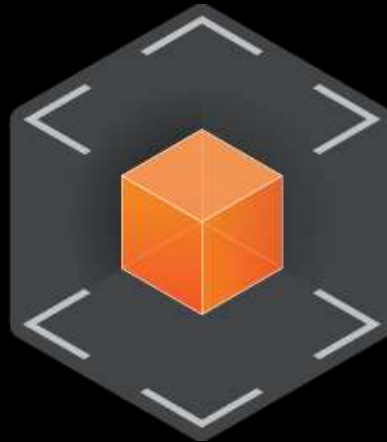


Gallagher Security Product Release

Command Centre v7.05

Key features



What's new?

Features of V7.05 at a glance:

Software

- HBUS - New protocol for downstream devices
- Relay attack protection with Mifare Plus X Cards

System Interfaces

- ExacqVision DVR Interface

Hardware

- Gallagher 4H / 8H Modules
- Gallagher T series reader range - Revision 1
- Gallagher T series reader range - Vandal Covers Spacer

- Gallagher F22 Fence Controller
- Tensioner Link System (K20)

Software

- HBUS - New protocol for downstream devices
- Relay attack protection with Mifare Plus X Cards

HBUS – High Speed Module

New Protocol for Downstream Devices

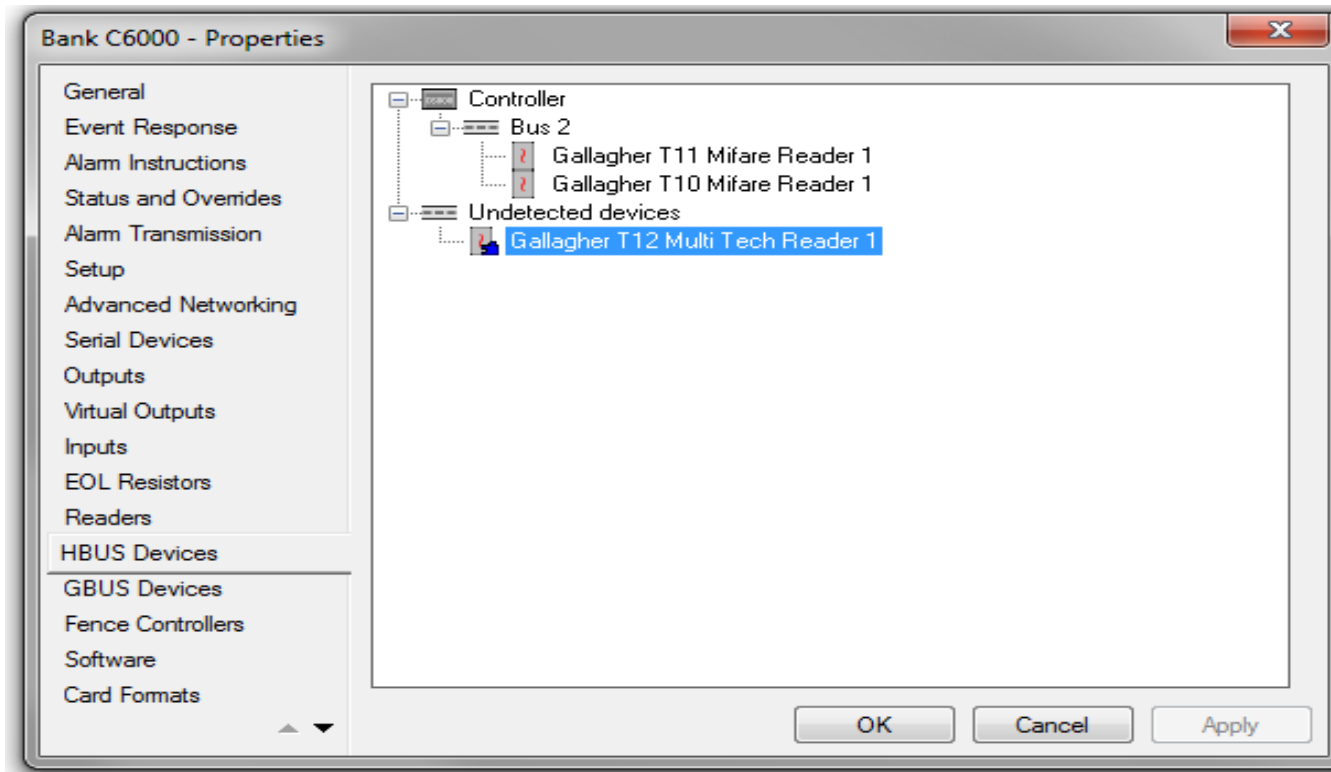
Gallagher has created a new downstream device protocol, HBUS, designed to deliver unparalleled functionality to field security devices.

