

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

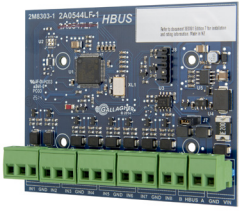
Integrating readers

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.



HBUS I/O Devices

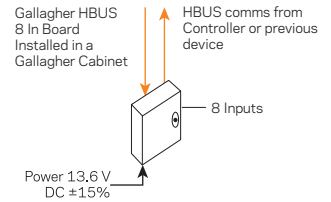


Gallagher HBUS 8 In Board

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

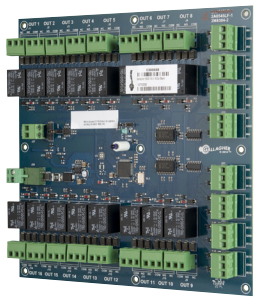
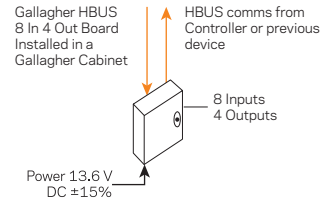


Gallagher HBUS 8 In 4 Out Board

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



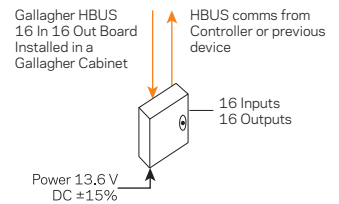
Gallagher HBUS 16 In 16 Out Board

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

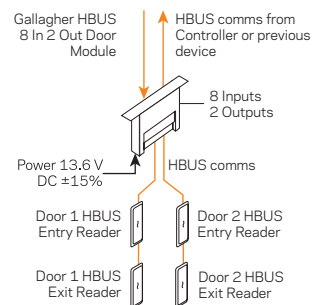
The Gallagher HBUS 8 In 2 Out Door Module extends the existing connectivity of the Gallagher Controller 6000 via the HBUS communications protocol.

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.



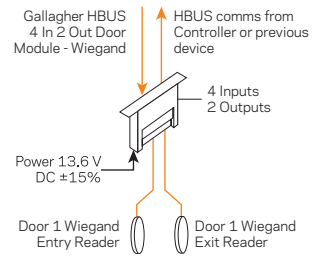


Gallagher HBUS 4 In 2 Out Door Module - Wiegand

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 | 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 or Belden 9842) | 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). | |
| Compliance standards | All devices comply with the FCC, CE, UL and C-Tick 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 |

GALLAGHER WORLD HEADQUARTERS

Kahikatea Drive, Hamilton 3206
Private Bag 3026, Hamilton 3240
New Zealand

TEL: +64 7 838 9800

EMAIL: security@gallagher.com

REGIONAL OFFICES

New Zealand..... +64 7 838 9800
Americas..... +1 877 560 6308
Asia +852 3468 5175
Australia +61 3 9308 7722
India +91 98 458 92920
Middle East..... +971 4 2602145
South Africa +27 11 974 4740
United Kingdom / Europe..... +44 2476 64 1234

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