

SAMPLE ONLY iC8000 CONTROLLER WIRING PACKAGE

Passivent Issue No: ?? Checked by: ?? Date: ??/??/????

Customer: ABC
Project Name: ABC House
Project Number: 123
Total Number of Zones 8

The Controls Strategy table attached lists the room names (if known) and the Panel Module assigned to each room. It highlights the product being controlled in each room, the sensors to be used and if night cooling is enabled. The table also shows which wiring diagram sheet number should be referenced for each room during electrical installation.

The Wiring Diagrams attached are to be used on site during electrical installation, along with the Controls strategy table.

Please Report all errors.

To allow us to commence manufacture and ensure we have interrupted your controller requirements for this project correctly please sign the below. This is to confirm that the zone names, sensor types and the items shown being controlled are correct on all sheets of the following controls strategy table, schedule and wiring diagrams. It is also to confirm that you are happy with the layout of the rooms connected to each Panel Module.

Signature: _____

Print Name: _____

Company: _____

Date: _____

Controls Strategy Table

Panels

Panel Module No.	Zone No.	Room	Sensors	Control via Analogue output (max 2 No)				Control On/Off	Wiring Diagram SHEET No.
				Louvre Damper	24v Window Actuators (iWAC No.)	240v Window Actuators (iWAC No.)	0-10V output for 3 rd party Fans	Boost Sweep Fans or A/C	
1 (Master)	1	History 1	Avg Temp & CO2	Yes	No	No	No		1
	2	History 2	Avg Temp & CO2	Yes	No	No	No		1
	3	History 3	Avg Temp & CO2	Yes	No	No	No		1
2	1	Maths 1	Avg Temp & CO2	Yes	Yes (2 No.)	No	No		1
	2	Maths 2	Avg Temp & CO2	Yes	Yes (2 No.)	No	No		1
	3	English 1	Avg Temp & CO2	Yes	Yes (2 No.)	No	No		1
	4	English 2	Avg Temp & CO2	Yes	Yes (2 No.)	No	No		1
3	1	Sports Hall	Avg Temp & CO2 + Remote override	Yes	No	No	No	Fan	2

Notes:

Local Room Override type selected is Surface mounted for all rooms.

Night cooling enabled for natural ventilation products. Except for automatic windows which are disabled closed at night.

SAMPLE WIRING DRAWINGS BEFORE ORDER STAGE - NOT TO BE USED FOR WIRING ON SITE

WIRING NOTES

These notes are to be read in conjunction with the wiring diagram for the associated site.

- 1) All field wiring to be in twisted pair screened cable (see Cable Types below). Refer wiring diagram details for earthing the screen.
These cables are low voltage signal cables and must be segregated from mains or high voltage cables and electrical apparatus.
The cable should not be run adjacent to or within close proximity to ballast lighting or any main electrical apparatus that emits electrical RF noise.
Max cable length up to 100m (excluding Window Actuators), which must be confirmed by Electrical Consultant
- 2) All cables to be continuous in length with no joints / connections.
- 3) The local MS/IP BACnet network is connected via the RS485 sockets within the panels. This network must be only a daisy-chained configuration, consisting of a single cable routed between RS485 sockets. Star and Ring network topologies are not supported. Do not loop back the last slave to the master panel module on the BACnet network cable.
- 4) Connections to BMS systems require a MSTP/IP Router (for Native BACnet), supplied by others.
- 5) A 240V 5 amp switch spur to be supplied and fitted (by others) adjacent to all Panel Modules requiring a power supply.
- 6) It is recommended that a section of 50mm x 50mm trunking is used along the top of the controller enclosure to harness all the field cables.
- 7) The maximum Panel Module terminal connection size is 2.5mm².
- 8) The Heating override Interlock switch or relay is supplied by others.
- 9) The Fire Interlock switch is supplied by others.
- 10) The zonal field wiring to the louvre actuators is looped in at each location to the next damper. Please ensure polarity of supplies is maintained at all locations.
- 11) The location of the sensors and override units is to be agreed for each installation. Sensors should be mounted at approximately 1.5/1.7m above the finished floor level. Away from heat sources i.e. radiators, PC's and out of direct sunlight/ventilation draughts etc.
- 12) It is the installer's responsibility to ensure all wiring meets the prevailing electrical regulations.
- 13) The temperature thermistor can be located in the temp sensor, combined temp and CO2 sensor or the local room override, so links maybe required in the panel. These links are supplied as standard within the panel and the Passivent Commissioning Engineer will remove as necessary.
- 14) IWACs (window actuator controllers), Relays and Integrators require a Local switch fused spur (by others)

CABLE TYPES

From control panels to field items

- Room Sensors and Local Room Override(s)
6-core (3 twisted pair) screened cable, Typical size 0.33mm², Belden 8777.
- Ventilators / IWAC (Window Controllers) / Integrators
4-core (2 twisted pair) screened cable, Typical size 0.33mm², Belden 8723.
- Rain sensor (if applicable) -
4-core (2 twisted pair) screened cable, Typical size 0.33mm², Belden 8723.
- External temperature sensor / Heating Interlock / Fire alarm Interlock -
2-core (Single twisted pair) screened cable, Typical size 0.33mm², Belden 8761.
- Weather Station (if applicable) -
Recommend Belden 9841 cable (Single twisted pair + drain) for RS485 communications DIN mounted socket connection and a 2 core (1 twisted pair) screened cable for the power supply, Typical size 0.33mm², Belden 8761.

From IWAC to window actuators

- Window actuators
2-core cable, typical size cross sectional area 0.75mm² for 1 actuator and 1.5mm² for 2 (synchronised) actuators, up to a maximum of 40m cable length.
Window actuator cable size must be confirmed by Electrical Consultant.

