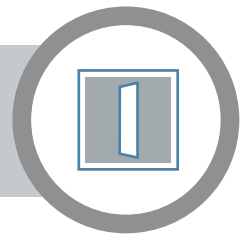


Janus C4 Single-Blade Controller Installation Guide



Part number: JC4-ADV-C2-SNG

The Janus C4 Single-Blade Controller is an access control system controller for use with Janus C4 host software. It allows the connection of either one 2 Door Blade (Part No: JC4-ADV-BL-2D) for connecting up to 2 doors and 2 readers, or one I/O Blade (Part No: JC4-ADV-BL-IO16) supporting up to 8 supervised inputs and 8 volt-free relay outputs.

The Single-Blade Controller can be used with different power supplies: a 12V external power supply (up to 5A), or POE/POE+. It has an integral case with built in optical tamper. The controller supports both IP and RS485 host communications.



Specification

Overview	Janus C4 Single-Blade Controller (max 1 Blade)
Power Input	12V (5A input), POE, POE+
Host Communications	Ethernet 10/100 BASE-T or RS485 2-wire 19.2k baud
Battery (optional)	4.2V Lithium Polymer (Grosvenor supplied, part no: ADV-BAT-S)
Tamper	Optical Tamper
USB	Dual USB 2.0 Type A (future use)
Operating Temperature	0 to +49°C (32 to 120°F)
Humidity	5-85±5% at 30±2°C (86±4°F)
Weight	495g (including case, but without battery or blade fitted)
Dimensions	242 x 167 x 46 mm

Electromagnetic Compatibility

This product complies with the following standards, following the provisions of EMC Directive 2014/30/EU:

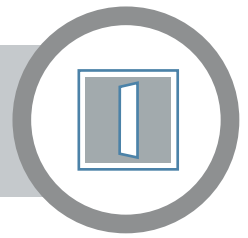
- EN 55022:2010 Class B
- EN50130-4:2011 inc A1:2014
- IEC 62599-2:2010

WEEE

Please refer to [www.grosvenortechnology.com/ legal-info/](http://www.grosvenortechnology.com/legal-info/) for disposal instructions under EU Directive 2012/19/EU



Connections



Battery
An optional Lithium Polymer 6,000mAh battery may be used to provide a battery back-up service during power outages.

Only the battery supplied by Grosvenor (Part No. ADV-BAT-S) may be used. See *Notes* on page 4.

Reset
The Reset button triggers a complete system reboot in the case of an unresponsive system. It is recessed to prevent accidental activation and can be depressed using a suitable tool or a pen. Warning: Use only when requested by Grosvenor Technical Support.

Load/Clear
Used to reset configuration data. Can be used in three different ways; see *Notes* on page 4.

Status LED
The Controller Status LED reports the controller state. See *Notes* on page 4.

RS485 Port
Used for host comms when RS485 is used to connect controllers. See *Notes* on page 5.

Optical Tamper
No connection is needed; the optical tamper is operational when the case is closed.

