



NODE

Expansion for JUNO-NET Systems

INSTALLATION MANUAL

GENERAL DESCRIPTION

The **NODE** allows expansion of the system in groups of 1 to 4 loops.

It can be supplied as a standalone unit or in an enclosed cabinet, which contains a 2,3 A PSU/ Charger unit and space for standby rechargeable batteries. One RS422/RS485, Fibre Optic or TCP/IP interface is required per cabinet to enable networking with the rest of the system.

Each **NODE** mainboard controls up to four Analogue Addressable Detection Loops via its own independent processor. In the event of communication failure with the main control unit, the **NODE** is capable of operating independently, detecting Fire/Fault events and activating connected sounders and internal relays.



NODE board w/Loop card



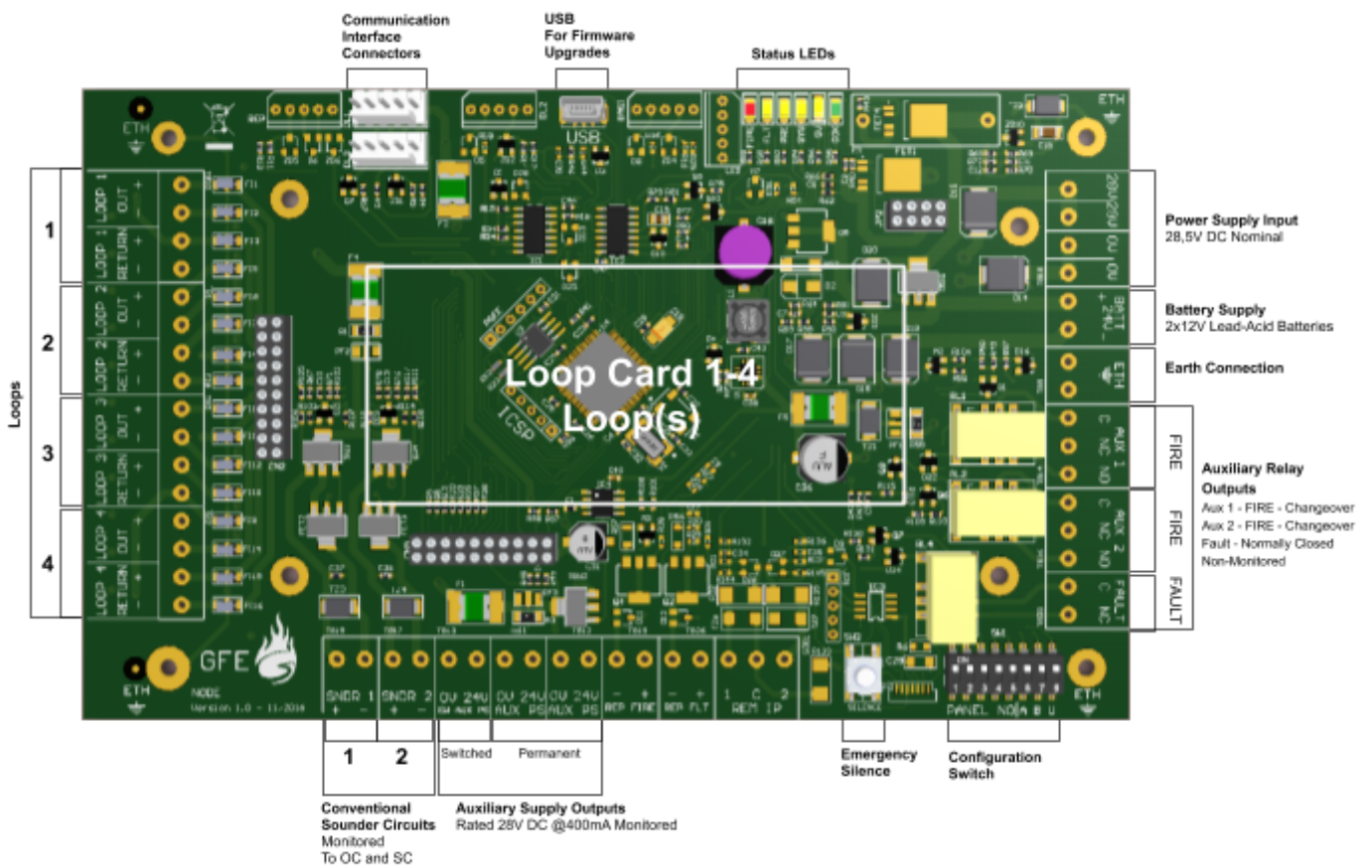
IMPORTANT NOTE:

Replacing an installed Sub-Panel motherboard with a NODE requires a compatible loop card (LOOP CARD EVOLUTION).