Communications

- BACnet Network / BMS communications -
Recommend Belden 9841 cable (Single twisted pair + drain) or direct equivalent.
A RS485 communications DIN mounted socket is located within the panel module for connection.

DO NOT USE Bell wire, Cat 5, Single cables, T&E, MICC (Pyro) or SWA for sensors or actuators.

The above cables pairs have been recommended for standardisation. In some applications the pairs maybe reduced. Refer component wiring diagrams for details.

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PROJECT			
PROVISIONAL DRAWING			
DRAWING			
SAMPLE IC8000 CONTROL PANEL			
SCALE	NTS	DRAWN	WA
DATE	19.07.12	MOD.	
DRAWING No.	PVC????/WD		SHEET 0

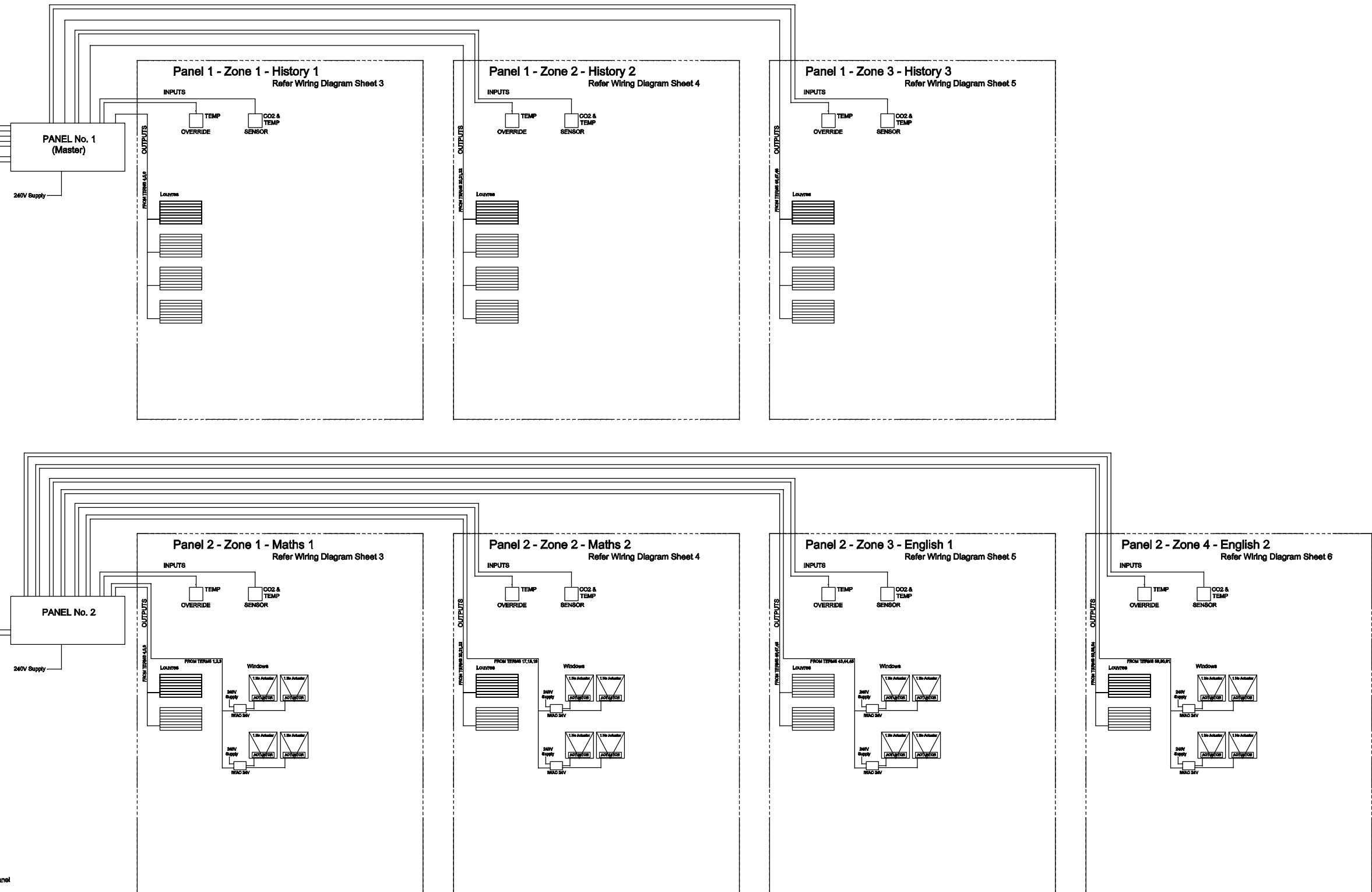
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COMMONS + NETWORK

