**INSTALLATION AND WIRING**

BDS0024 rev 8

**CBXi-8R8, CBXi-8R8-H**

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**Supply Requirements**
24 V AC/DC ±20 % 50/60 Hz

**Supply Rating**
- CBXi: 30 VA (no FLX modules)
- CBXi + 1 x FLX: 42 VA
- CBXi + 2 x FLX: 54 VA
- CBXi + 3 x FLX: 66 VA

**FLX Power Connection**
Proprietary FLX bus connector carries power and comms from CBXi-8R8 unit. CBX-8R8 can supply power to up to 3 FLX modules.

**Auxiliary Power**
18 V DC / 60 mA output

**BACnet Loading**
¼ unit load device

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**Terminal Numbers / Klemm-nummer**

<table>
<thead>
<tr>
<th>Terminal Numbers</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>93, 94</td>
<td>24 V AC/DC Power</td>
</tr>
<tr>
<td>13 … 15</td>
<td>Auxiliary Power: 18 V DC output on 2 terminals, 60 mA total</td>
</tr>
<tr>
<td>95, 96</td>
<td>RS-485 Port 1 (BACnet® MS/TP / Modbus RTU) screw terminal</td>
</tr>
<tr>
<td></td>
<td>MS/TP subnet terminator switch is located beside the port. If the switch is towards the icon, then termination is in and if the switch is towards the icon then termination is out.</td>
</tr>
<tr>
<td>39 … 42</td>
<td>CBT-STAT / RS-485 Port 2 (CBT-STAT)</td>
</tr>
<tr>
<td></td>
<td>The bus Terminator Switch is located beside the port. If the switch is towards the icon, then termination is in and if the switch is towards the icon then termination is out.</td>
</tr>
</tbody>
</table>
Universal Inputs
When input is configured as Digital:
- **LED Off**: open circuit or logic 'off'
- **LED On**: logic 'on'

When input is configured as Resistor/thermistor:
- **LED Off**: valid resistance connected (Note: 0 Ω is counted as valid)
- **LED Slow blink**: resistor/thermistor not connected

When input is configured as Analog:
- **LED Intensity**: modulated by the analog signal

When the LED is blinking:
- **Fast blink**: indicates error condition
- **Two short flashes followed by a value** indicates the input is in an override state (overridden by CXpro™).

*Note: The LED intensity illustrates the value measured at the input terminals. The flash indicates that this value has been overridden.*

UniPuts™ + Relay
When a UniPut channel is configured as an input, the LED signals are identical to Universal Inputs above. When configured as an output the following apply:

When output is configured as Digital:
- **LED Off**: open circuit or logic 'off'
- **LED On**: logic 'on'

When output is configured as Analog:
- **LED Intensity**: modulated by the analog signal

When the LED is blinking:
- **Fast blink**: indicates error condition
- **Two short flashes followed by a value** indicates the output is in an override state (overridden by CXpro™ or HOA).

Service Port (Micro USB)
Ethernet Ports
Indicator LEDs
<table>
<thead>
<tr>
<th>Off</th>
<th>On</th>
<th>Slow Blink</th>
<th>Fast blink</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red LED (Power)</td>
<td>Power is off</td>
<td>Power is on</td>
<td>Unit rebooting</td>
</tr>
<tr>
<td>Green LED</td>
<td>Unit is not running</td>
<td>Strategy loaded but no network connectivity</td>
<td>Strategy loaded and device communicating on network</td>
</tr>
<tr>
<td>Yellow LED</td>
<td>FLX bus comms are ok</td>
<td>No FLX bus comms</td>
<td>FLX bus address clash</td>
</tr>
</tbody>
</table>

During firmware upgrade the Yellow LED will remain on while the strategy/comms section reboots, and then the LEDs will rotate Red-Green-Yellow while the IO section reboots.

Note: During typical operation, the Red LED should be on, the Green LED should be blinking and the Yellow LED should be off.

Output Override (CBXi-8R8-H only)
- **Bottom position**: Off - outputs forced off.
- **Centre position**: Auto - outputs are controlled by strategy.
- **Top position**: Manual - for digital outputs, the output is forced on. For analog outputs the knob setting controls the output value.

Push buttons
- **Reset IP/Password**: while the controller is running, press SW1 until the LED lights up, then release SW1.
- **Full factory reset**: while the controller is booting, hold SW1 until the LED lights up, then release SW1.

Inter-module connection sockets
To join the FLX bus, place the devices side-by-side and place the FLX bus connector into the two adjacent sockets at once.

The end device on a FLX bus (either a FLX device or the CBXi itself) must have a terminator inserted into its interconnector socket. One terminator is shipped with each CBXi-8R8(H) device.