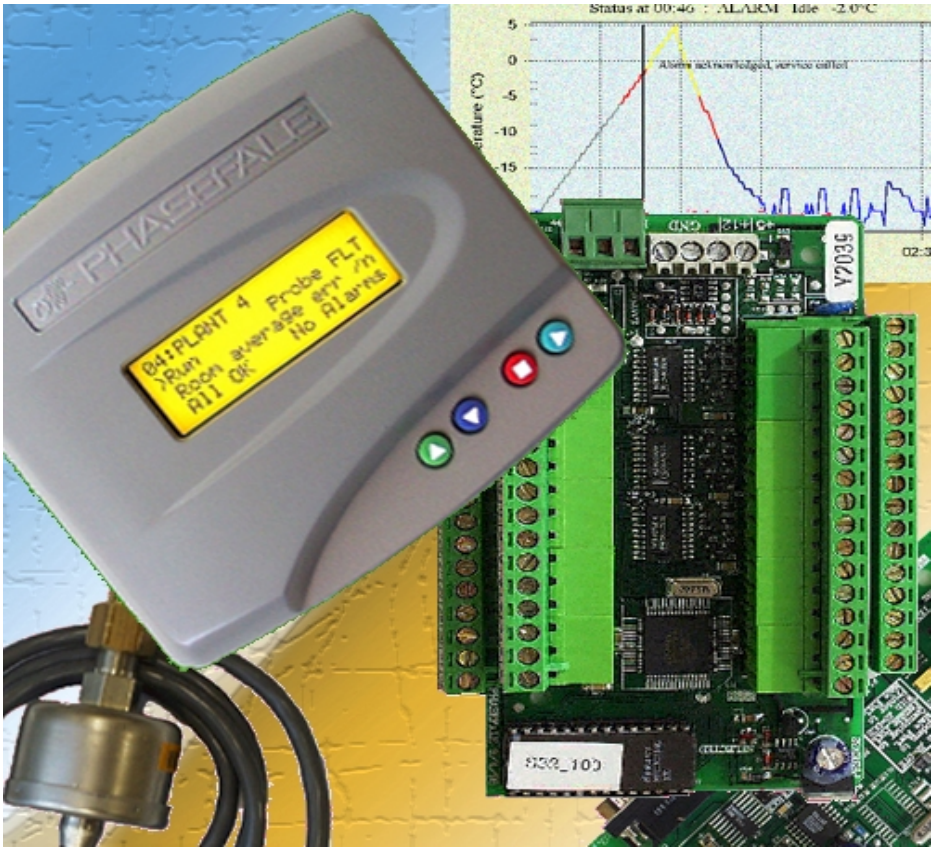
Phasefale Presscon

Air Conditioning Control



Phasefale P/L

36 Bulli Street, MOORABBIN, VICTORIA 3189, AUSTRALIA
National Telephone (03) 9553 0800 Facsimile (03) 9553 3993
International Telephone +613 9553 0800 Facsimile +613 9553 3993
Email sales@phasefale.com.au
Website www.phasefale.com.au

Presscon DDC

This Document contains all the main information required to install and operate the Presscon DDC Air Conditioning Control System.

Presscon Software – P.I.N. can be obtained from our internet site at www.phasefale.com.au , or on our CD-Rom. Please contact us for details.

Contents

A	General information sheet- features and benefits
B	Getting Started - Keyboard Basics
C	Keyboard Navigation Map - for users (non programming mode)
D	Keyboard Navigation: Programming - for installers & technicians
E	Programming Configuration Sheet – Plant Settings
F	Programming Configuration Sheet – Clock Settings
G	Instructions - Detailed
H	Windows PC Snapshot - Site file example
I	Glossary & functional descriptions-
J	Presscon DDC Generic Wiring Drawings
K	Presscon DDC Generic Specifications

Air Conditioning Controller

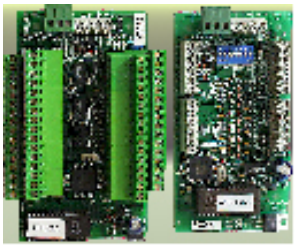
Phasefale are excited to announce a revolutionary new air conditioning controller which offers performance approaching that of the most sophisticated systems for the price of regular A/C controls. A major feature of this new system is that the display controller can be used as a user interface and adjustment (within set limits) of the systems, and also a service aid with its advanced programming features. As each controller can control up to **8 major air conditioning plant**, it also offers exceptional value and compactness.

Using technology developed in our Presscon refrigeration controller this new control offers an attractive, user friendly display controller combined with our ultra reliable and proven hardware (including the controller hardware- only the software is new).

After extensive consultation with the air conditioning industry, the new controller's feature set is extremely rich;

- *Intelligent start and stop operation for energy saving operation with comfort settings maintained. Programmable 16 character description for each of 8 plant.*
- *Two speed fan control.*
- *4 stages of cooling and 4 stages of heating*
- *Economising function.*
- *Proportional heating and cooling outputs.*
- *Dehumidification control.*
- *7 day clock program with normal, setback, fan only, shutdown and holiday periods.*
- *Control inputs can over-ride time clock and initiate economise, de-humidify etc.*
- *Alarm warning and fault inputs*
- *Commissioning and maintenance functions to force any selected stage to run.*
- *Averaging of up to 4 temperature sensors & multiple plant can share common sensors*
- *Auxiliary outputs to switch other equipment, lights etc.*
- *FreeVersion of Windows Based monitoring Software*

For sites where there is refrigeration control , common data logging and communications equipment can be used further enhancing the cost effectiveness of Presscon's modular design.



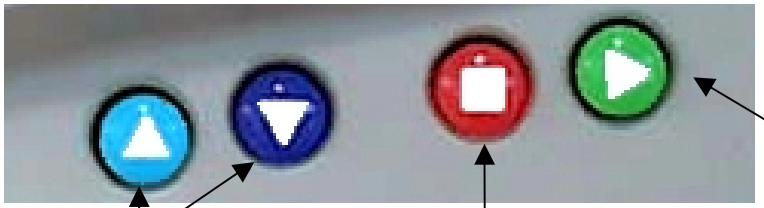
8 Channel Relay card (left), 32 & 8 channel sensor cards

Inputs/Outputs per Plant *	
Inputs	**Outputs**
Room temp 1	**Fan lo output**
Room temp 2	**Fan hi output**
Room temp 3	**Cooling 1 Out**
Room temp 4	**Cooling 2 Out**
Outdoor air	**Cooling 3 Out**
Return Air	**Cooling 4 Out**
Supply Air	**Heating 1 Out**
Coil Temp	**Heating 2 Out**
Humidity Transmitter	**Heating 3 Out**
Control Adjust	**Heating 4 Out**
Control Input	**RV Output**
Economize Input	**Cooling Analog**
Dehumidify Input	**Heating Analog**
Alarm Input	**Economize Analog**
Fault Input	**Economize Relay Out**
	Dehumidify Out
* 8 plant per controller.	**Runmode Out**
	Setback Out
Input boards are 8 or 32 channel	
Outputs boards are 8 channel (12-240VAC/5A)	

For more information contact;
Phasefale Pty. Ltd.
36 Bulli Street MOORABBIN
VICTORIA 3189, AUSTRALIA
Tel +613 9553 0800 Fax +613 9553 3993
email- sales@phasefale.com.au
or visit our Web Site www.phasefale.com.au PN403

Presscon Network Air Conditioning
Button operation for Screens & Navigation

Phasefale P/L PN408.doc
+613 9553 0800
www.phasefale.com.au



Up / Down Keys Keys

Functions;

Move up/down menu items
Increase/Decrease values

Cancel Key

Functions;

Move to previous screen
Cancel setting
Cancel out of Program menu

Enter Key

Functions;

Move to next screen
Accept changed setting

Refer to Navigation sheet (PN405) for detailed screen information

Run After Set Hours:

Air Conditioning
Main Screen

```
Reception Run 23C
Accounts     Heat 19C
File Server Cool 24C
Factory       Off 21C
```

Press up to run all AC for 1 Hr. Press again for additional hours to maximum*

```
Reception    Run 1 Hr
Accounts     Run 1 Hr
File Server  Run 1 Hr
Factory      Run 1 Hr
```

Press down to turn OFF all AC channels.

```
Reception      Off
Accounts       Off
File Server    Off
Factory        Off
```

Go to System screen

Go to Plant 1 screen

Adjusting the Temperature *

Select the plant channel

Select the heating/cooling settings

Access the Temp. Adjust Option

Adjust the temperature Up or down

```
01:Reception
 Next OFF    18:10 FRI
 Zone Average    21.6C
*Temp Adjust     -2.5C
```

Cancel to Main Menu

View Zone Temperatures*

Select the plant channel

Select the Zone Reading

Scroll though the available zone Readings

```
01:Reception
 On        Run
 Next OFF 18:10 SAT
01:Room 203   22.6C
```

Cancel to Main Menu

* Depending on programming:
- run on time can vary
- temperature adjust can vary
- may not be available

Presscon Air Conditioning Control Navigation (non programming mode)