Refer 'Commons' Wiring Sheet for detailed connections

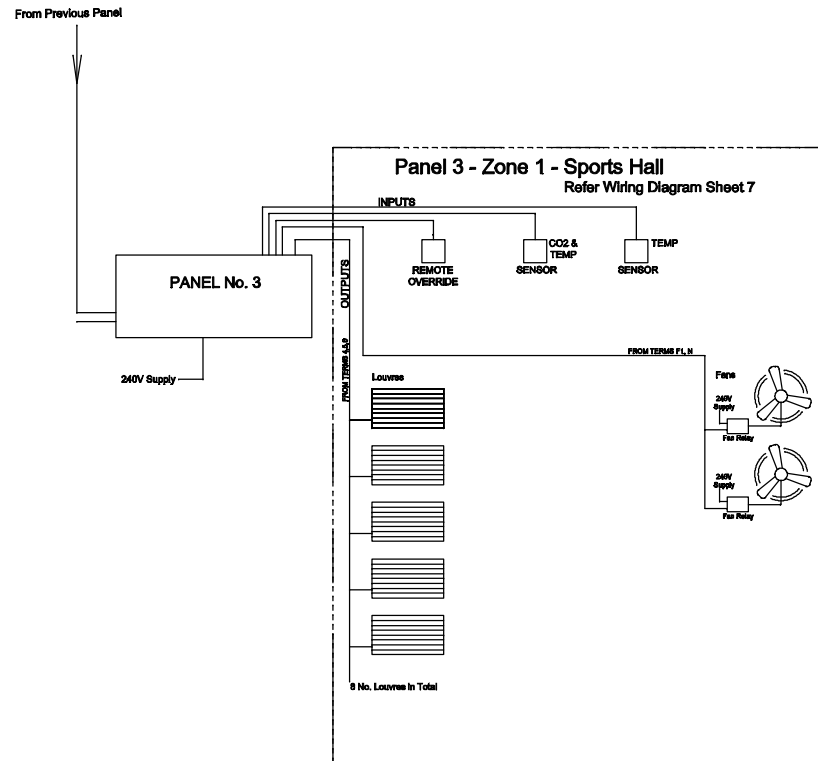
- Fire alarm Interlock
- Heating Interlock
- External Temp Sensor
- Rain Sensor OPTIONAL
- Weather Station OPTIONAL
- To BMS via BACnet OPTIONAL (MSTP/IP Router reqd by others)



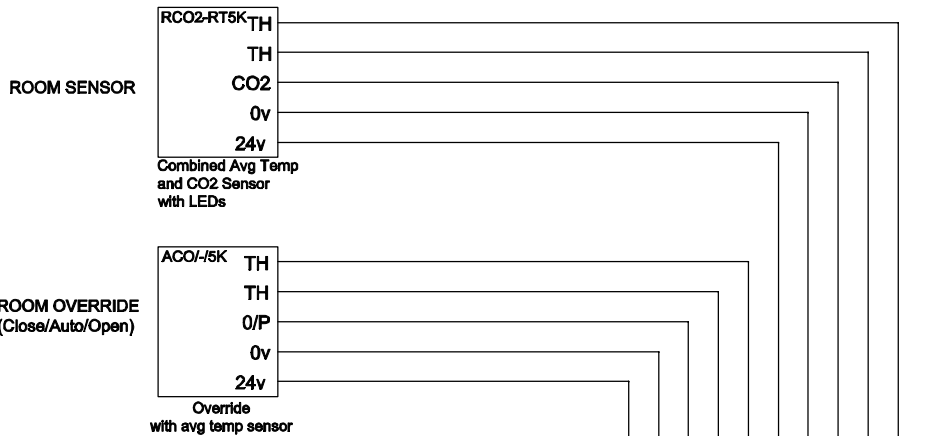
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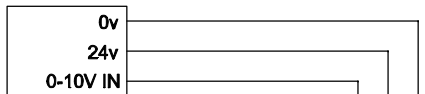
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DRAWING	SAMPLE IC8000 CONTROL PANEL		
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DRAWING No.	PVC?????/M0	SHEET	1



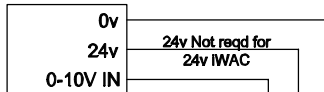
AVG TEMP & CO2



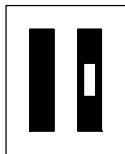
LOUVRE/S
(daisy chain as reqd within the same zone)



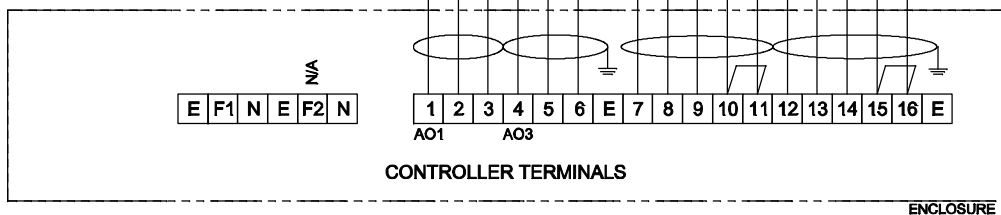
IWAC/s (Window Controller)
(daisy chain as reqd within the same zone)



Local Switched Spur 5amp



MAINS SUPPLY
240V AC 5amp



ZONE 1

NOTES:

All Field wiring twisted pair screened cable. Screen to be earthed at controller end only.

Panel Module Terminal colour guide
Grey = Signal wiring
White = 24VAC supply wiring
Blue = 0V Common supply wiring

Fan 1 for standard Passivent Boost Fan applications. Wire to single or multiple fan relays in a single zone.

Fan 2 not used in this application.