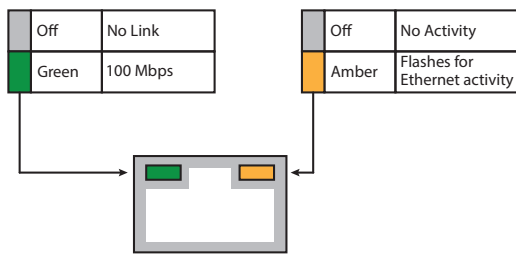
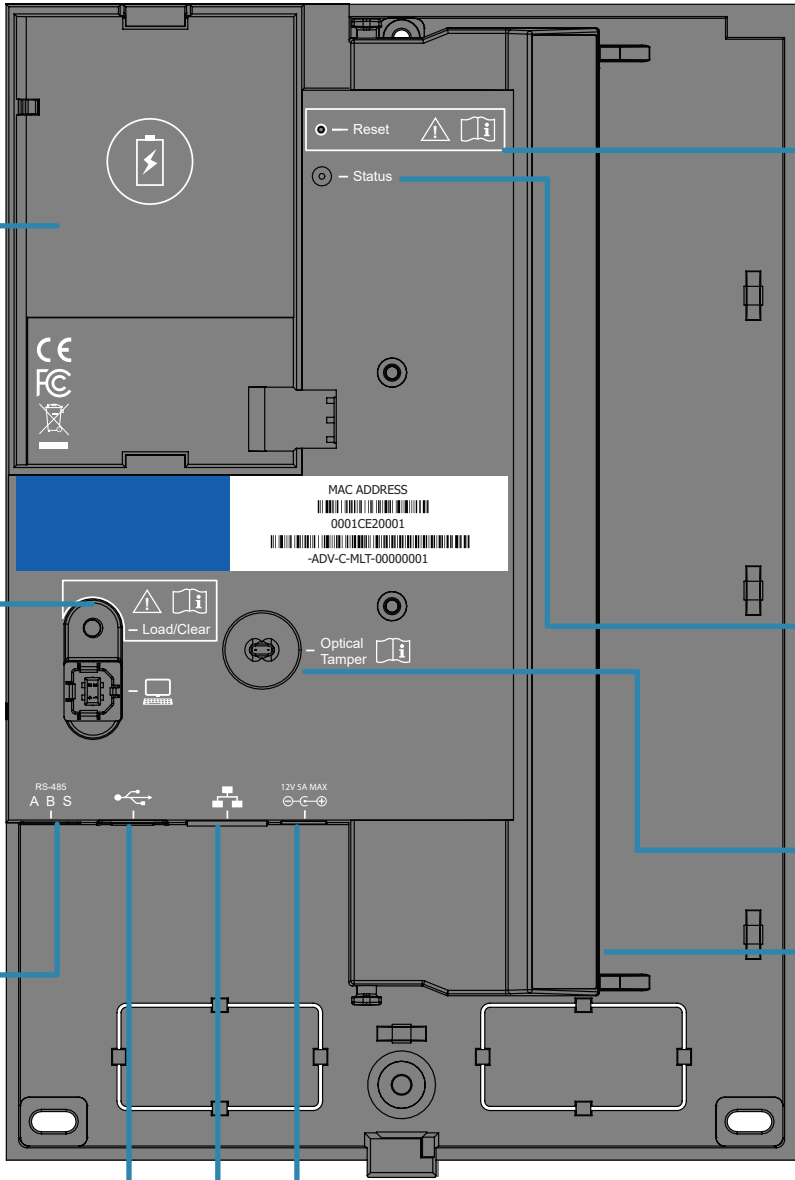
USB Ports
Two USB 2.0 Type A ports; intended for Grosvenor - approved products only. Can be used to update controller firmware. See *Notes* on page 5.

Ethernet Port
For IP host comms and required for configuration. 10/100 BASE-T Full duplex, POE/POE+

Ethernet Port indicators are shown below.

Power In
12V DC 5A Max
For full details of power options and requirements, see page 3.

Blade Connection
One 2 Door Blade or one I/O Blade can be installed. See *Door Blade Installation Guide* for details of configuring doors and locks. See *I/O Blade Installation Guide* for details of configuring extra inputs and outputs.



Power Options



The Janus C4 Single-Blade Controller has a sophisticated power management system with a choice of input sources. As well as supplying the power used by the controller, it provides output power to a single blade which may have various locks, readers and peripherals connected.

Input Power

- Power to the controller may be provided by one of:
- 12V 5A (60W max) = 2.1mm Circular Jack (centre pin positive).
- PoE (IEEE 802.3.af = 12.95W max)
- PoE+ (IEEE 802.3.at = 25.5W max)
- If fitted, the 4.2V Lithium Polymer Battery (during power outage only)

It is the responsibility of the installer to ensure sufficient power is available for the system. When selecting the most suitable power supply, you need to balance the convenience of PoE against the total requirements. Ensure you consider the power requirements for the controller itself and the blade fitted, as well as the required locks, readers, etc.

Although we cater for up to 4A locks, many only require a few 100mA so could be used with PoE+. Note that the PoE source could have its own battery backup.

Output Power

- Power draw of the controller includes the following:
- Single-Blade Controller Quiescent Power = 250 mA max @ 12V (3.0W)
- Battery Charging power (if fitted, only while battery depleted) = up to 167 mA max @ 12V (2.0W)
- USB Power (future use, if fitted) = 260mA max @ 12V (3.1W)
- Blade Power (Door Blade = 1.0 W, I/O Blade = 4.0W)