Main Screen

```
Reception A/ RUN  22
File Server  OFF  21
Factory Offi HEAT 17
Computer Roo COOL 26
```

System Screen

```
Aircon Control    :90
)26/10/00  12:34
 1off 2run 3s/b 4fan
 View Event Logs
```

Plant 1 Screen

```
01:Reception A/Con
)On  (_)  Run
 Next off 17:30 FRI
 Zone average 21.8C
```

Plant 2 Screen

```
02:Accounts A/con
)On (_}   Off
 Next off 18:00 FRI
 Zone average 24.4C
```

Plant 3 Screen*

Plant 4 Screen

```
04:Computer Room #1
 Setback Cooling 1
>Next on 06:00 SAT
 Zone average 21.2C
```

The main screen shows the 4 plant descriptions plus running condition & zone average. This screen is displayed by default. The **over-ride** functions are accessed here with the up & down buttons

Press up button to add 1 hour of additional run time to all 4 plant channels (up to 3 hours run time). Use the down button to turn off all systems

Use red button to view previous screen

Use green button to view next screen

The System screen shows the time & date, alarms, and access to event logs

The plant screens show plant # & name, current mode & cooling or heating status (smiley face when within heating cooling limits), the next clock function, and the zone temperature average

***not shown**

For more plant information, use up or down button

The cursor changes from ")" (no further info available, to ">" where further options are available. Use the ^ or v down key on a plant screen to activate the > option on the 3rd line.

Individual Plant information/options

Use up & down buttons to select the plant info/options then green to enter

```
04:Computer Room #1
 Setback Cooling 1
>Next on 06:00 SAT
 Zone average 21.2C
 Heat 19.0C to 20.0C
 Mode Input    n/used
 Dehum n/u:Econ   n/u
 Alarm
```

Use green button for more options

```
04:Computer room #1
*>Force          Auto
                  Off
            Fan Only
             Setback
            On Mode
             Run 1Hr
              "   "
             Run 6Hr
```

Use green button to manually Force options

```
04:Computer Room #1
>Dehum n/u:Econ   n/u
          Cool    n/u
          Heat    n/u
```

View status of dehumidification, Economizing, Cooling & Heating

Use Red button to CANCEL to earlier screen

```
04:Computer Room #1
>Heat 20.0C to 21.0C
 Cool 23.0C to 22.0C
 Temp Adjust    +0.1C
```

View heating & cooling settings. Use up, down buttons to adjust

```
04:Computer Room #1
>Mode Input    n/used
 Econ Input    n/used
 DeHum Input   n/used
```

View external control function status: Economizing & Dehumidification controls

```
04:Computer room #1
*Main Svr       23.6C
 Disk Str       23.6C
 UPS Room       23.6C
 Corrid'r       23.6C
 Outside temp   18.9C
 Return air     25.6C
 Supply air     20.5C
 Coil temp      16.8C
 Humidity         58%
 Av Start    0 min/C
```

Use green button to view system temperatures, humidity & intelligent start details

Phasefale Presscon Air Conditioning Control Navigation Sheet. Version 1.0 ref PN405.

Presscon Air Conditioning Control Programming Menus Ref PN406_1 For Aircon1.1

To enter Programming, press & hold together

```
PROGRAMMING MODE
*ACCESS CODE     none
 SOFTWARE   .20
 CHECKSUM 207033
```

Enter an access code [if set] then press

```
SELECT MENU GROUP
>PLANT SETTINGS
 CLOCK SETTINGS
 GENERAL OPTIONS
 HARDWARE SETTINGS
 NETWORK CARDS
 LOAD DEFAULTS
 EXIT PROGRAMMING
```

Screen shown extended. Use up And down buttons To select Programming Option required then

To **EXIT** programming Mode press cancel a few times

Use up & down buttons to select option to set, then press

```
SELECT PLANT
 01:Accounts
>02:File Rm
 03:Factory
 04:Store Rm
 DONE
```

```
SELECT CLOCK
 CLOCK PROGRAM 1
 CLOCK PROGRAM 2
>CLOCK PROGRAM 3
 CLOCK PROGRAM 4
 DONE
```

```
GENERAL OPTIONS
>Aircon. Control
 TEMPERATURE UNIT ·C
 TIME 01/10/00 06:45
 ALARM ACK        10m
 ACCESS CODE     0000
 DONE
```

```
SELECT HARDWARE
 01:PLANT 1
 02:PLANT 2
>03:PLANT 3
 04:PLANT 4
 ALARMS
 VALIDCARDS:YES
 DONE
```

```
NETWORK CARDS
>EXAMINE NETWORK
 NETWORK STATS   0.0%
 LAST ERROR CARD   21
 PLANT 1 DIAGNOSTICS
 PLANT 2 DIAGNOSTICS
 PLANT 3 DIAGNOSTICS
 PLANT 4 DIAGNOSTICS
 DONE
```

```
LOAD DEFAULTS
>FACT SETTING NO
 MIMIC CONTRL NO
ARE YOU SURE? NO
 DONE
```

```
PLANT 1 SETTINGS
>Accounts
 COOL CUT IN   23.0
 COOL CUT OUT 22.0
 COOL INC DELAY 60s
 COOL DEC DELAY 60s
 COOL LIM START   1m
 COOL SETBACK 28.0C
 HEAT CUT IN   19.0
 HEAT CUT OUT 20.0
 HEAT INC DELAY 60s
 HEAT DEC DELAY 60s
 HEAT LIM START   1m
 HEAT SETBACK 14.0C
 FAN SETBACK   CYCLE
 DEADBAND DELAY   5m
 CLOCK PROGRAM     1
 ECONOMISE DIFF   2C
 DEHUM. SETPOINT 50%
 DEHUM. SETBACK   80%
 DEHUM. WITH STAGE 1
 ALARM DESC:ALARM P1
 ALARM DELAY     300s
 FAULT DESC:FAULT P1
 FAULT DELAY     300s
 FAULT RESTART    15m
 FAULT STOPS FAN   NO
 EARLIEST START    0m
 USER ADJUST   +/-
 KEY OVER-RIDE    2HR
 EXT OVER-RIDE    2HR
 EXT TYPE     ON ONLY
 MODE IN PRIORITY HI
 SLAVE TO PLANT   none
 STATIC HIGH     500Pa
 STATIC LOW      250Pa
 DESC 1    Room 208
 DESC 2    Store Rm
 DESC 3    Kitchen
 DESC 4    Board Rm
 DONE
```

```
CLOCK 1 SETTINGS
>MON   09:00 RUN MODE
 MON   17:00      OFF
 TUE   06:00 FAN ONLY
 TUE   08:24  SETBACK
 TUE   10:02 RUN MODE
 TUE   17:54      OFF
- UP TO 28 ENTRIES..
 HOLIDAY      25 APR
 HOLIDAY      07 NOV
 HOLIDAY      25 DEC
 HOLIDAY   NOT USED
-UP TO 12 ENTRIES..
**ORDER OF ENTRIES
IS NOT IMPORTANT**
```

```
     -cont-
>COOL ANALOG Y 11:1
 HEAT ANALOG Y 11:2
 ECON ANALOG Y 12:1
 STATIC ANL. Y 15:1
 ECON RELAY Y 12:4o
 HUMID RELAY N
 ON MODE OUT 1 13:1o
 SETBACK OUT Y 13:5c
 DONE
```

```
PLANT 1 HARDWARE
>ZONE TEMP 1 Y 21:01
 ZONE TEMP 2 Y 21:02
 ZONE TEMP 3 Y 21:03
 ZONE TEMP 4 Y 21:04
 OUTDOOR AIR Y 21:05
 RETURN AIR  Y 21:13
 SUPPLY AIR  Y 21:06
 COIL TEMP   N
 HUMIDITY    Y 21:07
 REMOTE ADJ  Y 21:08
 MODE INPUT  Y 21:09
 ECONOM. INP N
 DEHUM. INP  Y 21:10
 ALARM INPUT Y 21:11
 FAULT INPUT Y 21:12
 MOM. INPUT  y 21:15
 STATIC INPUTY 21:16
 FAN LO OUT  Y 11:1o
 FAN HI OUT  Y 11:2o
 COOL 1 OUT  Y 11:3o
 COOL 2 OUT  Y 11:4o
 COOL 3 OUT  N
 COOL 4 OUT  N
 HEAT 1 OUT  Y 12:1o
 HEAT 2 OUT  Y 12:2o
 HEAT 3 OUT  Y 12:3o
 HEAT 4 OUT  N
 RV OUTPUT   N
```

```
PLANT 1 DIAGNOSTICS
*FAN LOW    11:1o  ON
 FAN HIGH   11:2o  ON
 COOLING 1 11:3o OFF
 COOLING 2 11:4o OFF
 COOLING 3  not used
 COOLING 4  not used
 HEATING 1 12:1o  ON
 HEATING 2 12:2o  ON
 HEATING 3 12:3o OFF
 HEATING 4  not used
 R/VALVE    not used
 COOL ANAL 11:1   0V
 HEAT ANAL 11:2   3V
 ECON ANAL 12:1   0V
 ECO RELAY 12:4o OFF
 HUM RELAY  not used
 RUNMODE 13:1o    ON
 SETBACK 13:5c   OFF
```

```
ALARM HARDWARE
>LIGHT      Y   11:5o
 DIALER     Y   11:7o
 CLOCK      Y 61
 DONE
```

Navigation in the programming menus

Use Red button to CANCEL to earlier screen.