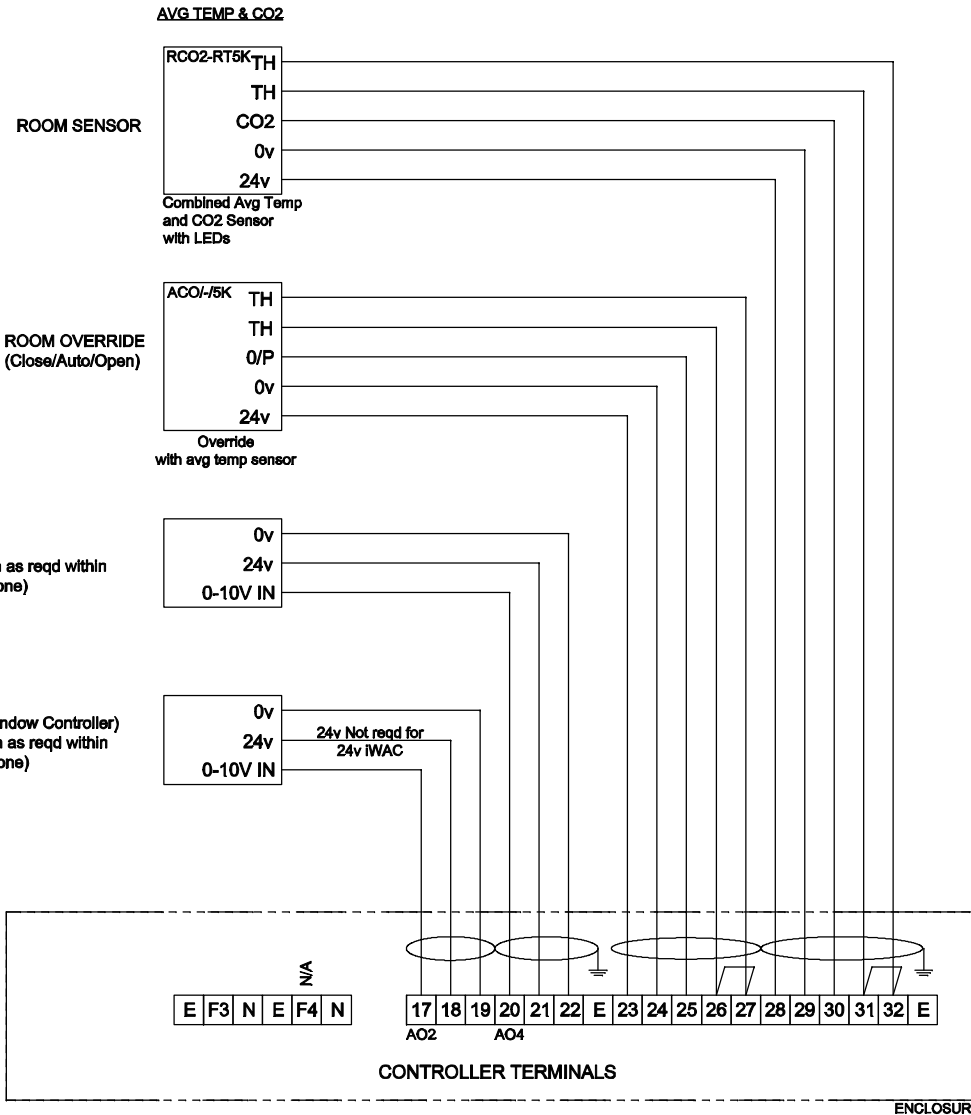
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DRAWING No.	PVC????/WD		SHEET 3



ZONE 2

NOTES:

All Field wiring twisted pair screened cable. Screen to be earthed at controller end only.

Panel Module Terminal colour guide
 Grey = Signal wiring
 White = 24VAC supply wiring
 Blue = 0V Common supply wiring

Fan 1 for standard Passivent Boost Fan applications. Wire to single or multiple fan relays in a single zone.

Fan 2 not used in this application.

Continued →

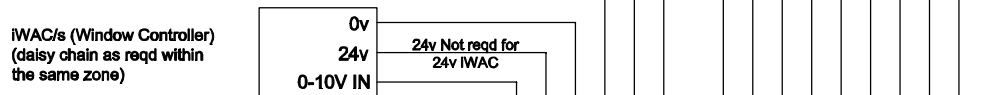
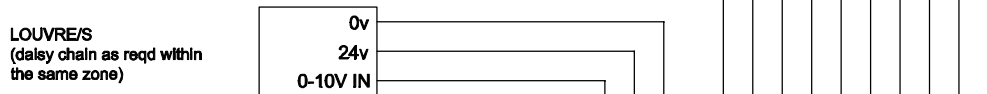
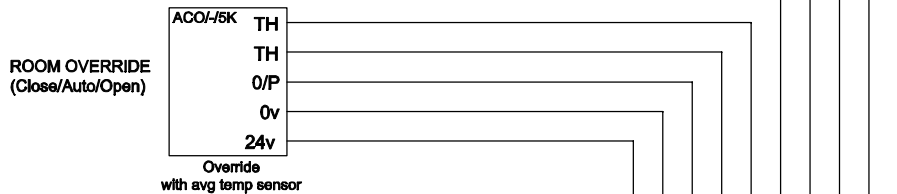
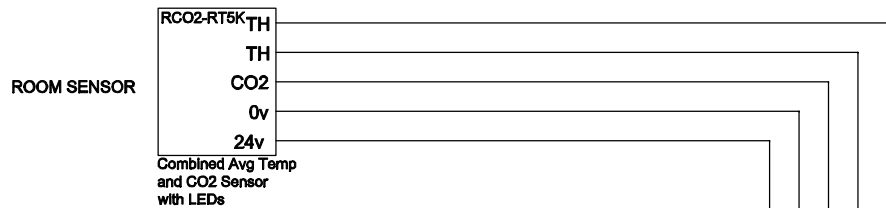
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DRAWING			
SAMPLE IC8000 CONTROL PANEL			
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DRAWING No.	PVC????/WD		SHEET 4

AVG TEMP & CO2



ZONE 3

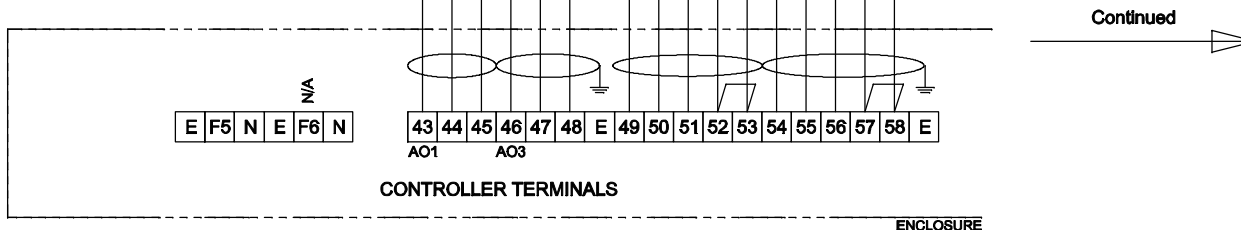
NOTES:

All Field wiring twisted pair screened cable. Screen to be earthed at controller end only.

