◆DATALOGIC

CD140/CD141
Installation Manual

The CD140 family displays are two-line by 20 character LED serial character display accessories.

They are powered by 10 to 30 volts DC (nominal 24 VDC) and accept serial messages with the characters to be displayed.

The displays are RS-232 receive-only and work at 9600 baud (8 data bits, no parity, 1 stop bit).

Wiring is via a standard 4-pole M12 cable — the same as used for photoelectric sensors. The connector on the display is a male, 4 pole, A-coded M12 inlet.

GENERAL VIEW

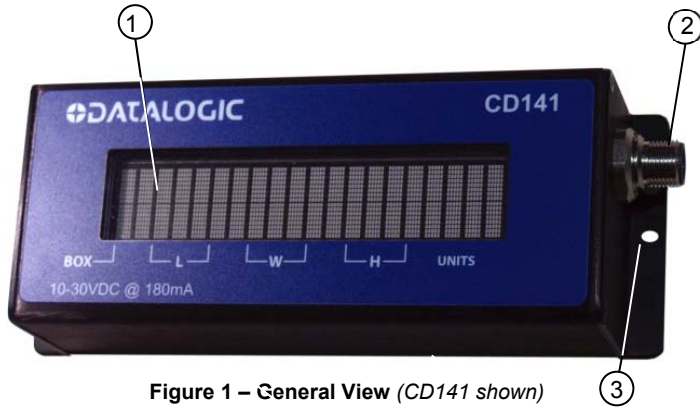**CD140 (P/N 93ACC0069) and CD141 (P/N 93ACC0070)**

Figure 1 – General View *(CD141 shown)*

1. 40 Character LED Display
2. 4-Pin M12 Connector
3. Mounting Hole (2)

SAFETY PRECAUTIONS

ATTENTION: READ THIS INFORMATION BEFORE INSTALLING THE PRODUCT

This product is intended to be installed by Qualified Personnel only.

The power supplied to the CBX100/CBX510 from the data collecting device must be between 10 and 30 VDC only, typically it is 24 VDC.

⚠ **CAUTION:** CD140/CD141 only accepts power directly from the CBX connection box via a 4-pin M12 connector.

⚠ **CAUTION:** Do not open the CD1410/141 40 character display housing. There are no field serviceable parts in the CD140/141.

☞ **NOTE:** To avoid electromagnetic interference:
- Connect CBX connection box Protection Earth (Earth) to a good earth ground.
- Connect the display device chassis to earth ground by mounting to a grounded conductive metal surface or by attaching a grounded conductive metal strap.

POWER CONSUMPTION NOTE

Total power consumption is 1.8 W.

MODEL OVERLAY

The 40 character display is available in two models, a general purpose display (CD140, P/N 93ACC0069), and one specifically labelled for use with dimensioning applications (CD141, P/N 93ACC0070).
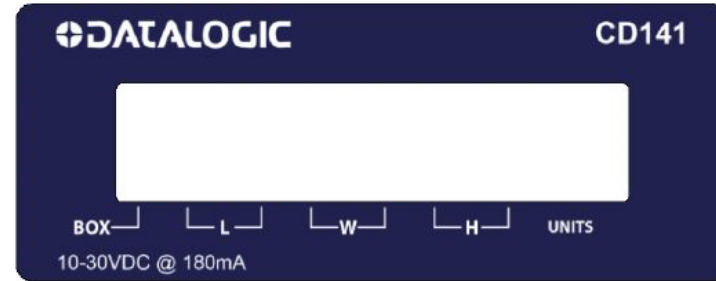

Figure 2 – Overlay by Model

MECHANICAL INSTALLATION

The diagram below gives the overall dimensions of the CD140/141 and shows the two mounting through-holes.
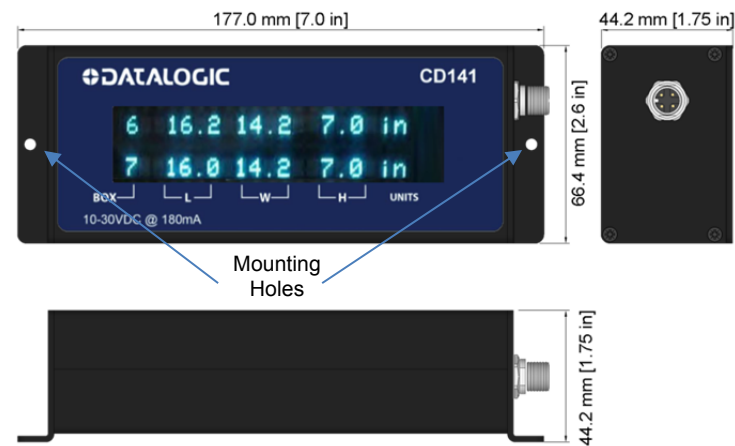