Use the green button to enter a menu (when sharp cursor > shown), or to accept a changed value.

Use up & Down buttons to move up or Down menu options OR to alter a setting value.

PHASEFALE

(Up to 8 Plant Per controller)

Presscon Air Conditioning Control - Configuration Sheet

For AC version 1.1

Controller Description	

Card #	

Project	

Plant Control #1	units	df	lo	hi
Plant Name	16 Char.		PLANT 1	
Cooling Cutin	°C	23	-10	99
Cooling Cutout	°C	22	-10	99
Cooling inc del.	sec.	60	5	995
Cooling dec del.	sec.	60	5	995
Cooling lim.start	min.	1	0	99
Cooling s/back	°C	28	-10	99
Heating Cutin	°C	19	-10	99
Heating Cutout	°C	20	-10	99
Heating inc del.	sec.	60	5	995
Heating dec del.	sec.	60	5	995
Heating lim.start	min.	1	0	99
Heating s/back	°C	14	-10	99
Fan Setback	cycle		cyc	run
Deadband delay	min.	5	0	99
Clock Program		1		1-8
Economizer diff	°C	2	0	10
Dehumid S/point	%RH	50	0	99
Dehumid S/Back	%RH	80	0	99
Dehum. w/stage		0	0	4
Alarm Descript.	8 Char.		ALARM P1	
Alarm Delay	sec.	60	5	995
Fault Description	8 Char.		FAULT P1	
Fault Delay	sec.	300	5	995
Fault Restart	min.	15	0	99
Fault Stops Fans	Y/N	N	N	Y
Earliest Start	min.	0	0	99
User Adjust	+/-°C	0	0	10
Key O/ride	hrs	2	0	9
Ext O/ride	hrs	2	0	9
Ext Type	Toggle		Off	On
Mode In Priority		Hi	Lo	Hi
Slave To Plant		none	1	8
Static High	pa	500	0	1250
Static Low	pa	250	0	1250
Desc Zone 1	8 Char.		Zone 1	
Desc Zone 2	8 Char.		Zone 2	
Desc Zone 3	8 Char.		Zone 3	
Desc Zone 4	8 Char.		Zone 4	

Sensors/Inputs	Used	Address
Zone 1 Temp.		
Zone 2 Temp.		
Zone 3 Temp.		
Zone 4 Temp.		
Outdoor Air Temp.		
Return Air Temp.		
Supply Air Temp.		
Coil Temperature		
Humidity Transd.		
Remote Adj. Input		
Mode Input		
Economizer Input		
Dehumidify Input		
Alarm Input		
Fault Input		
Mom. Input		
Static Input		

Outputs	Used	Address
Fan Low Speed O/P		
Fan High Speed O/P		
Cooling 1 Output		
Cooling 2 Output		
Cooling 3 Output		
Cooling 4 Output		
Heating 1 Output		
Heating 2 Output		
Heating 3 Output		
Heating 4 Output		
Reversing Valve O/P		
Cooling Analogue		
Heating Analogue		
Econ. Analogue		
Static Analogue		
Economize Relay		
Dehumidify Relay		
On Mode Output		
Setback Output		
Shaded Outputs are 0-10Vdc		

Plant Control #2	units	df	lo	hi
Plant Name	16 Char.		PLANT 2	
Cooling Cutin	°C	23	-10	99
Cooling Cutout	°C	22	-10	99
Cooling inc del.	sec.	60	5	995
Cooling dec del.	sec.	60	5	995
Cooling lim.start	min.	1	0	99
Cooling s/back	°C	28	-10	99
Heating Cutin	°C	19	-10	99
Heating Cutout	°C	20	-10	99
Heating inc del.	sec.	60	5	995
Heating dec del.	sec.	60	5	995
Heating lim.start	min.	1	0	99
Heating s/back	°C	14	-10	99
Fan Setback	cycle		cyc	run
Deadband delay	min.	5	0	99
Clock Program		1		1-8
Economizer diff	°C	2	0	10
Dehumid S/point	%RH	50	0	99
Dehumid S/Back	%RH	80	0	99
Dehum. w/stage		0	0	4
Alarm Descript.	8 Char.		ALARM P2	
Alarm Delay	sec.	60	5	995
Fault Description	8 Char.		FAULT P2	
Fault Delay	sec.	300	5	995
Fault Restart	min.	15	0	99
Fault Stops Fans	Y/N	N	N	Y
Earliest Start	min.	0	0	99
User Adjust	+/-°C	0	0	10
Key O/ride	hrs	2	0	9
Ext O/ride	hrs	2	0	9
Ext Type	Toggle		Off	On
Mode In Priority		Hi	Lo	Hi
Slave To Plant		none	1	8
Static High	pa	500	0	1250
Static Low	pa	250	0	1250
Desc Zone 1	8 Char.		Zone 1	
Desc Zone 2	8 Char.		Zone 2	
Desc Zone 3	8 Char.		Zone 3	
Desc Zone 4	8 Char.		Zone 4	

Sensors/Inputs	Used	Address
Zone 1 Temp.		
Zone 2 Temp.		
Zone 3 Temp.		
Zone 4 Temp.		
Outdoor Air Temp.		
Return Air Temp.		
Supply Air Temp.		
Coil Temperature		
Humidity Transd.		
Remote Adj. Input		
Mode Input		
Economizer Input		
Dehumidify Input		
Alarm Input		
Fault Input		
Mom. Input		
Static Input		

Outputs	Used	Address
Fan Low Speed O/P		
Fan High Speed O/P		
Cooling 1 Output		
Cooling 2 Output		
Cooling 3 Output		
Cooling 4 Output		
Heating 1 Output		
Heating 2 Output		
Heating 3 Output		
Heating 4 Output		
Reversing Valve O/P		
Cooling Analogue		
Heating Analogue		
Econ. Analogue		
Static Analogue		
Economize Relay		
Dehumidify Relay		
On Mode Output		
Setback Output		
Shaded Outputs are 0-10Vdc		

Plant Control #3	units	df	lo	hi
Plant Name	16 Char.		PLANT 3	
Cooling Cutin	°C	23	-10	99
Cooling Cutout	°C	22	-10	99
Cooling inc del.	sec.	60	5	995
Cooling dec del.	sec.	60	5	995
Cooling lim.start	min.	1	0	99
Cooling s/back	°C	28	-10	99
Heating Cutin	°C	19	-10	99
Heating Cutout	°C	20	-10	99
Heating inc del.	sec.	60	5	995
Heating dec del.	sec.	60	5	995
Heating lim.start	min.	1	0	99
Heating s/back	°C	14	-10	99
Fan Setback	cycle		cyc	run
Deadband delay	min.	5	0	99
Clock Program		1		1-8
Economizer diff	°C	2	0	10
Dehumid S/point	%RH	50	0	99
Dehumid S/Back	%RH	80	0	99
Dehum. w/stage		0	0	4
Alarm Descript.	8 Char.		ALARM P3	
Alarm Delay	sec.	60	5	995
Fault Description	8 Char.		FAULT P3	
Fault Delay	sec.	300	5	995
Fault Restart	min.	15	0	99
Fault Stops Fans	Y/N	N	N	Y
Earliest Start	min.	0	0	99
User Adjust	+/-°C	0	0	10
Key O/ride	hrs	2	0	9
Ext O/ride	hrs	2	0	9
Ext Type	Toggle		Off	On
Mode In Priority		Hi	Lo	Hi
Slave To Plant		none	1	8
Static High	pa	500	0	1250
Static Low	pa	250	0	1250
Desc Zone 1	8 Char.		Zone 1	
Desc Zone 2	8 Char.		Zone 2	
Desc Zone 3	8 Char.		Zone 3	
Desc Zone 4	8 Char.		Zone 4	

Sensors/Inputs	Used	Address
Zone 1 Temp.		
Zone 2 Temp.		
Zone 3 Temp.		
Zone 4 Temp.		
Outdoor Air Temp.		
Return Air Temp.		
Supply Air Temp.		
Coil Temperature		
Humidity Transd.		
Remote Adj. Input		
Mode Input		
Economizer Input		
Dehumidify Input		
Alarm Input		
Fault Input		
Mom. Input		
Static Input		

Outputs	Used	Address
Fan Low Speed O/P		
Fan High Speed O/P		
Cooling 1 Output		
Cooling 2 Output		
Cooling 3 Output		
Cooling 4 Output		
Heating 1 Output		
Heating 2 Output		
Heating 3 Output		
Heating 4 Output		
Reversing Valve O/P		
Cooling Analogue		
Heating Analogue		
Econ. Analogue		
Static Analogue		
Economize Relay		
Dehumidify Relay		
On Mode Output		
Setback Output		
Shaded Outputs are 0-10Vdc		

