

Honeywell

GENT



Data and Installation

Vigilon Plus Network Node (VIGPLUS-NODE)



Contents

Preface 2

Associated Documents 2

Conventions 2

Vigilon Plus Network node 3

Features 3

Technical data 4

Power supply 6

Notes 7

Installation 7

Second fix 7

Fixture and fittings 7

As fitted drawings 7

Cable type and routing 7

Earth continuity 8

Power supply 8

Mains supply 8

Cables 9

Requirements of cables 9

Mains Supply cable 9

Network cables 9

Enhanced Network cables 9

Standard Network cables 9

Network of systems 11

Network node installation 12

Mounting & cable entry points 13

Semi-Flush fixing 14

19 inch Rack mounting frames 14

Cable termination on enclosure 15

Wiring tests 15

Mains & battery supply cables 15

Mains supply 16

Terminals for external circuits 17

Master alarm circuits 18

Clean contacts 18

Auxiliary relay circuits 19

RS232 / RS485 Communication 20

Connecting a Remote printer 21

Network connections 22

Copper network connections 22

Network wiring 22

Fibre network connections 23

Network cable screen continuity 23

How to minimise cross talk 23

Domain Bridge across Networks 24

Methods of domain bridging 24

Star connection 24

Fibre Optic Domain bridge using FO Network DOM card 25

RS232 Domain bridge using Domain IO card 25

Domain bridge using NPORT module 26

Modem Domain bridge 27

On completion of wiring installation 27

Vigilon Plus Network Node parts 28

Network Node 28

Spares 28

Cards 28

Accessories 28

Domain Bridge products 28

Printer 28

Preface

This is the first issue of the Installation instructions for the Vigilon Plus Network Node.

These instructions must be read in conjunction with BS 5839 : Part 1, which is the Code of Practice for design, installation, commissioning and maintenance of systems in non-domestic premises.

Associated Documents

Vigilon Plus panel based system - Installation instructions

Conventions



This is a note to highlight important text that is normally hidden in the main text.



This is either a caution to prevent damage to the equipment or a warning to inform of dangerous conditions that may result in injury or death.

Vigilon Plus Network node



The Vigilant Plus Network Node (VIGPLUS-NODE) is also referred to as Terminal node, which can accommodate additional cards in place of loop cards, such as network cards to connect two networks together and IO cards to connect to a remote printer and central system. The Node houses its own power supply with batteries that provide standby power in the event of mains supply failure. Two push button controls are located on the front door which are below the display to enable Fire messages to be scrolled in the event of multiple fires. The Node is designed for surface or semi flush mounting, with rear and top cable entry points.

Features

- Node has slots for optional cards, such as the Network card and IO Cards
 - Two master alarm circuits
 - Optional RS485 to connect to a Repeat Indicator panel
 - Optional RS232 for connecting to a Vigilant Plus control panel over domain bridge or to an external printer
 - USB for connecting a commissioning tool
 - SD card for configuration and events log.
 - Two sets of auxiliary relay change over contacts configurable to operate with fire, fault or disablement event
- One set of clean voltage-free change over contacts that operates with fire events
 - Standby supply to power the system during mains failure
 - LCD alphanumeric display with back light to show event information
 - LED lights for event indication
 - Fire Alarm Routing Active and Fault/Disable LED indications
 - Local buzzer gives audible sound to announce events
 - Push buttons for essential controls and menu selection
 - Four programmable control buttons (U1 to U4)

Symbols on product



DANGER

Electric shock hazard.



Protective Earth connection terminal.



The WEEE symbol. It indicates the product is to be recycled and not thrown away.



The CE compliance logo. This product is in conformity with the relevant European Union harmonisation legislation.



The RoHS compliance logo. The RoHS directive restricts the use of certain hazardous substances commonly used in electrical and electronic equipment.

Technical data

<i>Network Node dimensions in mm with outer door fitted</i>	<i>height 543 x width 406 x depth 172</i>
<i>Panel weight</i>	<i>10.2Kg approximately + 2 batteries 12V 21Ah battery - weight 6Kg each</i>
<i>Storage temperature</i>	<i>-10°C to +55°C</i>
<i>Operating temperature</i>	<i>-5°C to +40°C</i>
<i>Relative Humidity</i>	<i>up to 90% (Non condensing) Temperature +5°C to +40°C</i>
<i>Emission</i>	<i>BS EN 6100-6-3 : 2001 Residential, Commercial & Light Industry Class B limits</i>
<i>Immunity</i>	<i>BS EN50130-4 : 1996 Alarm systems: Electromagnetic compatibility Product family standard: Immunity requirements for components of fire, intruder and social alarm systems</i>
<i>Ingress Protection</i>	<i>IP30</i>
<i>Colour</i>	<i>Door: HONEYWELL GREY 90 PMS BLACK C Backbox: HONEYWELL GREY 90 PMS BLACK C</i>
<i>Cards</i>	<i>The panel is supplied with a Copper Network card. It can support up to 4 optional I/O cards in loop card slots.</i>
<i>Network</i>	<i>Two types of optional network cards are available for secure network connection: Fibre Optics - 2Km maximum Copper (RS485) - 1.2Km maximum (supplied)</i>
<i>RS232 and RS485 connections</i>	<i>The node is supplied with an IO Card to facilitate an RS232 port for domain bridge and remote printer connection. The maximum cable length allowed for RS232 is 15m. The node also has an RS485 port to accept the Repeat Indicator panels. The Commissioning tool can be connected to the node via the USB port on the Master Control Card.</i>
<i>Plug in Card slots</i>	
<i>MCC / LCC -P1</i>	<i>Master Control card - supplied</i>
<i>IOC / N/W -P2</i>	<i>Input Output card / Network card</i>
<i>Loop 1 - P3</i>	<i>Input Output card</i>
<i>Loop 2 - P4</i>	<i>Input Output card</i>
<i>Loop 3 - P5</i>	<i>Input Output card</i>
<i>Loop 4 - P6</i>	<i>Input Output card</i>
<i>N/W or IOC -P7</i>	<i>Fibre Network or RS232</i>
<i>N/W or IOC -P8</i>	<i>Network (Copper) or RS232</i>
<i>Clean contacts</i>	<i>1 set of voltage free change over contacts rated 1A @ 24Vdc, active with master alarms</i>
<i>Master alarm circuits voltage and current, protection fuses</i>	<i>2 - (24 volts nominal) 400 mA max per circuit MA1 - fuse 1A FS1 MA2 - fuse 1A FS2 (20 x 5mm) on located on the Terminal card.</i>