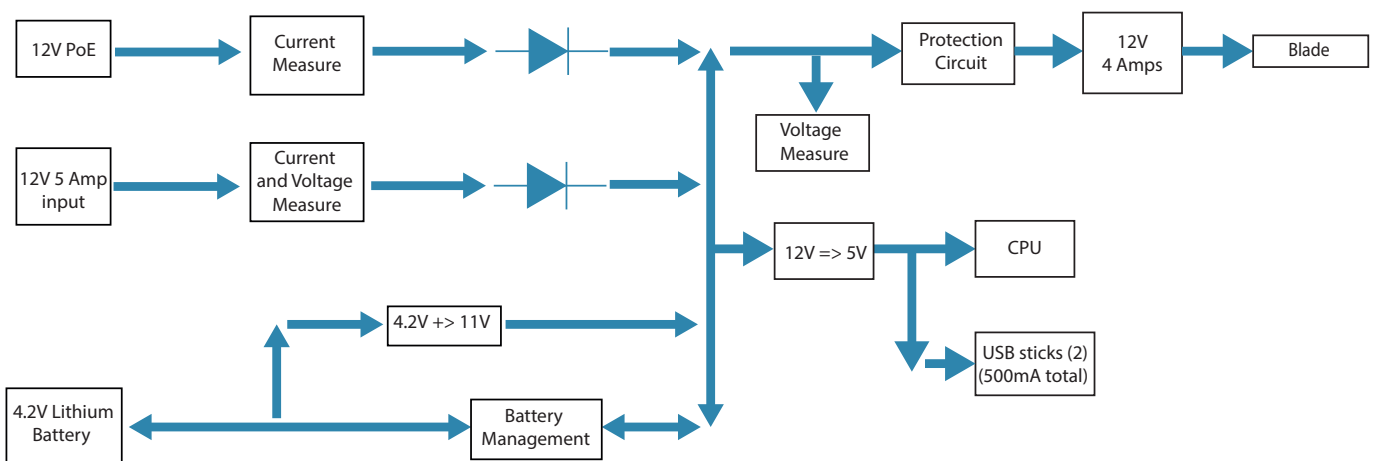
External Lock Power

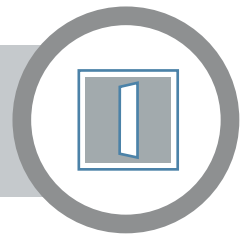
For systems with 24V door locks, or locks requiring more power than the controller can provide, the door blade can use an External Lock Power Supply. See *Door Blade Installation Guide* for details.

Power supply	Supplied		Used by controller*		Remaining for devices	
PoE (IEEE 802.3.af)	11W	0.92A	6.0W	0.5A	5W	0.417A
PoE+ (IEEE 802.3.at)	21W	1.75A	6.0W	0.5A	15W	1.25A
12V external power supply (2.5A plug top)	30.0W	2.5A	6.0W	0.5A	24.0W	2A
12V external power supply (PSU3A-12(B))	36.0W	3.0A	4.0W**	0.33A**	32.0W	2.666A
12V external power supply (5A)	60.0W	5.0A	6.0W	0.5A	54.0W	4.5A

* Indicates the approximate power required by the controller, assuming one door blade fitted, and allowing for standard battery charging power.

** Assuming no battery charging provision, as the specified PSU caters for an external battery.





Battery

An optional lithium polymer 6,000mAh battery may be used to provide a battery back-up service. Using a battery ensures continuing power to controller and all attached devices during power outages. Note though that all system data is retained in non-volatile memory indefinitely even when no battery is fitted.

Only the battery supplied by Grosvenor may be used (Part No. ADV-BAT-S).

The battery operating time is heavily dependent on loading (i.e. current drain by external readers or door locks) but will typically be 45 minutes to 2 hours.

During battery operation, the 12V internal supply is reduced to 11V and the maximum permissible total current draw for all external sources is 1.5A.

The time required to charge the battery from depleted to full capacity is dependent on available power (for example, it may take longer from POE than from a 5A supply), external current draw and product temperature. It may take over 24 hours.

Battery Safety Notice

The Single Blade Controller battery electronics contain multiple safety elements to protect against over-charge/discharge, short-circuit, over-temperature etc. However, the following warnings should be observed:

- Only fit the original battery module supplied by Grosvenor Technology and use only in accordance with this document.
- Do not use module if battery appears deformed or damaged.
- Do not disassemble, crush, pierce or rupture the battery.
- Do not short circuit or reverse polarise the module nor attempt to charge the battery except in the controller.
- Do not store at a temperature below -20°C (-4°F) or above +60°C (+140°F).
- Observe local regulations when disposing of the Lithium-polymer battery.
- Never dispose of the battery using heat or fire.

Battery Service Life

A battery service life of 5 years is possible, although this can be affected by a number of factors including: a prolonged period of storage prior to use, the number of discharge/charge cycles and the battery operating/charging temperature.

