

Bridge node installation / troubleshooting manual.

The bridge node allows group communication between the CAN-X+ microprocessors, 1 bridge node is required per controller in a group installation. The bridge allows up to 8 cars with 8 sets of landing risers to be connected to the CAN-X+ system with a maximum of 98 nodes on each riser (49 allocated to front entrances and 49 for the rear).

Each bridge sits on the local landing network (CAN 1) of each control panel, the landing node feed (LNF) is diverted through the bridge via an on board diode allowing any controller in the group to power the risers. Each bridge has 2 I/O available so that group wide functions can be wired into one of the bridges or any of the landing networks, this function will then be transmitted to all lifts in the group via the CAN interconnection. The only interconnection between lifts in the group is via the dedicated CAN cable supplied with the controllers. If the bridge node I/O is to be used it MUST be fed from the LNF terminal.

Each Bridge node in the group must have its address set via the dip switch (SW1) the bridge node address must be the same as the controller number, lift 1 in the group should have its bridge node addressed as 1, lift 2 should have its bridge node addressed as 2 etc. The chart in Fig 3 details the setting of switch SW1.

Fig1

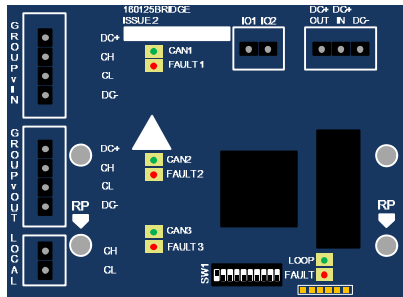


Fig 1 shows the basic board layout, connection locations and LED's.

The bridge has 3 CAN ports marked as LOCAL, GROUP IN and GROUP OUT. Each port has 2 diagnostic LEDs marked CAN 1, 2 or 3 (green) and FAULT (red) adjacent to its connector. There are also 2 diagnostic LEDs associated with the bridge nodes processor, LOOP (green) and FAULT (red). (See diagnostic paragraph overleaf for more detailed description of LEDs) If the bridge node is attached to a DIN rail a screwdriver should be inserted to the holes marked RP and upward pressure applied to release the DIN rail clips whilst putting downward pressure on the PCB. In a CAN-X+ controller the LOCAL CAN port will already be connected to the local CAN 1 port of the controller at terminal rail location X9 at terminals CH1 and CL1.

Screened cables supplied to interconnect the controllers together MUST have their screens clamped beneath the EMC clamp supplied adjacent to each CAN port

Fig2

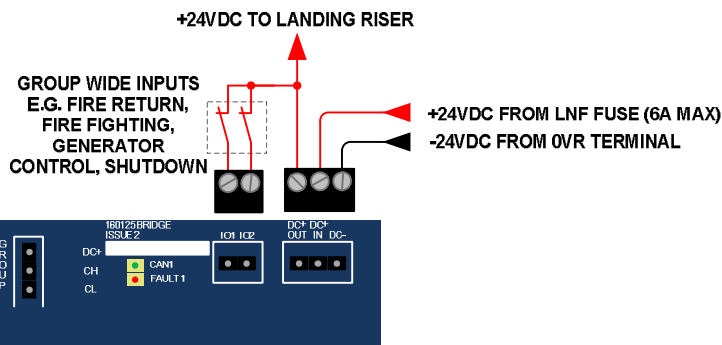


Fig 2 shows the basic power and I/O connections.

The basic connections shown in Fig 2 should be read in conjunction with the wiring diagram for the specific site. The +24VDC supply from the LNF fuse connects to the DC+ IN terminal of the bridge node, the DC+ OUT and DC- terminals connect to the controller rail location X9 at terminals LNF (+ve) and OVR (-ve). If the number of nodes and / or the load on the nodes is excessively high a larger external diode can be fitted to segregate the +24VDC supply of each control panel.

Fig 3. The DIP switch settings of SW1 are shown in the truth table below all other DIP switches are for test purposes only and should be set to the off position (0).