<p><i>Auxiliary relays</i></p> <p><i>Aux relay 1</i></p> <p><i>Aux relay 2</i></p>	<p><i>Voltage-free contacts rated 1A @ 24Vdc,</i> <i>2 sets of change over contacts configured to operate immediately on a Fire event. The relay is normally de-energised</i></p> <p><i>2 set of change over contacts configured to operate immediately on a Fault event. The relay is normally energised</i></p> <p><i>The relays can be re-configured to operate with Fire, Fault or Disablement event, with a maximum delay of up to 10 minutes and can operate in a normally energised or de-energised state.</i></p>
<p><i>Display</i></p>	<p><i>Display - 8 lines by 40 character per line, back-lit, (Black characters on green background, liquid crystal display)</i></p>
<p><i>Internal buzzer</i></p>	<p><i>Announces Fire & Fault events, plus give key-press confirmation beep.</i></p>
<p><i>Indicators</i></p>	<p><i>Fire (red), Verify (amber), FARE Active (red), FARE Fault/Dis (amber), Power (green), Fault (amber), Disablement (amber), System fault (amber), Power fault (amber), Sounder (amber), Test (amber) and Delay (amber)</i></p>
<p><i>Controls (with door closed) Access level 1</i></p>	<p><i>Next and Previous buttons operable during Fire condition only</i></p>
<p><i>Controls (with door open) Access level 2a</i></p>	<p><i>Sound Alarms, Silence Alarms, Reset, Cancel Buzzer, Verify, F1-F4 keys, Menu On/Off key, QWERTY key board, U1-U4 keys available if configured to perform site specific actions by triggering of command builds 251, 252, 253 and 254.</i></p>
<p><i>Access level 2b</i></p>	<p><i>Customer (Customer PIN)</i> <i>Access as level 2a plus access to complete level 2 menu commands.</i></p>
<p><i>Access level 3</i></p>	<p><i>Engineering (Engineers PIN)</i> <i>Access as level 2b plus access to all level 3 menu commands.</i></p>
<p><i>Menus</i></p>	<p><i>[Control], [Setup], [Information] and [Test Engineering] menus.</i></p>
<p><i>Logs</i></p>	<p>Active Logs: <i>Fire, Fault and Disablement</i> Historic log: <i>All events</i> Event logs: <i>Fault, Disablement, Warning, Supervisory, Exceptions and Historic fires. (up to 255 events)</i> Fire Log <i>(up to 100 events)</i></p>
<p><i>Printer</i></p>	<p><i>The integral printer operates when the outer door is open. The 'printer menu' include: ON, OFF, Line feed and Test print controls. An optional remote printer can be connected to the panel.</i></p>



Always use the recommended replacement batteries, as there is a risk of an explosion if incorrect battery is used. Dispose of used batteries according to the manufacturer's instructions and local regulations.

Power supply

<i>Mains supply voltage and fuses</i>	230V -15% +10% 50Hz/60Hz protected by: FS3 T3.15AH250V Ceramic (20 x 5 mm) located on PSU board, Input current - 1.4A
<i>Nominal supply voltage for master alarm circuits</i>	24V +1V, -4V
<i>Battery circuit</i>	Terminals to connect to internally housed batteries. Batteries reach fully charged state in 72Hr.
<i>Battery</i>	Batteries installed in the panel 2 x Powersonic 12V 21Ahr - (supplied) Model number PG12V21 B
<i>Battery current with mains disconnected</i>	6.2A max.
<i>Light indications</i>	To show the status of PSU
<i>PSU Fuses</i> Mains 44V supply Battery charge circuit	FS6 T3.15A Ceramic FS2 F3.15A Glass FS7 F6.3A Ceramic Quick Blow All fuses 20mm x 5mm size
<i>Storage temperature</i>	-10°C to +55°C
<i>Operating temperature</i>	-5°C to +40°C
<i>Relative Humidity</i>	up to 90% (Non condensing) Temperature +5°C to +45°C
<i>Indicators</i>	LD1 - LD5 indicate RAM, ROM and EPROM status, error, checksum and communication
<i>Battery Charging current</i>	2.4A nominal



After power-down hazardous voltages may still be present even when the indicators are extinguished.

Notes

The power-up of the Network Node and commissioning of the system is done by the Servicing organisation.

Installation

It is recommended that the installer follow the general requirements of *BS 5839 : Part 1 : 2013, which is the code of practice relating to fire detection and alarm systems for buildings*. The installer must follow the relevant parts of *BS 7671 : 2008 Requirements for Electrical Installations, IEE wiring regulations 17th edition* if installation is in the United Kingdom.

Second fix

To prevent the possibility of damage or dirt degrading the performance or appearance of the products, the installation of second fix items should be delayed until all major building work in the area is complete.



The installation of all outstanding parts and the panel power up is usually carried out during system commissioning.

Fixture and fittings

It is the installers responsibility to provide adequate fixtures and fittings for the type of construction surface onto which a product is to be installed, whilst utilising the fixing points on the respective product. As an aid to this decision, the weight and overall size of each full assembly together with implications on cable entries and routing should be taken into consideration.



All these procedures assume that the cable, gland, steel box (BESA box) and other related accessories are provided by the installer.

As fitted drawings

The installer should acquire site specific information from the interested parties, for details on the location of products for installation. The acquired information together with this guide and the relevant standards should be used to assist the work. Each product assembly can be identified from its package label. The contents of all packages should be checked for any discrepancies.

Cable type and routing

Appropriate attention must be given to ensure the correct cable type is installed in accordance with 'as fitted drawings', site specific information and recommendations of *BS 5839 Part 1 : 2013*. The cables must be installed using cable manufacturers recommended fixing and accessories.

Earth continuity

All earth connection points should be clean to provide a good electrical conductivity path. To maintain the earth continuity: all earth leads and fittings provided should be installed. The loop cable screen must be continued through each system device on the loop circuit, whether the earth is connected to the device or not.



Do not use any part of building structure for earthing.

Some of the system products having metal enclosures have a zinc coating around the cable termination points, the coating provides a good electrical conductivity path for cable earth termination. The zinc coating on metal enclosures should not be damaged. Any damage will expose bare metal, which can corrode and make a poor earth connection.

Power supply

The power to the system is derived from the mains and battery supplies. Before removal of a card or disconnection of cable from the panel ensure both mains and battery supplies are disconnected.

Mains supply

Mains supply to any fire alarm control and indicating equipment must be via an unswitched 5A fused spur unit. A disconnect device must be provided to disconnect both poles and must have a minimum gap of 3mm. The disconnect device should be available as part of the building installation and must be easily accessible after installation is complete.



All mains powered equipment must be earthed.

Cables

Requirements of cables

The British Standard BS 5839 Part 1 : 2013 Code of practice for system design, installation, commissioning and maintenance states the requirements for standard and fire resisting cables in Clause 26.2 section d & e. "d) Standard fire resisting cables should meet PH 30 classification when tested in accordance with EN50200 and maintain circuit integrity if exposed to the following test:
- a sample of the cable is simultaneously exposed to flame at a temperature of 830°C - 0+40°C and mechanical shock for 15min, followed by simultaneous exposure to water spray and mechanical shock for a further 15min.

e) Enhanced fire resisting cables should meet the PH120 classification when tested in accordance with EN 50200 and maintain circuit integrity if exposed to the following test:

- a single sample of the cable is simultaneously exposed to flame at a temperature of 930°C - 0+40°C and mechanical shock for a period of 60min, followed by simultaneous exposure to water spray and mechanical shock for a further 60min."

The cables listed in this manual are those that have been tested/assessed for EMC compliance with the system products.

Mains Supply cable

The mains supply cable must be a standard fire resisting type and should meet PH30 classification, such as standard or enhanced cable.

Cables no longer available

- ☒ **A cross bullet point mark show a cable that may no longer be commercially available. Such a cable if already installed in a building may be suitable for reuse where a site is being refurbished, consult with your electrical installer.**

Network cables

Enhanced Network cables

Approved cables for network wiring (EMC Compliant)

- ☐ **Draka Firetuf FT120 Enhanced FTPLUS3EH1.5**
(Previously Firetuf FT Plus)
1.2Km maximum Panel to Panel or Panel to Network node cable distance
 - 3 Cores, each having 1.5mm² cross section area
- ☒ **Fireshield Enhanced FSN G2000**
1.2Km maximum Panel to Panel or Panel to Network node cable distance
 - 3 Cores (1 pair + 1) and earth
 - each core having 1mm² cross section area
- ☐ **Mineral insulated copper cable**
800m maximum Panel to Panel or Panel to Network node cable distance.
 - BS6207: Part 1
 - 3 parallel cores
 - having continuous metal sheath encapsulating
 - each core having 1.5mm² cross section area
 - a red cover sheath (preferred for alarm applications)
- ☐ **Prysmian (formally Pirelli) FP Plus***
1.2Km maximum Panel to Panel or Panel to Network node cable distance
 - 3 Cores each having 1.5mm² cross section area

Standard Network cables

Approved cables for network wiring (EMC Compliant)

- ☐ **Belden Armoured equivalent**
This cable being a two pair cable to BS5308:Part 1 (type 2) 0.5mm² (16/0.2mm).
600m maximum Panel to Panel or Panel to Network node cable distance.