Load/Clear Button (Config)

This button has three purposes:

To reset configuration data and ask for reload.	Press button, wait for LED go red, then release button.
To restore the product to the factory default state.	Press button, hold for 5 seconds until LED flashes red, then release button.
To reload the application that shipped with the controller and delete all data.	Press button while powered off and then power on, or press button before momentarily pressing Reset button. Hold until LED goes amber and then flashes amber after a few seconds, then release button.

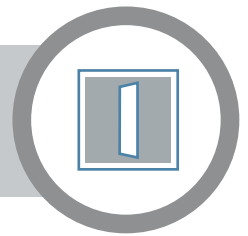
The button is recessed to prevent accidental activation.

Status LED

The Controller Status LED can be monitored during installation and set up. It is not visible when the case is closed. The LED reports the controller state as follows:

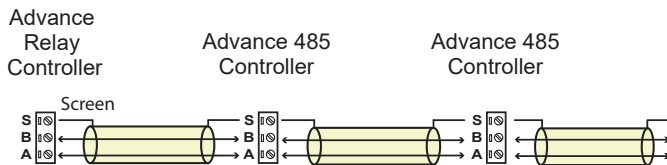
Yellow medium flash	Off-line
Yellow fast flash	Port connected, not online
Green medium flash	On-line
Blue continuous	Controller initialising
Blue medium flash	Application initialising
Cyan fast flash	Wants data download
White slow flash	Firmware update in progress
White fast flash	Data download in progress
Red continuous	Configuration button pressed for less than 5 seconds
Red fast flash	Configuration button pressed for more than 5 seconds
Red slow flash	Error

RS485 configuration



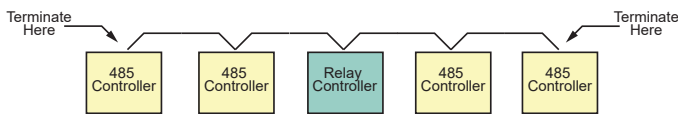
RS485 Connections

If RS485 is used, up to 16 Janus C4 controllers can be daisy-chained together in a line (a combination of Single-Blade and Multi-Blade controllers can be used).



- One controller must be configured as a Relay Controller, which uses both IP and RS485.
- Other linked controllers are configured as 485 only.

Note that the Relay Controller doesn't have to be at the bus end, it can be anywhere. Fit a 120R termination resistor at either end of the RS485 bus:



Note that all Janus C4 controllers require an Ethernet connection during the commissioning process.

Use Janus C4 Quick Start to discover and bring the controller online. Once set up as the correct type and with the correct network settings, the Ethernet connection can be disconnected from 485 controllers.

Updating Firmware

The Controller firmware cannot be updated over a 485 connection as the files are too large.

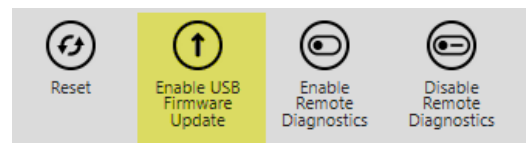
If a firmware update is required while the controller has an IP connection the **Update Firmware** button will appear within the Quick Start app, enabling the process to be completed easily.

If a firmware update is needed subsequently, the firmware can be updated locally using a USB stick. This is a FAT32 formatted USB stick with firmware/app files in a "firmware" directory in the root directory.

Note that a controller's current firmware version is shown in the Control Centre, when the Controller is selected on the Devices tab.

To update firmware

1. Open Janus C4 UI and select the Control Centre.
2. On the Devices tab, choose Controller and locate the correct controller to be updated.
3. Click Enable USB Firmware Update on the right of the screen:



4. When a confirmation message appears, select Yes
5. At this point, insert the supplied USB stick into the controller.

Note: You must insert the USB stick within one hour of selecting the Enable USB Firmware Update option. Note that no messages appear in Janus C4 during this process.

6. While the firmware file is being downloaded, the controller LED will show a slow white flash. When it is complete the LED shows a fast red flash. At this point you can remove the USB stick. If the USB stick is removed before the process is complete, the firmware will not be updated.

No messages are shown on the Janus C4 user interface. Once the firmware has been updated, you can check the firmware version shown in the Control Centre.

For more information about Janus C4, visit the website or contact Technical Support:

Email: ac-support@grosvenortechnology.com
Telephone: +44 (0)1279 838000
Web: www.grosvenortechnology.com