Panel Module Terminal colour guide
 Grey = Signal wiring
 White = 24VAC supply wiring
 Blue = 0V Common supply wiring

Fan 1 for standard Passivent Boost Fan applications. Wire to single or multiple fan relays in a single zone.

Fan 2 not used in this application.

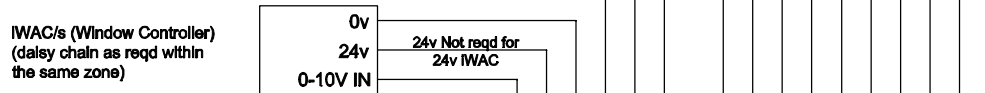
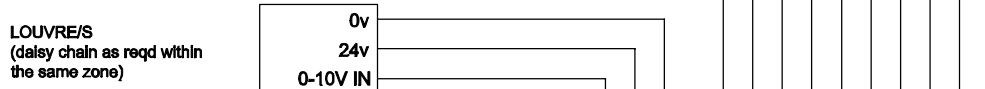
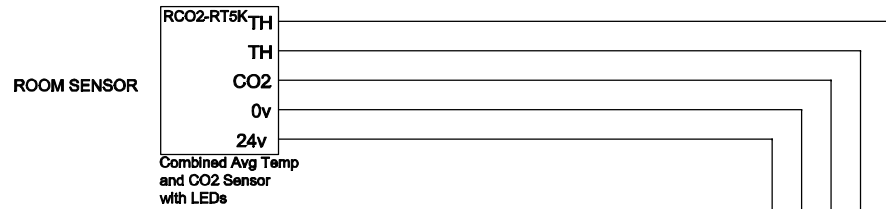


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DRAWING			
SAMPLE IC8000 CONTROL PANEL			
SCALE	NTS	DRAWN	WA
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DRAWING No. PVC????/WD		SHEET 5	

AVG TEMP & CO2



ZONE 4

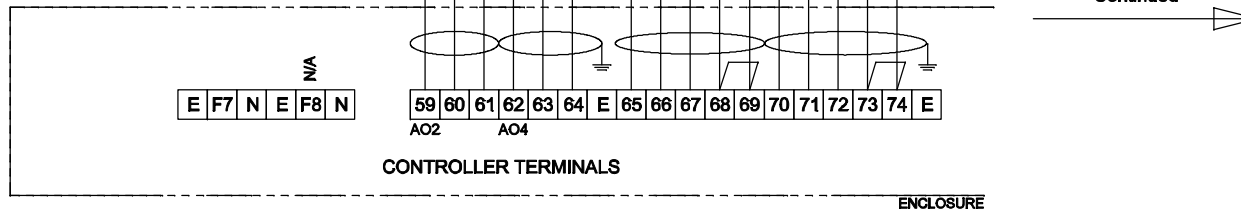
NOTES:

All Field wiring twisted pair screened cable. Screen to be earthed at controller end only.

Panel Module Terminal colour guide
 Grey = Signal wiring
 White = 24VAC supply wiring
 Blue = 0V Common supply wiring

Fan 1 for standard Passivent Boost Fan applications. Wire to single or multiple fan relays in a single zone.

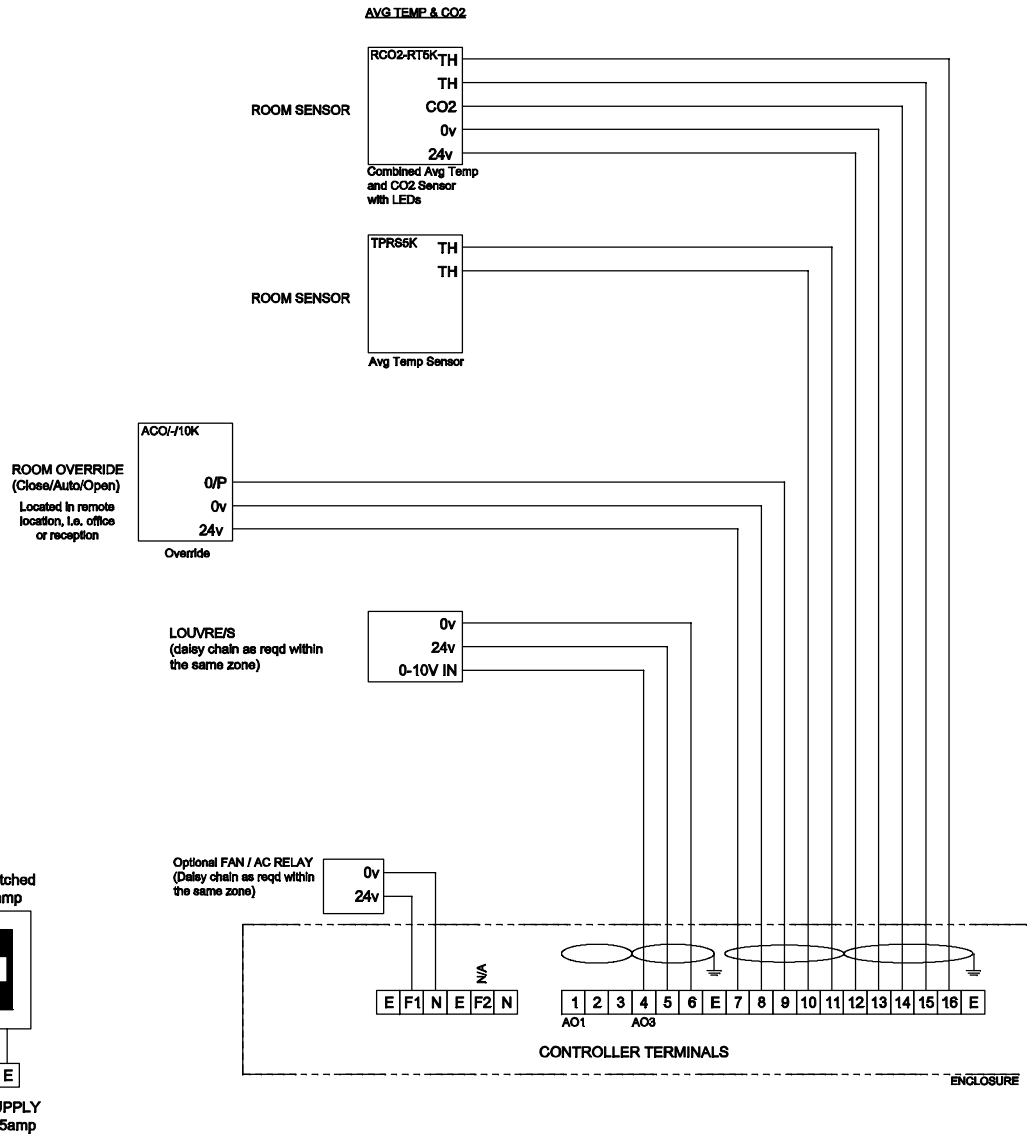
Fan 2 not used in this application.



