

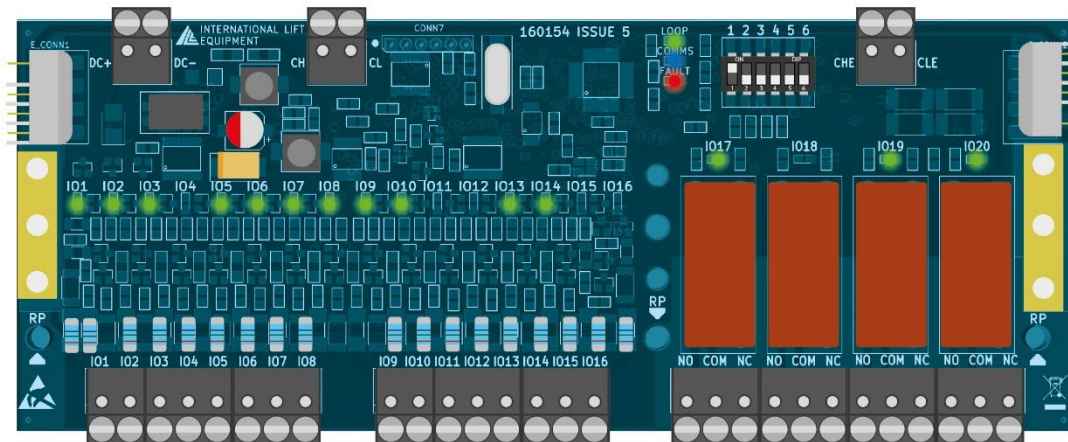
Multi IO Installation / Troubleshooting Manual

The Multi IO is an IO card that has 16 programmable inputs / outputs and 4 programmable relay outputs. The Multi IO is used for control panel and car IO as part of the CAN-X* distributed IO system and as car top IO on the CAN-X² distributed IO system. They are also used as general-purpose control panel IO in CAN-X* non distributed systems.

Each Multi IO board on a network needs to have a unique binary address and function code set via the DIP switch bank. Switch 1 is for board address, switch 2 is used to identify whether the board is in the controller or on the car. Switch 3 links IO 1 to RL1 (IO17). Switch 4 links IO 9 to RL2 (IO18). Switch 5 is unused. Switch 6 is an on-board CAN resistor to identify the end of the network. (See relevant section for more detail of DIP switch settings)

The IO linking functions enabled via SW3 and SW4 are for front and rear door zones and front and rear door open signals. If linked, relay 1 or 2 cannot be operated unless there is an input present from the actual door zone proximity switch present on IO1 or IO9 and the corresponding software signal from the CAN-X* CPU.

Fig 1.



The Multi IO has 2 CAN ports, the first port has its connections marked as CH and CL. This is the port connected to the CAN-X* either via these terminals or via the edge connector. The second port has its connections marked as CHE and CLE. This port is an isolated extended CAN port and can be used to connect other boards remotely to the system without having any detrimental effect on the 1st CAN port. There are also diagnostic LED's associated with the boards processor marked LOOP (green), COMMS (blue) and FAULT (red) (See diagnostic paragraph overleaf for more detailed description of the LED'S).

When the Multi IO 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.

Note: PCBs should not be left loose in trunking or push boxes where their connections could short out.

The Multi IO has an edge connector at each end to transfer power and CAN connections to and from the board.

Note: If the edge connector is connected to the CAN-X* CPU, the DC+ connection will have to come in via the Multi IO's DC+ connection.

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

No specific connection diagram is shown here for the Multi IO as generally they are prewired in the control panel or car top. If a Multi IO is to be wired on site, please refer to the site-specific drawing.

All IO's have green diagnostic LED's. These LED's indicate the current state of the IO as defined below.

IO LED	IO Setting	IO Setting
OFF	Output	The I/O is set to output Low
ON	Output	The I/O is set to output High
OFF	Input	The I/O is set to input and the input is Low
ON	Input	The I/O is set to input and the input is High
Dimmed	Linked	The I/O is set to a call input and is producing button output illumination and detecting a button press input
OFF	Linked	The I/O is set to a call input and ether dimming has been disabled or a call cannot be accepted.
ON	Linked	The I/O is set to a call input and a call has been accepted.

The DIP switch settings of SW1 below are for Multi IO address

Multi IO Address	1	2
DIP number 1	0	1

The DIP switch settings of SW2 below are for Multi IO location

Multi IO Location	Panel	Car
DIP number 2	0	1

The DIP switch settings of SW3 below are linking IO1 to RL1

Multi IO Linking	Not linked	Linked
DIP number 3	0	1

The DIP switch settings of SW4 below are linking IO9 to RL2

Multi IO Linking	Not linked	Linked
DIP number 4	0	1

The DIP switch SW5 is not used

The DIP switch settings of SW6 below is for CAN-Resistor

Multi IO CAN Resistor	Off	On
DIP number 6	0	1

Problem reporting / diagnostics

The basic status of the Multi IO is reported by the Loop, Comms & Fault LED's (Shown in the table below). The expanded status of the Multi IO is reported in the CAN-X/CAN-X + event history.

LED	Loop	Comms	Fault	
OFF	OFF	OFF	OFF	The Multi IO is not operational. (Check Power Supply)
FLASHING	OFF	OFF	OFF	Multi IO is powered and operational. Multi IO is not receiving CAN bus messages. Multi IO is not in fault condition. (Check CAN bus connections & terminating resistor)
FLASHING	FLASHING	OFF	OFF	Multi IO is powered and operational. Multi IO is receiving CAN bus messages but, is not connected to the network. Multi IO is not in fault condition. (Check switch settings are valid)
FLASHING	FLASHING	FLASHING	FLASHING	Multi IO is powered and operational. Multi IO is receiving CAN bus messages but, is not connected to the network. Multi IO is in address conflict with another IO board. (Check switch settings)
FLASHING	ON	OFF	OFF	Multi IO is powered and operational. Multi IO is receiving CAN bus messages and is connected to the network. Multi IO is not in fault condition. (Desired Condition)
FLASHING	ON	FLASHING	FLASHING	Multi IO is powered and operational. Multi IO is receiving CAN bus messages and is connected to the network. Multi IO has an I/O fault condition. (Check I/O High/Low short circuit)
FLASHING	OFF	FLASHING	FLASHING	Multi IO is powered and operational. CAN bus communication between the Multi IO and controller has been corrupted, resulting in the Multi IO temporarily removing itself from the network. The Multi IO will attempt to reconnect with the network after 10 Seconds. (Check network wiring, cable screening & terminating resistor)

Specification

Operating Voltage	10-30VDC
Operating Current	18mA
Input Voltage	10-30VDC
Input Current	12mA
Output drive current	600mA (per channel)

EMC

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