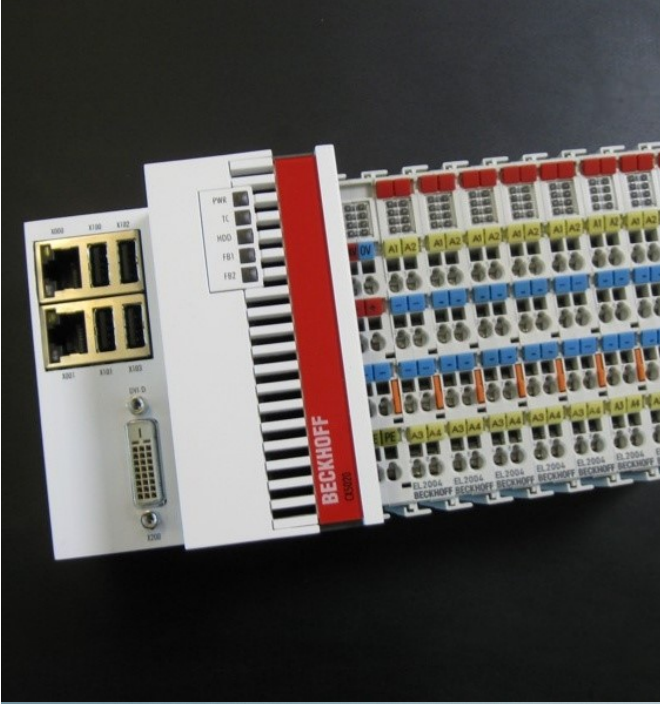# EBR-OS range

Open Systems Gateway

Introduction

The Rapid lighting control system from CP Electronics offers a full function, fully addressable lighting control solution for a wide variety of environments from large open plan office developments to schools, hospitals and warehouses. It uses a proprietary communications protocol based on the CAN bus standard. This ensures robust and reliable communications between all of the elements within the system, such as detectors, LCMs and area controllers. As well as being an ideal protocol for communications, the Rapid system is designed to be easy to install and commission ensuring realistic project costs.

The EBR-OS Open Systems Gateway allows the powerful Rapid lighting control system to be interfaced to a variety of Open Systems in order to enhance the lighting and building management.

Overview

At CP Electronics we believe that the lighting control system must provide a fully functional method for providing energy control and usability of the lighting infrastructure. But we also realise that there are occasions where this lighting infrastructure must be integrated with the other Building Management Systems. To enable this integration, we are able to offer an Open Systems gateway. This gateway sits between the Rapid communications bus and whatever Building Management System is in use, and converts the Rapid protocol to another open systems protocol such as BACnet. The gateway comprises a simple DIN rail mountable controller which can be programmed by the systems integrators to provide a variety of information about the status of the lighting control system, as well as accepting commands from the building management system to control the lighting.
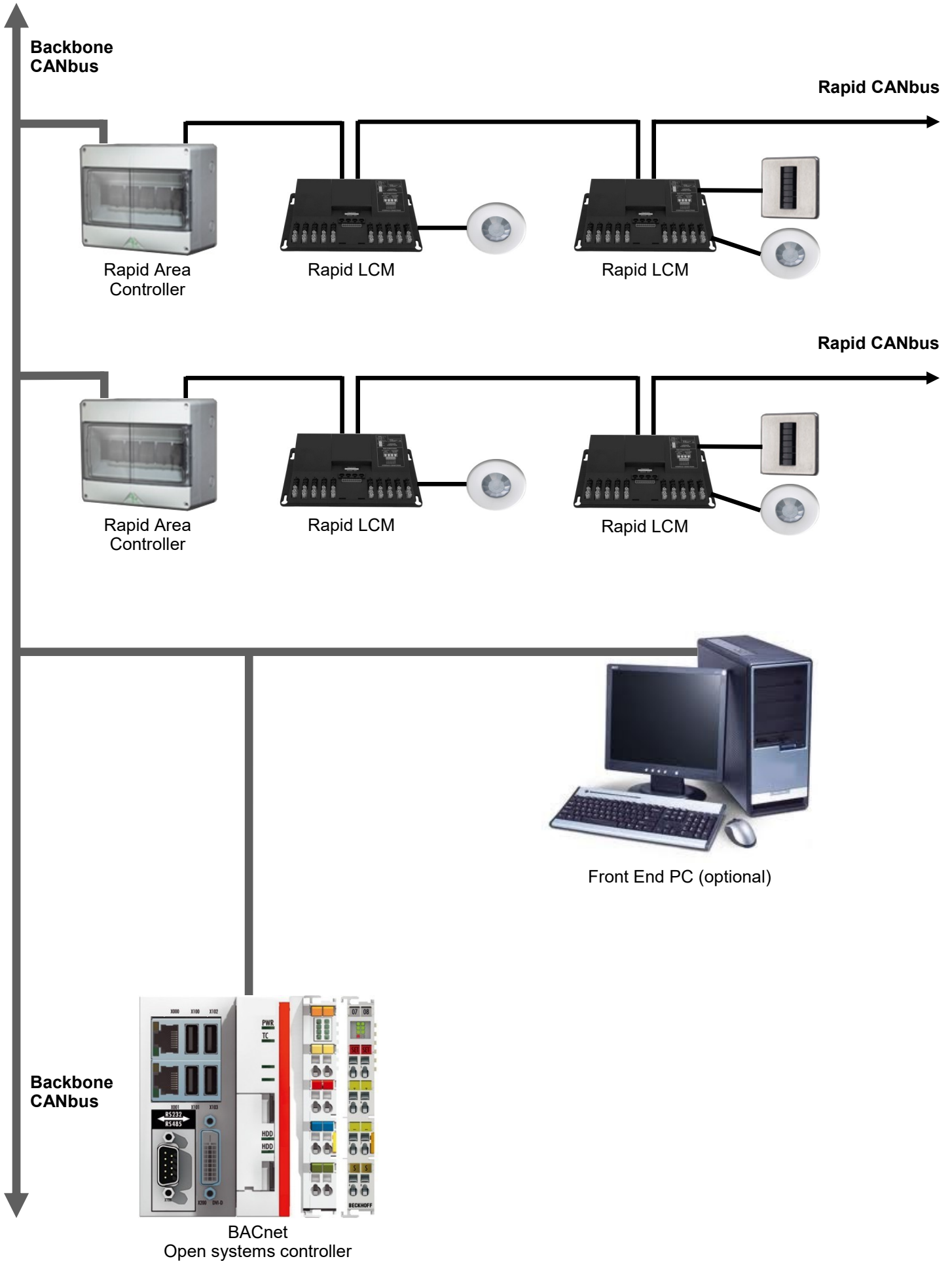
Protocols supported

