SAFETY PRECAUTIONS

ATTENTION: READ THIS INFORMATION BEFORE INSTALLING THE PRODUCT

POWER SUPPLY

This product is intended to be installed by Qualified Personnel only. This device is intended to be supplied by a UL Listed NEC Class 2 power source.

CAUTION

Total power consumption is given by adding the CBX100 power consumption to that of all the devices powered through the CBX100 (reading device, P.S., V.O). Refer to the manual of the connected devices for details about minimum/maximum supply voltage and power consumption.

Each CBX100 supports only 1 single reading device + system accessories.

OPENING THE CBX100

To install the CBX100 or during normal maintenance, it is necessary to open it by unscrewing the two cover screws.

The CBX100 must be disconnected from the power supply during this operation.

MECHANICAL INSTALLATION

CBX100 can be mounted to various wooden or plastic surfaces using the two self-threading screws (3.9 x 45 mm) and washers provided in the package. Mounting to other surfaces such as concrete walls or metallic panels requires user-supplied parts (screws, screw anchors, nuts, etc.). A mounting template is included in the package to facilitate hole drilling alignment.

CBX100 can also be mounted to a DIN rail or a Bosch Frame using the following mounting accessories: BA100 (93AC1821), BA200 (93AC1822).

The diagram below gives the overall dimensions of the CBX100 and shows the two mounting through-holes.

ELECTRICAL CONNECTIONS AND SETUP

The following figures show a typical layout.

Figure 2 – System Layout

The dotted line in the figure refers to an optional (temporary) hardware configuration in which a portable PC can be quickly connected to the CBX100 (and consequently to the reading device auxiliary interface) through the internal 9-pin connector. This allows monitoring of the data transmitted by the reading device or configuration through the utility program (see the reading device Installation Manual for more details). The reading device auxiliary interface signals are also available on the internal spring clamp connectors.

After making system cabling and switch settings, connect the reading device to the 25-pin connector on the CBX100 housing. The Power LED turns on (blue) when the power connection has the correct polarity. The Power LED turns on (red) in case of wrong polarity.

After system functioning has been verified, close the CBX100 using the 2 cover screws.

POWER SUPPLY

Power is supplied to the CBX100 through the Vdc and GND pins provided on the spring clamp connector.

The power switch (see Figure 3) switches the power supply ON or OFF for both the CBX100 and the connected reading device.

The power switch does not control power to the Vdc/GND, +V/-V spring clamps, therefore any devices connected to these signals (i.e. external trigger, encoder, etc.) are live and are not protected from polarity inversion. Disconnect the power supply when working inside the CBX100.

CAUTION

To avoid electromagnetic interference:
- Connect CBX100 Protection Earth (Earth) to a good earth ground.
- Connect the reading device chassis to earth ground through the jumper, (default setting, see Figure 7). The power supply must be between 10 and 30 Vdc only.

NOTE

NOTE

Vdc is electrically connected to +V, just as GND is electrically connected to -V. This is useful for supplying external trigger, inputs and outputs from the CBX100 power source, however +V and -V signals should not be used as power supply inputs to the CBX100.

SYSTEM WIRING

The connection and wiring procedure for CBX100 is described as follows:
1) Open the CBX100 by unscrewing the 2 covers.
2) Verify that the CBX100 power switch is off (see Figure 3).
3) Unscrew the compression connectors and pass all the system cables through the CBX100 housing.
4) To connect the power and input/output signals:
   - Prepare the individual wires of the system cables by stripping the insulation back approximately 1 cm.
   - Using a device such as a screwdriver, push down on the lever directly next to the clamp (see Figure 4).
   - Insert the wire into the clamp and release the lever.

The wire will now be held in the spring clamp.

5) Tighten the compression connector nuts so that the internal glands seal around the cables.

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To avoid electromagnetic interference:
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- Connect the reading device chassis to earth ground through the jumper, (default setting, see Figure 7). The power supply must be between 10 and 30 Vdc only.
POWER SOURCE JUMPER SETTINGS

For most applications input power is provided through the dedicated spring clamp connectors inside the CBX100. However, CBX100 may accept power from the connected reading device through the 25-pin connector. This is useful, for example, to pass power to connected accessories such as Encoder and Presence Sensor from CBX8200A VAC models or 6K/8K scanners powered directly through the network. See the relative device Reference Manual for details.

To power CBX100 from the reading device, the power source jumper must be placed in the “power from device” position as indicated in Figure 5.

Figure 5 – Power Source Jumper Settings

NETWORK BUS TERMINATION

The network cable shield (Shield) can be connected to Earth Ground (Earth) either directly or through a filter circuit. If the jumper is left open, the network cable shield (Shield) is floating.

Figure 6 – Shield to Earth Jumper Settings

Chassis Grounding Jumper Settings

The reading device chassis grounding method can be selected by positioning a jumper (see Figure 7). In this way the reading device chassis can be connected to earth ground (only if pin Earth is connected to a good earth ground). For all reading devices except 8K/8K, the chassis can alternatively be connected to the power supply ground signal (GND) or it can be left floating but, in this case, the jumper must be removed. For 6K or 8K scanners the chassis is internally connected to GND.