Figure 3 - Overall Dimensions

ACCESSORIES

The following cables are available on request for the CD140/141:

Name	Description	Part Number
Cables		
CS-A1-02-G-03	M12, 4 pole, straight, 3m, gray	95A251380
CS-A1-02-G-05	M12, 4 pole, straight, 5m, gray	95A251270
CS-A1-02-G-07	M12, 4 pole, straight, 7m, gray	95A251280
CS-A2-02-G-03	M12, 4 pole, 90° 3m gray	95A251360
CS-A2-02-G-05	M12, 4 pole, 90° 5m gray	95A251240
CS-A2-02-G-07	M12, 4 pole, 90° 7m gray	95A251245
CS-A1-02-U-03	M12, 4 pole, straight, 3m UL 2464	95ASE1120
CS-A1-02-U-05	M12, 4 pole, straight, 5m UL 2464	95ASE1130

M12 4-PIN PINOUTS

The connector on the CD140/141 display is a male, 4 pole, A-coded M12 inlet (shown below).
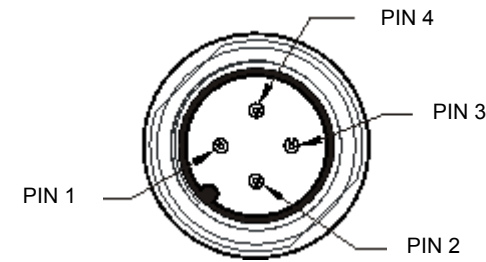

Figure 4 – M12 4-Pin Pinouts

Pin	Wire Color	Function
1	Brown	+V DC power in (10-30 VDC; nominal 24 VDC)
2	White	RS-232 receive data
3	Blue	DC power common
4	Black	RS-232 common

WIRING

The following figures show typical layouts.

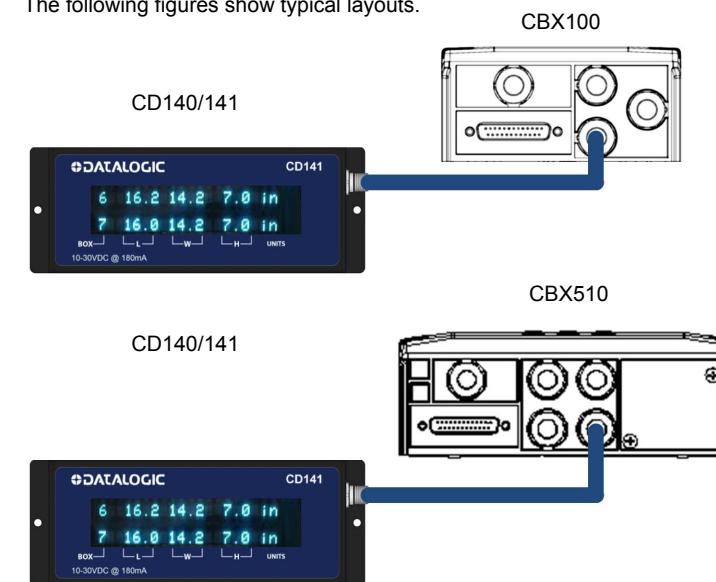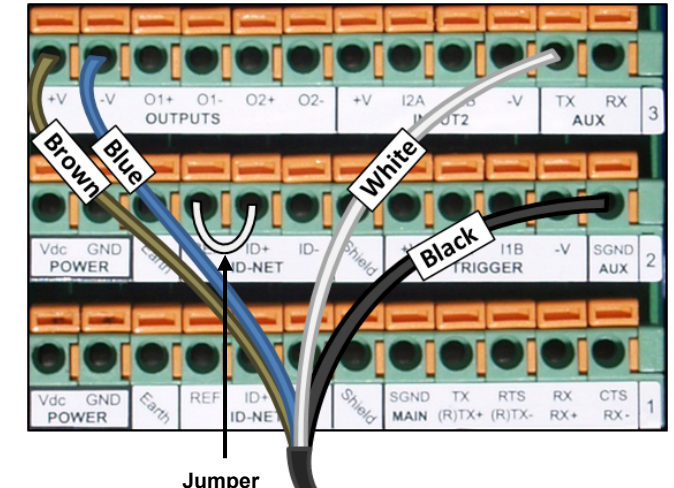**Figure 5 – Block Diagram: CD140/141 to CBX Connection Boxes**
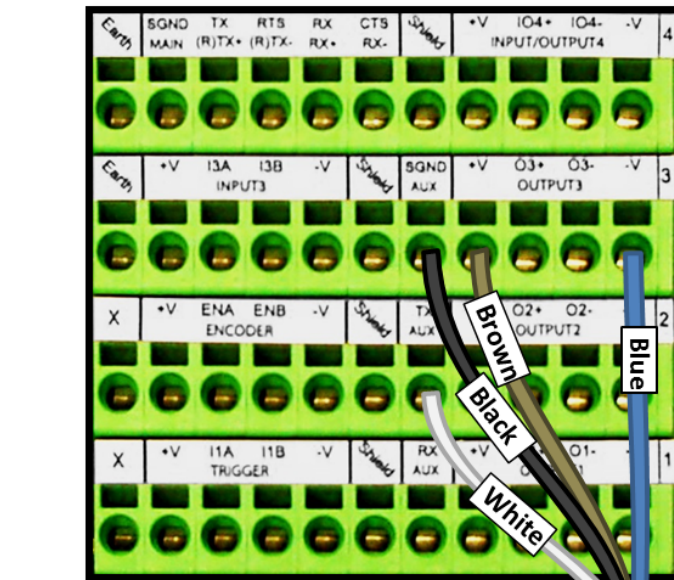