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DATE	19.07.12	MOD.	
DRAWING No.	PVC????/WD		SHEET 6



ZONE 1 TYPICAL SPORTS HALL APPLICATION with the room override in a remote location

- NOTES:**
- All Field wiring twisted pair screened cable. Screen to be earthed at controller end only.
 - Panel Module Terminal colour guide
Grey = Signal wiring
White = 24VAC supply wiring
Blue = 0V Common supply wiring
 - Fan 1 for standard Passivent Boost Fan applications. Wire to single or multiple fan relays in a single zone.
 - Fan 2 not used in this application.

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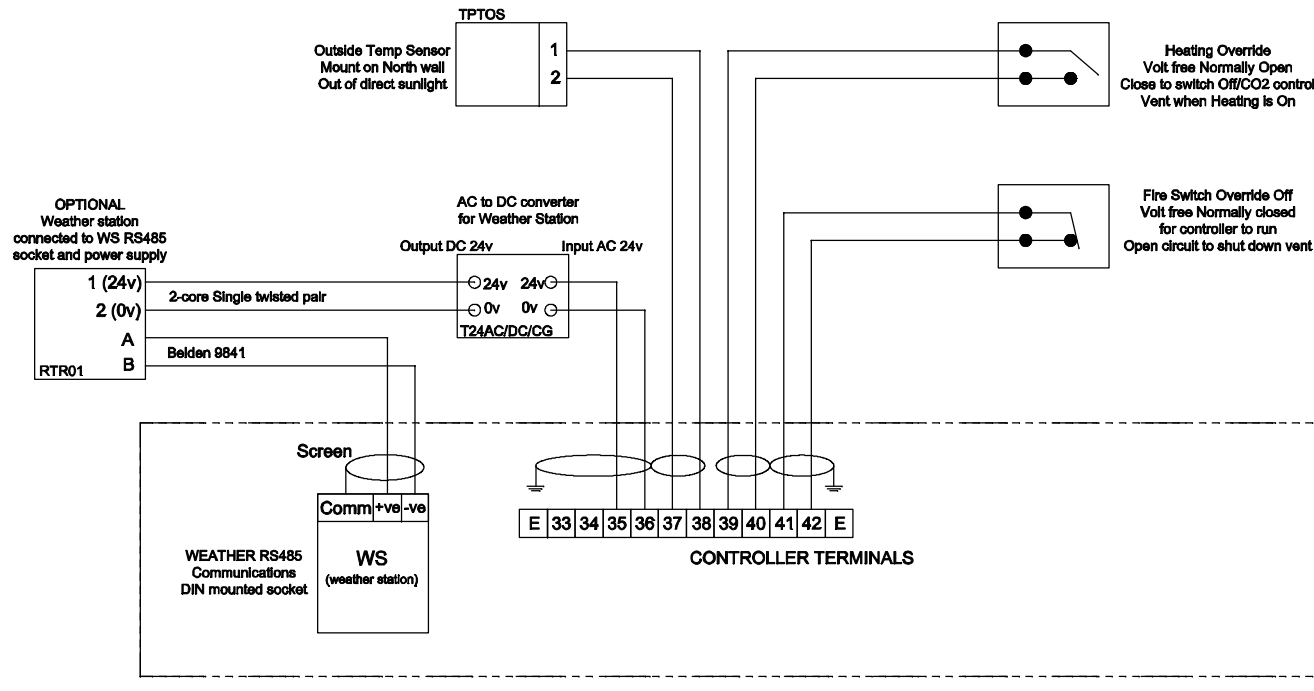
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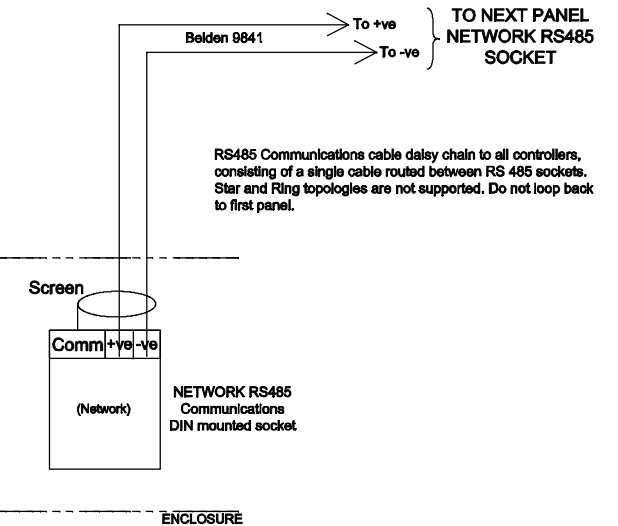
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COMMON INPUTS AND INTERLOCKS ON MASTER CONTROLLER 1 ONLY



