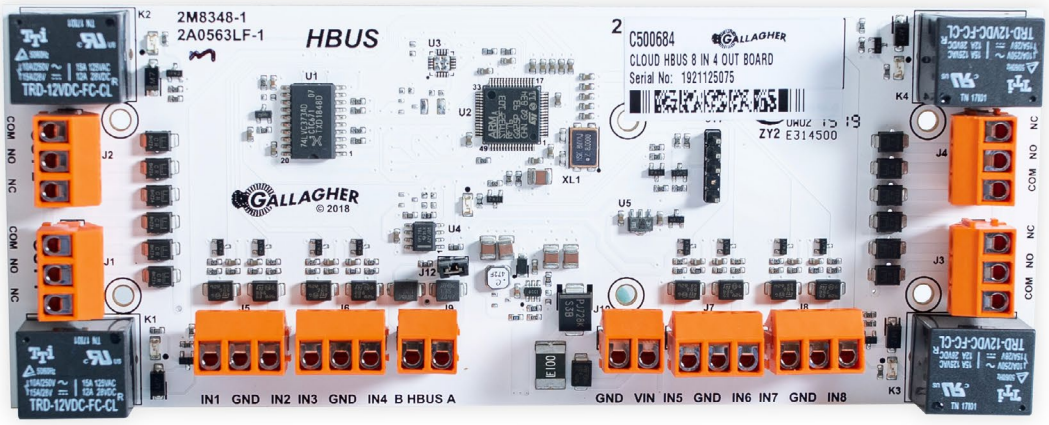
Gallagher
SMB 8In 4Out Board

Installation Note

Gallagher SMB 8In 4Out Board: C500684



Introduction

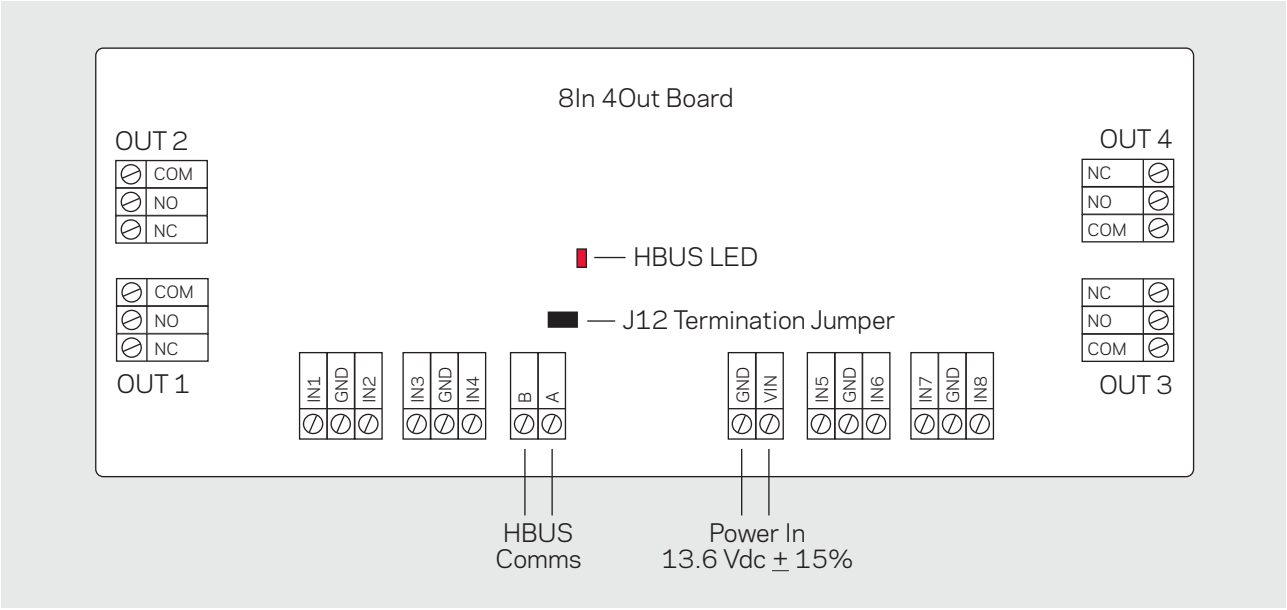
The Gallagher SMB 8In 4Out Board extends the connectivity of the Gallagher Controller via the HBUS communications protocol. The board provides connection for 8 inputs and 4 outputs.

Check the carton contains the following items:

- 1 x 8In 4Out Board
- 6 x 1/4" pan pozi screws
- 16 x 4k7 ohm resistors

Connections

Component layout



Power supply

The 8In 4Out Board requires a 13.6 Vdc ± 15% power supply. This is connected through the terminals labelled Vin and GND. An onboard 1 A resettable polyfuse provides over current protection.

Note: It is recommended that lock power be supplied via a separate cable from the control electronics, to minimise the possibility of high current spikes resulting from lock switching causing other electronic equipment to malfunction.