Available on the Controller 6000, HBUS is a high speed RS-485 protocol, designed specifically for the needs of tomorrow's field security hardware. HBUS delivers all the benefits of bringing 'edge' field devices online, whilst providing unparalleled security and backwards compatibility with a site's existing wiring, hardware and infrastructure. Starting with the Gallagher T series readers – Rev 1, HBUS devices deliver the following benefits:

- **Ease of Configuration and Maintenance**
- **Speed**
- **Flexibility**
- **Improved Security**
- **Upgradability and Customisability**

HBUS - Ease of Configuration and Maintenance

Unlike many IP based 'edge' field devices, HBUS devices require no IT networking knowledge to install and configure. HBUS devices can be configured in Command Centre in advance, allowing quick 'plug and play' installation for the field installer.



***HBUS Devices Tab
- Properties –
Controller 6000***

HBUS - Speed

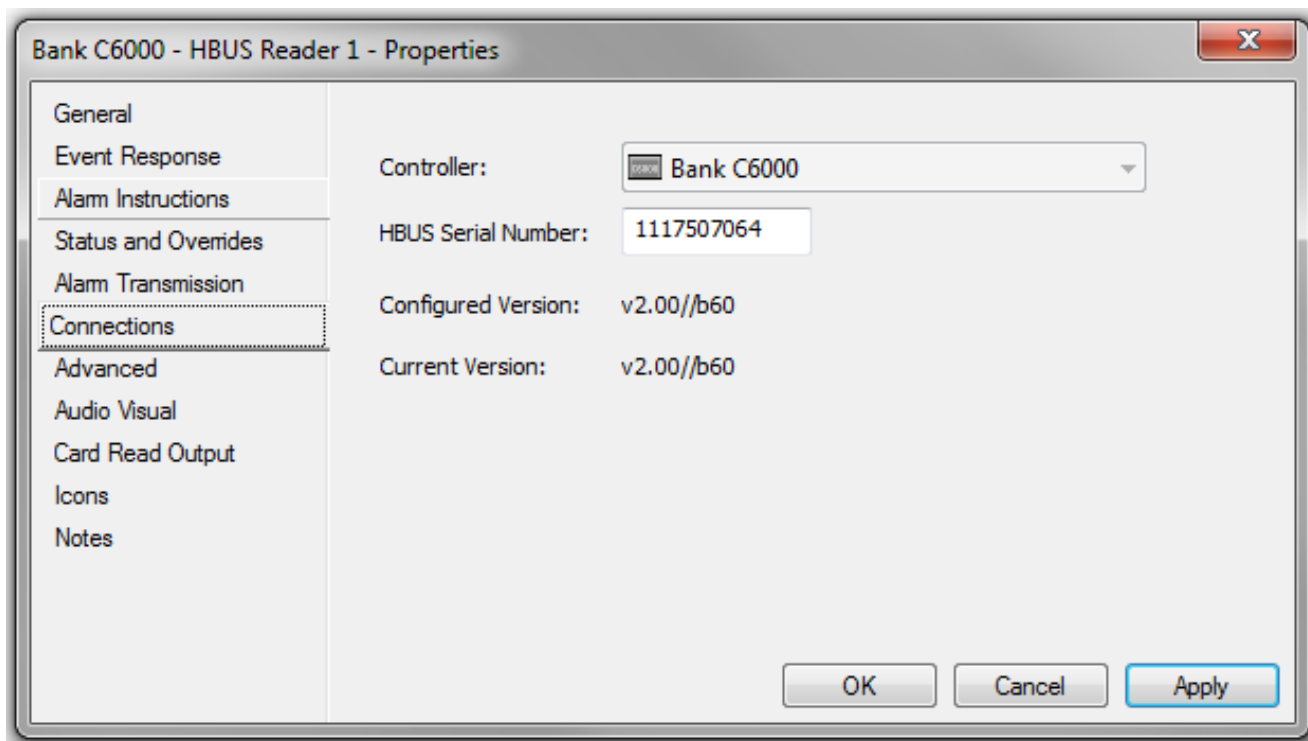
The HBUS protocol runs at speeds up to 1Mb/s, substantially faster than most other RS-485 based communications protocols. This increased communications speed is noticeable in the improved responsiveness of HBUS devices, such as quicker door unlock times when using HBUS capable Gallagher T series Rev 1 readers (see the 'Upcoming Hardware' section).

HBUS - Flexibility

While HBUS is an RS-485 based protocol, HBUS devices are not limited to traditional RS-485 daisy chain wiring architectures. Gallagher has produced HBUS consolidation boards, the Gallagher 4H and 8H Modules (see the 'New Hardware' section), allowing star-wiring of HBUS devices back to the Controller 6000. Additionally, HBUS runs over a wide range of common security and IT network cabling, making HBUS devices the perfect choice for retrofitting sites with existing wiring, eliminating costly and time consuming re-wiring.

HBUS – Improved Security

All HBUS devices are secured using open standard, industry leading authentication and encryption techniques, using strong encryption algorithms and key lengths (256 bit ECC, 128 bit AES).

