

COGNEX

DataMan[®] 60 Quick Reference Guide



04/18/2017

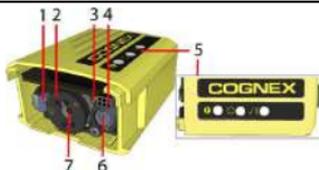
Version: 5.7.0.102

Precautions

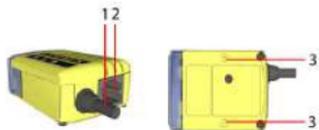
Observe these precautions when installing the Cognex product, to reduce the risk of injury or equipment damage:

- To reduce the risk of damage or malfunction due to over-voltage, line noise, electrostatic discharge (ESD), power surges, or other irregularities in the power supply, route all cables and wires away from high-voltage power sources.
- Changes or modifications not expressly approved by the party responsible for regulatory compliance could void the user's authority to operate the equipment.
- Cable shielding can be degraded or cables can be damaged or wear out more quickly if a service loop or bend radius is tighter than 10X the cable diameter. The bend radius must begin at least six inches from the connector.
- This device should be used in accordance with the instructions in this manual.
- All specifications are for reference purpose only and may be changed without notice.

Product Overview



| | |
|---|---|
| 1 | Internal illumination |
| 2 | 3-position lens cap |
| 3 | Focal position indicator |
| 4 | External illumination connector |
| 5 | Status LEDs: <ul style="list-style-type: none"> - Power: YELLOW = Power ON - Communication: Flashing YELLOW - Good / bad read: GREEN = good read / RED = bad read - Error: RED = error, check device log |
| 6 | LED aimer |
| 7 | Lens |



| | |
|---|--|
| 1 | Directly connected cable terminating in a DB15 connector providing: power, I/O, USB, and RS-232 connectivity |
| 2 | Ethernet RJ-45 connector |
| 3 | Mounting points |

DataMan 60 Accessories

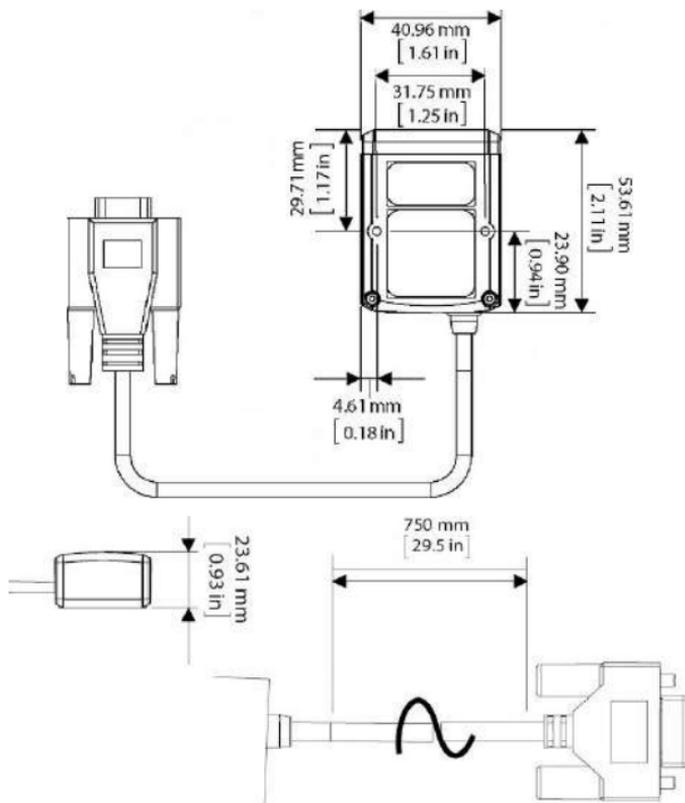
CABLES

| | |
|---|---|
| USB Cable, 1.5 m (DM100-USB-000), USB Cable, 3 m (DM100-USB-030) |  |
| USB and Flying Leads I/O Cable, 2.0 m (DM-USBIO-00) |  |
| RS-232 and Flying Leads I/O Cable, 2.5 m (DM-RS232IO-00) |  |
| RS-232 Cable, 1.5 m (DM100-RS232-000), Extension Cable, 5 m (DM100-EXTCBL-000) |  |
| Flying Leads Connection Cable, 5 m (DM50-PWRIO-05) |  |
| RS-232/USB adapter connector (DM100-PATCH-000) |  |
| Ethernet Cable: use CBL-C10E or any standard CAT5/5e, SF/FTP or S/FTP cable |  |