- ❑ **Belden No 9729** (UL Style 2493)
 1.2Km maximum Panel to Panel or Panel to Network node cable distance

 - 2 twisted pairs
 - Each pair individually screened 24AWG (7 strands x 32 AWG)
 - Capacitance between conductors 39.4pF/m at 1kHz
 - Capacitance conductor to screen 72.2pF/m at 1kHz
 - Temperature range -30°C to +60°C

- ❑ **Belden No. 9842** EIA RS485 Applications, O/A Beldfoil® Braid
 1.2Km maximum Panel to Panel or Panel to Network node cable distance
 Must have following characteristics:

 - 2 twisted pairs
 - 24AWG (7 strands x 32 AWG) conductors
 - Characteristic impedance - 120ohms
 - Capacitance between conductors - 42pF/m at 1kHz
 - Capacitance conductor to screen - 75.5pF/m at 1kHz

- ❑ **Belden TR No. 89729**
 (Teflon jacketed)
 1.2Km maximum Panel to Panel or Panel to Network node cable distance

 - 2 twisted pairs
 - Each pair individually screened 24AWG (7 strands x 32 AWG)
 - Capacitance between conductors 39.4pF/m at 1kHz
 - Capacitance - conductor to screen 72.2pF/m at 1kHz
 - Temperature range up to 200°C

- ☒ **Datwyler PYROFIL 8750-U/R***
 1.2Km maximum Panel to Panel or Panel to Network node cable distance

 - 4 cores
 - each core having 1.5mm² cross section area

- ☒ **Delta Crompton Firetuf FDZ1000***
 1.2Km maximum Panel to Panel or Panel to Network node cable distance

 - 3 cores

- ❑ **Doncaster Cables Firesure Plus***
 1.2Km maximum Panel to Panel or Panel to Network node cable distance

 - 4 Cores (2- pair plus earth)
 - each core having 1.5mm² csa

- ❑ **Huber & Schner Radox series FR** communication cable*
 1.2Km maximum Panel to Panel or Panel to Network node cable distance

 - 3 cores twisted triad screened
 - 1.5mm² (7/0.42 stranded) conductors
 - Nominal impedance 200 ohms (1KHz)
 - Capacitance - conductors 110pF/m (1KHz)
 - Capacitance - screen to core 210pF/m (1KHz)
 - Fire resistance tested to BS6387 category CWZ and IEC 331.

- ❑ **Prysmian (formally Pirelli) FP200 Flex***
 800m maximum Panel to Panel or Panel to Network node cable distance

 - 3 Cores, each having 1.5mm² cross section area

- ❑ **Prysmian (formally Pirelli) FP200 Gold***
 1.2Km maximum Panel to Panel or Panel to Network node cable distance

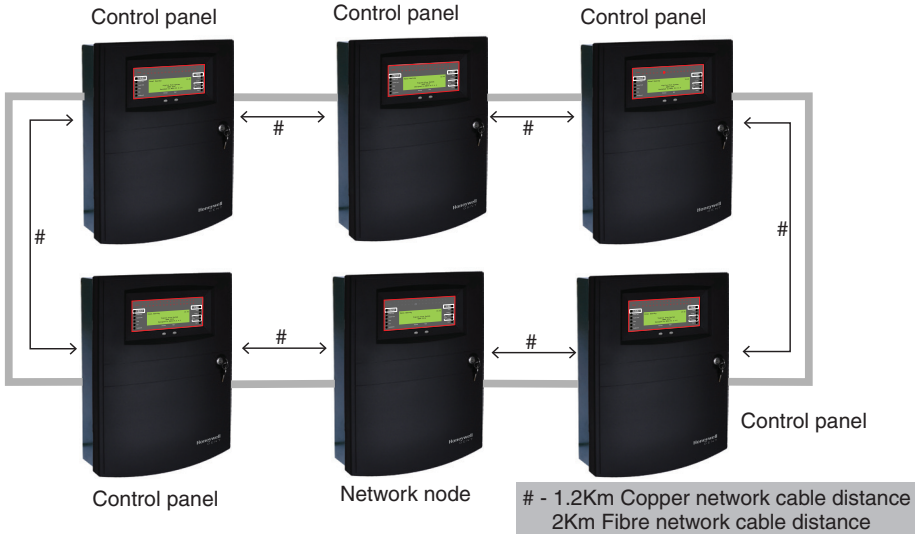
 - 3 Cores
 - each core having 1.5mm² cross section area

- ❑ **Prysmian (formally Pirelli) FP 400 Armoured**
 800m maximum Panel to Panel or Panel to Network node cable distance

 - 4 Cores, each stranded 1.5mm² cross section area

Network of systems

It is possible to network together up to 31 EN54 Vigilon Plus panels, Vigilon Compact Plus Control panels and Vigilon Plus Network Nodes, each fitted with a network card for network connections using an approved network cable. The cable distance between panels and nodes can be up to 1.2Km maximum. Up to 2km maximum is possible when fibre network cards are fitted in the panels and nodes. A Network node is a central point for information about the networked system.

















Network node installation

A Network node include the following parts:

- Back box assembly with PSU
- Inner door
- Moulded outer door
- Main Controller Card (Node)
- Network card (Copper)
- Domain bridge IO Card
- 2x12V 21Ah batteries

Parts supplied in spares packs:

<i>Part</i>	<i>Qty</i>
 <i>Cable tie</i>	3
 <i>Ferrite core</i>	1
 <i>22K 0.5W Resistor</i>	2
 <i>Battery lead</i>	1
 <i>Spade tag</i>	2
 <i>Link lead</i>	1
 <i>Battery lead fused</i>	
 <i>Instructions</i>	1
 <i>20 x 5mm Fuse 5A QB Ceramic</i>	1
 <i>20 x 5mm Fuse 3.15A AS Ceramic</i>	1
 <i>20 x 5mm Fuse 3.15A AS Glass</i>	1
 <i>20 x 5mm Fuse 1A QB Glass</i>	1
 <i>Terminal block</i>	
 <i>Adhesive backed foam pad</i>	1

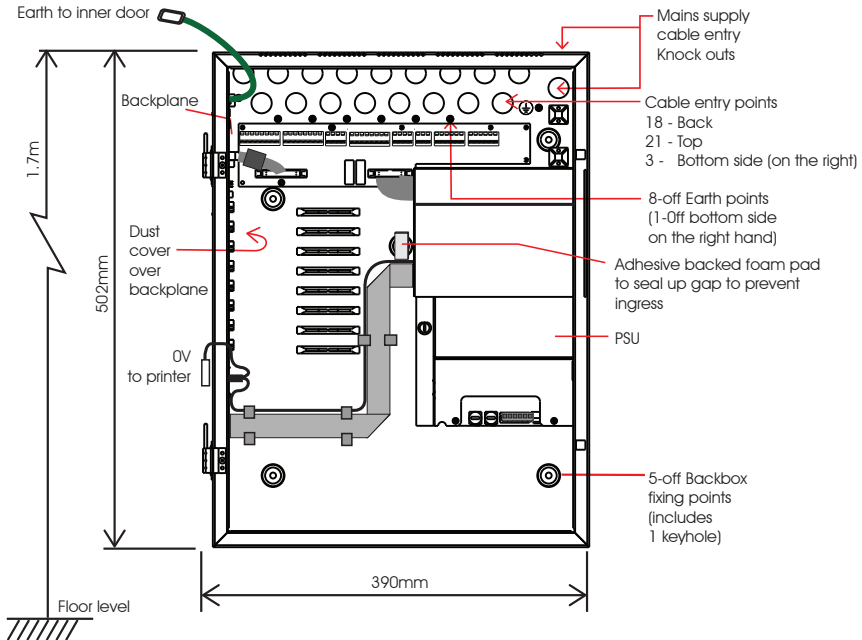
Each battery pair of 2 x 12V 21Ah is supplied with:

-  4 x bolts
  4 x washers
  4 x spring washers

Mounting & cable entry points

These instructions cover the installation of Network Node, which can be surface or flush mounted. The cards and batteries are installed during the commissioning of the system by the servicing organisation.

