

Controller 7000 Product Range

The Gallagher Controller 7000 Product Range introduces the next level of cyber security, seamless upgrades for existing sites and provides a Platform for the Future.

A new age of cyber defence

The Controller 7000 (C7000) range introduces a new generation of cyber defence with enhanced hardware, that uses industry-leading security infrastructure to generate, process and store cryptographic keys and certificates. With a Controller 7000 you have industry leading protection against attacks on firmware in the supply chain and a platform ready for the future.

The C7000 Product Range are IP based controllers that can manage all localized access control, intruder alarms, perimeter security, business automation and logic needs for an organization. Able to operate independently from the Command Centre server, the C7000 Product Range ensures predefined responses to monitored events, site safety, and continuity. C7000 features a highly scalable system design, able to scale from single door systems to global systems with up to 10,000 controllers per server.

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Key features

- IP based 10/100 Ethernet connectivity with an option for 1Gb networks
- v9.40 introduces optional licensed support for up to 24 doors on a Controller 7000 to reduce network costs and streamline site takeovers
- Intruder alarms monitoring and transmission to external monitoring stations
- Lock cycle counting introduces proactive maintenance capabilities to monitor lock usage and receive alarms when locks approach their rated cycle limites.
- Serverless enforcement of business policy, ensuring staff operate in a safe and secure environment - even if connection to the server is lost
- High speed RS-485 connectivity and software updates to field devices
- Programmable controller-based logic that operates independently of the server
- Industry leading authentication and encryption between the C7000 and all Gallagher elements of the system
- Support for elevator access control
- Support for integrated perimeter security
- Support for integration directly with building management systems
- Support for multiple wiring topologies, allowing easy connectivity of existing field devices without re-wiring
- Native programming interface for integration between the controller and 3rd party systems, independent of Command Centre server connectivity
- Multiple cabinetry and powering options dependent on-site requirements
- Peer-to-peer inter-controller monitoring
- Optional Dual ethernet featuring two separate MAC addresses
- Optional temperature sensor and in service relay
- High security variant for advanced security needs
- 802.1x Authentication - Certificate-based authentication only
- Ethernet Bridging to allow an IP device to be connected to the second ethernet port (Enhanced/High Sec only)

Provides support for up to:

- 256 alarm zones
- 2000 access groups
- 400 time schedules
- 2,000,000 cardholders
- 1,000,000 events
- 1000 active alarms
- An unlimited number of access zones

Access Control

The C7000 Product Range supports access control of up to 10 doors and 256 Alarm Zones without the need for further downstream door controllers. These controllers support connectivity to a range of reader protocols, including Gallagher T-Series HBUS, CardaxIV, 3rd Party Wiegand, OSDP, and Aperio readers.

The C7000 Product Range also provides a range of wiring connectivity options for re-use of existing site wiring, with reader connectivity and door I/O options such as the:

- 8H/4H Module – Connecting directly into the controller, supporting respectively 8 or 4 readers and up to 24 Inputs and 8 Outputs.
- 8R/4R Module – As above, supporting respectively 8 or 4 readers (CardaxIV), or 4 or 2 readers (Wiegand) and up to 24 Inputs and 8 Outputs.
- HBUS Door Module/HBUS Door Module Wiegand – Connected via RS485 wiring to the controller, supporting 2 readers (HBUS or Wiegand respectively) and
- HBUS IO boards allowing the configuration of up to 512 Inputs and 512 Outputs.

The controllers support advanced access control functions such as mobile credential support, anti-passback, anti-tailgating, dual authorization, elevator floor access, and visitor escorting functions.

Intruder Alarms

Used in conjunction with the Gallagher T20 Terminal, the C7000 supports full intruder alarms functionality, including arming and disarming, entry and exit paths, sensor walk testing, and high security options such as authenticated and encrypted sensor communications and sensor masking detection alarms.

The controller supports transmission of alarms to external monitoring stations via LAN/WAN networks using encrypted DC09 or CSV IP Alarms standard and optional serial port for connection to third party systems.

Business Policy Enforcement

The C7000 is capable of enforcing business policy at the door, ensuring that all staff and visitors remain physically safe and compliant on site. This can include enforcement of an individual's compliance to enter an area (e.g. site inductions, licenses, and accreditation), safety policies (e.g. automated site lockdown based on a combination of pre-defined events), drug and alcohol policies (e.g. randomized alcohol testing prior to site entry), and fatigue policies (e.g. enforcing rest periods before site re-entry), with enforcement occurring irrespective of Command Centre server connectivity.