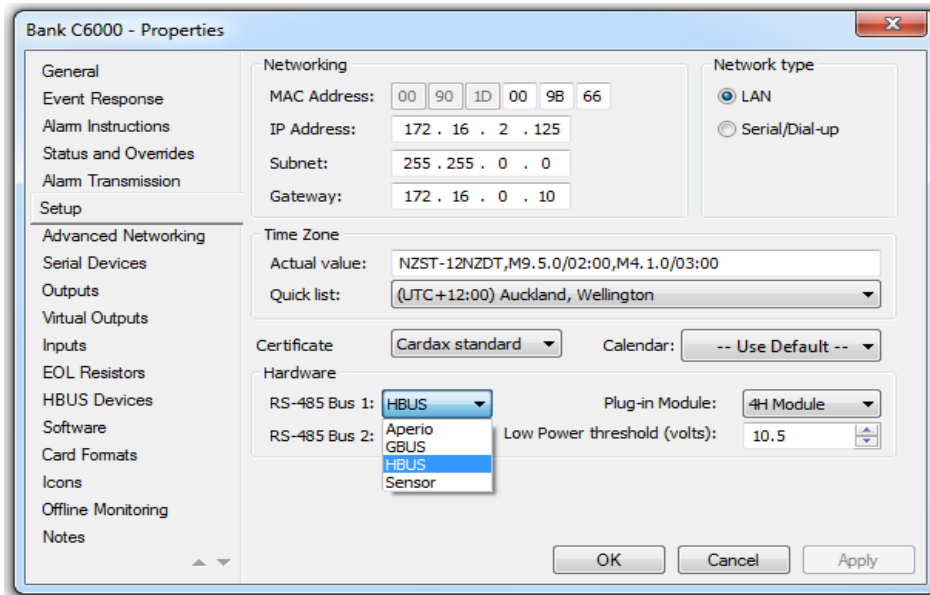


HBUS Connections Tab - Properties – Controller 6000

HBUS – Upgradability and Customisability

Software on all HBUS devices is designed to be upgradable, automatically updating when the Controller's software is upgraded. This allows HBUS devices to be updated each time a site upgrades to a new version of Command Centre, delivering on-going device improvements and features.

HBUS devices also have the potential to be customised based on a site's individual and changing needs.



Controller 6000 – Setup Tab

Relay Attack Protection with Mifare Plus X Cards

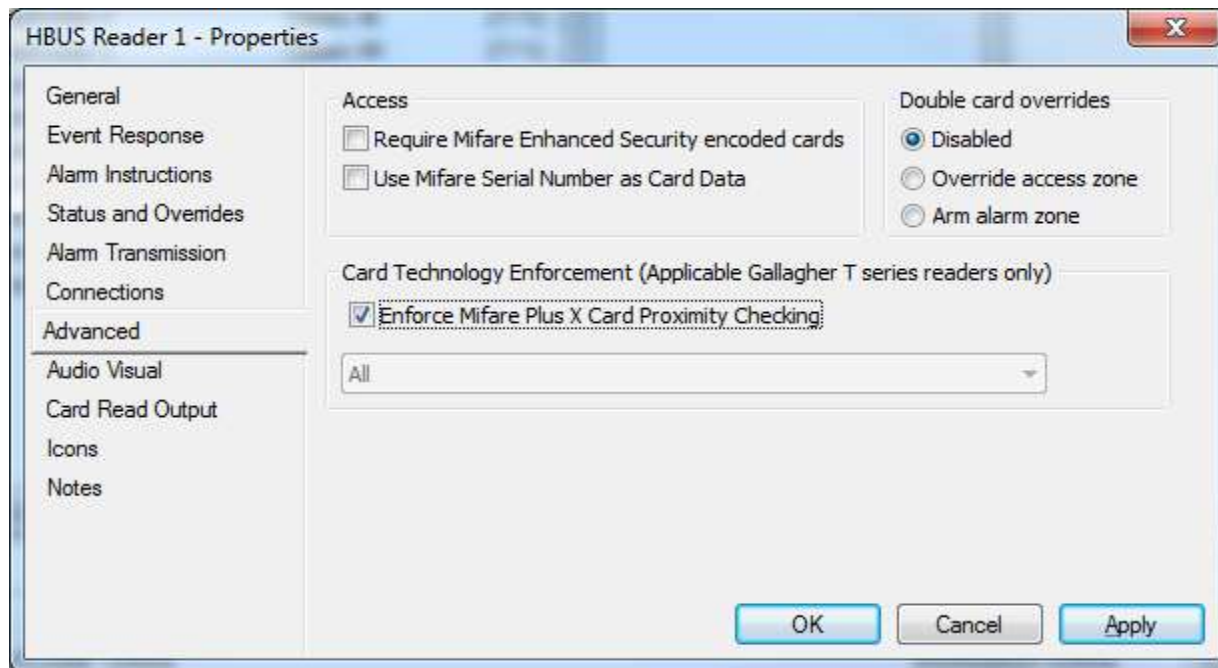
In conjunction with Mifare Plus 'X' card technology, Gallagher T series readers provide advanced protection against relay attacks.