Any unused knockouts that have been removed must not be left open.



- Identify the package VIGPLUS-NODE and check that it contains all the parts.
- Remove the temporary cover from the Back box.
- Knock out/in the required cable entry points from the Back box.
- Use the fixing points provided to mount the Back box to the flat wall using suitable fixings.
- Stick the adhesive backed foam pad supplied to cover gaps around the centre key-hole fixing point in the back box. This is done to seal any gaps to prevent ingress.
- Terminate each cable at the entry point leaving 400mm tail wire length and mark each core to identify its final connecting point.



The fixings must support a fully assembled Network Node with batteries weighing 22.2Kg.

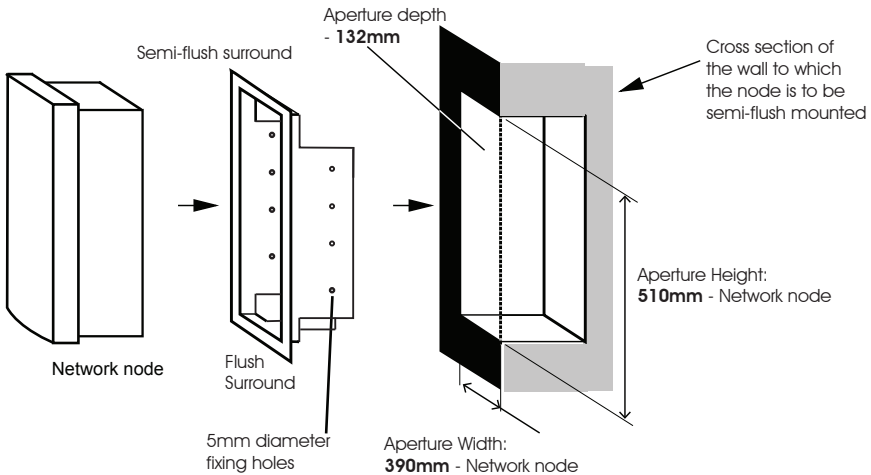


Where mains cable is to remain disconnected, its tail ends must be insulated to prevent dangerous conditions arising in the event of accidental switching On of the mains supply.

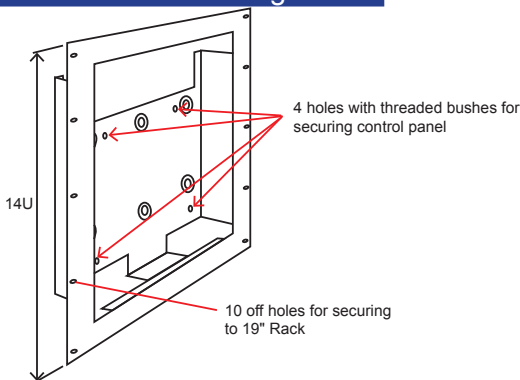
Semi-Flush fixing

The Network Node may be semi-flush mounted using a semi-flush surround (VIG-24-FLUSH). A stainless steel variant of the semi-flush surround (VIG-FLUSH-SS) will require a stainless steel door (VIG_DOOR_SS).

- a. Check the contents of the semi-flush surround package.
- b. Cut out an aperture in the wall to allow the semi-flush surround to be fitted, see the diagram below for dimensions of the aperture in the wall.
- c. Using the fixing holes on the surround secure it into the aperture side walls.
- d. Knock out the appropriate top or rear cable points on the control panel back box.
- e. Route the cables through the cable entry points into the back box and at the same time insert the back box into the semi-flush surround.
- f. Fit the back box to the semi-flush surround using the 5 - 5mm fixing-screws supplied in the spares pack.

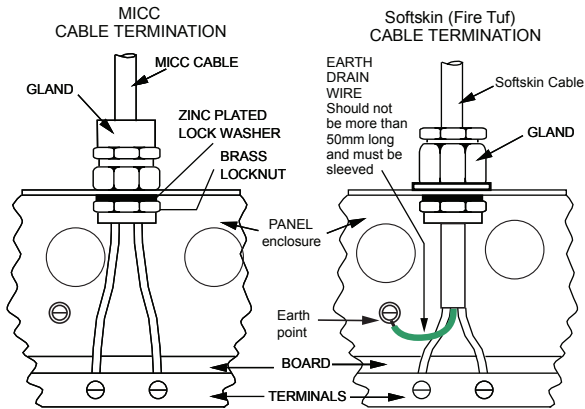


19 inch Rack mounting frames



This diagram shows the rack mounting frame for the Network node, which can be mounted onto a 19inch Rack.

Cable termination on enclosure



The wire length between the cable termination and point of connection must be as short as possible. Cable earth drain wire, where applicable, must be connected to the nearest earth point.

Terminate each cable at the dedicated entry point on the enclosure, using the cable manufacturers recommended techniques.

Where cables are not required to be connected to terminals then leave **400mm** tail wire length (unless otherwise specified) and mark each **core** identifying its final point of connection. Where the cable is required to be connected, ensure it is secured to the respective terminal.

Wiring tests



Don't undertake high voltage insulation tests WITH THE CABLES CONNECTED to the panel and system device terminals. Such a test may damage the electronics circuitry in loop devices and at the panel.

Mains & battery supply cables

The mains and battery supply cables must be installed to the stage to facilitate the power up for commissioning, which is carried out by the Servicing organisation.



Where mains cable is to remain disconnected, its tail ends must be insulated to prevent dangerous conditions arising in the event of accidental switching On of the mains supply.

Mains supply

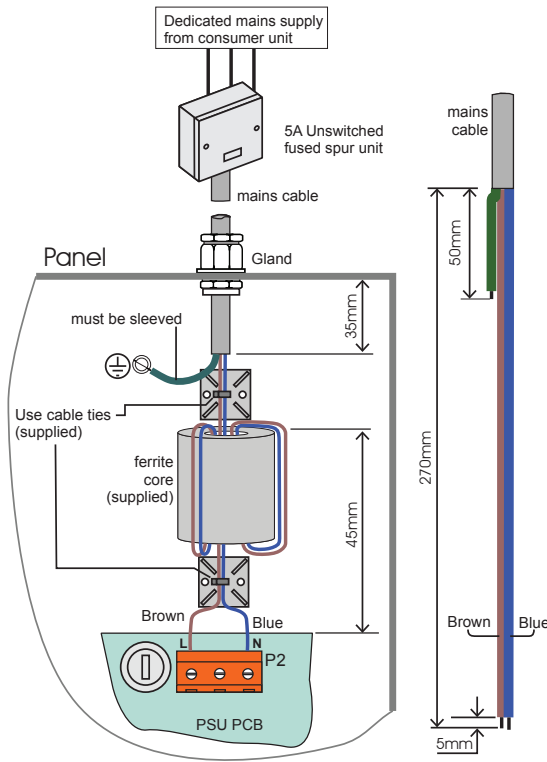


Ensure that the mains supply cable enters the panel through a dedicated cable entry point.