The NODE houses a dedicated loop card, which is not compatible with previous Sub-Panels.

Please contact your supplier if further clarification is necessary.

CONNECTIONS OVERVIEW



Status LEDs

Fire - Indication of at least one Alarm in the Node Loops

Fault - Indication of at least one Fault in the Node Loops

Pre - Indication of at least one Pre-Alarm in the Node Loops

Sys - Node System Fault Detected

5V - Main Power Fault

COK - 1s blinking = Installation Mode; Always ON = Active Mode



Sounder Circuit Wiring

There are two Conventional Sounder Circuits in the NODE (SNDR 1 and SNDR 2). The maximum current available for both circuits is 1A.

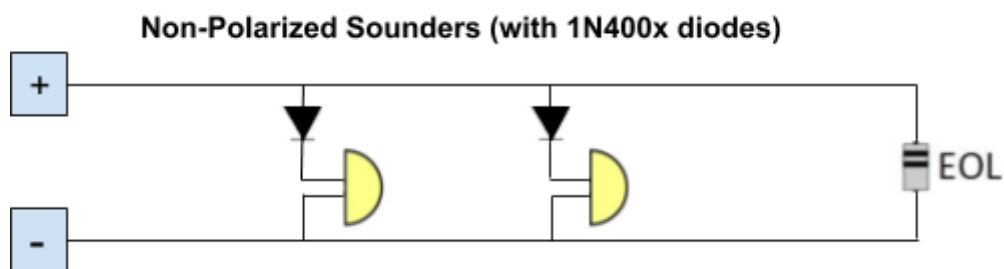
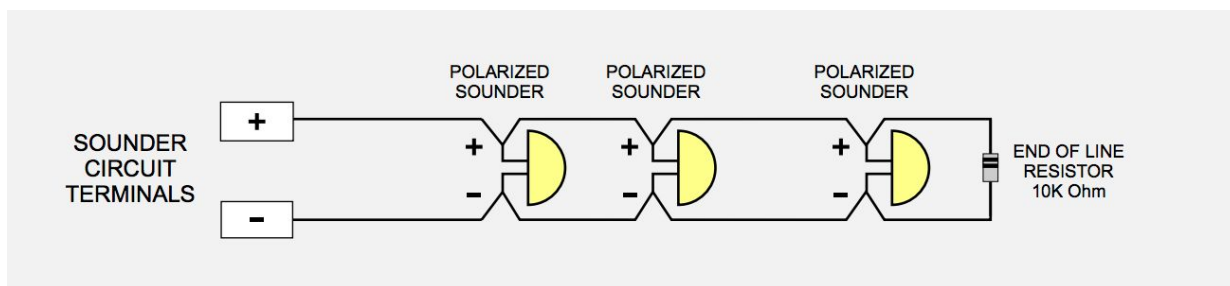
All sounders must be polarized; non-polarized sounders will indicate a fault on the sounder circuit.

An end of line resistor (10k Ohm) which is supplied with the panel, must be inserted in the last sounder for cable monitoring. If a sounder circuit is not used, the EOL resistor should be fitted in the control panel sounder output.

Sounder circuits are protected against short circuits, the electronic fuse will reset when the short circuit is removed and the control panel is reset.

The wiring for each sounder circuit should be terminated in their respective terminals and the cable screens connected to earth.

Typical sounder circuit wiring diagram:



Outputs

Auxiliary Power (SW AUX PS and AUX PS)

The Auxiliary Power supplies 28V DC max 300mA shared with all Auxiliary Power Outputs.

The output is monitored and is protected against short circuit by an electronic fuse which resets when the fault is cleared and the panel is reset.



NOTE: Switched Auxiliary Supply output will be switched OFF during approx. 15 seconds every time the NODE resets.