Near Field Communication (NFC) enabled devices such as smart phones can potentially be used to relay communications between a smartcard and card reader, fooling them into thinking they are in close proximity, when they may be a great distance apart. An individual using this type of attack could gain access to a site, without breaking standard card encryption or protection measures.

Relay Attack Protection with Mifare Plus X Cards

Enforcing Mifare Plus X Proximity Checking

Gallagher T series readers can now be configured to conduct card proximity checks when Mifare Plus proximity cards with the 'X' feature set are used. This ensures that access can only be granted to a cardholder whose access card is in close proximity to the reader.

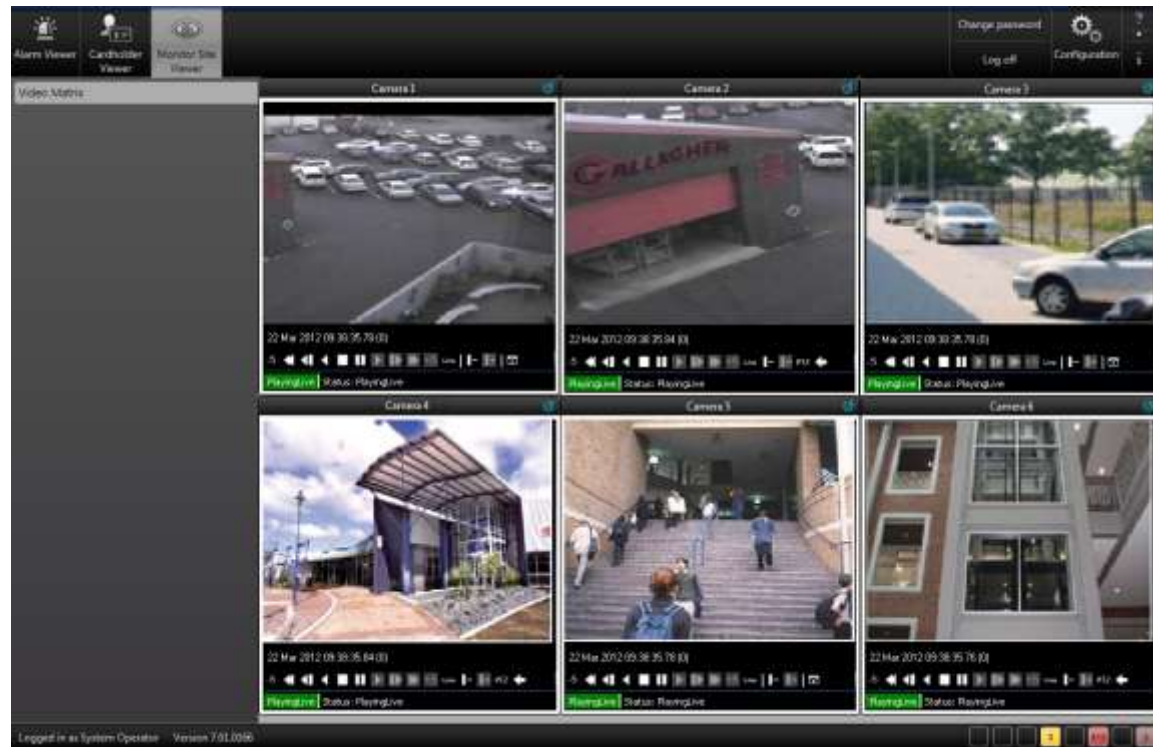


System Interfaces

- ExacqVision DVR Interface

ExacqVision DVR Interface

Gallagher Command Centre now supports both live and playback video as well as a high level event and alarm interface with the ExacqVision DVR System.



ExacqVision DVR Interface

Gallagher Command Centre v7.05 now supports video interfaces and a high level event and alarm interface with the ExacqVision DVR System.

The interface supports the following features:

- Recorded video from multiple cameras can be associated with alarms and is available for playback in Command Centre.
- Live video viewer and controls (e.g. pan, tilt, zoom) are available directly from Command Centre.
- Selected high level events and alarms sent from the Gallagher Controller to the ExacqVision system can trigger moving a camera to a pre-set.
- High level events and alarms, such as motion detection or diagnostic alarms, can be sent from the ExacqVision system for management at the controller and within Gallagher Command Centre.
- Live display of video in response to Challenge events within Command Centre.

Hardware

- Gallagher 4H / 8H Modules
- Gallagher T series reader range - Revision 1
- Gallagher T series reader range - Vandal Covers Spacer

Coming soon...