These fire alarm system products are **NOT** designed to be powered from IT Power systems.

All mains powered equipment must be earthed. The mains supply to the control panel must be via an unswitched 5A fused spur unit. A **disconnect device** must be provided to disconnect both poles and must have a minimum gap of 3mm. The disconnect device should be available as part of the building installation and must be easily accessible after the installation is complete.



The mains cable must be stripped back to the length shown to allow live and neutral wires to be wound twice through the ferrite core.

The fused spur isolator cover should be marked:

FIRE ALARM - DO NOT SWITCH OFF

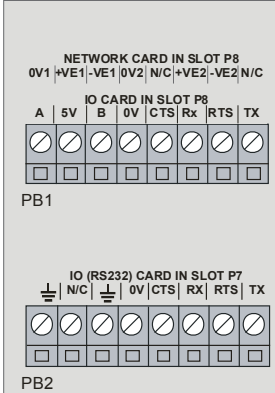
The fire alarm equipment's fused spur unit must be fed from a dedicated switch or protective device at the local mains supply distribution board.

Terminals for external circuits

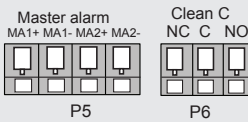
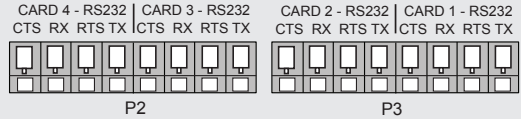
The Terminal card holds all the terminals for the connection of external circuits. The exceptions are:

- terminals for CARDS in slots P7 and P8, these are located on the Backplane
- terminals for mains supply, these are located on PSU
- connection for batteries is located on the PSU.

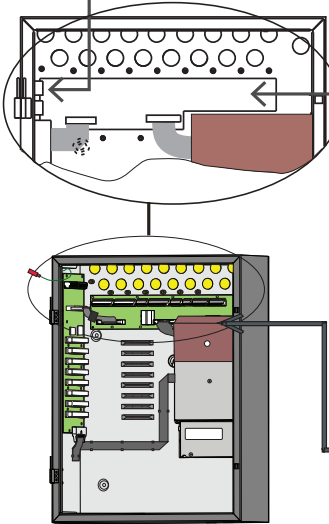
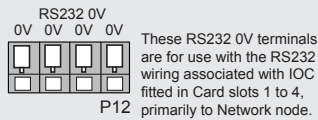
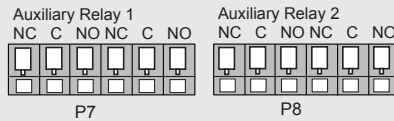
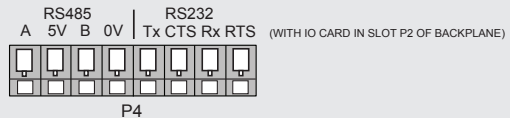
Backplane



Terminal card



0V1 +VE1 -VE1 0V2 | N/C N/C +VE2 -VE2 (WITH NETWORK CARD IN SLOT P2 OF BACKPLANE)

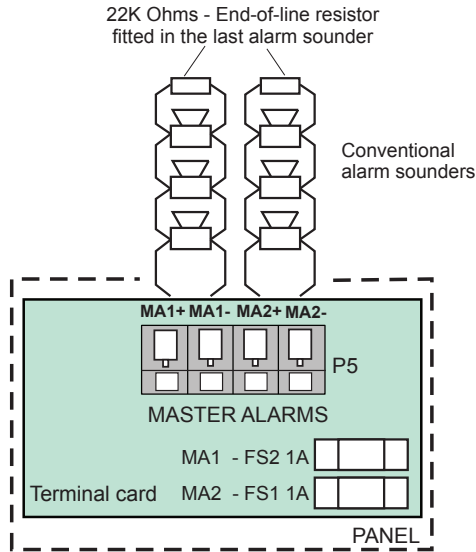


PSU board (located behind the cardboard cover)



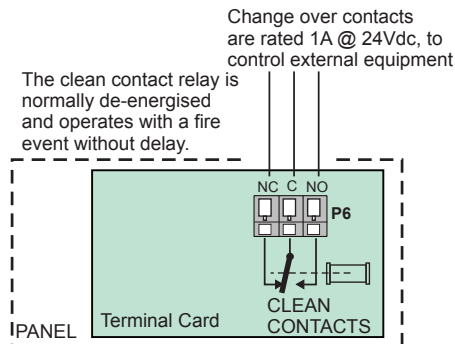
Master alarm circuits

The two master alarm circuits accept the connection of conventional alarm devices.



Clean contacts

The Network node operates the clean contacts relay when a fire event is received from the system. The clean contacts can be used to switch plant equipment, such as lift control system. The contacts should be powered from an independent power supply.

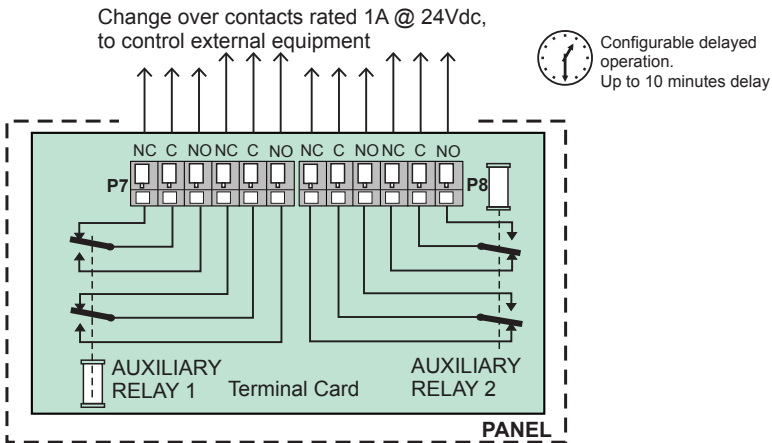


Auxiliary relay circuits

The Network node operates the auxiliary contacts when the configured event is received from the system.

The auxiliary relays 1 and 2 contacts can be used to control external equipment, such as an automatic dialer that makes the call for fire fighting action. The relays can be individually re-configured to operate with either fire, fault or disablement event in the system.

The relay operation can also be delayed by up to 10 minutes and can be set up to operate in a normally energised or de-energised state. The contacts should be powered from an independent power supply, where required.



Factory default:

Aux relay 1 is normally de-energised and operates with a fire event without delay.

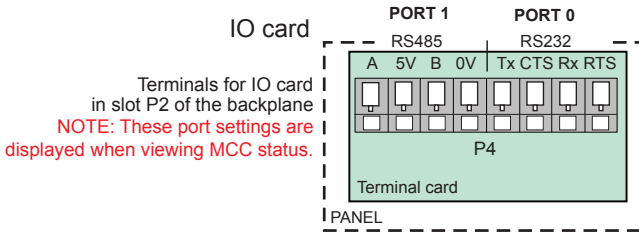
Aux relay 2 is normally energised and de-energises with a fault event without delay.

Note: Aux relay 2 has been shown in the above diagram in its de-energised state, which is the state when there is no power to the node.