NETWORK CONNECTION TO ALL PANEL MODULES



NOTES:

RS485 DIN sockets are connected using Belden 9841 cable (2 core + drain wire).
The Drain wire is connected to the Comm RS485 terminal for screening.

Panel Module Terminal colour guide
Grey = Signal wiring
White = 24VAC supply wiring
Blue = 0V Common supply wiring

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PROJECT PROVISIONAL DRAWING


DRAWING SAMPLE IC8000 CONTROL PANEL
COMMONS + OPTIONAL WEATHER STATION

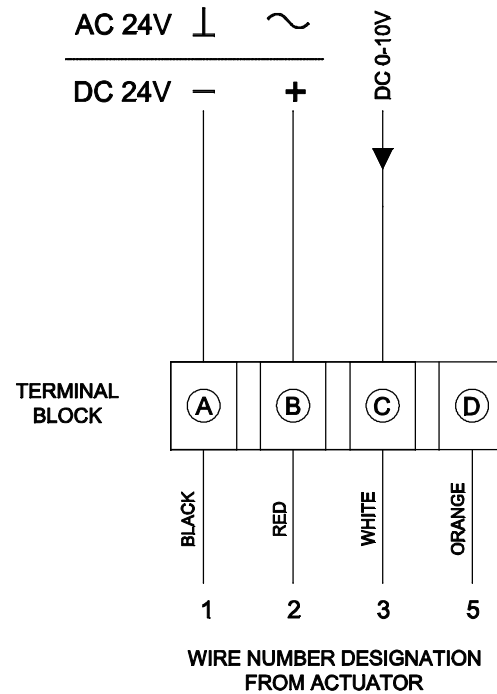
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DATE	19.07.12	MOD.	

DRAWING No. PVC????/WD

LOUVRE CONNECTIONS

(Actuators)

 Connect via safety isolating transformer



NOTES:

- Installation must be in accordance with BS7671-IEE Wiring Regulations (latest revision).

- The DC 0 -10V signal into terminal C is to be derived from the controller.

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PROJECT
PROVISIONAL DRAWING

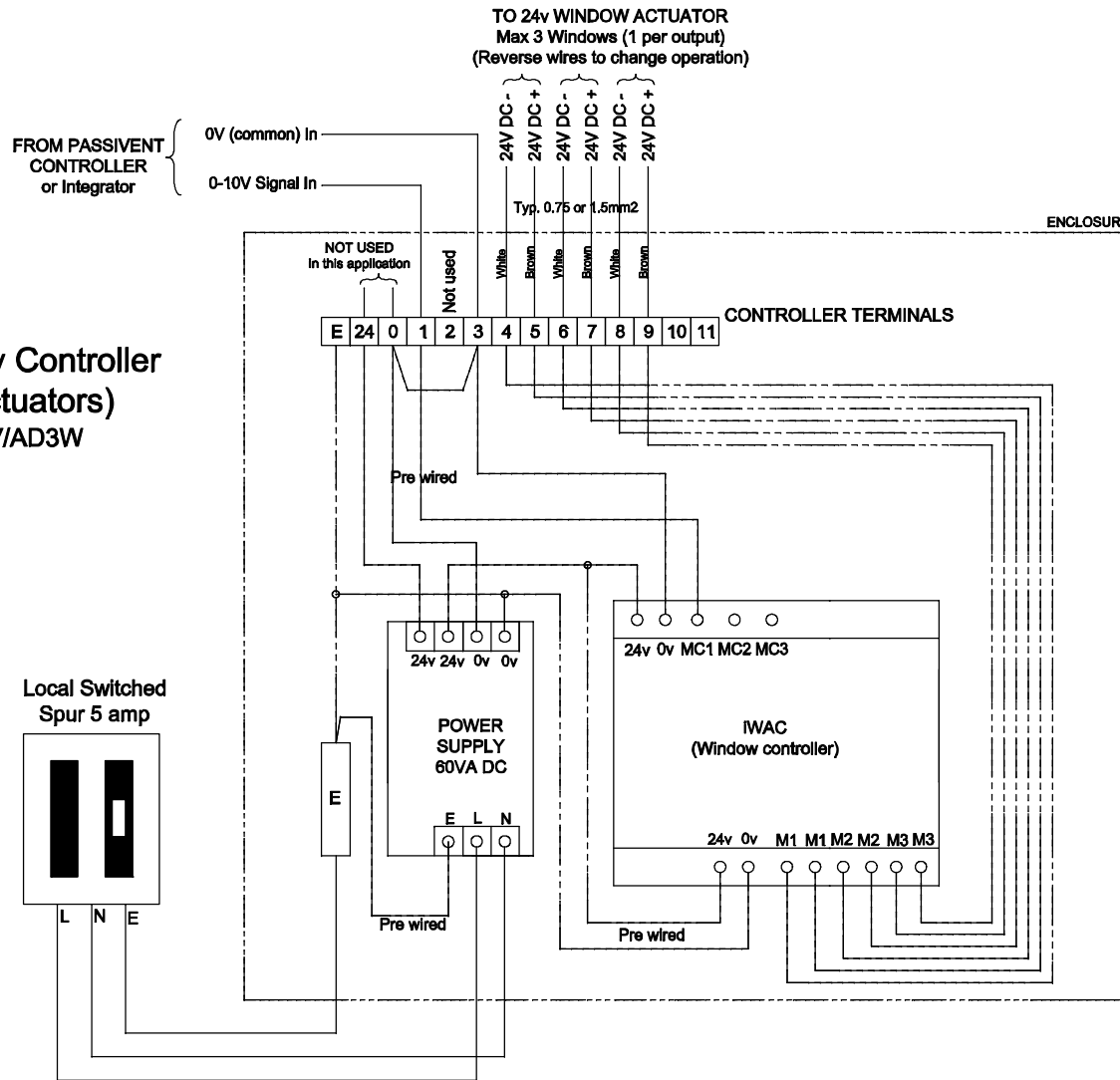
DRAWING
SAMPLE IC8000 CONTROL PANEL
LOUVRE CONNECTIONS