- Gallagher F22 Fence Controller

HBUS – 4H and 8H Modules

Gallagher 4H and 8H Modules allow HBUS devices to be star-wired back to a secure Controller cabinet.

With the release of the HBUS communications protocol with Command Centre v7.00, the Controller 6000 supports the ability to communicate to downstream devices via high speed, daisy-chained RS-485. However, many customers / installers will prefer to wire their HBUS devices via a star wired configuration, for several reasons:

- Existing cabling to field devices, such as readers, may already be star wired back to a Controller cabinet
- Star wiring removes the risk of one faulty unit / wiring connection taking down all downstream devices on a daisy-chained run
- With only one device on each wiring run, star wiring simplifies issue diagnosis.



4H Module



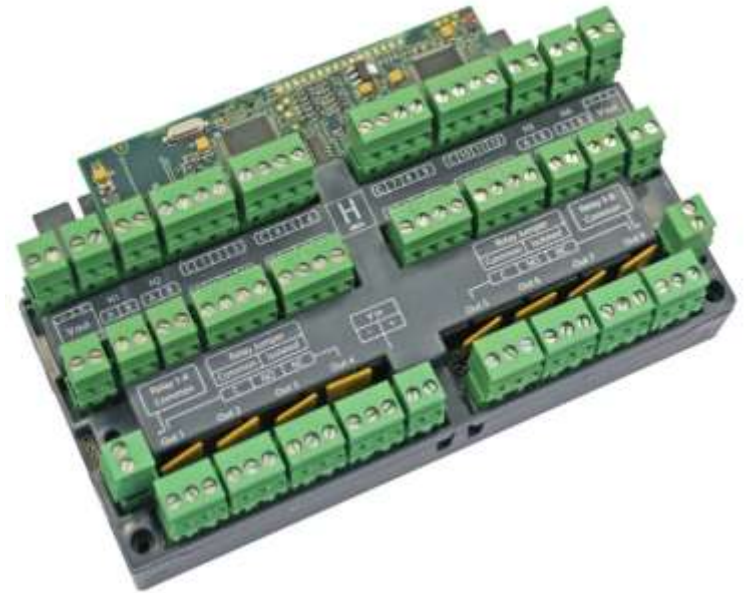
8H Module

HBUS – 4H and 8H Modules

Based on a similar hardware construction to that of the Gallagher 4R and 8R Modules, Gallagher 4H / 8H Modules allow HBUS devices to be configured to either 4 or 8 flexible, isolated HBUS ports. As with the 4R/8R Modules, both HBUS Modules support a like number of inputs and outputs to support full door connectivity. HBUS modules have been designed to run on all existing Controller 6000s, allowing an easy retrofit of previously installed 4R / 8R.



4H Module



8H Module

Gallagher T Series Reader Range – Revision 1



Gallagher T10 Reader – Rev 1



Gallagher T11 Reader – Rev 1



Gallagher T12 Reader – Rev 1

Gallagher T Series Reader Range – Revision 1

Gallagher T Series Revision 1 readers are now compatible with Gallagher's new downstream device protocol, HBUS, designed to deliver unparalleled functionality to field security devices (See 'New Features – HBUS – New Protocol for Downstream Devices'). The Revision 1 readers can be configured as either HBUS or Cardax IV protocol readers, depending on site installation needs.

Gallagher T10 Reader – Rev 1



Supporting

Mifare Classic

Mifare Plus

Mifare DESFire EV1

**Greatly reduced power draw compared to
Mifare Teardrop reader**

Gallagher T11 Reader – Rev 1



Supporting

Mifare Classic

Mifare Plus

Mifare DESFire

125 kHz (Multi Tech only)

**Fits over tall format flushboxes
commonly found in NZ, Aust, USA
and further afield**

Gallagher T12 Reader – Rev 1



Supporting

Mifare Classic

Mifare Plus

Mifare DESFire

125 kHz (Multi Tech Tech only)

**Fits over wide BS (British Standard)
flushboxes**

Gallagher Reader Vandal Cover Spacers

Mounting card readers on metallic surfaces can significantly degrade card read range. Available for Gallagher T10, T11, and T12 readers, Vandal Cover Spacers provide the option to improve card read range by distancing readers with vandal covers from metal surfaces.



For T10 Reader



For T11 and T12 Readers

- **F22 Fence Controller**

Gallagher F22 Fence Controller

Gallagher is releasing a new, integrated electric fence controller for perimeter security, the F22 Fence Controller.