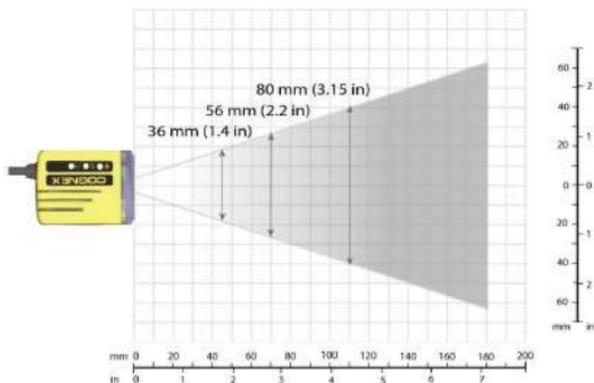
OTHER

| | |
|--|---|
| Power Supply, 6 V (DM100-PWR-000) |  |
| Pivot Mounting Bracket (DM100-PIVOTM-00) |  |
| Universal Mounting Bracket (DM50-UBRK-000) |  |
| Control Box (DM-CTRLBOX-00) |  |

Dimensions



Field of View and Reading Distances



| Focus position | Distances in mm/ 2D min. code | | Distances in mm/ 1D min. code | |
|----------------|----------------------------------|--------|----------------------------------|--------|
| 45 mm | 33-51 | 6 MIL | 34-51 | 4 MIL |
| | 31-57 | 8 MIL | 30-56 | 6 MIL |
| | 27-60 | 10 MIL | 37-66 | 10 MIL |
| | 25-61 | 12 MIL | | |
| 70 mm | 44-74 | 6 MIL | 52-73 | 4 MIL |
| | 42-78 | 8 MIL | 45-83 | 6 MIL |
| | 39-80 | 10 MIL | 33-89 | 10 MIL |
| | 34-89 | 12 MIL | | |
| 110 mm | 58-121 | 10 MIL | 66-122 | 6 MIL |
| | 54-133 | 12 MIL | 50-141 | 10 MIL |
| | | | 58-168 | 15 MIL |

Connecting the Reader

Legend

1 = Connect the breakout cable*

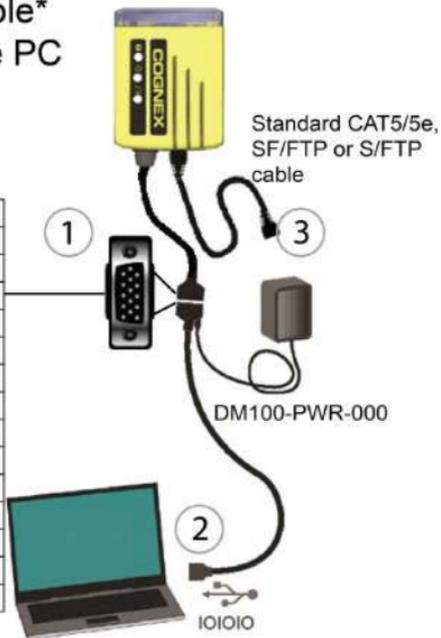
2 = Connect the reader to the PC

3 = Connect the reader to an

Ethernet network

*Wire colors are included for reference

| | |
|------------------------------|-------------------|
| Reserved | Brown |
| TxD | Green |
| RxD | Green/Black |
| GND | Red & Brown/White |
| DC+ (system power, 5-24 VDC) | Red/Black |
| RTS | Blue |
| Output-0 | Blue/White |
| Input-0 | White |
| Input-1 | White/Black |
| CTS | Light Blue |
| Output-1 | Light Blue/Black |
| Output Common | Light Blue/Yellow |
| Output Strobe | Light Blue/Green |
| Reserved | Yellow |
| Reserved | Yellow/Black |