Dedicated encryption chip

The Controller 7000 uses a Secure Element to keep all keys and certificates separate from the main microprocessor. This additional level of protection provides industry leading cyber security.

Controller 7000 variants

Controller 7000 Standard

The Controller 7000 (C7000) introduces a new generation of cyber defence with enhanced hardware, that uses industry-leading security infrastructure to generate, process and store cryptographic keys and certificates.

The C7000 is an IP based controller that can manage all localized access control, intruder alarms, perimeter security, business automation and logic needs for an organization. Able to operate independently from the Command Centre server, the C7000 ensures predefined responses to monitored events, site safety, and continuity.



Controller 7000 Single Door

The Controller 7000 Single Door (C7000 SD) is a powerful network connected controller, providing a complete and flexible solution for your business expansion one door at a time. The C7000 SD Power over Ethernet variants are designed to remove the need for power supplies, cabinets, and long expensive cable runs – reducing cost and time of installation. The small but mighty device is a lower-cost controller that can be utilized for system interfaces, alarm monitoring, perimeter security, and external device control.

The C7000 SD is designed to operate as a standalone or to complement the capabilities of existing Gallagher hardware.



Controller 7000 Enhanced

The Controller 7000 Enhanced is designed for sites that want to future proof their network with Gb ethernet, require network redundancy (including two ethernet ports with their own MAC address capable of supporting separate networks) or desire a higher level of protection with an in-service relay, temperature sensor and eFuses. The Enhanced controller also includes a serial port for sites needing to use an alarms dialler or connection to third party systems.



High Sec Controller 7000

The High Sec Controller 7000 is designed to meet the needs of sites with the strictest of security needs. This controller also includes all the advanced features in the Controller 7000 Enhanced and uses a secure access module that is rated to FIPS 140-3 and EAL6+.



Controller 7000 Two Door Standard

The C7000 Two Door Controller (Standard) is the ideal solution for secure, cost-effective access control across two entry points. Whether you're upgrading an existing system or deploying new infrastructure, this controller delivers powerful functionality in a compact form.

Controller 7000 Two Door Enhanced

The C7000 Two Door Controller (Enhanced) is designed for sites that want to future proof their network with Gb ethernet, require network redundancy (including two ethernet ports with their own MAC address capable of supporting separate networks) or desire a higher level of protection with an in-service relay, temperature sensor and eFuses. The system also supports lift systems, alarm diallers, and alcolizer units via serial port—perfect for specialized environments.

Controller 7000 Two Door Kit (Standard)

The C7000 Two Door Pre-configured Kit (Standard) includes everything you need: controller, cabinet, power supply, and mounting plate. No extra network connections required.

Controller 7000 Variant Overview

Capacity Support	C6000 Standard	High Sec C6000	C7000 Single Door	C7000 Standard *(incl. Two Door)*	C7000 Enhanced *(incl. Two Door)*	High Sec C7000
Maximum Inputs	24 (expandable to 280)	24 (expandable to 280)	6	24 (expandable to 536)	24 (expandable to 536)	24 (expandable to 536)
Maximum Outputs	8 (expandable to 264)	8 (expandable to 264)	2	8 (expandable to 520)	8 (expandable to 520)	8 (expandable to 520)
Maximum Doors	10	10	1	24**	24**	24**
Maximum Readers	20	20	10	48	48	48
Maximum Alarms Terminals	10	10	20*	20*	20*	20*
Maximum Stored Events	80,000	80,000	1,000,000	1,000,000	1,000,000	1,000,000
Maximum Cardholders	500,000	500,000	2,000,000	2,000,000	2,000,000	2,000,000
Maximum Alarm Zones	256	256	256	256	256	256
Maximum Active Alarms	100	100	1000	1000	1000	1000