Plant Control #4	units	df	lo	hi
Plant Name	16 Char.		PLANT 4	
Cooling Cutin	°C	23	-10	99
Cooling Cutout	°C	22	-10	99
Cooling inc del.	sec.	60	5	995
Cooling dec del.	sec.	60	5	995
Cooling lim.start	min.	1	0	99
Cooling s/back	°C	28	-10	99
Heating Cutin	°C	19	-10	99
Heating Cutout	°C	20	-10	99
Heating inc del.	sec.	60	5	995
Heating dec del.	sec.	60	5	995
Heating lim.start	min.	1	0	99
Heating s/back	°C	14	-10	99
Fan Setback	cycle		cyc	run
Deadband delay	min.	5	0	99
Clock Program		1		1-8
Economizer diff	°C	2	0	10
Dehumid S/point	%RH	50	0	99
Dehumid S/Back	%RH	80	0	99
Dehum. w/stage		0	0	4
Alarm Descript.	8 Char.		ALARM P4	
Alarm Delay	sec.	60	5	995
Fault Description	8 Char.		FAULT P4	
Fault Delay	sec.	300	5	995
Fault Restart	min.	15	0	99
Fault Stops Fans	Y/N	N	N	Y
Earliest Start	min.	0	0	99
User Adjust	+/-°C	0	0	10
Key O/ride	hrs	2	0	9
Ext O/ride	hrs	2	0	9
Ext Type	Toggle		Off	On
Mode In Priority		Hi	Lo	Hi
Slave To Plant		none	1	8
Static High	pa	500	0	1250
Static Low	pa	250	0	1250
Desc Zone 1	8 Char.		Zone 1	
Desc Zone 2	8 Char.		Zone 2	
Desc Zone 3	8 Char.		Zone 3	
Desc Zone 4	8 Char.		Zone 4	

Sensors/Inputs	Used	Address
Zone 1 Temp.		
Zone 2 Temp.		
Zone 3 Temp.		
Zone 4 Temp.		
Outdoor Air Temp.		
Return Air Temp.		
Supply Air Temp.		
Coil Temperature		
Humidity Transd.		
Remote Adj. Input		
Mode Input		
Economizer Input		
Dehumidify Input		
Alarm Input		
Fault Input		
Mom. Input		
Static Input		

Outputs	Used	Address
Fan Low Speed O/P		
Fan High Speed O/P		
Cooling 1 Output		
Cooling 2 Output		
Cooling 3 Output		
Cooling 4 Output		
Heating 1 Output		
Heating 2 Output		
Heating 3 Output		
Heating 4 Output		
Reversing Valve O/P		
Cooling Analogue		
Heating Analogue		
Econ. Analogue		
Static Analogue		
Economize Relay		
Dehumidify Relay		
On Mode Output		
Setback Output		
Shaded Outputs are 0-10Vdc		

System Settings	units	df	lo	hi
Controller Name	16 Char.		Air Con	
Temperature unit	°C		°C	°F
Alarm Acknowl.	min.	10	0	99
Access Code	nil		0-9999	
Status Info		Fixed		Cycle
Date Format		DDMMYY		MMDDYY
df = default program setting				

General Outputs	Used	Address
Alarm Light		
Alarm Dialer		
Clock		

Shaded Outputs are 0-10V Analogue type

Other Outputs 12 - 240Vac 5 Amp Relays

FOR CLOCK PROGRAMMING SETTINGS USE SEPARATE SHEET

Ref AICON.xls

PHASEFALE

(Up to 8 Plant Per controller)

Presscon Air Conditioning Control - Configuration Sheet

Controller Description	

Card #	

Project	

Plant Control #5	units	df	lo	hi
Plant Name	16 Char.		PLANT 5	
Cooling Cutin	°C	23	-10	99
Cooling Cutout	°C	22	-10	99
Cooling inc del.	sec.	60	5	995
Cooling dec del.	sec.	60	5	995
Cooling lim.start	min.	1	0	99
Cooling s/back	°C	28	-10	99
Heating Cutin	°C	19	-10	99
Heating Cutout	°C	20	-10	99
Heating inc del.	sec.	60	5	995
Heating dec del.	sec.	60	5	995
Heating lim.start	min.	1	0	99
Heating s/back	°C	14	-10	99
Fan Setback	cycle		cyc	run
Deadband delay	min.	5	0	99
Clock Program		1		1-8
Economizer diff	°C	2	0	10
Dehumid S/point	%RH	50	0	99
Dehumid S/Back	%RH	80	0	99
Dehum. w/stage		0	0	4
Alarm Descript.	8 Char.		ALARM P5	
Alarm Delay	sec.	60	5	995
Fault Description	8 Char.		FAULT P5	
Fault Delay	sec.	300	5	995
Fault Restart	min.	15	0	99
Fault Stops Fans	Y/N	N	N	Y
Earliest Start	min.	0	0	99
User Adjust	+/-°C	0	0	10
Key O/ride	hrs	2	0	9
Ext O/ride	hrs	2	0	9
Ext Type	Toggle		Off	On
Mode In Priority		Hi	Lo	Hi
Slave To Plant		none	1	8
Static High	pa	500	0	1250
Static Low	pa	250	0	1250
Desc Zone 1	8 Char.		Zone 1	
Desc Zone 2	8 Char.		Zone 2	
Desc Zone 3	8 Char.		Zone 3	
Desc Zone 4	8 Char.		Zone 4	

Sensors/Inputs	Used	Address
Zone 1 Temp.		
Zone 2 Temp.		
Zone 3 Temp.		
Zone 4 Temp.		
Outdoor Air Temp.		
Return Air Temp.		
Supply Air Temp.		
Coil Temperature		
Humidity Transd.		
Remote Adj. Input		
Mode Input		
Economizer Input		
Dehumidify Input		
Alarm Input		
Fault Input		
Mom. Input		
Static Input		

Outputs	Used	Address
Fan Low Speed O/P		
Fan High Speed O/P		
Cooling 1 Output		
Cooling 2 Output		
Cooling 3 Output		
Cooling 4 Output		
Heating 1 Output		
Heating 2 Output		
Heating 3 Output		
Heating 4 Output		
Reversing Valve O/P		
Cooling Analogue		
Heating Analogue		
Econ. Analogue		
Static Analogue		
Economize Relay		
Dehumidify Relay		
On Mode Output		
Setback Output		
Shaded Outputs are 0-10Vdc		

Plant Control #6	units	df	lo	hi
Plant Name	16 Char.		PLANT 6	
Cooling Cutin	°C	23	-10	99
Cooling Cutout	°C	22	-10	99
Cooling inc del.	sec.	60	5	995
Cooling dec del.	sec.	60	5	995
Cooling lim.start	min.	1	0	99
Cooling s/back	°C	28	-10	99
Heating Cutin	°C	19	-10	99
Heating Cutout	°C	20	-10	99
Heating inc del.	sec.	60	5	995
Heating dec del.	sec.	60	5	995
Heating lim.start	min.	1	0	99
Heating s/back	°C	14	-10	99
Fan Setback	cycle		cyc	run
Deadband delay	min.	5	0	99
Clock Program		1		1-8
Economizer diff	°C	2	0	10
Dehumid S/point	%RH	50	0	99
Dehumid S/Back	%RH	80	0	99
Dehum. w/stage		0	0	4
Alarm Descript.	8 Char.		ALARM P6	
Alarm Delay	sec.	60	5	995
Fault Description	8 Char.		FAULT P6	
Fault Delay	sec.	300	5	995
Fault Restart	min.	15	0	99
Fault Stops Fans	Y/N	N	N	Y
Earliest Start	min.	0	0	99
User Adjust	+/-°C	0	0	10
Key O/ride	hrs	2	0	9
Ext O/ride	hrs	2	0	9
Ext Type	Toggle		Off	On
Mode In Priority		Hi	Lo	Hi
Slave To Plant		none	1	8
Static High	pa	500	0	1250
Static Low	pa	250	0	1250
Desc Zone 1	8 Char.		Zone 1	
Desc Zone 2	8 Char.		Zone 2	
Desc Zone 3	8 Char.		Zone 3	
Desc Zone 4	8 Char.		Zone 4	

Sensors/Inputs	Used	Address
Zone 1 Temp.		
Zone 2 Temp.		
Zone 3 Temp.		
Zone 4 Temp.		
Outdoor Air Temp.		
Return Air Temp.		
Supply Air Temp.		
Coil Temperature		
Humidity Transd.		
Remote Adj. Input		
Mode Input		
Economizer Input		
Dehumidify Input		
Alarm Input		
Fault Input		
Mom. Input		
Static Input		

Outputs	Used	Address
Fan Low Speed O/P		
Fan High Speed O/P		
Cooling 1 Output		
Cooling 2 Output		
Cooling 3 Output		
Cooling 4 Output		
Heating 1 Output		
Heating 2 Output		
Heating 3 Output		
Heating 4 Output		
Reversing Valve O/P		
Cooling Analogue		
Heating Analogue		
Econ. Analogue		
Static Analogue		
Economize Relay		
Dehumidify Relay		
On Mode Output		
Setback Output		
Shaded Outputs are 0-10Vdc		

