Getting to know the NAC

The Network Automation Controller controls and manages C-Bus systems for buildings and integrates Building Management Systems such as Heating/Cooling and Energy Monitoring/Control.

From simple control to advanced installations, C-Bus provides control and automation of lighting, blinds and shutters and room occupancy.

The integrated visualisation allows local or remote control via PC, tablet, touch panel or smart phone. This includes scene functions, scheduling, trend logging and control.

Logic scripts can be programmed into the device to achieve complex control and advanced management functions.

The integration of IP cameras, web services and additional building management functions (e.g. BACnet and MODBUS) is possible via Ethernet.

Interaction with other equipment and systems is possible via I/O connections including RS-232, RS-485 (MODBUS RTU), digital input (optional monitored input), SELV relay output and LED driver output.

The communication with MODBUS allows the integration of energy metering and climate control with C-Bus.

The product can be accessed over Ethernet for configuration and visualisation via the web server function.

Local access for configuration with a laptop is provided by the USB Type B adaptor.

A USB Type A connector for USB host (USB 2.0 High Speed) provides connection to USB expansion devices.

8 LEDs on the front panel provide full status feedback.

2 Reset buttons permit software and hardware reset functionality.

The product needs an external power supply (24 V DC).

C-Bus Network Automation Controller

Quick Start Guide

Connections

For your Safety

CAUTION

EQUIPMENT DAMAGE HAZARD

Install the device according to instructions in this document.

Do not pay attention to the specifications and wiring diagrams related to the installation.

Do not use this product for any other purpose than specified in this instruction.

Failure to follow these instructions can result in minor injuries, or equipment damage.

Mounting/Removing the Controller

Mounting

Removing

Mounting

Removing

For your Safety

DANGER

HAZARD OF ELECTRIC SHOCK, EXPLOSION, OR ARC FLASH

- It is illegal for persons other than an appropriately licensed electrical contractors or other persons authorised by legislation to work on the fixed wiring of any electrical installation.

- To comply with all safety standards, the product must be used only for the purpose described in this instruction and must be installed in accordance with the wiring rules and regulation in the location where it is installed.

- There are no user serviceable parts inside the product.

Failure to follow these instructions will result in death or serious injury.

Connections

Digital Input

Compatible with either a potential-free contact or a monitored cable using End of Line Resistance

USB-A

USB Type A connector for USB Host

USB 1.1 and USB 2.0 devices are supported

USB-B

USB Type B connector for USB programming Port

USB 1.1 full speed is supported

RS-485

MODBUS

Shield must be connected to earth at end of line

Line must be terminated at each end

Incorporates 47kΩ polarisation resistors

Optional in-built low power terminator of 120 Ω + 1 nF = link AT–BT

Optional in-built legacy terminator of 120 Ω = link BT-A

RS-232

TX = Transmit | RX = Receive | COM = Common

Pin 1 Remote ON

Pin 2 Remote ON

Pin 3 C-Bus Neg (-)

Pin 4 C-Bus Pos (+)

Pin 5 C-Bus Neg (-)

Pin 6 C-Bus Pos (+)

Pin 7 Remote OFF

Pin 8 Remote OFF

C-Bus

2 C-Bus Connectors with RJ pins

To use RJ 45 with C-Bus Cat-5 network cable
**Meaning of the Status Feedback LEDs**

<table>
<thead>
<tr>
<th>LEDs</th>
<th>Cause</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Green, blinking Red</td>
<td>Controller is running with blink rate proportional to processor load</td>
</tr>
<tr>
<td>Green</td>
<td>Controller is powered but has been shut down</td>
</tr>
<tr>
<td>Red</td>
<td>Problem with processor board or power supply</td>
</tr>
<tr>
<td>Off</td>
<td>Controller has no power</td>
</tr>
<tr>
<td>Status Green</td>
<td>Controller is running properly</td>
</tr>
<tr>
<td>Red flashing</td>
<td>During factory reset</td>
</tr>
<tr>
<td>Red</td>
<td>During software reset</td>
</tr>
<tr>
<td>Off</td>
<td>During boot up</td>
</tr>
<tr>
<td>Relay Green</td>
<td>Relay is On</td>
</tr>
<tr>
<td>Off</td>
<td>Relay is Off</td>
</tr>
<tr>
<td>Digital Input Green</td>
<td>Input in high resistance (6.9 kΩ) - switch open state</td>
</tr>
<tr>
<td>Yellow</td>
<td>Open circuit (&gt; 12 kΩ)</td>
</tr>
<tr>
<td>Off</td>
<td>Input in low resistance (2.2 kΩ) - switch closed state</td>
</tr>
<tr>
<td>RS232 Green</td>
<td>Controller is transmitting</td>
</tr>
<tr>
<td>Magenta</td>
<td>Controller is receiving and transmitting</td>
</tr>
<tr>
<td>White</td>
<td>No communication</td>
</tr>
<tr>
<td>Off</td>
<td>No communication</td>
</tr>
<tr>
<td>RS485 Green</td>
<td>Controller is transmitting</td>
</tr>
<tr>
<td>Magenta</td>
<td>Controller is receiving and transmitting</td>
</tr>
<tr>
<td>White</td>
<td>No communication</td>
</tr>
<tr>
<td>Off</td>
<td>No communication</td>
</tr>
<tr>
<td>Ethernet Green</td>
<td>Ethernet is operating (100 Mbit/s)</td>
</tr>
<tr>
<td>Yellow</td>
<td>Ethernet is operating (10 Mbit/s)</td>
</tr>
<tr>
<td>Off</td>
<td>No communication</td>
</tr>
<tr>
<td>Blinking</td>
<td>Data traffic</td>
</tr>
<tr>
<td>C-Bus Green</td>
<td>C-Bus powered and clock active</td>
</tr>
<tr>
<td>Flashing</td>
<td>C-Bus low voltage warning</td>
</tr>
<tr>
<td>Off</td>
<td>No C-Bus power or no active clock</td>
</tr>
</tbody>
</table>