F22 Fence Controller – Enclosure

Gallagher F22 Fence Controller

The F22 Fence Controller has been developed to upgrade the Gallagher Trophy FT perimeter technology in line with changes that have been made to global safety standards. Whilst maintaining compliance to IEC, EN and AS/NZS 60335-2-76, Gallagher has used this opportunity to enhance the F22's performance beyond what has previously been considered possible in the industry to include:

- 2x high voltage electric fence zones (configurable as dual pulse)
- All wires can have deterrent, all wires can have detection
- 3x low voltage inputs (individually selectable for controls of alarm detection)
- Low voltage pulse synchronisation
- Reduced enclosure housing foot print (compared to Trophy FT)
- Temperature management & reporting

Gallagher F22 Fence Controller

Standard Changes

Over the last few years there has been a significant requirement shift in standards to ensure that all electrical equipment which has software control remains within its operating parameters in the event of a software / microprocessor failure.

To achieve compliance to the new requirements, product must either be “class C” compliant or have hardware based multi redundant overrides to counter any inappropriate messages received by its processor/s.

Due to the inherent complexity and significant performance burden placed on “Class C” software compliance, Gallagher has opted to resolve this issue with hardware solutions. (i.e. any event which may cause a processor to inappropriately control the Fence Controller will be overridden by the hardware). This has been tested through an IANS accredited laboratory to ensure compliance to international standards

Gallagher F22 Fence Controller

HBUS communications protocol

The F22 Fence Controller has been designed to support the new HBUS communications protocol with the Controller 6000, so enjoys all the benefits of an HBUS downstream device:

- Automated HBUS authentication for ease of installation
- IT standard authentication and encryption protection (256 bit ECC, 128 bit AES)
- Upgradable firmware (delivered via the 6000 controller)
- Fast and resilient communications

Gallagher F22 Fence Controller

F22 Fence Controller 1 - Properties

General

Event Response

Alarm Instructions

Status and Overrides

Alarm Transmission

Connections

EOL Resistors

Devices

Advanced

Alerts

Data Logging

Icons

Notes

Pulse Interval (sec): 1.5

Power Level (%): 100

Synchronisation Source: Slave Copper

Go Slow

AC Power Fail Delay (min): 30

Go Slow Battery Level (Volts): 11.5

Stop Battery Level (Volts): 11.0

OK Cancel Apply

F22 Fence Controller – Advanced Tab

Gallagher F22 Fence Controller

Fence High voltage outputs (2x)

The F22 Fence Controller is a balanced Fence Controller with two independently charged high voltage outputs. One output is positive polarity while the other is negative polarity.

This means that the controller can be used for two zone (left & right) in HV / Earth configuration or as a single dual pulse zone (i.e. alternative positive / negative pulse wires). This will provide for all wires to be pulse (with deterrent) and for all wires to be capable of detecting an attack (detection).

Gallagher F22 Fence Controller

Reliability improvements

The following reliability enhancements have been made compared to the Trophy FT Fence Controller

- Improved fence voltage measurement accuracy
- Improved RS485 immunity to interference
- Improved charge / discharge circuit
- Improved mounting of the output transformer

Gallagher F22 Fence Controller

Low voltage pulse synchronisation – ‘Copper Sync’

As an innovation within the F22 product “copper sync” has been created. This is a synchronized RS485 message that is sent between Fence Controllers that coordinates the output pulse onto the fence to ensure that all fences maintain compliance with the safety standards.

Alarms are generated within Command Centre in the event of loss of signal or multiple signals being present on the same line. Copper sync can utilise a separate conductor pair within the data cable and can be transmitted up to 1.2km on Cat 5 cable or can be transmitted on fibre optic cable as required.

Gallagher F22 Fence Controller

Enclosure enhancements

The F22 enclosure has been reduced 40% in footprint size from the Trophy FT Fence Controller making it more efficient to use in external enclosures where space is at a premium.

The outside of the enclosure provides visual indication of AC present, battery operation, low battery, battery missing).

The enclosure base has 3x new HV cable entry points which can be configured using the break outs provided. New apertures include, side, top and rear cable entry points.

In addition the F22 also has a new internal cover. This is to prevent inadvertent contact with output generation circuitry when adjustments are being made to the low voltage connections or when the battery is being changed.

Gallagher F22 Fence Controller –Internal View



Gallagher F22 Fence Controller

Power supply mounting options

The F22 is supplied with an umbilical type power supply fitted into the base (as standard).

This power supply can either be installed in place or mounted externally to the Fence Controller in case of expected high ambient temperatures.

Extension to advanced battery management

The F22 product has extended the management of its internal battery to include the following charging modes.

- Trickle charge – slow charge rate when the battery is below 10VDC
- Bulk charge – Maximum charge rate for a battery of this type for fast recovery
- Float charge – slow charge rate whose voltage will vary to accommodate for temperature variations to ensure the battery life is prolonged.

