

BACnet to C-Bus using new MPM Gateway

What is BACnet?

BACnet (Building Automation and Controls network) was developed by the American Society of Heating, Refrigerating, and Air-Conditioning Engineers (ASHRAE). BACnet is an ISO global standard, American national standard, a European pre-standard, and is used in more than 30 countries.

BACnet is a data communication protocol, or set of communication rules, that ASHRAE created in order to standardize communication between building automation system components. BACnet allows systems from various vendors, such as HVAC, lighting, security and fire systems, to communicate with each other by providing standardized methods for presenting, requesting,

What is the [GCR_MPM_AU31](#) BACnet to C-Bus Gateway?

The product acts as a communication bridge between BACnet and C-Bus, allowing you to map data values from C-Bus (Group Addresses or Trigger Groups and their current level) to 'points' on BACnet. The Site BMS using BACnet communications can then monitor these mapped points on the C-Bus network.

What is our product offer?

[Please order the item as catalogue # "GCR_MPM_AU31"](#).

This product is sold as a configured solution (special – GCR), it can be purchased via Schneider Electric / Clipsal Custom Products Team on email address: specials@schneider-electric.com.

If you do not have a direct account, it will need to be purchased via an electrical wholesaler or Systems Integrator / Platinum Partner.

Sales Channel:

Same as the previous 5000BACNET product, this GCR is available to anyone with a direct account, Integrators / Wholesalers.

The Schneider Electric Difference

Price (AU):

Approximately ½ the Nett invoice price of the old BACnet gateway. We are not creating a Trade Price for this product solution, so it will not be listed on E-Cat etc.

Australian Warranty, Support, Service:

The MPM BACnet C-Bus Gateway "programming" is designed locally within the Adelaide Project Services Team. We are able to provide customer tech support via C-Bus Tech support teams (LVL 2) for this product.

What do installers need to do for installation/ configuration?

The product is sold as a pre-programmed solution to installers, installer will need to do some minor assembly of the kit (clipping products onto DIN rail and provide suitable cabling for power / data / C-Bus connectivity) & make some settings adjustments to suit their installation site (including loading their own Site Mapping files).

C-Bus Installer Value Proposition:

- Reduced deployment installation and configuration time compared to previous version.
- After sales support with AU based tech support team.
- Approximately ½ the price of the previous 5000BACnet solution and provides greater flexibility for the installer where they can make settings changes themselves onsite.
- Enables auto import of C-Bus TAG descriptors into Site BMS.
(previous 5000BACNET did not provide this feature).

BACnet to C-Bus using MPM Gateway

Connecting to Multiple C-Bus Network sites

How does it work on a Single C-Bus network?

- Same operation principles as a C-Bus touchscreen topology (ie: **NO** C-Gate).

How does it work on a Multi network C-Bus site?

- Same operation principles as a C-Bus touchscreen (ie: NO C-Gate) and topology.
- Will work for a multiple C-Bus network site using 5500NB C-Bus network bridges as you would expect a native C-Bus touchscreen to work. (Yes, you can connect 1 MPM on the local C-Bus network and it sees across 5500NB's provided you program the 5500NB's correctly. (You can also segregate your Lighting applications to specific networks.)
- For a C-Bus site that connects using multiple CNI's to multiple networks, one MPM will not work globally. (The only product supporting that type of C-Bus site connect topology is Schedule Plus software running C-Gate.

But you could connect up each of the C-Bus networks with their own MPM and CNI's with its own 5500CN2 "CNI" on each individual C-Bus network and connect the all MPM's back to the BMS via BACnet IP as per normal, this would give you global control of the "mapped points" on all the C-Bus networks from the BMS itself.