Installation

Installation procedures and specifications are presented in detail in the *DataMan® 60 Reference Manual*, which is installed with the DataMan Setup Tool. From the Windows Start menu, select the following to access the manual: *All Programs > Cognex > DataMan Software vx.x.x > Documentation*.

Note:



- Cables are sold separately.
- If any of the standard components appear to be missing or damaged, immediately contact your Cognex Authorized Service Provider (ASP) or Cognex Technical Support.



CAUTION: All cable connectors are “keyed” to fit the connectors on the reader; do not force the connections or damage may occur.

Mounting

Mounting the DataMan reader at a slight angle (15°) can reduce reflections and improve performance.

Use the set of mounting holes on the rear part to mount the DataMan reader.



Connect the Ethernet Cable

1. Connect the Ethernet cable's RJ-45 connector to a switch/router or PC, as applicable.

Connect the Breakout Cable

 **Note:** Unused wires can be clipped short or tied back using a tie made of non-conductive material. For RS-232, use the Power Supply return path for ground.

1. Verify that the power supply being used is unplugged and not receiving power.
2. Connect the cable on the back of the device to an RS-232 adapter cable with power tab.
3. Connect a 6 V power supply.
4. Restore power to the power supply and turn it on if necessary.

Install Software and Documentation and Connect the Reader

Follow the steps below to connect your reader to power and network:

1. Connect the RS-232 cable to your reader.
2. Connect the cable to a power supply.

To configure a DataMan 60 reader, the DataMan Setup Tool software must be installed on a networked PC. The DataMan Setup Tool is available from the DataMan support site: <http://www.cognex.com/support/dataman>.

1. After installing the software, connect the DataMan 60 reader to your PC.
2. Launch the DataMan Setup Tool and click **Refresh**.
3. Select your DataMan 60 reader from the list and click **Connect**.

DataMan 60 Specifications

| | | | |
|-------------------------------|---|---|--|
| Weight | 98 g (including cable) | | |
| Operating Temperature | 0 °C — 40 °C (32 °F — 104 °F) | | |
| Storage Temperature | -10 °C — 60 °C (-14 °F — 140 °F) | | |
| Maximum Humidity | 95% (non-condensing) | | |
| Environmental | IP40 | | |
| LED Safety | IEC 62471: Exempt risk group, no further labeling is required. | | |
| Codes | 1-D barcodes: Codabar, Code 39, Code 128, and Code 93, Interleaved 2 of 5, Pharma, Postal, UPC/EAN/JAN 2-D barcodes: Data Matrix™ QR Code and microQR Code, MaxiCode, RSS/CS, PDF 417, MicroPDF 417 | | |
| Discrete I/O Operating Limits | Output 0,1 | I_{MAX} @ 24 VDC V_{MAX} | 25 mA 24 V |
| | Output 2 | Source V_{TYP} Sink V_{IH} | 4 V 4 V - V_{PSU} |
| | Input 0 (Trigger) Input 1 | V_{IL} V_{IH} V_{IL} I_{TYP} | 0 — 2 V 4 — 26 V 0 — 2 V 3 mA |
| Power Supply Requirements | V_{PSU} 4,5 — 24 VDC 2.5 W maximum LPS or NEC class 2 power supply | | |
| Duplex Mode | Full duplex or half duplex | | |