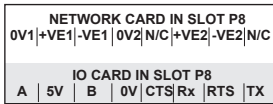
RS232 / RS485 Communication

The Network node offers RS232 and RS485 communication via the IO card.

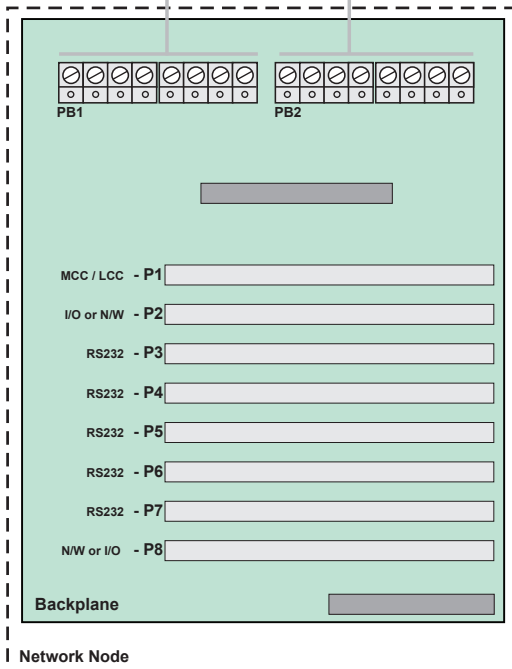
A domain IO card inserted in slot P2 of the backplane facilitate RS232 and RS485 communication via terminal block P4 on Terminal card. Where RS232 is PORT 0 and RS485 is PORT 1 when an IO card is fitted in slot P2. The domain address and communication baud rate are configured by setting the DIL switch located on the left edge of the Display Keyboard card.



IO or Network card option

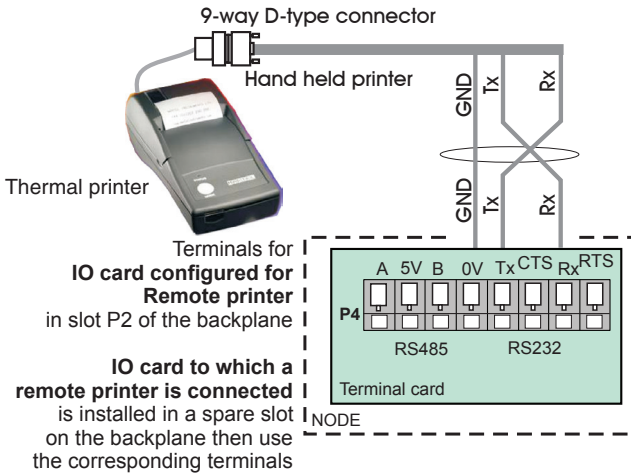


IO card option



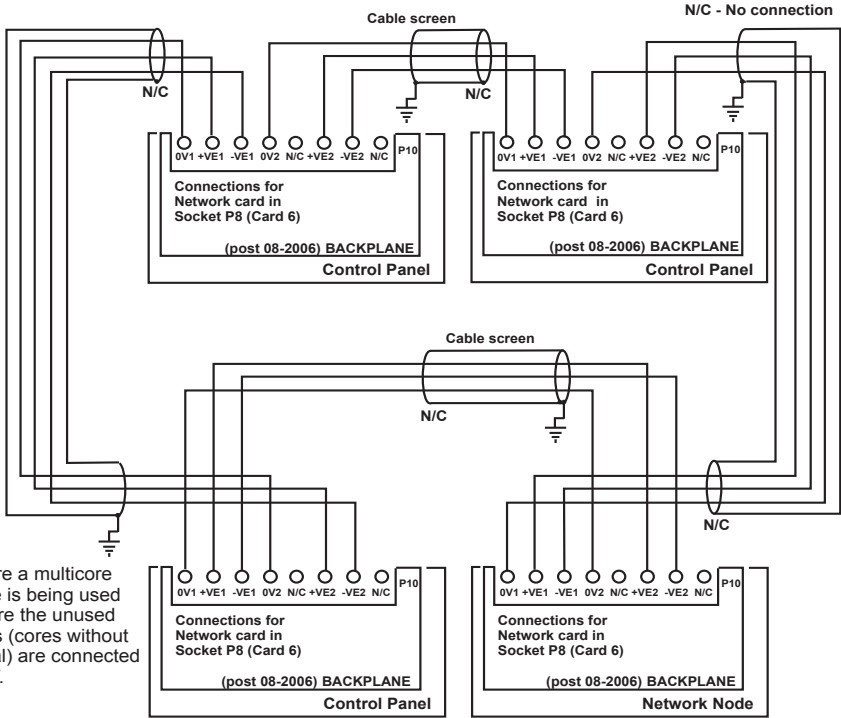
Connecting a Remote printer

An IO card must be inserted in slot 2 of the backplane of the node, which will facilitate remote printer functionality. When a remote printer is connected to a standalone Network node it will print local system events.

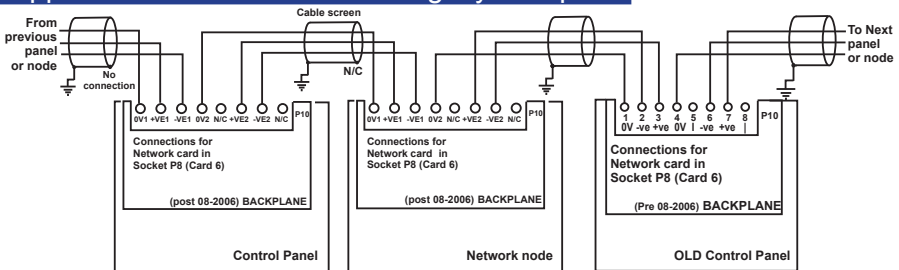


Network connections

A secure network can consist of up to 31 control panels and network nodes connected in a loop, communicating on Vigilon 3217 protocol.



Copper network connections to legacy backplane

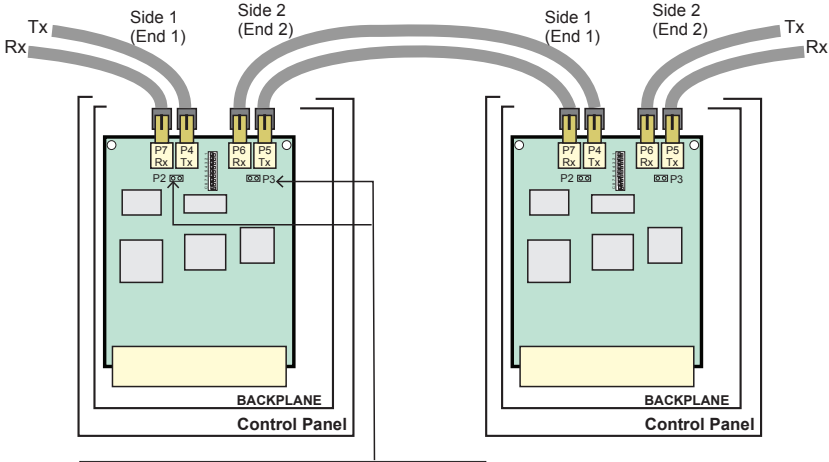


Network wiring

In countries where the European EMC directive is in force use only those cables that are EMC Compliant, see list of approved cables under the heading Network cables.

The recommended cables listed in this manual should be used to interconnect control panels and network nodes.