Figure 7 – Chassis Grounding

9-PIN READING DEVICE AUXILIARY SERIAL INTERFACE

The reading device auxiliary serial interface available on the internal CBX100 9-pin connector can be used either for configuration or for data monitoring. Connections can be made to a PC or Laptop using a straight through cable or a USB-RS232 converter.

The details of the connector pins are indicated in the following table:

CBX100 9-pin D-Sub Female Connector Pinout

<table>
<thead>
<tr>
<th>Pin</th>
<th>Name</th>
<th>Function</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>+5V</td>
<td>Power from device</td>
</tr>
<tr>
<td>2</td>
<td>5V</td>
<td>Power from device</td>
</tr>
<tr>
<td>3</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>4</td>
<td>RX</td>
<td>Auxiliary RS232</td>
</tr>
<tr>
<td>5</td>
<td>TX</td>
<td>Auxiliary RS232</td>
</tr>
<tr>
<td>6</td>
<td>Auxiliary</td>
<td>Auxiliary RS232</td>
</tr>
<tr>
<td>7</td>
<td>Auxiliary</td>
<td>Auxiliary RS232</td>
</tr>
<tr>
<td>8</td>
<td>Auxiliary</td>
<td>Auxiliary RS232</td>
</tr>
<tr>
<td>9</td>
<td>Auxiliary</td>
<td>Auxiliary RS232</td>
</tr>
<tr>
<td>10</td>
<td>5V</td>
<td>Power from device</td>
</tr>
<tr>
<td>11</td>
<td>5V</td>
<td>Power from device</td>
</tr>
<tr>
<td>12</td>
<td>GND</td>
<td>Ground</td>
</tr>
<tr>
<td>13</td>
<td>Auxiliary</td>
<td>Auxiliary RS232</td>
</tr>
<tr>
<td>14</td>
<td>Auxiliary</td>
<td>Auxiliary RS232</td>
</tr>
<tr>
<td>15</td>
<td>Auxiliary</td>
<td>Auxiliary RS232</td>
</tr>
</tbody>
</table>

The details of the connector pins are indicated in the following table:

The following four LEDs signal activity on the relative I/O lines. Their meaning depends on the software configuration of the connected reading device.

Figure 8 – I-DNET™ Termination Resistance Switch

The I-DNET™ termination resistance switch enables or disables the insertion of the bus termination resistor for I-DNET™ network applications.

Figure 9 – RS485 HD Termination Resistance Switch

The RS485 HD termination resistance switch enables or disables the insertion of the bus termination resistor for RS485 Half Duplex Multidrop applications.

BM100 BACKUP AND RESTORE MODULE (ACCESSORY)

The BM100 Backup and Restore Module (separate accessory) provides configuration parameter backup. It can easily be installed by aligning it over the corresponding connector in the CBX100 and pushing down until correctly seated. When closed, the plastic support inside the CBX100 cover holds the module in place. For further details see the BM100 manual.

Figure 10 – BM100 Accessory Mounting

SENSOR & UTILITIES

ID-NET™

There are five Indicator LEDs which signal power and I/O activity and are visible from the CBX100 outside cover.

The Power LED is blue when power is correctly applied to the CBX100 and the power switch is turned on.

This LED is red if power polarity is incorrect. In this case the connected reading device and optional Backup Module are protected.

If external I/O devices are powered through CBX100 (connected to +5V), they are not protected from polarity inversion.

The remaining four LEDs signal activity on the relative I/O lines. Their meaning depends on the software configuration of the connected reading device.

Figure 11 – Indicator LEDs

If external I/O devices are powered through CBX100 (connected to +5V), they are not protected from polarity inversion.

The remaining four LEDs signal activity on the relative I/O lines. Their meaning depends on the software configuration of the connected reading device.

TECHNICAL FEATURES

ELECTRICAL FEATURES

Supply Voltage 10 to 30 Vdc

Consumption 0.5 ± 0.1 A

Limited Current Consumption 2.5 A Max

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PowerOn/PowerOff (blue/red)

Trigger (yellow)

INIT (green)

OUT1 (yellow)

OUT2 (green)

INPUT/OUTPUT DEVICES

CBX + reading device consumption

EN 50082-2, 2005

INPUT/OUTPUT DEVICES

CBX + reading device consumption

Figure 12 – Input/Output Devices

LIMITS AND MEASUREMENTS

Shock Resistance 30 g; 11 ms; 2 hours on each axis

Humidity max. 90% non condensing

Operating Temperature 0° to 50 °C (+32° to 122 °F)

Figure 13 – Shock Resistance

Temperature Storage -20° to 70 °C (-4° to 158 °F)

Protection Class IP5X (when compression connectors and reading device are correctly connected).

Figure 14 – IP5X Protection

This feature is given at a 25 °C ambient temperature (if not otherwise indicated).

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This declaration is based on conformity of the products to the following standards:

Datalogic provides several services as well as technical support through its website. Log on to www.automation.datalogic.com and click on the links indicated for further information including:

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  - E-mail form and listing of Datalogic Subsidiaries

CE COMPLIANCE

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.

This is a Class A product. In a domestic environment this product is generally not understood to cause interference in which case the user has no obligations to take additional measures.