SCALE	NTS	DRAWN	WA
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DATE	19.07.12	MOD.	
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DRAWING No. PVC????/WD

**Optional iWAC 24v Controller
(24v window actuators)
Product Code: PVI/AD3W**



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PROJECT PROVISIONAL DRAWING

DRAWING SAMPLE IC8000 CONTROL PANEL
iWAC 24V CONTROLLER

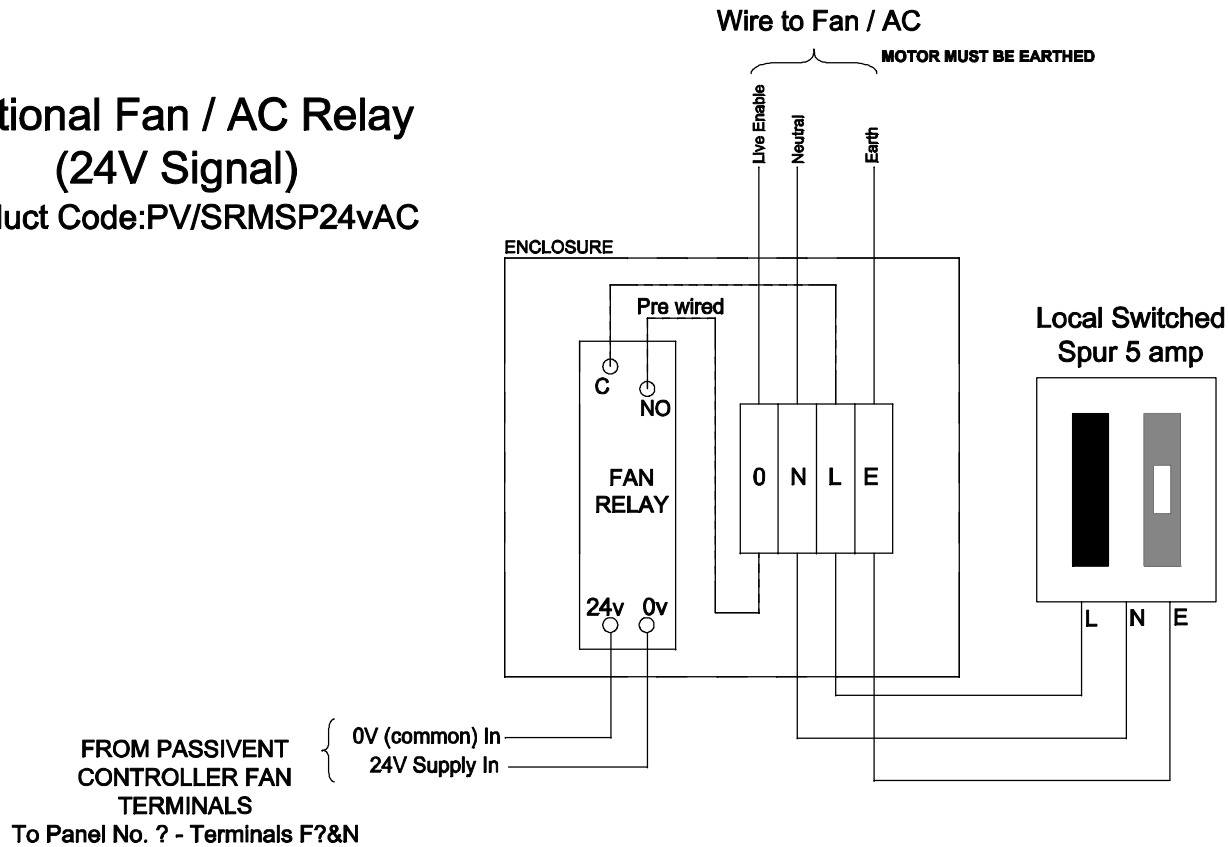
SCALE NTS DRAWN WA

DATE 19.07.12 MOD.

DRAWING No. PVC????/WD

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**Optional Fan / AC Relay
(24V Signal)**
Product Code:PV/SRMSP24vAC



NOTES:

Fuse rating maybe different for AC applications, check AC details.
All Field wiring in Belden screened cable 1.0mm2.
Screen to be earther at controller end only.

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PROJECT			
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DRAWING			
SAMPLE IC8000 CONTROL PANEL			
FAN / A.C. ACTIVATION RELAY			
SCALE	NTS	DRAWN	WA
DATE	19.07.12	MOD.	
DRAWING No. PVC????/WD			

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