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Cat # 5000BACNET

Pros:

- 255 Groups
- Only requires 1 BACnet Device Instance ID
- Supports any value for BACnet Device Instance ID (1 through 4,134,349)
- BACnet MSTP or BACnet IP

Cons:

- 1 C-Bus Application only
- Does not "Auto Import" C-Bus TAG descriptors
- Price - High
- Dimensions: 450(L) x 415(W) x 145(D)mm
- Network / BACnet Settings need to be programmed by Clipsal / Schneider Electric at factory



Cat # GCR_MPM_AU31 (Version 2 GUI)

Pros:

- 300 Groups (default mapping is 254 x Lighting, 46 x Trigger)
- Multiple C-Bus Applications can be used together - Lighting (48-95), Control (202), Enable (203)
- Maps C-Bus Network health values into BACnet BMS
- Imports 300 x C-Bus TAG Descriptors into BACnet BMS
- Approximately ½ the Nett Invoice price of the previous 5000BACNET product
- BACnet IP or BACnet Ethernet
- Device Instance ID / BACnet Settings programmable by installer using web browser
- Dimensions: 341(L) x 291(W) x 128(D) mm
- IP Rated Enclosure
- Ordered from Schneider Electric (custom products team) as Cat # GCR_MPM_AU31
- Delivery lead time 1-2 weeks
- Microsoft Excel worksheet available for providing documentation to BMS site manager regarding mapping data.
- Maps each of the 300 groups onto an analogue and binary value in BACnet BMS, allows for either "go to level" (analog) or On/Off (binary) commands

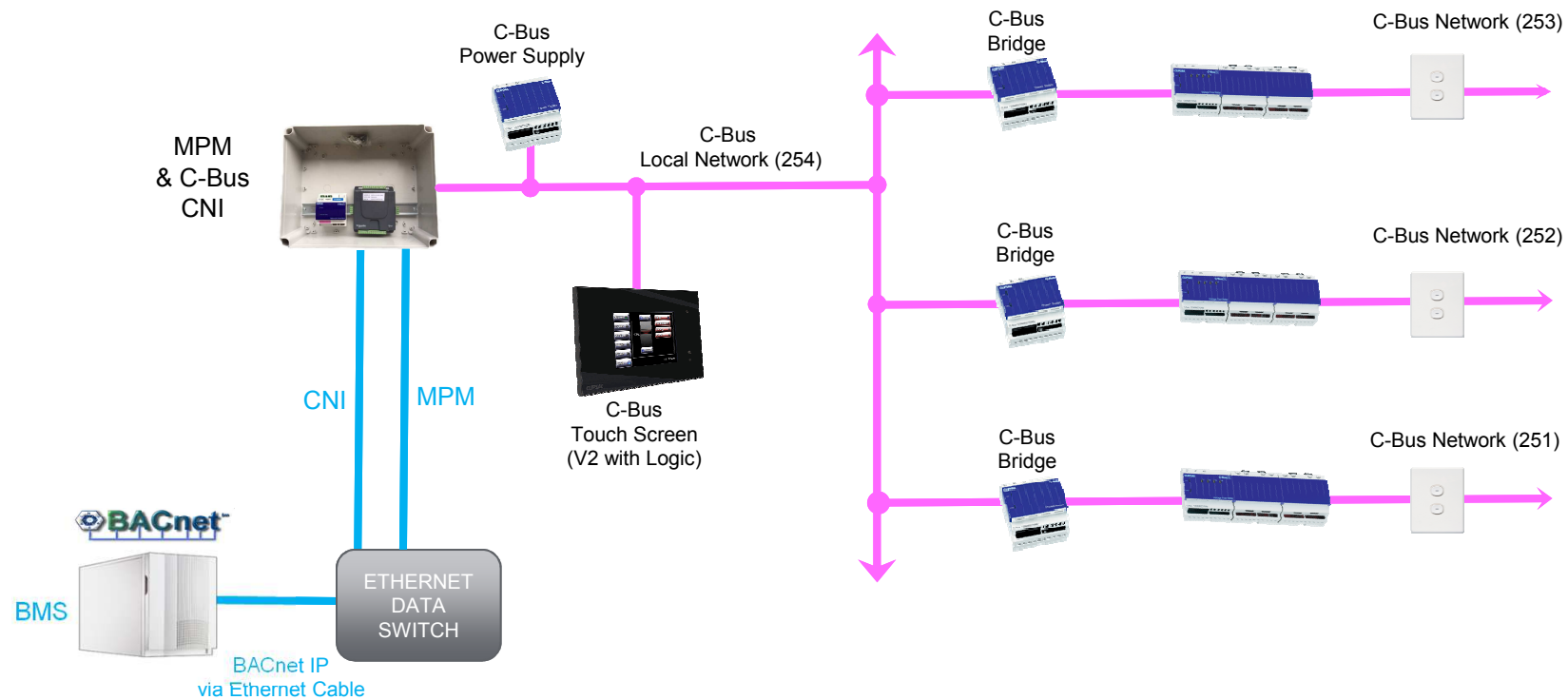
Cons:

- Requires 4 sequential BACnet Device Instance ID's on the BACnet BMS.
- Requires BACnet Device Instance ID number ending in 00 or 50 numerals, 100 min through 4,134,300 Max.
- Does not support BACnet MSTP



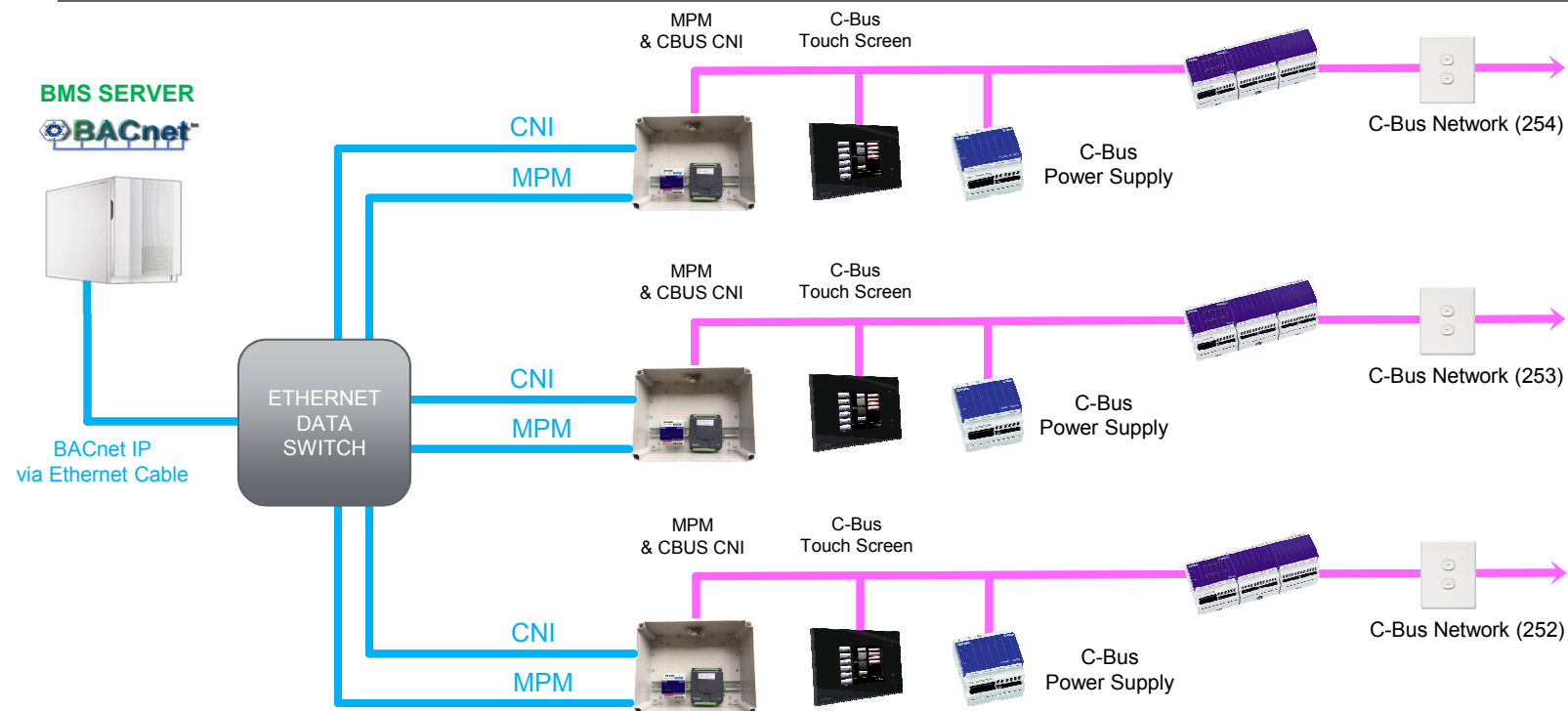
Multi Network install - 5500NB (Bridges)