Communications

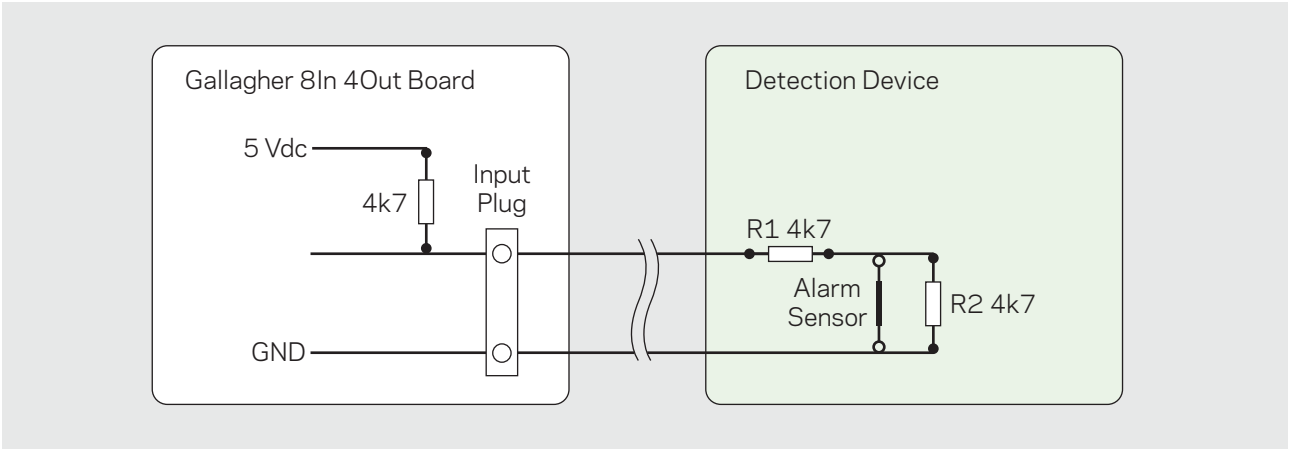
The HBUS communications protocol allows a single board to communicate over a distance of up to 500 m (1640 ft) from the controller, when using data only in a single CAT5E cable. Cabling should be a minimum size of 24 AWG (0.2 mm^2). Run a common ground (-ve) from the controller for all RS485 devices.

The cabling between HBUS devices should be done in a "daisy chain" wiring. Do not wire HBUS devices using "T" or "Star" wiring. If the board is the start or end device on an HBUS circuit, terminate the board by connecting the supplied on-board termination jumper (J12) to the board.

Balanced inputs

Cabling should be a minimum size of 24 AWG (0.2 mm^2) for all balanced inputs.

For tamper detection, the balanced inputs require resistors to be connected as close as possible to the device being monitored. When the monitored device incorporates a normally-closed tamper switch, it can be wired in series with resistor R1.



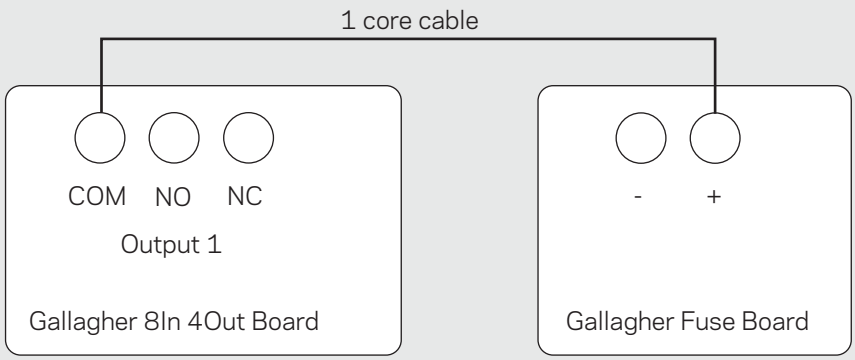
Condition	Resistance	Voltage at 'X'
Short circuit tamper	0	0 V
Normal	1 (4k7)	2.5 V
Alarm	2 (4k7 + 4k7 = 9k4)	3.3 V
Open circuit tamper	0 (no resistance)	5 V

All devices connected to a single I/O board must share the same physical resistor value, (i.e. individual devices cannot have different resistors, unless assigned to different boards).
You can change the resistance value for an I/O board within the installer app. Additional boards can be added to the system.

Output relays

Outputs are provided as changeover or 'Form C' relay contacts. The relay contacts are provided as 'dry' contacts without any pre-assigned voltage connected.

Each output has a relay which needs to be pulsed using a single cable from the output boards COM to a positive (+). Refer to the image below.



Installation

The installation of this I/O board must be carried out by a Gallagher Install Partner. Complete the instructions in this document to install the board. For further information, refer to the Gallagher SMB Technical Reference Guide.

ATTENTION: This equipment contains components that can be damaged by electrostatic discharge. Ensure both you and the equipment are earthed before beginning any servicing.

Using the screws supplied, mount the board to a Gallagher Mounting Plate within a Gallagher cabinet. Ensure the board remains isolated from conductive surfaces. Connect the low voltage wiring to the orange terminal blocks.

Note: The cables should stow neatly and be held in place by the trunking fitted into the base of the cabinet.

Tip: If replacing an existing 8In 4Out board, remove the orange terminal blocks from the old board. Uninstall the old board and install the new board. Reconnect the terminal blocks to the new board.

LED indications

LED	Indication
3 Flash (Red)	No communications with the controller
2 Flash (Red)	Communications with the controller, but board is not configured
1 Flash (Red)	Fully configured and functioning normally

Technical specifications

Measurement	Value
Voltage	9 Vdc - 16 Vdc
Fuse	Onboard 1 A resettable polyfuse
Operating current	45 mA DC (relays OFF) 200 mA DC (relays ON)
Power rating	0.61 W (relays OFF) 2.72 W (relays ON)
Temperature range	-10 °C to 50 °C (14 °F to 122 °F)
Humidity	0 - 95% non-condensing
Unit dimensions	Height with orange connectors 30 mm (1.2 inches) Width 70 mm (2.8 inches) Depth 180 mm (7.1 inches)
Standards and compliance	FCC, RCM, CE, RoHS