### How to Reset

**Software Reset**
- **Shutdown and Reset**
  - Forces running processes to stop and reboots after
- **Factory Reset**
  - Recover your system to its original factory condition

**Hardware Reset**
- **Processor Reboot**
  - Power turned off and back on again
  - Wake up signal for a unit that has been shut down

### Configuration

Access to the web server of the Controller
- Default user name: admin
- Default password: admin

Access via Ethernet:
- The Controller must be supplied with 24 V DC
- The default IP address is 192.168.0.10
  1. Connect Ethernet cable with PC.
  2. Use on the PC e.g. address 192.168.0.9 and subnet mask 255.255.255.0.
  3. Run Google Chrome™ or Firefox® and go to 192.168.0.10.

Access via USB-B:
- The Controller may be powered by USB for configuration purposes.
- The IP address is 192.168.254.10.
- The USB drivers are included with the latest C-Bus Toolkit installation.
  1. Connect USB-B with a USB port of the PC. The PC is given a DHCP IP address in the range of 192.168.254.1 – 192.168.254.9.
  2. Run Google Chrome™ or Firefox® and go to 192.168.254.10.

With the C-Bus Toolkit you can configure, export and import a C-Bus project.

It is recommended to update the firmware to install the latest features, security updates and bug fixes. Scan the QR code using the Facility Hero App for information specific to your device.

### Technical Data

- **Power Supply**: 24 V DC +/- 5%  10 W max  2 W typical
- **C-Bus Power**: 15-36 V DC, 32 mA
- **Operating elements**: Software Reset button  Hardware Reset button
- **Display elements**: 8 Status Feedback LEDs  Power, Status, Relay, Digital Input, RS232, RS485, Ethernet, C-Bus
- **External Interfaces**: Power supply  24 V DC plus separate GND  LED Output Driver  40 mA current limited  Relay Output  NO, NC, Common  48 V AC / 24 V DC 1 A max
- **Digital Input**: Potential-free contact or 4-bit input impedances of 2.2 kΩ closed, and 6.9 kΩ open.
- **USB-A**: Type A USB 2.0 high speed host
- **USB-B**: Type B USB 1.1 full speed device, for configuration
- **Ethernet**: RJ45 for 10/100 BASE-T UTP
- **RS-485, MODBUS**: 120 Ohm Terminator, 1 nF Terminator, Common, A D1+, B D0-
- **RS-232**: Receive, Transmit, Common
- **C-Bus**: 2x RJ45
- **Terminals**: 18x screw terminals 1.5 mm² single-core and multi-core
- **Dimensions (WxHxD)**: 108 x 63 x 93 mm
- **Mounting method**: DIN Rail, clips
- **External conditions**: Ambient temperature during operation -5°C to +45°C  Ambient temperature during storage -20°C to +80°C  Rel. humidity (not condensing) 10 % to 93 %
- **Type of protection**: IP 20
- **Radiated Emissions**: EN 55022 / AS/NZS CISPR 22 Class A

**Warning**: This is a Class A product. In a domestic environment this product may cause radio interference in which case the user may be required to take adequate measures.

**Product Compliance**

### Warranty

Schneider Electric (Australia) Pty Ltd, (Clipsal by Schneider Electric), warrants this product to be free from defects in materials and workmanship for a period of two years from the date of installation. The benefits conferred herein are in addition to any other rights and remedies you may have at law in respect to this product.

Australian Consumer Law specifies that our goods come with guarantees that cannot be excluded. You are entitled to a replacement or refund for a major failure.

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