

# HBUS I/O Devices

Gallagher HBUS I/O Devices provide flexible, cost effective and secure input and output expansion options, and shared cabling with other HBUS devices.

## Gallagher HBUS I/O Devices include:

- 8 In 2 Out Door Module
- 16 In 16 Out Board
- 8 In 4 Out Board
- 8 In Board

The HBUS communications protocol is based on the RS485 standard and allows each HBUS I/O Device to communicate with the Gallagher C6000 Controller over a distance of up to 500m (1640 ft.) at a speed of 1Mb/s.

HBUS Device software is automatically available with Controller 6000 Software upgrades; no operator intervention is required.

## Features and benefits:

- Unique identities for all field devices
- Automated device software upgrades
- IT grade authentication and encryption levels to prevent data tampering

## Variable End of Line Resistance

Variable end of line resistance is supported for all Gallagher HBUS I/O Devices and Gallagher Controllers.

## Controlling Inputs and Outputs

Making no high level decisions, the HBUS I/O Device monitors the state of the balanced inputs and switch the output relays as instructed by the controller.

## Monitoring Inputs

The inputs on Gallagher HBUS I/O Devices are 4-state balanced inputs. The four states monitored are:

- Open
- Closed
- Short Circuit (Tamper)
- Open Circuit (Tamper).

Inputs may be used for monitoring:

- Access controlled doors
- Passive Infrared detectors (PIRs)
- Uncontrolled doors
- Equipment alarms
- Any other devices that provide a clean contact.

## Activating Outputs

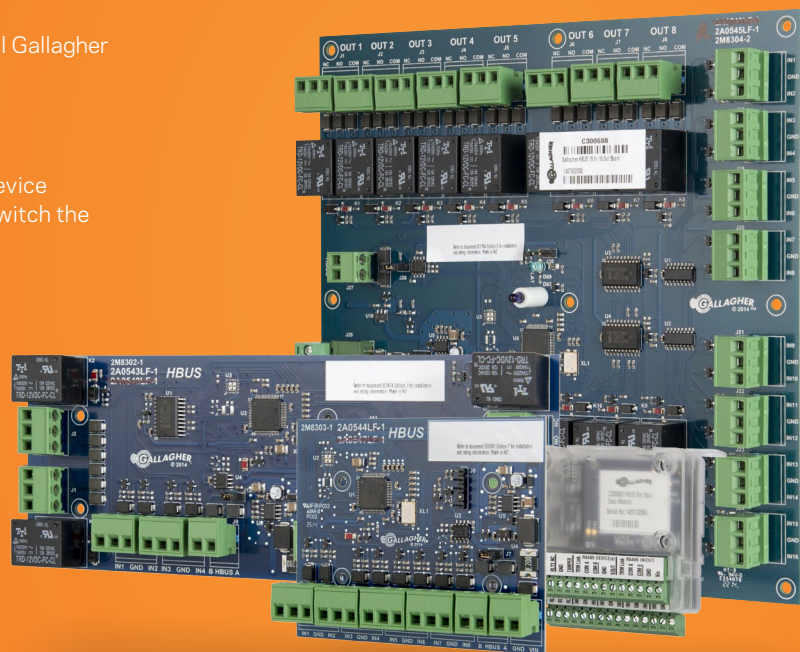
Relays may be triggered by timers or with logic configuration used to:

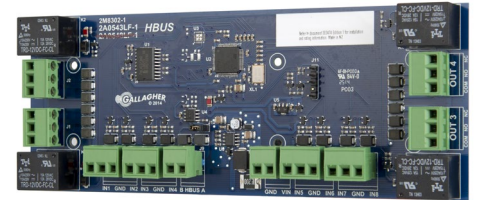
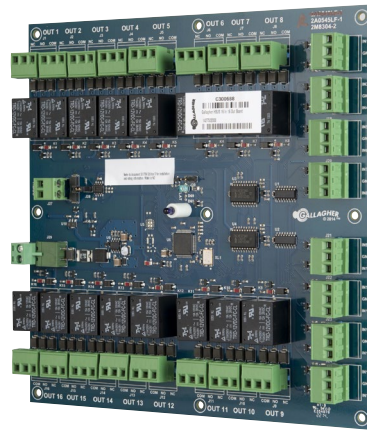
- Unlock doors
- Activate sirens
- Switch air conditioning on and off
- Switch lighting on and off.

## Integrating readers

The Gallagher HBUS 8 In 2 Out Door Module also provides connections for Gallagher's T-Series Reader range:

- T10, T11, T12, and T15
- T20 Card + PIN reader.





## Gallagher HBUS 8 In 2 Out Door Module

The Gallagher HBUS 8 In 2 Out Door Module extends the existing connectivity of the Gallagher Controller 6000 via the HBUS communications protocol. The module provides connection for:

- 8 Inputs
- 2 Outputs
- 4 HBUS readers or HBUS terminals

It connects reader or terminal devices directly up to 400m (1312 ft.) away allowing HBUS communications to be branched or 'T' Wired from HBUS cabling connected to the C6000 Controller. This allows for greater flexibility when deploying HBUS devices in both new and retrofit installations.

It also provides isolation between its upstream and downstream HBUS runs protecting other HBUS Devices connected to the same controller HBUS port.