Plant Control #7	units	df	lo	hi
Plant Name	16 Char.		PLANT 7	
Cooling Cutin	°C	23	-10	99
Cooling Cutout	°C	22	-10	99
Cooling inc del.	sec.	60	5	995
Cooling dec del.	sec.	60	5	995
Cooling lim.start	min.	1	0	99
Cooling s/back	°C	28	-10	99
Heating Cutin	°C	19	-10	99
Heating Cutout	°C	20	-10	99
Heating inc del.	sec.	60	5	995
Heating dec del.	sec.	60	5	995
Heating lim.start	min.	1	0	99
Heating s/back	°C	14	-10	99
Fan Setback	cycle		cyc	run
Deadband delay	min.	5	0	99
Clock Program		1		1-8
Economizer diff	°C	2	0	10
Dehumid S/point	%RH	50	0	99
Dehumid S/Back	%RH	80	0	99
Dehum. w/stage		0	0	4
Alarm Descript.	8 Char.		ALARM P7	
Alarm Delay	sec.	60	5	995
Fault Description	8 Char.		FAULT P7	
Fault Delay	sec.	300	5	995
Fault Restart	min.	15	0	99
Fault Stops Fans	Y/N	N	N	Y
Earliest Start	min.	0	0	99
User Adjust	+/-°C	0	0	10
Key O/ride	hrs	2	0	9
Ext O/ride	hrs	2	0	9
Ext Type	Toggle		Off	On
Mode In Priority		Hi	Lo	Hi
Slave To Plant		none	1	8
Static High	pa	500	0	1250
Static Low	pa	250	0	1250
Desc Zone 1	8 Char.		Zone 1	
Desc Zone 2	8 Char.		Zone 2	
Desc Zone 3	8 Char.		Zone 3	
Desc Zone 4	8 Char.		Zone 4	

Sensors/Inputs	Used	Address
Zone 1 Temp.		
Zone 2 Temp.		
Zone 3 Temp.		
Zone 4 Temp.		
Outdoor Air Temp.		
Return Air Temp.		
Supply Air Temp.		
Coil Temperature		
Humidity Transd.		
Remote Adj. Input		
Mode Input		
Economizer Input		
Dehumidify Input		
Alarm Input		
Fault Input		
Mom. Input		
Static Input		

Outputs	Used	Address
Fan Low Speed O/P		
Fan High Speed O/P		
Cooling 1 Output		
Cooling 2 Output		
Cooling 3 Output		
Cooling 4 Output		
Heating 1 Output		
Heating 2 Output		
Heating 3 Output		
Heating 4 Output		
Reversing Valve O/P		
Cooling Analogue		
Heating Analogue		
Econ. Analogue		
Static Analogue		
Economize Relay		
Dehumidify Relay		
On Mode Output		
Setback Output		
Shaded Outputs are 0-10Vdc		

Plant Control #8	units	df	lo	hi
Plant Name	16 Char.		PLANT 8	
Cooling Cutin	°C	23	-10	99
Cooling Cutout	°C	22	-10	99
Cooling inc del.	sec.	60	5	995
Cooling dec del.	sec.	60	5	995
Cooling lim.start	min.	1	0	99
Cooling s/back	°C	28	-10	99
Heating Cutin	°C	19	-10	99
Heating Cutout	°C	20	-10	99
Heating inc del.	sec.	60	5	995
Heating dec del.	sec.	60	5	995
Heating lim.start	min.	1	0	99
Heating s/back	°C	14	-10	99
Fan Setback	cycle		cyc	run
Deadband delay	min.	5	0	99
Clock Program		1		1-8
Economizer diff	°C	2	0	10
Dehumid S/point	%RH	50	0	99
Dehumid S/Back	%RH	80	0	99
Dehum. w/stage		0	0	4
Alarm Descript.	8 Char.		ALARM P8	
Alarm Delay	sec.	60	5	995
Fault Description	8 Char.		FAULT P8	
Fault Delay	sec.	300	5	995
Fault Restart	min.	15	0	99
Fault Stops Fans	Y/N	N	N	Y
Earliest Start	min.	0	0	99
User Adjust	+/-°C	0	0	10
Key O/ride	hrs	2	0	9
Ext O/ride	hrs	2	0	9
Ext Type	Toggle		Off	On
Mode In Priority		Hi	Lo	Hi
Slave To Plant		none	1	8
Static High	pa	500	0	1250
Static Low	pa	250	0	1250
Desc Zone 1	8 Char.		Zone 1	
Desc Zone 2	8 Char.		Zone 2	
Desc Zone 3	8 Char.		Zone 3	
Desc Zone 4	8 Char.		Zone 4	

Sensors/Inputs	Used	Address
Zone 1 Temp.		
Zone 2 Temp.		
Zone 3 Temp.		
Zone 4 Temp.		
Outdoor Air Temp.		
Return Air Temp.		
Supply Air Temp.		
Coil Temperature		
Humidity Transd.		
Remote Adj. Input		
Mode Input		
Economizer Input		
Dehumidify Input		
Alarm Input		
Fault Input		
Mom. Input		
Static Input		

Outputs	Used	Address
Fan Low Speed O/P		
Fan High Speed O/P		
Cooling 1 Output		
Cooling 2 Output		
Cooling 3 Output		
Cooling 4 Output		
Heating 1 Output		
Heating 2 Output		
Heating 3 Output		
Heating 4 Output		
Reversing Valve O/P		
Cooling Analogue		
Heating Analogue		
Econ. Analogue		
Static Analogue		
Economize Relay		
Dehumidify Relay		
On Mode Output		
Setback Output		
Shaded Outputs are 0-10Vdc		

System Settings	units	df	lo	hi
Controller Name	16 Char.		Air Con	
Temperature unit	°C		°C	°F
Alarm Acknowl.	min.	10	0	99
Access Code	nil		0-9999	
Status Info		Fixed		Cycle
Date Format		DDMMYY		MMDDYY
df = default program setting				

General Outputs	Used	Address
Alarm Light		
Alarm Dialer		
Clock		

Shaded Outputs are 0-10V Analogue type

Other Outputs 12 - 240Vac 5 Amp Relays

FOR CLOCK PROGRAMMING SETTINGS USE SEPARATE SHEET

PHASEFALE

Presscon Air Conditioning Control - Clock Programming Sheet

(Up to 8 Plant Per controller)

Controller Description		Card #		Project

CLOCK PROGRAM # 1

#	DAY	TIME HR: MINS	MODE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

PUBLIC HOLIDAYS			
#		DAY	MONTH
1	ST.		
2	END		
3	ST.		
4	END		
5	ST.		
6	END		
7	ST.		
8	END		

CLOCK PROGRAM # 2

#	DAY	TIME HR: MINS	MODE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

PUBLIC HOLIDAYS			
#		DAY	MONTH
1	ST.		
2	END		
3	ST.		
4	END		
5	ST.		
6	END		
7	ST.		
8	END		

DAY OPTIONS

MON	DAY OF THE WEEK
TUE	DAY OF THE WEEK
WED	DAY OF THE WEEK
THU	DAY OF THE WEEK
FRI	DAY OF THE WEEK
SAT	DAY OF THE WEEK
SUN	DAY OF THE WEEK
N/U	DO N'T USE ENTRY
DEL	DELETE ENTRY
INS	INS NEW ENTRY

MODE OPTIONS

OFF
ALL FANS/COOL/HEAT OFF
FAN ONLY
FAN ONLY LOW SPEED
SETBACK
CONTROLS FANS/H/C TO SETBACK SETTING
RUN
CONTROLS FANS/H/C TO RUN SETTING

PUBLIC HOLIDAYS

SYSTEM SELECTS LOWEST OPTION FROM DAY SETTINGS AVAILABLE IN PRIORITY

OFF	LOWEST
FAN ONLY	2nd
SETBACK	3rd
RUN	HIGHEST

CLOCK PROGRAM # 3

#	DAY	TIME HR: MINS	MODE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

PUBLIC HOLIDAYS			
#		DAY	MONTH
1	ST.		
2	END		
3	ST.		
4	END		
5	ST.		
6	END		
7	ST.		
8	END		

CLOCK PROGRAM # 4

#	DAY	TIME HR: MINS	MODE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

PUBLIC HOLIDAYS			
#		DAY	MONTH
1	ST.		
2	END		
3	ST.		
4	END		
5	ST.		
6	END		
7	ST.		
8	END		

PHASEFALE

Presscon Air Conditioning Control - Clock Programming Sheet

(Up to 8 Plant Per controller)

