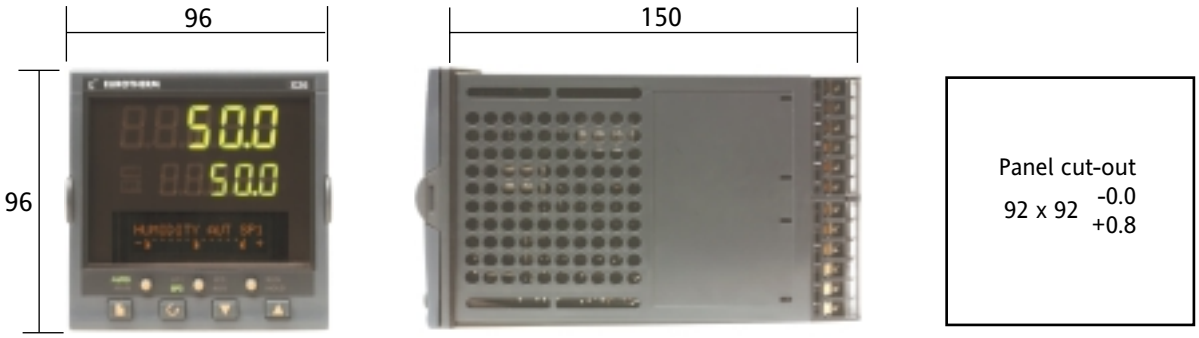
C	°C
F	°F

Humidity Input

X	Not used
N	0-1Vdc
V	0-10Vdc
Y	0-20mA
A	4-20mA
W	0-5Vdc

Dimensional details

All dimensions in mm



Panel cut-out
92 x 92 $^{+0.8}_{-0.0}$

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Part No. HA027707 Issue 2 Printed in England 04.02