## Gallagher HBUS 16 In 16 Out Board

The Gallagher HBUS 16 In 16 Out Board extends the existing connectivity of the Gallagher Controller 6000 via the HBUS communications protocol. The board provides connection for:

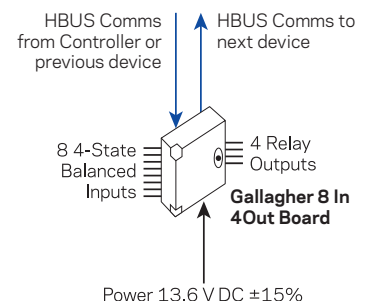
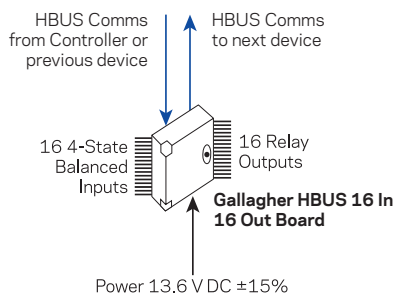
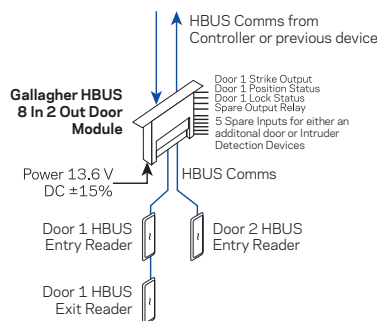
- 16 Inputs
- 16 Outputs

## Gallagher HBUS 8 In 4 Out Board

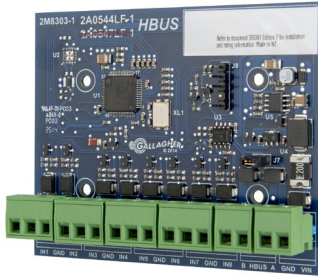
The Gallagher HBUS 8 In 4 Out Board extends the existing connectivity of the Gallagher Controller 6000 via the HBUS communications protocol. The board provides connection for:

- 8 Inputs
- 4 Outputs

## Connectivity diagrams



HBUS entry and exit readers connected to the Gallagher HBUS 8 In 2 Out Door Module for the access control of one door.



## Gallagher HBUS 8 In Board

The Gallagher HBUS 8 In Board extends the existing connectivity of the Gallagher Controller 6000 via the HBUS communications protocol. The board provides connection for 8 Inputs.

## Gallagher Cabinets

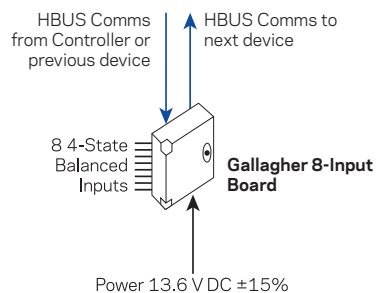
Two Gallagher Cabinets are available to accommodate Gallagher Controllers and the Gallagher HBUS I/O Devices:

- Gallagher Cabinet
- Gallagher Dual Cabinet

The Gallagher Cabinet is available with a tamper board option (I/O Accessory Cabinet), for use with the HBUS 8 In and 8 In 4 Out boards.

The Gallagher Dual Cabinet is available with or without a power supply.

Refer to the Gallagher Cabinets data sheet for further information.



# Technical Specifications

HBUS I/O DEVICES		Standard specifications applicable to all devices
Power Supply	Operating Voltage (Vin)	13.6 Vdc + 15%
Communications	Between Gallagher Controller and HBUS I/O	RS485 at 1 M/b per second
	Wiring format – power	2 wire (gauge selected to suit cable length)
Cable Specifications	Gallagher HBUS to Gallagher controller	500m (1640 ft.)
	Gallagher HBUS 8 In 2 Out Door Module to HBUS Readers or Terminals (Cat 5e or Belden 9842)	400m (1312 ft.)

HBUS I/O DEVICES		Standard specifications applicable to all devices
Gallagher 8 In 2 Out Door Module	4-state balanced inputs	8
	2-outputs	24 Vdc/ac, 3 A resistive, 1 A inductive
	Power supply current	1.8 W (relays on)
	Proportion of cabinet footprint	1/4
Gallagher 16 In 16 Out Board	4-state balanced inputs	16
	16-outputs	24 Vdc/ac, 3 A resistive, 1 A inductive
	Power supply current	7 W (relays on)
	Proportion of cabinet footprint	1
Gallagher 8 In 4 Out Board	4-state balanced inputs	8
	4-outputs	24 Vdc/ac, 3 A resistive, 1 A inductive
	Power supply current	2.30 W (relays on)
	Proportion of cabinet footprint	1/2
Gallagher 8 In Board	4-state balanced inputs	8
	Power supply current	0.6 W
	Proportion of cabinet footprint	1/4
Compliance Standards	All equipment complies with CE, C-Tick and FCC approvals. Please contact Gallagher for the latest list of approvals. In order to comply with international standards, all Gallagher units must be installed in Gallagher Cabinets following the directions in the installation instructions.	

PART NUMBERS			
C300660	Gallagher HBUS 8 In 2 Out Door Module	C200002	Gallagher Controller Sub-Plate
C300688	Gallagher HBUS 16 In 16 Out Board	C200003	Controller 6000 I/O Mounting Plate
C300684	Gallagher HBUS 8 In 4 Out Board	C200103	Gallagher Dual Cabinet, Charcoal
C300680	Gallagher HBUS 8 In Board	C200108	Gallagher Dual Cabinet UL, Charcoal
C200104	Gallagher Dual Cabinet, Cool Grey	C200109	Gallagher Dual Cabinet & Power Supply, Charcoal
C200107	Gallagher Dual Cabinet UL, Cool Grey	C200440	Gallagher Power Supply
C200105	Gallagher Dual Cabinet & Power Supply, Cool Grey	C200610	Gallagher Tamper Board - Board only
C200001	Gallagher Mounting Plate	4G2262	Gallagher Cabinet Master Key

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