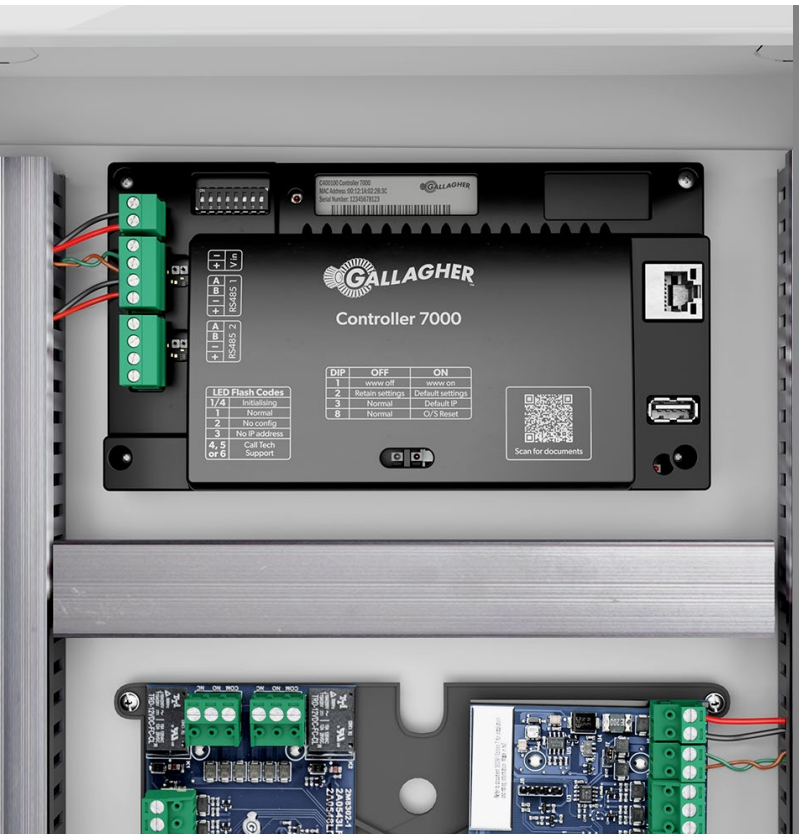
**Only 10 simultaneous log ins allowed*
*** Subject to licensing, excludes Controller 7000 Two Door Variants*

Hardware Features						
Onboard Ethernet	Yes	Yes	Yes	Yes	Yes	Yes
Maximum Ethernet Speed Support	10/100 Mbps	10/100/1000 Mbps	10/100 Mbps	10/100 Mbps	10/100/1000 Mbps	10/100/1000Mbps
Dual Ethernet	No	Yes, Single MAC	No	No	Yes, dual NICs* **Available from 9.20 or later)*	Yes, dual NICs* **Available from 9.20 or later)*
Embedded Processor	ARM9	ARM9	NXP i.MX8x	NXP i.MX8x	NXP i.MX8x	NXP i.MX8x FIPS **Available from 9.20 or later)*
Memory	64MB RAM 128 NAND	64MB RAM 128 NAND	512MB RAM, 8GB eMMC	512MB RAM, 8GB eMMC	512MB RAM, 8GB eMMC	512MB RAM, 8GB eMMC
RS-485 Downstream Ports	Yes (2 ports)	Yes (2 ports)	Yes (1 port)	Yes (2 ports)	Yes (2 ports)	Yes (2 ports)
RS-485 Port Maximum Speed	1 Mbps	1 Mbps	1 Mbps	1 Mbps	1 Mbps	1 Mbps
PoE Support	No	No	Yes, PoE+variants	No	No	No
Peer-To-Peer Communications	Yes	Yes	Yes	Yes	Yes	Yes
Virtual Outputs	Yes	Yes	Yes	Yes	Yes	Yes
Upstream Encryption	AES 256bit	AES 256bit	AES 256bit	AES 256bit	AES 256bit	AES 256bit
Encryption to Field Devices	ECC 256bit Auth, AES 128bit Symmetric	ECC 256bit Auth, AES 128bit Symmetric	ECC 256bit Auth,AES 128bit Symmetric	ECC 256bit Auth, AES 128bit Symmetric	ECC 256bit Auth, AES 128bit Symmetric	ECC 256bitAuth, AES 128bit Symmetric
Automatic Software Upgrades of Downstream Devices	Yes	Yes	Yes	Yes	Yes	Yes
Offline Controller Logic Support	Yes	Yes	Yes	Yes	Yes	Yes
DIP Switches	8	8	8	8	8	8
Run Indicator LED	Yes	Yes	Yes	Yes	Yes	Yes
Temperature Sensors	No	Yes	No	No	Yes	Yes
Over Temperature LED	No	Yes	No	No	Yes	Yes
PSTN Dialler Support	Yes	Yes	No	No	Yes	Yes
Tamper Detection	Yes – optical tamper	Yes – optical tamper	Yes -Microswitch	Yes – optical tamper	Yes – optical tamper	Yes – optical tamper
Inter-Controller Communications	60	60	100	100	100	100
USB Expansion Port	Yes	Yes	No	Yes	Yes	Yes
RS232c Serial Port	Yes	Yes	No	No	Yes	Yes
Secure Boot	No	No	Yes - 384bit Strength	Yes - 384bitStrength	Yes - 384bit Strength	Yes - 384bit Strength
CPU Internal Watchdog	No	No	Yes	Yes	Yes	Yes
Real Time Clock with Backup Capacitor	Yes	Yes	Yes	Yes	Yes	Yes
Board ID Resistors (ADC)	Yes	Yes	No – Variant recorded in OTP	No – Variantrecorded in OTP	No – Variant recorded in OTP	No – Variantrecorded in OTP
Connector for Plugin Module	Yes	Yes	No	Yes	Yes	Yes
Security Chip	No	VAULTIC HS	Edgelock	Edgelock	Edgelock	FIPS 140-3 approved Edgelock
In Service Relay	No	Yes	No	No	Yes	Yes
Key Lengths	P256 & SHA 1 Factory P384 & SHA 384 Site	P256 & SHA FactoryP384 & SHA 384 Site	P384 & SHA 384	P384 & SHA 384	P384 & SHA 384	P384 & SHA 384
RS485/external power Overload fuses	Polyfuses	Polyfuses	eFuses (monitored)	Polyfuses	eFuses (monitored)	eFuses (monitored)