DataMan 60 Imager Specifications

| Specification | DataMan 60 Series Imager |
|---------------------------|---|
| Image Sensor | 1/3 inch CMOS |
| Image Sensor Properties | 4.51 mm x 2.88 mm (H x V), 6.0 μ m square pixels |
| Image Resolution (pixels) | 752 x 480 |
| Electronic Shutter Speed | 18 μ s to 25 ms exposure |
| Image Acquisition | up to 60 fps at full resolution |
| Lens Type | 6.2 mm, F:5.3 focal position M12 lens with IR blocking filter |

Compliance Statements

DataMan 60 readers meet or exceed the requirements of all applicable standards organizations for safe operation. However, as with any electrical equipment, the best way to ensure safe operation is to operate them according to the agency guidelines that follow. Please read these guidelines carefully before using your device.

| Regulator | Specification |
|--------------------|---------------------------------|
| USA | FCC Part 15, Subpart B, Class A |
| European Community | EN55022, Class A |
| | EN55024 |
| | EN60950 |

 **Note:** For the most up-to-date CE declaration and regulatory conformity information, please refer to the Cognex online support site: <http://www.cognex.com/Support>.

| Safety and Regulatory | |
|---|--|
| European Compliance  | <p> 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.</p> <hr/> <p>The CE mark on the product indicates that the system has been tested to and conforms with the provisions noted within the 2014/30/EU Electromagnetic Compatibility. For further information please contact: Cognex Corporation, One Vision Drive Natick, MA 01760 USA. Cognex Corporation shall not be liable for use of our product with equipment (i.e., power supplies, personal computers, etc.) that is not CE marked.</p> |

| Safety and Regulatory | |
|---|---|
| FCC Class A Compliance Statement  | 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 commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, 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 personal expense. |
| UL and cUL Statement  | UL and cUL listed: UL60950-1 1st ed. and CSA C22.2 No.60950-1 1st ed. Certified to CB scheme IEC 60950-1:2001 1st ed. |

LED Safety Statement

This device has been tested in accordance with IEC62471, and has been certified to be under the limits of Exempt Risk Group. No further labeling is required.

For European Community Users

Cognex complies with Directive 2012/19/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 4 July 2012 on waste electrical and electronic equipment (WEEE).

This product has required the extraction and use of natural resources for its production. It may contain hazardous substances that could impact health and the environment, if not properly disposed.

In order to avoid the dissemination of those substances in our environment and to diminish the pressure on the natural resources, we encourage you to use the appropriate take-back systems for product disposal. Those systems will reuse or recycle most of the materials of the product you are disposing in a sound way.



The crossed out wheeled bin symbol informs you that the product should not be disposed of along with municipal waste and invites you to use the appropriate separate take-back systems for product disposal.

If you need more information on the collection, reuse, and recycling systems, please contact your local or regional waste administration.

You may also contact your supplier for more information on the environmental performance of this product.

China RoHS



| Hazardous Substances 有害物质 | | | | | | |
|---|----------------|----------------------|----------------------|--|---|--|
| Part Name 部件名称 | Lead (Pb) 铅 | Mercury (Hg) 汞 | Cadmium (Cd) 镉 | Hexavalent Chromium (Cr (VI)) 六价铬 | Polybrominated biphenyls (PBB) 多溴联苯 | Polybrominated diphenyl ethers (PBDE) 多溴二苯醚 |
| DM60 | X | O | O | O | O | O |
| <p>This table is prepared in accordance with the provisions of SJ/T 11364. 这个标签是根据SJ/T 11364 的规定准备的。</p> <p>O: Indicates that said hazardous substance contained in all of the homogeneous materials for this part is below the limit requirement of GB / T26572 - 2011. 表示本部件所有均质材料中含有的有害物质低于GB / T26572 - 2011 的限量要求。</p> <p>X: Indicates that said hazardous substance contained in at least one of the homogeneous materials used for this part is above the limit requirement of GB / T26572 - 2011. 表示用于本部件的至少一种均质材料中所含的危害物质超过GB / T26572 - 2011 的限制要求。</p> | | | | | | |

Copyright © 2017
Cognex Corporation. All Rights Reserved.