Controller Description		Card #		Project

CLOCK PROGRAM # 5

#	DAY	TIME HR: MINS	MODE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

PUBLIC HOLIDAYS			
#		DAY	MONTH
1	ST.		
2	END		
3	ST.		
4	END		
5	ST.		
6	END		
7	ST.		
8	END		

CLOCK PROGRAM # 6

#	DAY	TIME HR: MINS	MODE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

PUBLIC HOLIDAYS			
#		DAY	MONTH
1	ST.		
2	END		
3	ST.		
4	END		
5	ST.		
6	END		
7	ST.		
8	END		

DAY OPTIONS

MON	DAY OF THE WEEK
TUE	DAY OF THE WEEK
WED	DAY OF THE WEEK
THU	DAY OF THE WEEK
FRI	DAY OF THE WEEK
SAT	DAY OF THE WEEK
SUN	DAY OF THE WEEK
N/U	DO N'T USE ENTRY
DEL	DELETE ENTRY
INS	INS NEW ENTRY

MODE OPTIONS

OFF
ALL FANS/COOL/HEAT OFF
FAN ONLY
FAN ONLY LOW SPEED
SETBACK
CONTROLS FANS/H/C TO SETBACK SETTING
RUN
CONTROLS FANS/H/C TO RUN SETTING

PUBLIC HOLIDAYS

SYSTEM SELECTS LOWEST OPTION FROM DAY SETTINGS AVAILABLE IN PRIORITY

OFF	LOWEST
FAN ONLY	2nd
SETBACK	3rd
RUN	HIGHEST

CLOCK PROGRAM # 7

#	DAY	TIME HR: MINS	MODE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

PUBLIC HOLIDAYS			
#		DAY	MONTH
1	ST.		
2	END		
3	ST.		
4	END		
5	ST.		
6	END		
7	ST.		
8	END		

CLOCK PROGRAM # 8

#	DAY	TIME HR: MINS	MODE
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			
11			
12			
13			
14			
15			
16			
17			
18			
19			
20			
21			
22			
23			
24			
25			
26			
27			
28			

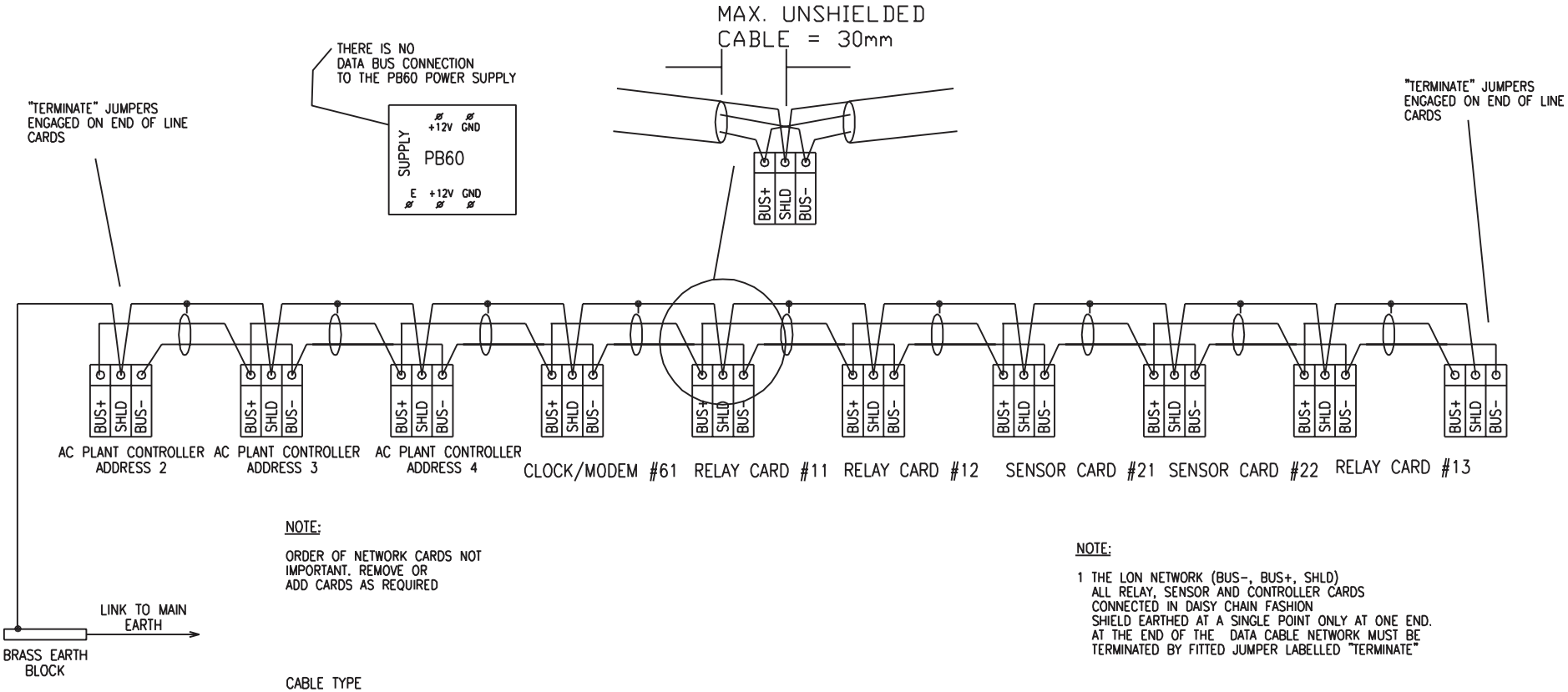
PUBLIC HOLIDAYS			
#		DAY	MONTH
1	ST.		
2	END		
3	ST.		
4	END		
5	ST.		
6	END		
7	ST.		
8	END		

Presscon DDC

Generic Wiring Drawings & Consultants Specifications

PGENBUS.DWG	DATA BUS CONNECTIONS
PGENPWR.DWG	12V DC POWER DISTRIBUTION
PGENINP.DWG	INPUT CONNECTIONS
PGENOUT.DWG	OUPTUT CONNECTIONS
K536.DOC	GENERIC SPECIFICATION

These Drawings also available as cad files & document files suitable for editing, please contact Phasefale on 03 9553 0800, also on Phasefale CD Version 2.2.3 and higher



NOTE:

ORDER OF NETWORK CARDS NOT
IMPORTANT. REMOVE OR
ADD CARDS AS REQUIRED

NOTE:

1 THE LON NETWORK (BUS-, BUS+, SHLD)
ALL RELAY, SENSOR AND CONTROLLER CARDS
CONNECTED IN DAISY CHAIN FASHION
SHIELD EARTHED AT A SINGLE POINT ONLY AT ONE END.
AT THE END OF THE DATA CABLE NETWORK MUST BE
TERMINATED BY FITTED JUMPER LABELLED "TERMINATE"

CABLE TYPE

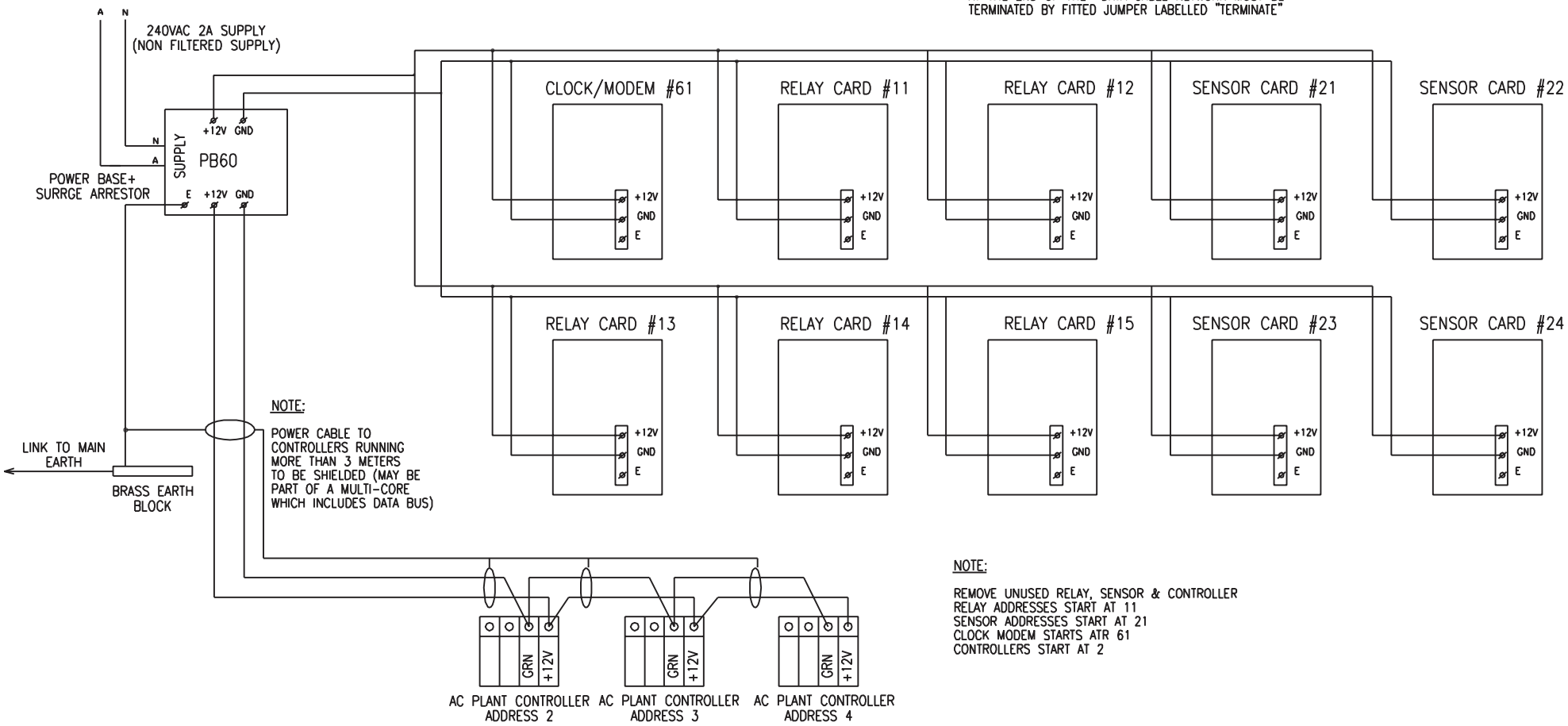
SINGLE PAIR, TWISTED, RECOMEND 7/0.20mm
SHIELDED WITH DRAIN WIRE.
(OK TO USE TWISTED MULTI-CORE)