Field Device Features						
Maximum HBUS Devices per Wiring Run	80	80	80	80	80	80
Maximum HBUS Devices Wiring Run Length	500m	500m	500m	500m	500m	500m
Support for Daisy Chain Wiring of Field Devices	Yes	Yes	Yes	Yes	Yes	Yes
OSDP Reader Support	Yes	Yes	Yes, 16	Yes, 32	Yes, 32	Yes , 32
Customisable Reader Images	Yes	Yes	Yes	Yes	Yes	Yes
Keypad Triggered Events	Yes	Yes	Yes	Yes	Yes	Yes
Reader Mimic Panel Functionality	Yes	Yes	Yes	Yes	Yes	Yes
Custom Messages on Readers	Yes	Yes	Yes	Yes	Yes	Yes
Field Downloadable Code	Yes	Yes	Yes	Yes	Yes	Yes
End-of-line Encryption Module	No	Yes	No	No	No	Yes
Aperio Support	Yes	Yes	Yes	Yes	Yes	Yes
RSI/Schlage RS485 Support	Yes	Yes	Yes	Yes	Yes	Yes
Moduteq/MBus Support	Yes	Yes	Yes	Yes	Yes	Yes
GBUS Support *	Yes	Yes	No	No	No	No
Wiegand Support	With plug-in module, expander or HBUS door module	With plug-in module, expander or HBUS Door Module	Yes	With plug-in module or HBUS Door Module	With plug-in module or HBUS Door Module	With plug-in module or HBUS Door Module
Cardax IV Support	Yes – 8R/4R module or GBUS URI*	Yes – 8R/4R module or GBUS URI*	No	Yes – 8R/4R module	Yes – 8R/4R module	Yes – 8R/4R module

