# COGNEX

# DATAMAN 150/260 SERIES BARCODE READERS

For 1-D linear barcodes, printed higher-density 2-D matrix codes, and direct part mark (DPM) codes, the DataMan® 150/260 series fixed-mount, image-based barcode readers deliver unprecedented performance, flexibility and ease-of-use.

## Features at-a-glance

> High read rates

> Modular lighting, optics and configuration

> Easy to use

> No moving parts

> Performance feedback

## Highest read rates

DataMan 150/260 series fixed-mount barcode readers achieve the highest possible read rates thanks to a high-speed, powerful platform that runs the latest Cognex algorithms.

1DMax with Hotbars technology decodes damaged or poorly printed 1-D barcodes as small as 0.8 pixels per module (PPM). 2DMax provides reliable 2-D code reading independent of code quality, printing method, or the surface that the codes are marked on, and with PowerGrid® technology, can locate and read 2-D codes that exhibit significant damage to or complete elimination of the finder pattern, clocking pattern, or quiet zone.

*The serial USB-based DataMan 150 series and Ethernet-based 260 series models deliver unprecedented performance, flexibility, and ease-of-use.*

*1DMax with Hotbars technology deliver high-speed reading of damaged or poorly printed 1-D barcodes as small as 0.8 pixels per module (ppm).*

*2DMax with PowerGrid technology provides reliable reading of challenging 2-D codes, including previously unreadable 2-D codes without visible perimeters, even when the codes exhibit significant damage to or complete elimination of the finder pattern, clocking pattern, and quiet zone.*
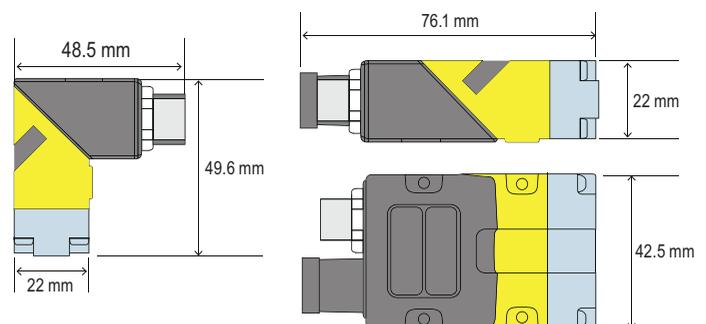
## Simplify installation in tight spaces

DataMan 150/260 series models offer straight or right-angled configurations to fit into the tightest spaces. In-line and ninety degree configurations eliminate the need for equipment redesign, and complicated optical paths with mirrors.

48.5 mm
49.6 mm
22 mm
76.1 mm
22 mm
42.5 mm

## Reduce installation time and cost of ownership

Modular lighting and optics make it easy to change DataMan 150 and 260 series reader lenses and lighting in the field. This not only reduces installation time and resources, but protects the barcode reader investment by making it easy to optimize performance for each application and accommodate future process changes.

For example, if the surface finish of the part or the background material warrants a new light wavelength to optimize image formation, just change the on-board lighting instead of buying a new barcode reader. Likewise, if the reader must be moved further away from the code, just change from a standard 6.2 mm lens to a 16 mm lens. There is also an option to have autofocus capability by installing a liquid lens for both 6.2 mm and 16 mm focal lengths.

*Field exchangeable lighting and optics readily adapt to changing factory conditions and application requirements.*

*Auto-tune and trigger buttons make the readers easy to set up without a PC.*

## Easy to use tune and trigger buttons

The Tune and Trigger buttons allow for the setup of the application all without a PC or HMI. After mounting the reader, simply press the Tune button. Whether the code is label based or a DPM code, the tuning algorithm trains the code and automatically adjusts the optics and lighting to deliver an image optimized for your application.

Once the reader has been tuned, the trigger button makes it easy to confirm that the reader has been set up properly. Audible beep or visual LED feedback makes it easy to know when the code is correctly read.

## Perfect for DataMan 100/200 series retrofits

The DataMan 150/260 series readers utilize the same mounting configuration and pin out as the DataMan 100/200 series barcode readers. This provides easy retrofits into existing DataMan 100/200 applications without adapter plates, or changes to mounting holes and wiring.

Because DataMan 150/260 and 100/200 models have equal standoff distances and fields of view, retrofits require no changes to the machine layout, hardware or application.

**Compatibility for easy retrofits**

*DataMan 150/260 series communications, field of view, mounting holes and pin out are compatible with the DataMan 100/200 series readers.*

## Optimal image formation for any code

Codes on round, shiny, highly reflective, or specular surfaces very often require custom illumination to allow them to be read reliably. Low resolution codes and codes at long working distances also present reading challenges. Cognex's modular technology makes reading these codes simple.

**16 mm lens**—compared to the standard 6.2 mm lens, this lens can read smaller codes and codes at further working distances.

**Liquid lens technology**—the liquid lens module gives you the ability to perform autofocus with no moving parts.

**High-powered Integrated Light (HPIL)**—four high-powered red LEDs direct more light onto the code for better image formation. This feature is particularly useful for long distance code reading and high speed applications.

**Half-polarized front cover**—Two polarized LEDs and two unpolarized LEDs can be configured for custom lighting for any application. The polarized LEDs are ideal for shiny, specular surfaces, while the unpolarized LEDS are for long distance and high speed applications. Fully polarized and un-polarized front covers are also available, and can be easily interchanged.