2 TINNER COPPER CONDUCTOR, 24AWG TINNED COPPER DRAIN, PVC SHEATH

E.G. GARLAND AUSTRALIA MCP1S 03 9543 6411

CABLECO 1PAIR 7/0.20 DATA (GREY) 03 9887 3712

REF: PGENBUS JAN 2001	GENERIC WIRING SCHEMATIC- DATA BUS CONNECTION	PRESSCON DDC



REF: PGENPWR
JAN 2001

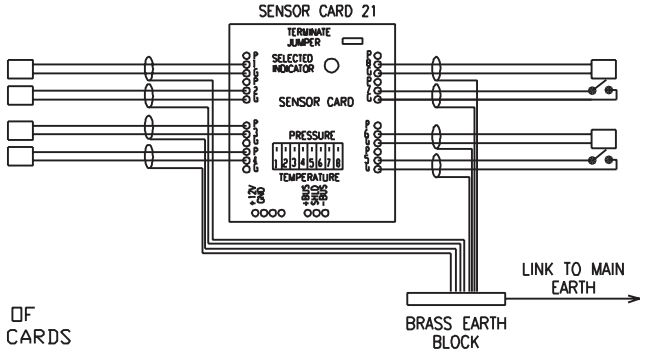
GENERIC WIRING SCHEMATIC-
12V POWER DISTRIBUTION

PRESSCON DDC

SMALL SYSTEMS WILL USE 8 CHANNEL SENSOR CARD, LARGE SYSTEMS WILL USE 32 CHANNEL CARD.

THE ORDER OF SENSORS AND SWITCH INPUT IS NOT IMPORTANT AND CAN BE SET IN PROGRAMMING OF THE CONTROLLER

ANY QUANTITY AND COMBINATION OF 8 & 32 CHANNEL SENSOR INPUT CARDS IS ALLOWED



CABLE TYPE

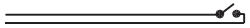
SINGLE PAIR, TWISTED, RECOMEND 7/0.20mm
SHIELDED WITH DRAIN WIRE.
(OK TO USE TWISTED MULTI-CORE)

2 TINNER COPPER CONDUCTOR, 24AWG TINNED COPPER DRAIN, PVC SHEATH

E.G. GARLAND AUSTRALIA MCP1S 03 9543 6411

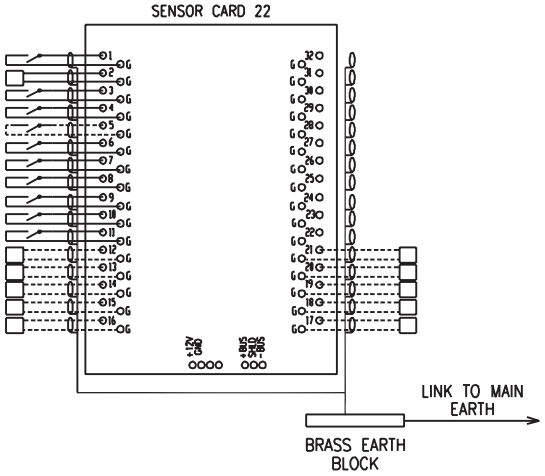
CABLECO 1PAIR 7/0.20 DATA (GREY) 03 9887 3712

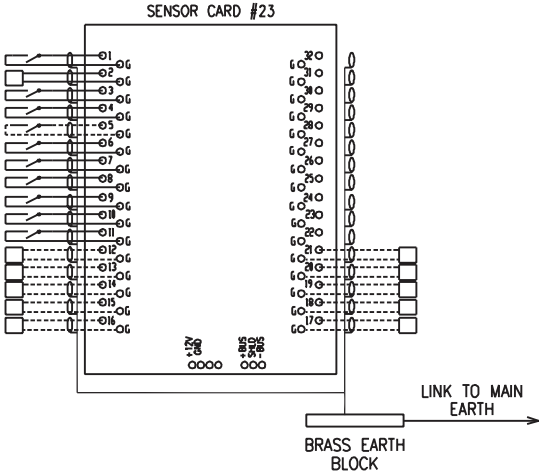
STANDARD TEMPERATURE INPUT, PHASEFALE "M PROBE", WALL, DUCT OR ENCAPSULATED. NTC THERMISTOR. MUST BE RUN IN SHIELDED CABLE FOR RUNS GREATER THAN 3 METERS.*



SWITCH INPUT, NORMALLY OPEN OR CLOSED (CAN BE SET IN PROGRAMMING). VOLT FREE CONTACTS FROM AUXILIARY EQUIPMENT OR SENSORS- E.G. FIRE ALARM, EQUIPMENT FAULT MUST BE RUN IN SHEILDED CABLE FOR RUNS GREATER THAN 3 METERS.*

* MUTI-CORE SHIELDED CABLE CAN BE USED WHERE APPLICABLE / CONVENIENT





GROUNDING OF DATA CABLE DRAIN WIRES IS MORE EFFECTIVE WHEN EACH DRAIN WIRE IS SEPARATELY CONNECTED TO BRASS EARTH BLOCK. SHOWN AS COMMON CONNECTION ON 32 CHANNEL SENSOR CARD

REF: PGENINP JAN 2001	GENERIC WIRING SCHEMATIC- INPUT CONNECTION	PRESSCON DDC

THE ORDER OF OUTPUTS IS NOT IMPORTANT AND CAN BE SET IN PROGRAMMING OF CONTROLLERS.

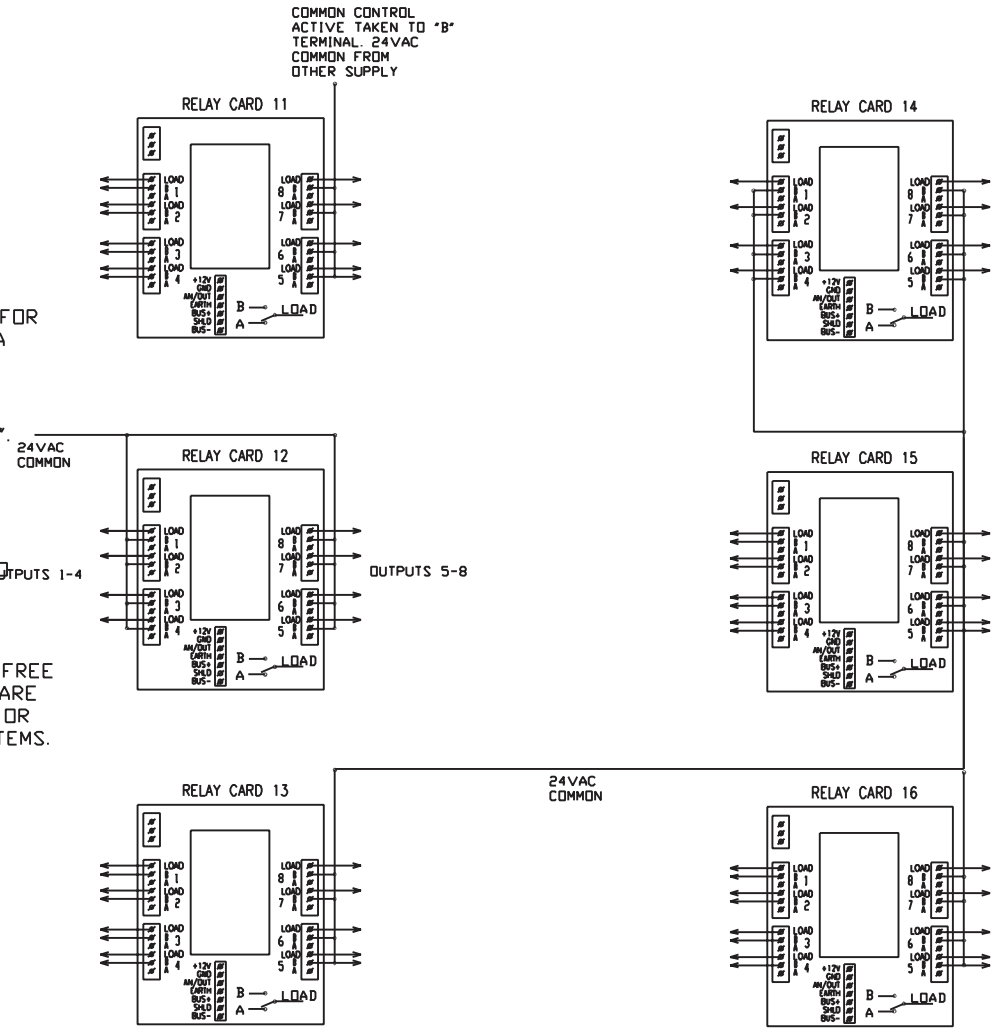
THE NUMBER AND ORDER OF RELAY CARDS CAN BE SET TO THAT REQUIRED. REMOVE OR ADD RELAY CARDS AS DESIRED

RELAY BOARDS AS SHOWN ARE SUITABLE FOR 24VAC 5AMP SWITCHING. FOR 240VAC 5A SWITCHING SNUBBERS REQUIRED, REFER RELAY8.PDF INSTRUCTION.