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Multi Network install - 5500CN2 (CNI's)

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BACnet to C-Bus using MPM Gateway

Device Instance ID – Mapping Tool

2 versions created of the XL Sheet – BASIC & FULL, what do they do?

Provides an easily viewable table of what values your MPM BACnet C-Bus Gateway is mapping to on the BMS system.

The values are dynamic and based upon the starting Device Instance ID value given to you by the Sites BMS Manager.

Reminds you of what values are acceptable / un-acceptable for use on an MPM
 ...the MPM must be on a Device Instance ID number ending in 00 or 50.
 ...Min value = 100 min...Max value = 4,134,300 Max

Operation:

1/ You enter a proposed value into the cell for BACnet Device Instance ID for MPM
 2/ XL sheet then auto updates all other dependent values.

BASIC Version:

- Provides feedback / indication of acceptable Device Instance Values
- Advises on what other Device Instance Values need to be reserved by the Site's BMS manager
- Advises on the start and finish ranges for mapped values

FULL version:

Same as the BASIC version except...

- Provides all 300 mapped values but shows as XX rather than AV and BV (otherwise you would need to have 600 values showing as each cbus group is mapped to both Analog "AV" and Binary "BV" in the MPM.
- Columns are grouped in same sequence as the CBUS mapping file used in the MPM, so you can easily mass copy all the columns data from your MAP.CSV direct into the Mapping Excel Sheet.

B	C	D	E
MPM BACnet C-BUS GATEWAY - BACnet MAPPING VALUES (4 X BACnet DEVICE INSTANCE ID'S REQUIRED IN TOTAL)			
		Site Settings	Factory Default
	CBUS NETWORK #		none
	IP ADDRESS		10.50.80.3
BMS MANAGER needs to reserve these "Device Instance ID" numbers	BACnet Device Instance ID for MPM	1000	← CHANGE THIS NUMBER TO UPDATE YOUR MAPPED VALUES
	BACnet Network ID		24000
1000	Protocol		BACnet IP
1001	BACnet Port		47808
1002	BACnet Priority Default	INSTALLER CANNOT EDIT	15
1003	BACnet BBMD	INSTALLER CANNOT EDIT	OFF
	DESCRIPTION	Displays on BMS BACnet Device Instance ID as	Displays in MPM BUILDING EXPERT as
C-BUS HEALTH AND SYSTEM VALUES	C-Bus Voltage (analog only)	1000.AV1	ME.AV1
	C-Bus Script Version (analog only)	1000.AV2	ME.AV2
	C-Bus Connected (binary only)	1000.BV1	ME.BV1
	C-Bus Voltage Error (binary only)	1000.BV2	ME.BV2
	C-Bus Heart Beat (binary only)	1000.BV3	ME.BV3
	C-Bus Program Running (binary only)	1000.BV4	ME.BV4
	C-Bus Reset Interface (binary only)	1000.BV5	ME.BV5
1ST GROUP OF 100 MAPPED POINTS CBUS VALUES BANK #1	ANALOG MAPPED GROUPS START	1001.AV101	ME.AV101
	ANALOG MAPPED GROUPS FINISH	1001.AV200	ME.AV200
	BINARY MAPPED GROUPS START	1001.BV101	ME.BV101
	BINARY MAPPED GROUPS FINISH	1001.BV200	ME.BV200