HBUS I/O Devices

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

Gallagher HBUS I/O Devices include:

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

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 500 m (1640 ft) at a speed of 1 Mb/s.

HBUS I/O 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 switches 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

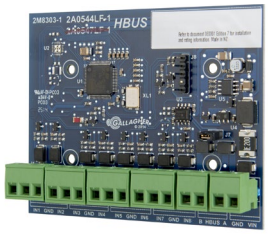
The Gallagher HBUS 8 In 2 Out Door Module provides connections for four Gallagher T-Series readers.

The Gallagher HBUS 4 In 2 Out Door Module - Wiegand provides connections for two Wiegand readers.



GALLAGHER Security

HBUS I/O Devices

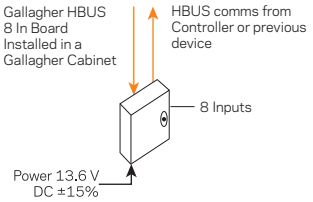


Gallagher HBUS 8 In Board

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



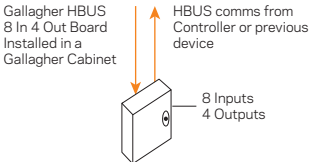


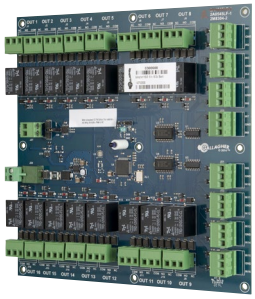
Gallagher HBUS 8 In 4 Out Board

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





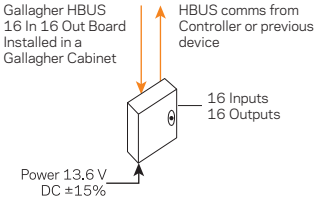
Gallagher HBUS 16 In 16 Out Board

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

A centrally located tamper detector provides front and rear optical tamper detection when installed in a Gallagher Cabinet.





Gallagher HBUS 8 In 2 Out Door Module

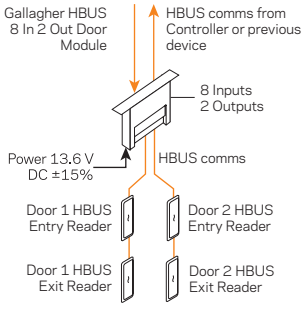
The Gallagher HBUS 8 In 2 Out Door Module extends the existing connectivity of the Gallagher Controller 6000 via the HBUS communications protocol.

The module provides connection for:

- 8 Inputs
- 2 Outputs
- 4 HBUS Readers or HBUS Terminals.

It connects HBUS Readers or HBUS Terminals from up to 400 m (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.



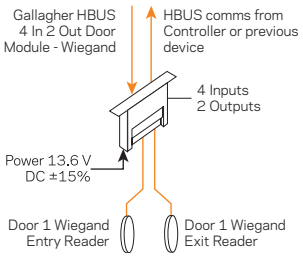


Gallagher HBUS 4 In 2 Out Door Module - Wiegand

The Gallagher HBUS 4 In 2 Out Door Module - Wiegand extends the existing connectivity of the Gallagher Controller 6000 via the HBUS communications protocol.

The module provides connection for:

- 4 Inputs
- 2 Outputs
- 2 Wiegand Readers





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 4 Out and HBUS 8 In 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

Product numbers					
C300680	Gallagher HBUS 8 In Board	C200104	Gallagher Dual Cabinet, Cool Grey	C200440	Gallagher Power Supply
C300684	Gallagher HBUS 8 In 4 Out Board	C200107	Gallagher Dual Cabinet UL, Cool Grey	C200001	Gallagher Mounting Plate
C300688	Gallagher HBUS 16 In 16 Out Board	C200105	Gallagher Dual Cabinet & PSU, Cool Grey	C200002	Gallagher Controller Sub-Plate
C300660	Gallagher HBUS 8 In 2 Out Door Module	C200103	Gallagher Dual Cabinet, Charcoal	C200003	Controller 6000 I/O Mounting Plate
C300665	Gallagher HBUS 4 In 2 Out Door Module - Wiegand	C200108	Gallagher Dual Cabinet UL, Charcoal	4G2262	Gallagher Cabinet Master Key
C200610	Gallagher Tamper Board - Board only	C200109	Gallagher Dual Cabinet & PSU, Charcoal		

Specifications applicable to all HBUS I/O Devices		
Power supply	Operating voltage (Vin)	13.6 Vdc + 15 %
Communications	Between Gallagher Controller and HBUS I/O device	RS485 at 1 M/b per second
	Wiring format	2 wire (gauge selected to suit cable length)
Cable specifications (data only)	Gallagher Controller to HBUS I/O device	500 m (1640 ft)
	Gallagher HBUS 8 In 2 Out Door Module to HBUS Readers or Terminals (Cat 5e, Belden 9842 or Gallagher HBUS Cable)	400 m (1312 ft)
Software compatibility	Command Centre vEL7.20 (or later), excluding the Gallagher HBUS 4 In 2 Out Door Module - Wiegand which is compatible with Command Centre vEL7.90 (or later).	
Standards compliance	All devices comply with the FCC, CE, UL and RCM 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.	

Specifications applicable to individual HBUS I/O Devices		
Gallagher HBUS 8 In Board	4-state balanced inputs	8
	Operating current	50 mA DC
	Power rating	0.68 W
	Proportion of cabinet footprint	1/4
Gallagher HBUS 8 In 4 Out Board	4-state balanced inputs	8
	Outputs	4 (24 Vdc/ac, 3 A resistive, 1 A inductive)
	Operating current	200 mA DC (relays on)
	Power rating	2.72 W (relays on)
	Proportion of cabinet footprint	1/2
Gallagher HBUS 16 In 16 Out Board	4-state balanced inputs	16
	Outputs	16 (24 Vdc/ac, 3 A resistive, 1 A inductive)
	Operating current	674 mA DC (relays on)
	Power rating	9.17 W (relays on)
	Proportion of cabinet footprint	1
Gallagher HBUS 8 In 2 Out Door Module	4-state balanced inputs	8
	Outputs	2 (24 Vdc/ac, 3 A resistive, 1 A inductive)
	Operating current	135 mA DC (relays on)
	Power rating	1.84 W (relays on)
	Proportion of cabinet footprint	1/4
Gallagher HBUS 4 In 2 Out Door Module - Wiegand	4-state balanced inputs	4
	Outputs	2 (24 Vdc/ac, 3 A resistive, 1 A inductive)
	Operating current	135 mA DC (relays on)
	Power rating	1.84 W (relays on)
	Proportion of cabinet footprint	1/4

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