Auxiliary Relay Contact Fire (AUX 1 and AUX 2)

Provides "Fire Active" signal to external devices. This is activated when the system goes into Alarm State and is kept activated until System Reset. Relay contact changeover, 2A @ 30V DC resistive / 0.25A @ 230V AC resistive.

Auxiliary Relay Contact Fault (FAULT)

Provides Fault signal to external devices. Relay contact NC, 2A @ 30V DC resistive / 0.25A @ 230V AC resistive, which is active with System fault. It remains active until System Reset and all faults are cleared. Relay contact will open when any fault is present on the system.

NOTE: The wiring for each output should be terminated in their respective terminals and the cable screens connected to earth.

Cable Types

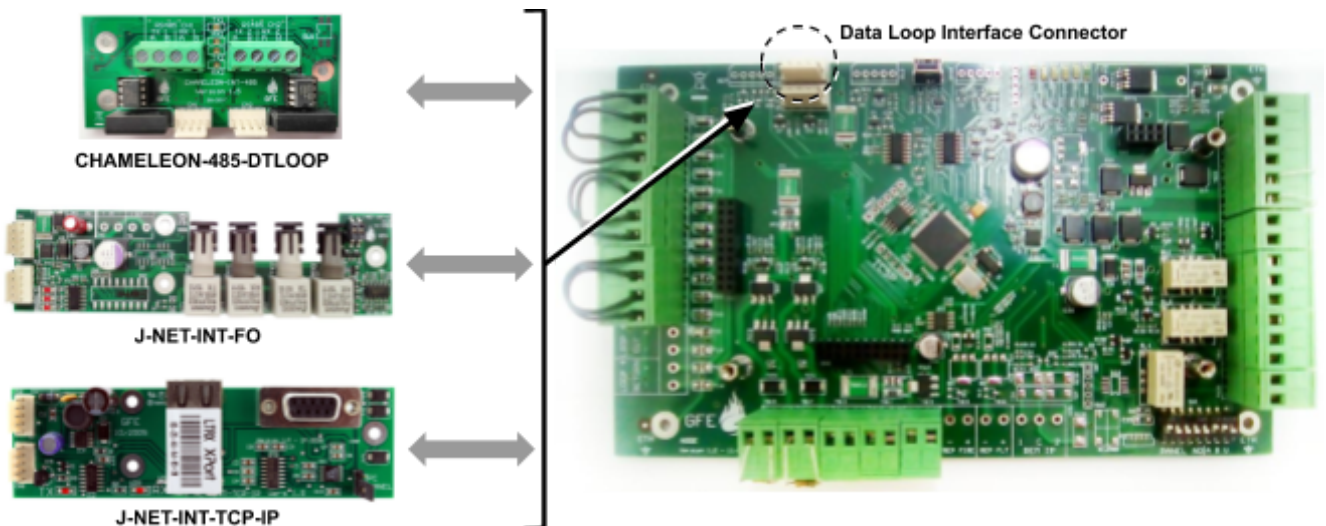
System wiring should be installed in accordance with National Standards and wiring regulations.

To protect against electrical interference, we recommend the use of screened cables throughout the system. Separate cables should be used for sounder circuits, the use of multi-core cables to carry sounder circuits is not recommended. The cable screens should be terminated and connected to Earth only at the panel.

Maximum allowed cable cross section is 2.5mm², as it can damage NODE connection terminals.

Mains wiring should be a 3 core 1mm² to 2.5mm², fed from an isolating circuit breaker of 6A. This should be secure from unauthorized operation and be marked "Fire Alarm Do Not Switch Off". The mains supply must be exclusive to the fire panel.

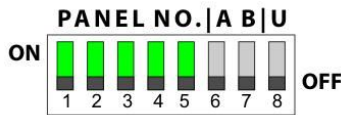
COMMUNICATION INTERFACES





CONFIGURATIONS

PANEL ADDRESSING



Use switches 1 through 5 to set address, which can be set in the range of 1 to 31.

Address switches binary weights:

- Switch 1 ON = 1
- Switch 2 ON = 2
- Switch 3 ON = 4
- Switch 4 ON = 8
- Switch 5 ON = 16

Address 0 should never be used.

NOTE 1 (Address offset):

There is an offset of one between DIL switch address and panel no. as shown by the JUNO NET Main Panel. e.g. if address is set to 01, it will be identified by the Main Panel as Panel No. 02.