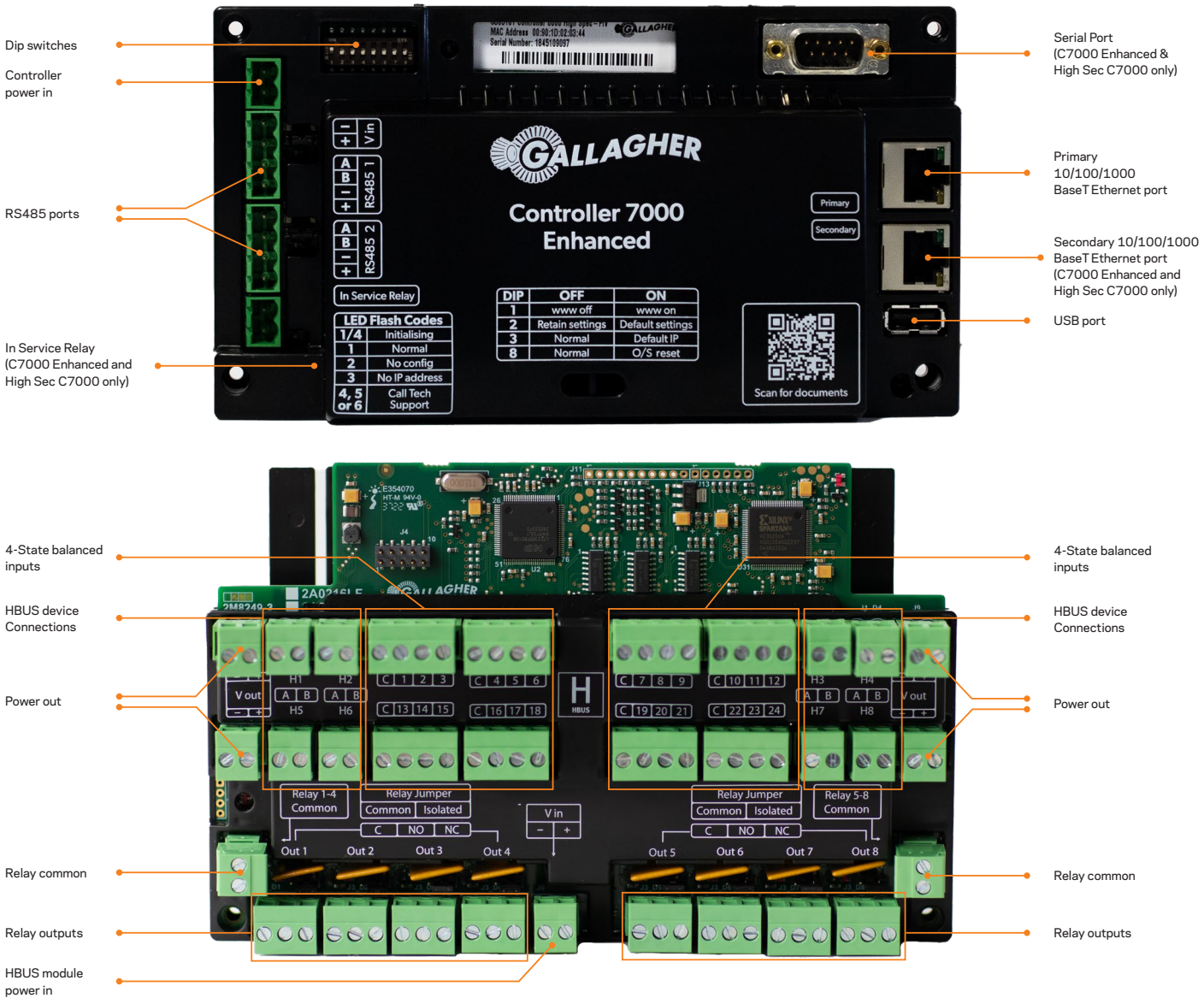
** Please note GBUS is not supported from Command Centre v9.10 onwards.*

Supported Credential Types						
MIFARE DESFire	Yes	Yes	Yes	Yes	Yes	Yes
MIFARE Classic	Yes	Yes	Yes	Yes	Yes	Yes
MIFARE Plus	Yes	Yes	Yes	Yes	Yes	Yes
Mobile Credentials	Yes	Yes	Yes	Yes	Yes	Yes
125 kHz	Yes	Yes	Yes	Yes	Yes	Yes
PIV	No	Yes	No	No	No	Yes
PIV-I	No	Yes	No	No	No	Yes
TWIC	No	Yes	No	No	No	Yes
QR Codes	Yes	Yes	Yes	Yes	Yes	Yes