ALL OUTPUTS SHOWN WITH COMMON TO "B". THIS IS THE NORMALLY OPEN CONTACT WHICH CLOSES WHEN ENERGISED. FOR CONTACT TO OPEN WHEN ENERGISED, USE "A" TERMINAL AS COMMON.

"LOAD" IS ALWAYS THE TERMINAL USED TO CONNECT TO THE 24VAC OUTPUT E.G. SOLENOIDES, RELAYS, CONTACTORS ETC.

OUTPUTS FROM RELAYS CARDS ARE VOLT FREE AND RATED TO 5 AMPS RESISTIVE. THEY ARE SUITABLE TO DRIVE MOST 24VAC LOADS, OR CAN BE USED AS INPUTS FOR OTHER SYSTEMS.



REF: PGENOUT
JAN 2001

GENERIC WIRING SCHEMATIC-
OUTPUT CONNECTIONS

PRESSCON DDC

General Note to Consultants

This document may be used by consultants to specify an air conditioning control system. Presscon DDC meets all the above requirements. The document may be altered as required. It is encouraged that deleting non relevant sections (e.g. **Plant Channel control - Hot/ Cold Water Fan Coil Units** may not be required or relevant on a particular system) or changes (e.g. **Plant Channel control** may only require 2 stages of heating or cooling control (instead of the available 4 stages on Presscon DDC)

Phasefale would value any feedback on this document and suggestions for alterations/ additions are most welcome. Items marked with a * indicate optional components to the basic Presscon DDC.

Specification: Air Conditioning Automatic Controls

The air conditioning plant shall be controlled by a Phasefale DDC system (or approved equivalent) with the following capabilities and features;

Network

All control system components are connected by a data bus capable of allowing system expansion. Additional control channels, inputs and outputs can be added to the system as required.

The data communications between system components shall be Lonworks (Trademark of Echelon Corporation) compatible to ensure for future expansion with compatible modules/ systems.

Communications software via a Windows based program able to monitor and control the system from a local PC or via dial up modem for remote access. Windows based program able to include a graphic of the controlled environment with sensor readings positioned over the relevant positions in the graphic representation.

All network cards to have jumperless address setting and LCD or LED indication of system address from 1~99 to allow for expansion of the system.

Controller(s)

Provide an aesthetic (i.e. suitable for residential or commercial environment) control with multi-line character based LCD panel, keyboard operated user-friendly interface. The panel is to be backlit to ensure legibility in low ambient conditions as encountered in switch rooms. The controller to be suitable for users to access basic system information (e.g. space temperature, plant condition), adjust space temperature (within set limits), and initiate timed over-ride operation of individual or all controlled channels. Controllers also have access codes to limit entry to programmable parameters such as timing and temperature limits, plus diagnostic functions.

Each controller capable of controlling at least 8 plant.

All system settable parameters accessible via controller or via PC interface.

All system parameter to be stored in non-volatile memory of 10 year duration to ensure correct operation after power loss.

Time Clock Function

The system to provide a master time clock function accessible to all controllers and including battery or capacitor backup of at least 1 month in the event of power loss. The time clock to be accurate to 1 minute per month and include full date function including leap year.

Input, Outputs, Power Supply

Inputs from temperature sensors, humidity transmitters, switch inputs to offer high precision of 0.2%, combined with accurate temperature sensors allowing 0.2°C accuracy overall in the operating range of -10~60°C. Output relays of 24VAC 5Amp (resistive rating) capable of driving solenoids, contactors and relays directly. Each output on to have over-ride 3 position off/auto/on switch on the card and an LED indicating energized relay operation. The power supply shall include filtering and noise protection to ensure reliable system operation under all electrical conditions.

Plant Channel control - Reverse Cycle Fan Coil Units

Provide on/off control of up to 4 heating and 4 cooling stages with reversing valve control, high and low fan speed control. Include programmable time delays between heating stages and cooling stages plus a separate heating/cooling changeover delay.

Plant control to be effected from the combined average of from 1 to four space sensors, depending on the size of the space.

Include separate, programmable cooling and heating cutin and cutout temperatures (with a resolution of 0.1°C), plus a setback setting for economical operation. Allow a single user adjustable parameter (limit settable) to raise and lower overall space temperature setting. Allow timed override function from a single button press.

Each plant channel to have provision for individual time clock program with 7 day program, plus public holidays. Time clock functions to include Off, Fan only, Setback and Run control of the plant. Ability for multiple channels to share a common time clock function.

Plant Channel control - Cooling Cycle Fan Coil Units

Provide on/off control of up to 4 cooling stages, high and low fan speed control. Include programmable time delays between cooling stages.

Plant control to be effected from the combined average of from 1 to four space sensors, depending on the size of the space.

Include separate, programmable cooling cutin and cutout temperatures (with a resolution of 0.1°C), plus a setback setting for economical operation. Allow a single user adjustable parameter (limit settable) to raise and lower overall space temperature setting. Allow timed override function from a single button press.

Each plant channel to have provision for individual time clock program with 7 day program, plus public holidays. Time clock functions to include Off, Fan only, Setback and Cool control of the plant. Ability for multiple channels to share a common time clock function.

Plant Channel control - Hot/ Cold Water Fan Coil Units

Provide analogue flow control of heating and cooling water, high and low fan speed control. Include programmable changeover delays between heating and cooling operation.

Plant control to be effected from the combined average of from 1 to four space sensors, depending on the size of the space.

Include separate, programmable cooling and heating cutin and cutout temperatures (with a resolution of 0.1°C), plus a setback setting for economical operation. Allow a single user adjustable parameter (limit settable) to raise and lower overall space temperature setting. Allow timed override function from a single button press.

Each plant channel to have provision for individual time clock program with 7 day program, plus public holidays. Time clock functions to include Off, Fan only, Setback and Run control of the plant. Ability for multiple channels to share a common time clock function.

System Time

Include system time and date function with leap year, accurate to within 2 minutes per month with a battery or capacitor backup function of greater than 3 days in the event of power loss. All system controls and functions operated from a single time/date reference. Include provision in system for public holidays to stop operation of AC plant during these days.

Economizing

Economizing to be based on the outside air temperature being favorable for heating or cooling and operated using analog control of dampers. In economizing mode, proportional control between 0 and 100% of outside air to provide control of inside airspace. Economizing to activate when outside temperature difference is greater than programmed limit (2°C), using return air as reference when fitted.

Ventilation / Exhaust Fans

Include ventilation control based on individual time clock program. Ventilation control to be shut down in the case of fire input being active. Also with the ability to be over-ridden on or off by the controller.

Safety Interface, Alarm Outputs

Allow an external input for fire or other alarm input to shut off system, with the option of automatic or manual reset after fault clears. Allow each AC plant to be monitored for fault condition with a programmable description displayed on the control during fault.

Alarm outputs: maintained fail safe relay output for interface with a security dialer, flashing alarm light to drive local warning light or siren. PC Based software to graphically indicate alarm condition with red flashing icon for quick recognition. (based on the principle of exception reporting)

Trend Logging *

Provide data logging capability of 4M capacity to provide graphing of temperatures, pressure and humidity of system parameters

Power Monitoring *

Provide three phase power monitoring equipment able to provide logs of peak power and elapsed power (in kWhr) for the system to Class 0.5 (0.5%) accuracy.

Refrigeration Control System – Dial in Compatible

The air conditioning control system shall provide a dial in connection via modem for remote access/ diagnosis of the plant and this shall use the same phone lien/modem as the Presscon Refrigeration control system. The Refrigeration and DDC system shall have different access passwords to ensure access is restricted to the relevant contractor when dialing in.

Warranty

The control equipment components shall be covered by a 3 year warranty period.

Auxiliary Information

For each plant channel option to display return air temperature, supply air temperature, coil temperature, outside air temperature and space humidity.