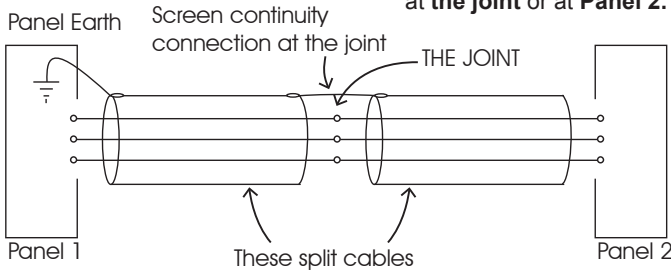
Fibre network connections



Links P2 and P3 are booster links.
Normally the links are not fitted, however for distance exceeding 750m the links must be fitted.

Network cable screen continuity

NOTE: The cable screens are not connected to earth at the joint or at Panel 2.



Ensure a good screen continuity joint exists where there is a split cable.



DO NOT mix cables of different types on the same leg of a network, as this will create impedance imbalance and disruption to data communication.

How to minimise cross talk



When using standard MICC cable in a network the different legs of the cable must not be closely placed together, as this will cause signal crosstalk which results in communication failure.

There are three practical ways of overcoming the crosstalk problem:

- use a twisted-core MICC cable
- put a ferrous screen between the cables (ie in the two runs of steel conduit)
- maintain a distance between the network cables of at least 50mm

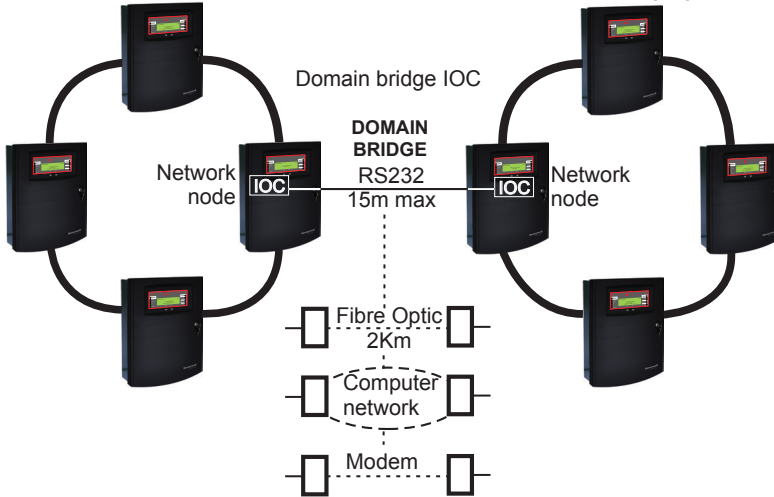
Domain Bridge across Networks

It is possible to connect two or more Vigilant Plus networks together by means of domain bridge. To domain bridge two or more networks a Domain bridge IO card must be installed in the bridging node / panel.

There are various methods of domain bridging depending on the distances between node / panel. Domain bridge can be made directly using RS232 ports of the IO card, via modem, Fibre optics or via dedicated network using NPORT units.

Methods of domain bridging

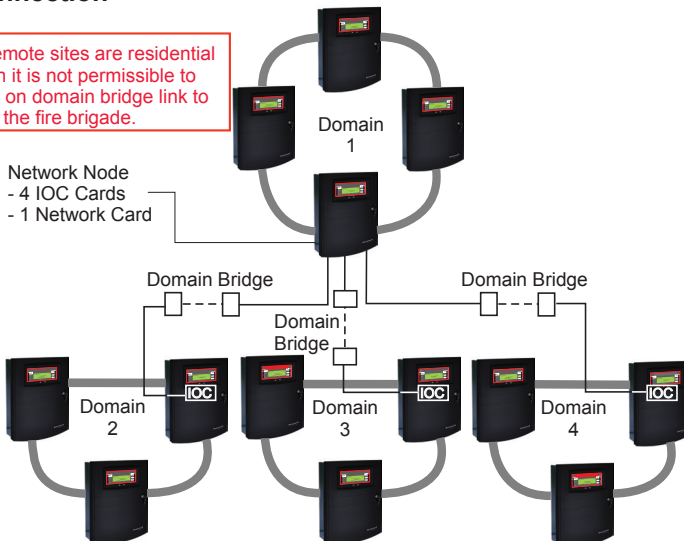
A domain bridge IO card is required to be installed in the bridging panel/node.



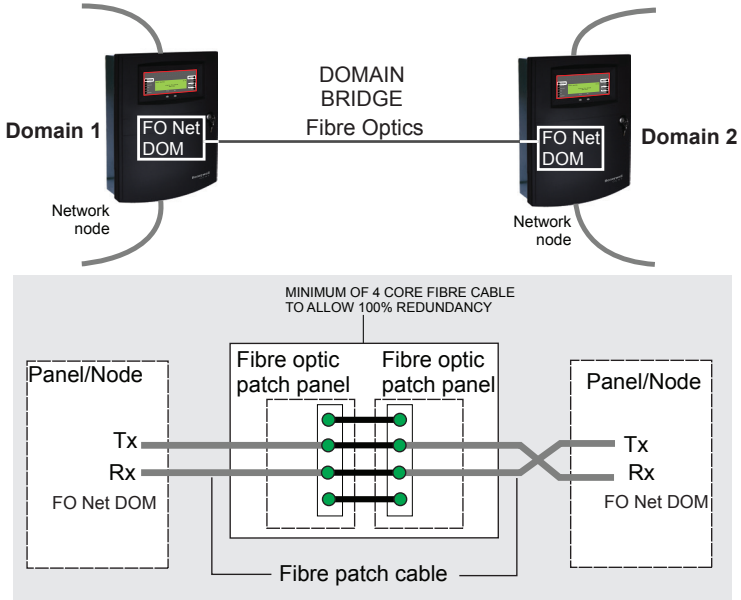
Star connection



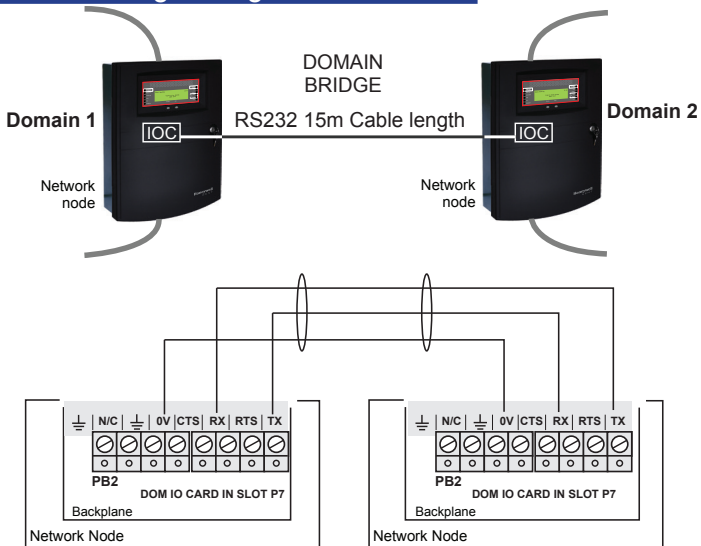
If remote sites are residential then it is not permissible to rely on domain bridge link to call the fire brigade.