Gallagher F22 Fence Controller

Temperature management

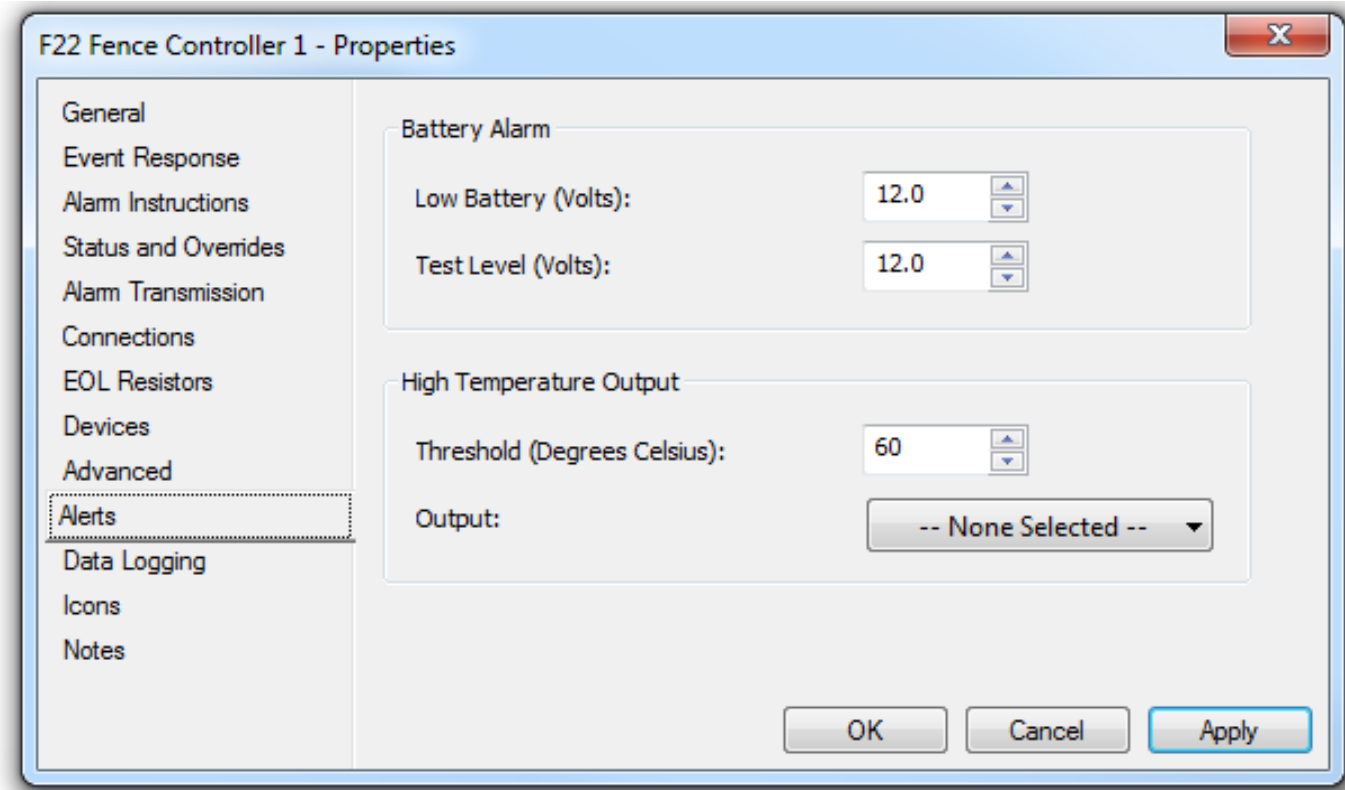
High temperatures can have detrimental effects on both standby batteries and electronics. It's for this reason that the F22 Fence Controller now includes internal temperature measurement.

This is to allow for correct battery management, correct high voltage fence measurement and to provide for thermal management of the F22 (in the event that it's installed in an external enclosure).

When operating at elevated temperatures the following protection will apply.

- 60 °C (or Installer definable) – a relay output can be turned on (for 3rd party cooling control)
- 75 °C Very high temperature warning event – pulse rate is reduced to ½ speed
- 85 °C Very high temperature warning event – pulse rate will stop to protect the system from damage