NOTE 2 (Loop number distribution "per panel"):

Each data-loop address occupies always 3 loops. Even if not physically fitted.

The NODE if fitted with a 4 Loop Card (4-LC EVOLUTION), will occupy two data-loop addresses in the following form:

- 1st, 2nd and 3rd loops use the address defined in DIL switch setting.
- 4th loop occupies the next address.

NOTE 3 (Special case for J-NET-CON-SP1):

Each data-loop address corresponds to 3 loops, even if not all 3 loops are fitted or available. Even if not physically fitted.

When NODE is connected to JUNO NET Panel using J-NET-CON-SP1 the lowest data-loop address that can be used is 3 (DIL switch setting 2) because J-NET-CON-SP1 has a fixed address of 2.

PANEL PROTOCOL SELECTION





TECHNICAL SPECS

TECHNICAL SPECIFICATIONS - Standalone NODE	
PRIMARY SUPPLY	2.3A @ 28.5V DC nominal
POWER SUPPLY RATING	65 W
SECONDARY SUPPLY	28V DC nominal
BATTERIES	N/A
QUIESCENT CURRENT (NO DEVICES)	80 mA
AUX POWER OUTPUT	28V DC 300 mA
LOOPS	1 to 4 - max 275 mA/ Loop
CONVENTIONAL SOUNDER CIRCUITS	1A max current drive for both circuits - Fully monitored
AUX. RELAYS FIRE/ sub-panel	2x SPDT; rated 2A @ 30V DC resistive / 0.25A @ 230V AC resistive
AUX. RELAY FAULT/ sub-panel	1x NC; rated 2A @ 30V DC resistive / 0.25A @ 230V AC resistive
OPERATING TEMPERATURE	0°C to +50°C
STORAGE TEMPERATURE	-10°C to +50°C
DIMENSIONS	113 (L) x 187 (W) x 26 (H) mm
WEIGHT (NO BATTERIES)	0.3 Kg

TECHNICAL SPECIFICATIONS - Boxed NODE	
MAINS SUPPLY VOLTAGE	85-265V AC, 50/60 Hz
INTERNAL POWER SUPPLY	2.3A @ 28.5V DC nominal
POWER SUPPLY RATING	65 W
SECONDARY SUPPLY	28V DC Nominal
BATTERIES	2 x 12V 12AH VRLA
QUIESCENT CURRENT (NO DEVICES)	80 mA
AUX POWER OUTPUT	28V DC 300 mA
LOOPS	1 to 4 - max 275 mA/ Loop
CONVENTIONAL SOUNDER CIRCUITS	1 A max current drive for both circuits - Fully monitored
AUX. RELAYS FIRE/ sub-panel	2x SPDT; rated 2A @ 30V DC resistive / 0.25A @ 230V AC resistive
AUX. RELAY FAULT/ sub-panel	1x NC; rated 2A @ 30V DC resistive / 0.25A @ 230V AC resistive
OPERATING TEMPERATURE	0°C to +50°C
STORAGE TEMPERATURE	-10°C to +50°C
HUMIDITY	Max. 85% No condensation
PROTECTION	IP30
DIMENSIONS	375 (L) x 345 (W) x 139 (H) mm
WEIGHT (NO BATTERIES)	4.5 Kg



ANNEX 1

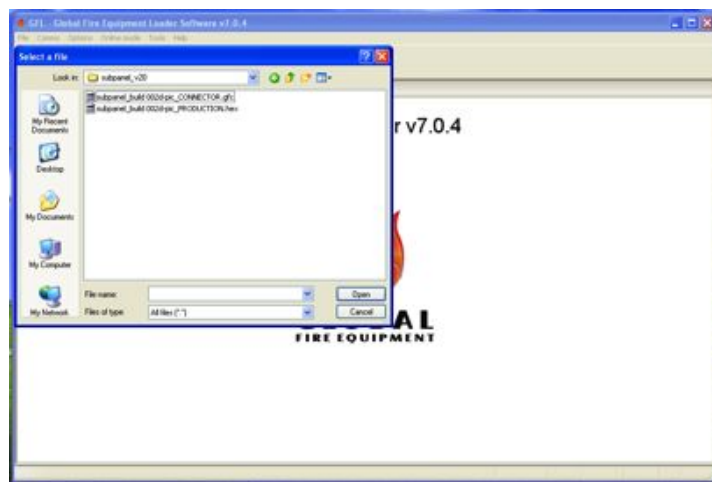
Firmware upgrade procedure

The following steps must be taken:

1. Power OFF the system and unplug the AUX PS if in use.
2. Set the DILSWITCH to “Config setup”:
DIL 1-7 = OFF
DIL 8 = ON
3. Connect USB Cable (keep Power OFF).
4. Open the firmware file with GFE CONNECTOR Software.