Number in group	1	2	3	4	5	6	7	8
DIP number 1	1	0	1	0	1	0	1	0
DIP number 2	0	1	1	0	0	1	1	0
DIP number 3	0	0	0	1	1	1	1	0
DIP number 4	0	0	0	0	0	0	0	1

Fig 4

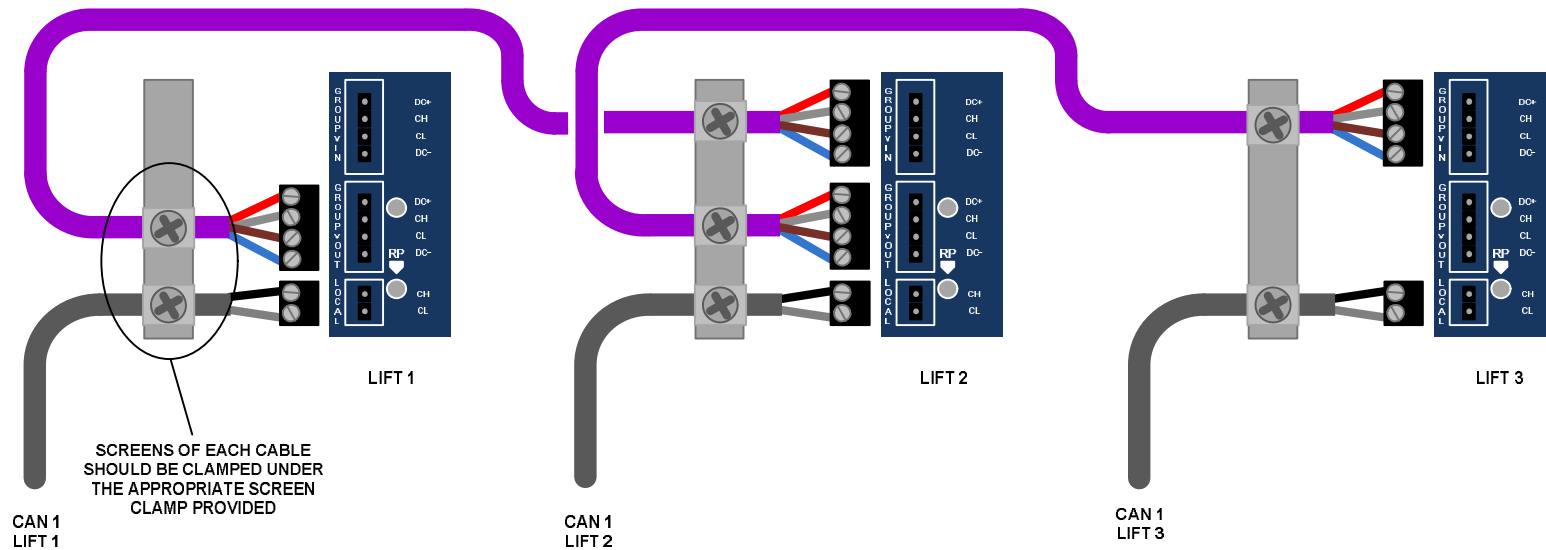


Fig 4 above shows the connection method of the group interconnect cables. Although the CAN ports are marked as GROUP IN / OUT it does not matter which way they are connected as each port sends and receives the same data, but we recommend them to be interconnected as Fig 4.

Problem reporting / diagnostics

The status of the bridge node, including any error conditions is reported in 2 ways:

- Serious errors, in particular those involving switch settings are reported by the diagnostic LEDs on the bridge node
- The bridge nodes' current status, including bits for various error conditions, is sent as a CAN message to the bridge nodes' associated CAN-X+ processor, this is stored in the group event history menu. (see CAN-X+ manual)

LEDs	
Green, CAN 1, 2 & 3	<ul style="list-style-type: none"> Every time a CAN message is broadcasted or received by this port. 3 times every 7 seconds: The associated port is not connected.
Red, Fault CAN 1 & 2	<ul style="list-style-type: none"> Bridge node port operating normally. The local controller CAN is connected to a group interconnect CAN port. Fault on the associated CAN port. (wiring fault on the group interconnect)
Red, Fault CAN 3	<ul style="list-style-type: none"> Bridge node port operating normally. The group interconnect CAN is connected to the local CAN port. Fault on the local CAN port (wiring on local riser or terminating resistor on riser)
Green, Loop	<ul style="list-style-type: none"> ½ second on ½ off: Bridge node is running and ready to receive / transmit messages.
Red, Fault (loop)	<ul style="list-style-type: none"> Bridge node port operating normally. In time with loop LED: 2 or more bridge nodes on the network with same address. Alternating with loop LED: Bridge address does not match controller number. Every time a CAN message is broadcasted or received by this port.

EMC

Care should be taken when running the group interconnect cable. All CAN interconnect should be segregated from mains / motor wiring and the screens connected to the screen clamps provided. If the interconnect cables need to pass cross high voltage cables they should do so at right angles. For further information on EMC refer to the ILE EMC manual.