Fibre Optic Domain bridge using FO Network DOM card

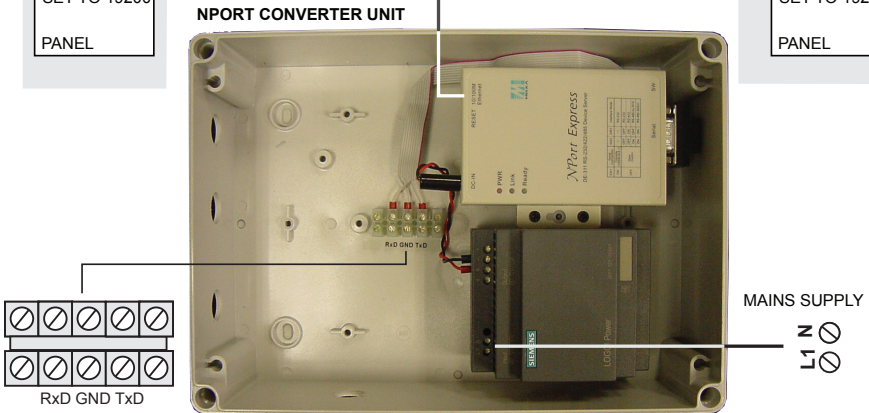
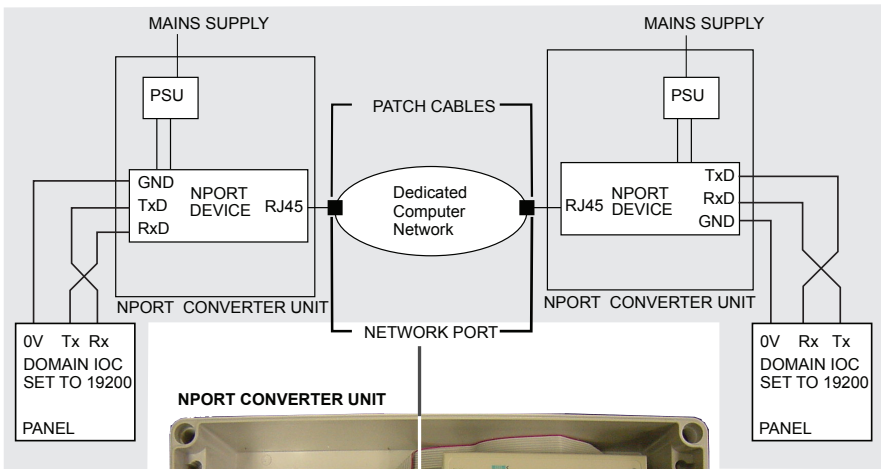
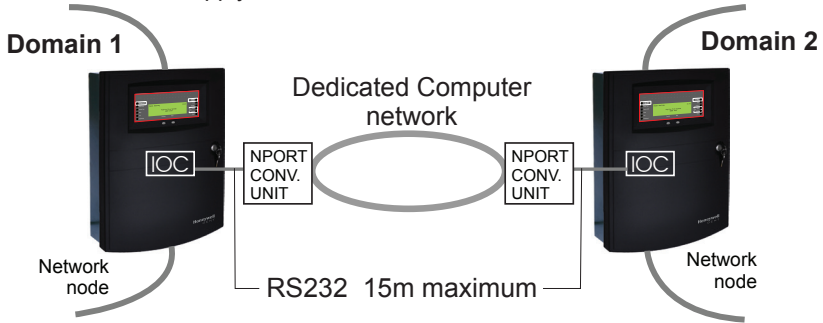


RS232 Domain bridge using Domain IO card



Domain bridge using NPORT module

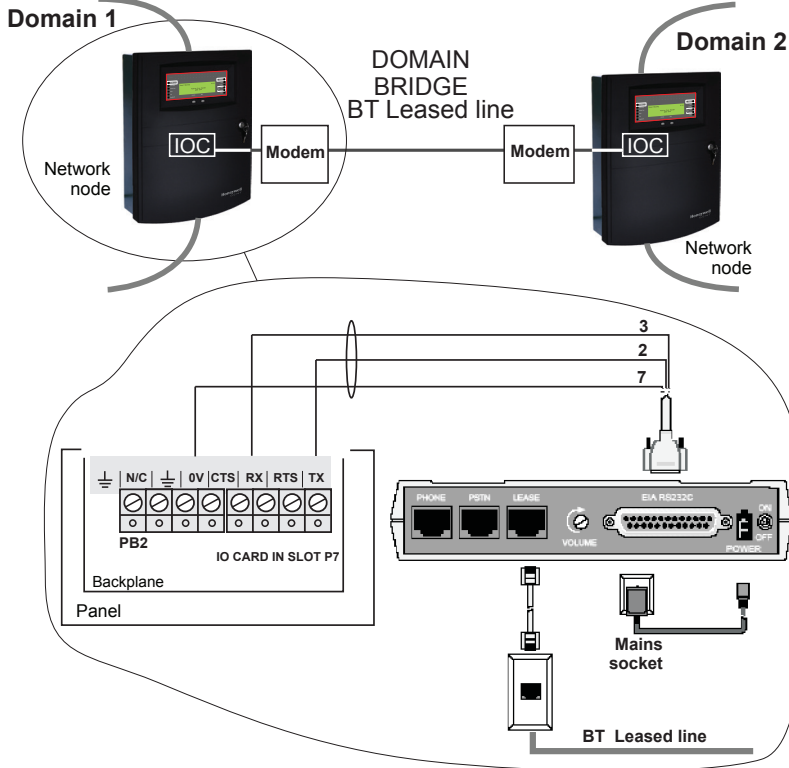
The customer is to supply the IP addresses.



PARTS REQUIRED FOR EN54 SETUP
 2 x VIG-IO-DOM
 2 x VIG-NPORT-100

REQUIRED:
 2 X IP NETWORK INFORMATION
 2 X NETWORK PORTS
 2 X PATCH CABLE

Modem Domain bridge



On completion of wiring installation

On completion of all wiring refit the temporary cover onto the back box. All outstanding work is done by the servicing organisation during commissioning.

Vigilon Plus Network Node parts

This section lists parts associated with the Vigilon Plus Network Node. For further information on the availability of the parts contact your supplier.

Vigilon Plus Network Node

VIGPLUS-NODE Vigilon Plus Network node

Spares

4015-602-Y	12V 21Ahr Battery
VS-PROLL	Spare thermal paper for the integral printer
VS-KEY	Outer door key

Cards

VIG-NC	Copper Network Card (EN54) for Network node, VIGPLUS-24 and VIGPLUS-72 panels
VIG-NC-FO	Fibre Optic Network Card for Network node, VIGPLUS-24 and VIGPLUS-72 panels
VIG-IOC-DOM	Domain Bridge Input/Output Card (EN54)
VIG-NC-DOM-FO	Secure Domain Bridge Card Fibre Optics Network Card for Network node, VIGPLUS-24 and VIGPLUS-72 panels
VIG-NC-HYBRID	BS/EN Hybrid Network Card

Accessories

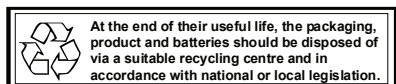
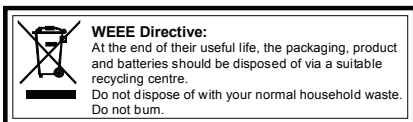
VIG-24-FLUSH	Flush mounting kit for Network node and VIGPLUS-24 panel
VIG-FLUSH-SS	Stainless steel flush surround for Network node and VIGPLUS-24 panel
VIG-DOOR-SS	Stainless steel door

Domain Bridge products

VIG-NPORT-100	NPORT IP Domain module 100m (single unit)
VIG-DOM-MODEM	Modem pair

Printer

PRINTER-HAND	Handheld serial thermal printer
PRINTER-H-PAPER	Thermal paper for handheld printer



Honeywell Gent reserves the right to revise this publication from time to time and make changes to the content hereof without obligation to notify any person of such revisions of changes.

Honeywell
GENT

Hamilton Industrial Park, Waterside Road, Leicester LE5 1TN
Telephone: +44 (0) 116 246 2000
Technical support: www.gentexpert.co.uk

Website: www.gent.co.uk
Fax (UK): +44 (0) 116 246 2300