NOTE: GFE CONNECTOR version must be 7.04 or higher.

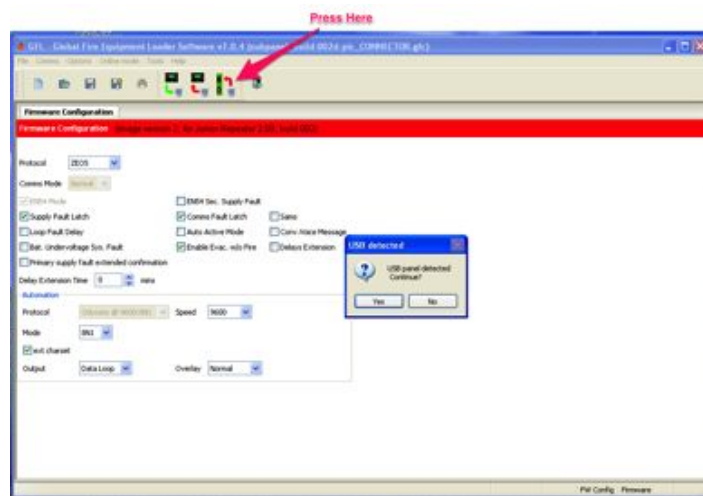
Go to File -> Open -> (Select fw file *.gfc)



5. Turn the Power ON and press Send Firmware to the Panel Button.

Node LEDs should start blinking between COK (Green) and FIRE (Red).

NOTE: There is a maximum delay of 60 seconds, between turning power ON and starting transfer in GFE CONNECTOR software. After that time “NODE” goes out of firmware upgrade mode.



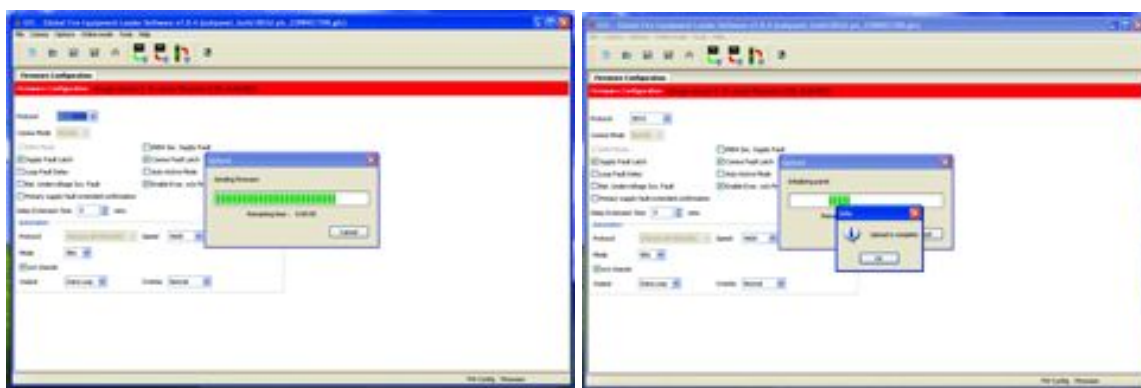
TROUBLESHOOTING:

In the GFE CONNECTOR, if the message pop-up “USB panel detected Continue?” doesn't appears:

- Verify the USB and Power Connections
- Turn the “NODE” Power OFF
- Restart Computer
- Turn the “NODE” power ON again
- Press “Send Firmware”

6. Wait for upload to finish...

Please do not disconnect the “NODE” panel during this operation. The progress bar window should appear and the ‘Complete ’ message will “Pop-up” when it finished.



7. Power OFF the system, and configure the DIL-SWITCH for normal operation.

8. Turn the system ON (and reconnect the AUX PS if in use) and verify normal operating conditions.



GLOBAL FIRE EQUIPMENT S.A.

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