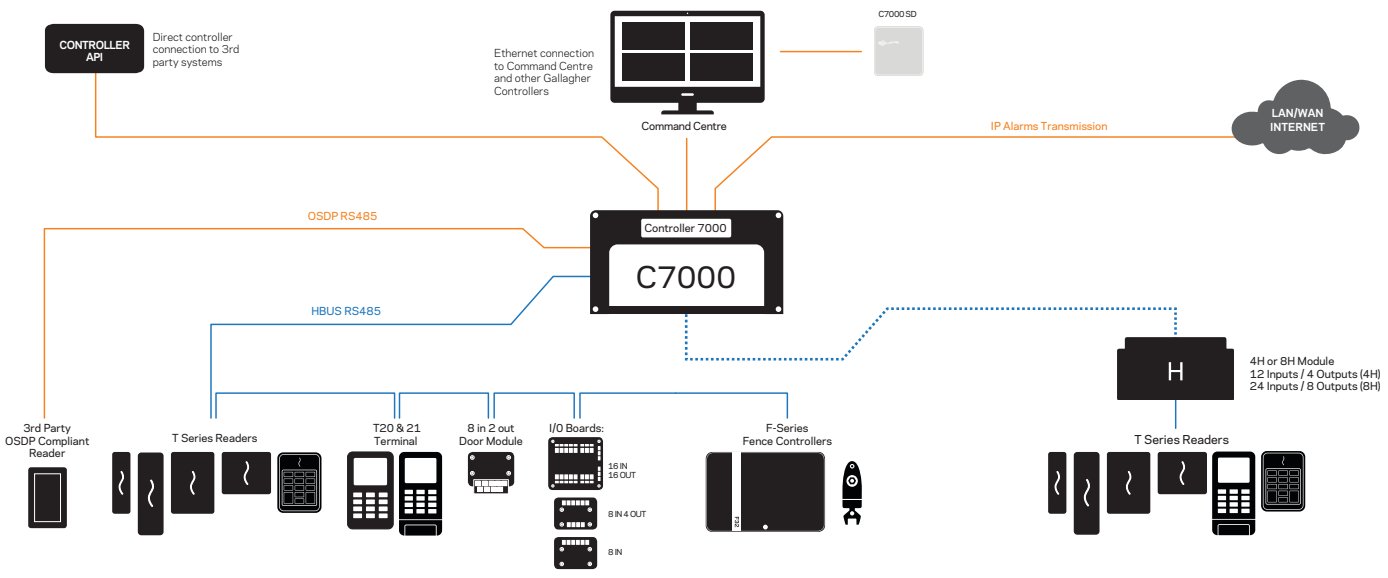




Key features diagram of the Controller 7000 and 8H Module



Controller 7000 System Diagram



Technical Specifications

Product numbers

C400100	Gallagher Controller 7000 Standard	**C400110**	-	**C400101**	Gallagher Controller 7000 Enhanced	**C405101**	Gallagher High Sec C7000
C400010	Controller 7000 Single Door RS485	**C400011**	Controller 7000 Single Door Wiegand	**C400020**	Controller 7000 Single Door PoE+ RS485	**C400021**	Controller 7000 Single Door PoE+ Wiegand
C400111	Controller 7000 Standard Two Door	**C400112**	Controller 7000 Enhanced Two Door	**C402912**	Controller 7000 Two Door Standard Kit		

Technical Specifications

	Tamper Protection	Optical wall and unit tampers
Power	Voltage	13.6 v DC ±15%
Environmental Limits	Operating temperature	-10˚to +70˚c (-10˚to +50˚c for C7000 SD)
	Humidity	95% Non-condensing
Software Compatibility	The Single Door variant is supported from Command Centre version 8.70 onwards. The Standard variant is supported from Command Centre version 9.00 onwards. The Enhanced variant is supported from Command Centre versions 9.00 MR5 and 9.10 MR4 onwards. The High Sec variant is supported from Command Centre version 9.20 MR2 onwards. The Two Door variants and Two Door Kit are supported from Command Centre version 9.0 with the latest MR. *Additional Note: While Controller Standard and Enhanced are compatible from Command Centre 9.00FR, it is recommended to configure the High Sec Controller from Command Centre 9.20 MR2 onwards.*	
Communications	Ethernet network connection	10/100 Ethernet Port Standard 10/100/1000 Enhanced and High Sec
	RS485 Device Communications (2 Ports) ▪ HBUS ▪ OSDP ▪ SensorBUS (v9.20 MR2 or later) ▪ Aperio	Maximum speed 1Mbit/s, 500m (1640ft) 115.2Kbit/s, dependent on cable type 115.2Kbit/s depend on cable type 19.2Kbit/s, 1000m max
	USB Support	1 x USB 2.0 port
	TCP/IP Protocol	256bit AES symmetric encryption for Controller to Server and Inter-Controller communications
	802.1x Authentication	Support for certificate-based authentication only.
Standards compliance	CE, RCM, UL, UKCA, FCC, IC Compliance and certification information is available on our support site or by contacting Gallagher	
Dimensions	Height x width x depth	100 x 180 x 42mm (3.9 x 7.1 x 1.7in)
	Gallagher Mounting Footprint	1
Additional Notes	*This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (http://www.openssl.org/) † Note: Current measurements are indicative only and exclude external devices. Please refer to the Security Hub and product Installation Notes for more information such as detailed power supply and operating characteristics.	



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