Gallagher F22 Fence Controller



F22 Fence Controller Properties – Alerts Tab

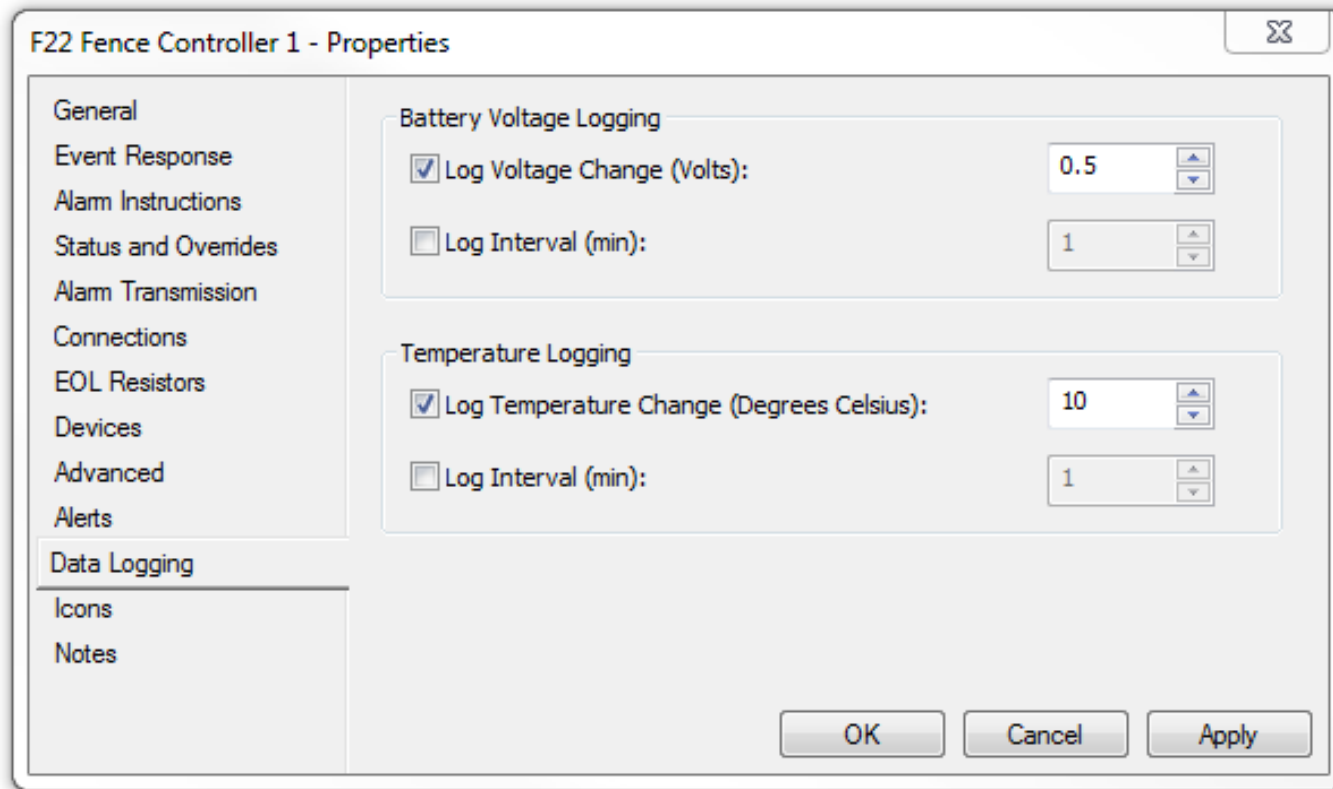
Gallagher F22 Fence Controller

Fence output measurement and weekly max / min display

A running tally is maintained on the Controller 6000 for the highest / lowest voltages that have been measured on each fence zone within the last week. This means that an installer / user can view the fence voltage on a keypad or PC terminal and immediately see if the fence voltage has been fluctuating.

If it has been fluctuating then this would be a reason for running a report to further investigate the variation. If minimal variation has occurred that there is no need for the installer / user to look further. As such, this will simplify routing checks of fence zones, as only zones with high voltage fluctuations need more detailed investigation.

Gallagher F22 Fence Controller



F22 Fence Controller Properties – Data Logging Tab

Gallagher F22 Fence Controller

Relay protection and “wet” contacts

The relay outputs on the F22 are now protected from accidental current overload.

The installer can select each relay for either “wet” (powered) operation from the internal power source or “dry” (non-powered) operation from other power sources.

Licensing (Software Features)

The F22 is licensable per Fence Controller (in a similar manner to the Trophy FT Fence Controller). The F22 Fence Controller is available for purchase by all Gallagher perimeter accredited Channel Partners.

Tensioner Link System (K20)

Efficient and reliable assembly method for Gallagher security perimeter electric fences.

Tensioner Link System (K20)

The Gallagher K20 Tensioner Link System provides a reliable, efficient and consistent method of configuring Gallagher perimeter security electric fences.

The Tensioner Link System hardware moves all electrical connections to a common point on the tensioner.



Tensioner Link System (K20)

FEATURES AND BENEFITS

Easy installation and maintenance of the Tensioner Link System results in a lower operational cost through reduced maintenance time and expenses, and improved performance. The Tensioner Link System's improved reliability and speed of maintenance also minimizes the risk of system downtime.

- Installation and Maintenance
- Reliability
- Higher Security Level
- Appearance

Tensioner Link System (K20)

SYSTEM COMPONENTS

- > Tensioners
- > Links
- > Spring, tension indicator and clamp
- > Wire link adapter
- > In-line strain bracket
- > Lug kit
- > Mounting hooks and screws

Other Command Centre v7.05 developments

Please refer to Gallagher Command Centre Feature summary v7.05 for full details on the enhancements!

Thank you

**For further information about Gallagher
products and services please visit:**

security.gallagher.co

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