Figure 6 – CBX100 Wire Termination

Figure 7 – CBX510 Wire Termination

SERIAL PROTOCOL

The displays receive RS-232 data at 9600 baud, 8 data bits, no parity, 1 stop bit only.

CONTROL CHARACTERS

There are several special characters that control the display when sent in serial messages.

0x02 (Ctrl-B)
Clears the display then shows the software version and date.

0x0A (Ctrl-J or \n)
Line feed. Advances the cursor to the next line (scrolling the display upwards, if necessary).

0x0D (Ctrl-M or \r)
Carriage return. Moves the cursor to the beginning of the current line.

0x0E (Ctrl-N)
Makes the cursor visible as a blinking, solid block (the default).

0x0F (Ctrl-O)
Makes the cursor invisible.

0x11 (Ctrl-Q)
Automatic carriage return and line feed when the last character of a row is written (the default). The display will scroll, if necessary.

0x12 (Ctrl-R)
No automatic carriage return or line feed at end of line. The last cursor will remain on the last character.

0x14 (Ctrl-T)
Resets the display to defaults and clears the display.

0x15 (Ctrl-U)
Clears the display and returns the cursor to the home position.

0x16 (Ctrl-V)
Returns the cursor to the home position (first character of the top line) without clearing the display.

0x17 (Ctrl-W)
A "shift" character that forces the most significant bit "high" on the next character.

0x20 (space) through 0x7e (~)
Printable ASCII characters are displayed.

0xF8
0xFF
0x17,0x78
Solid block character (all pixels lit). This is intended to be used for a display test.

When a character is printed to the last position on a line, an automatic "line feed" is performed.

A typical display message sequence will look something like this (with control characters shown using 'C' or Python character literals):

    \x15\r\rDIM READY\r\n1 22.2 33.3 44.4 in

This will clear the display, the two carriage returns will have no effect (they were needed by other displays), the "DIM READY" will appear on the top line and the "1 22.2 33.3 44.4 in" will appear on the second line.

SUPPORT THROUGH THE WEBSITE

Datalogic provides several services as well as technical support through its website. Log on to *www.datalogic.com* and click on **SUPPORT > DIMENSIONER.** Then select your country and product model.

Downloads including documentation, software drivers, and utility programs and several links take you to additional services such as: Service Program which contains Maintenance Agreements and Warranty Extensions; Repair Centers; On-Line RMA Return Material Authorizations; Technical Support through email or phone; Downloads for additional downloads.

If you can't find your product in the list, enter the product name in the search box at the top.

COMPLIANCE

This product is intended to be installed by Qualified Personnel only.

Power Supply

This device is intended to be supplied by a UL Listed or CSA Certified Power Unit with Class 2 or LPS power source.

CE Compliance

CE marking states the compliance of the product with essential requirements listed in the applicable European directive. Since the directives and applicable standards are subject to continuous updates, and since Datalogic promptly adopts these updates, therefore the EU declaration of conformity is a living document. The EU declaration of conformity is available for competent authorities and customers through Datalogic commercial reference contacts. Since April 20th, 2016 the main European directives applicable to Datalogic products require inclusion of an adequate analysis and assessment of the risk(s). This evaluation was carried out in relation to the applicable points of the standards listed in the Declaration of Conformity. Datalogic products are mainly designed for integration purposes into more complex systems. For this reason it is under the responsibility of the system integrator to do a new risk assessment regarding the final installation.

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.

EAC Compliance

Customs Union:
The CU Conformity certification has been achieved; this allows the Product to bear the Eurasian mark of conformity.

FCC Compliance

Modifications or changes to this equipment without the expressed written approval of Datalogic could void the authority to use the equipment.

This device complies with PART 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference which may cause undesired operation.

This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense.

LEGAL NOTICE