The Rapid Open Systems Gateway uses an industry standard Beckhoff controller to translate the CAN based protocol to many other Open Systems Standards, including but not limited to:

- **BACnet**
- **Modbus** *(special order only)*
- **KNX** *(special order only)*
- **LON** *(special order only)*

Please consult our sales team if you have a particular interface requirement.

Architecture

Backbone CANbus

Rapid CANbus

Rapid Area Controller

Rapid LCM

Rapid LCM

Rapid CANbus

Rapid Area Controller

Rapid LCM

Rapid LCM

Front End PC (optional)

Backbone CANbus

BACnet
Open systems controller

Functionality

The Rapid Open Systems Gateway allows an external system to both report on the status of the lighting and to perform a certain amount of control over those lights. For example the gateway will allow areas to be overridden on or off, select scenes on areas or perform emergency lighting tests. The presence detectors used for lighting control could be used for HVAC control and the light switches could similarly be used to service other functions within the building.

Information available from lighting control system

Output status

- Status of each output channel on the lighting control system including:
- On/off
- Output level
- Ballast status (DALI ballasts only)
- Emergency lighting status (DALI emergency monitoring systems only)

Detector Status

- Status of each of the presence detectors on the lighting control system including:
- Occupancy status
- Measured light level
- Time detecting

Interface Status

- An interface on Rapid is any external input such as a light switch, scene panel, time clock or emergency test switch. The status is reported to show which interface inputs are active.

Control via gateway

Scene selection

- Allows output scenes to be called

Overrides on and off

- Individual or groups of outputs can be overridden on and off.

Emergency test

- Emergency test schedules can be set up to test emergency light fittings by simply interrupting the supply.

Switch mimic

- Where a physical switch or scene plate is connected to the lighting control system, the gateway can provide a mimic to allow remote overrides of this switch.

Please note that these control functions must be incorporated as part of the commissioning schedule, they cannot be set purely as part of the systems integration.

Setup and commissioning

As part of our service, CP Electronics will fully commission the Rapid Lighting Control system and the Rapid front end computer where used. We will commission the Open Systems Gateway and ensure that all of the control functions are set up ready to be used. We will provide technical support to third party systems integrators, but do not provide any systems integration services ourselves.

Part numbers

Part number	Description
EBR-OS-BAC-S	Open systems BACnet CAN slice
EBR-OS-BAC-250	Open systems BACnet 250 pts
EBR-OS-BAC-500	Open systems BACnet 500 pts
EBR-OS-BAC-1000	Open systems BACnet 1000 pts
EBR-OS-BAC-5000	Open systems BACnet 5000 pts
EBR-OS-PSU	Open systems power supply

Ref: #WD722 Issue 4