By simply pressing the Tune button on the reader, the reader automatically optimizes the lighting levels, focus, and lighting scheme for best image formation.
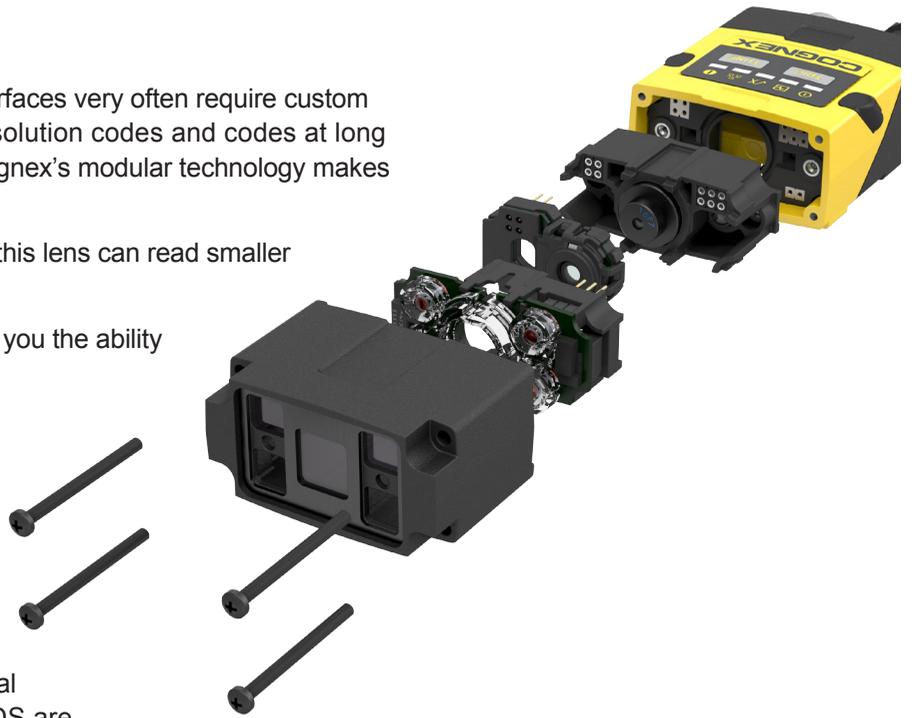
## MODELS

| | 2-D Barcode Reading | | | | 2-D & 1-D Barcode Reading | | 1-D Barcode Reading | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| | Direct Part Mark (DPM) | High Speed | Slow Speed | Multiple Codes | Mixed Codes | Challenging Codes | High Speed | Slow Speed | Multiple Codes | Omnidirectional | Oriented |
| DataMan 150/152 QL 260/262 QL | | | | | | | ■ | ■ | ■ | ■ | ■ |
| DataMan 150/152 S 260/262 S | | | ■ | ■ | ■ | ■ | | ■ | ■ | ■ | ■ |
| DataMan 150/152 Q 260/262 Q | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| DataMan 150/152 X 260/262 X | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |

### QL Models

Best-in-class 1-D barcode reading with 1DMax and Hotbars technology that is optimized for omnidirectional barcode reading.

### S Models

For slow-moving parts or index motion where parts have well-marked 1-D and 2-D codes.

### Q Models

High-performance code reading of 1-D and 2-D codes on fast moving parts. Includes 1DMax and IDQuick algorithms, 2DMax available in some models.

### X Models

High-performance code reading of challenging 1-D and 2-D codes, including DPM codes. Some X models also include PowerGrid technology.

## Field of View and Reading Distances
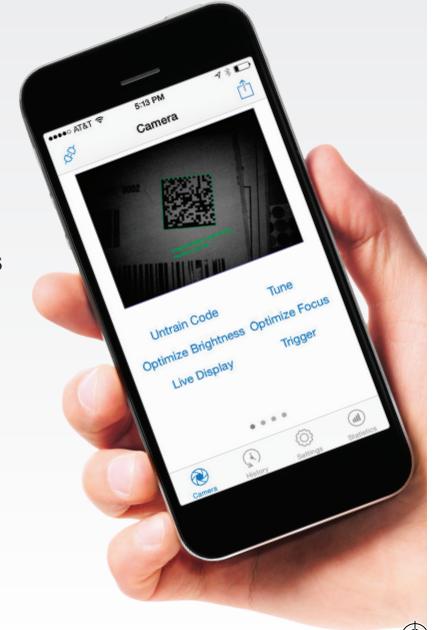
### DataMan 150/260 with 6.2 mm lens



| | 34 x 22 | 50 x 32 | | 77 x 49 |
| mm | 40 | 65 | | 105 |
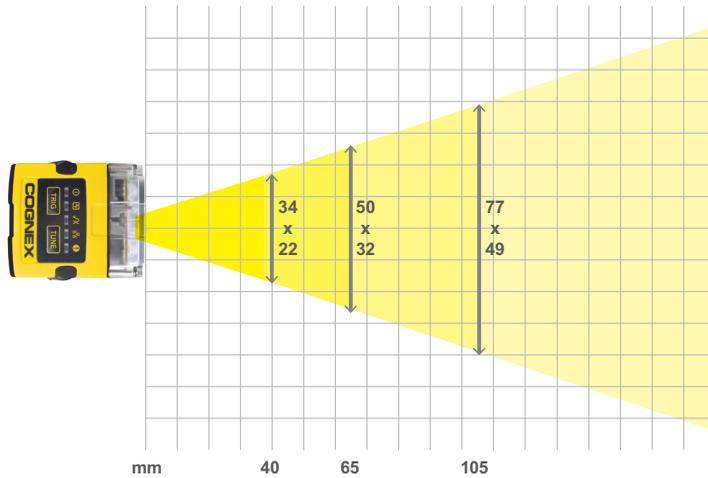
### Reading distances

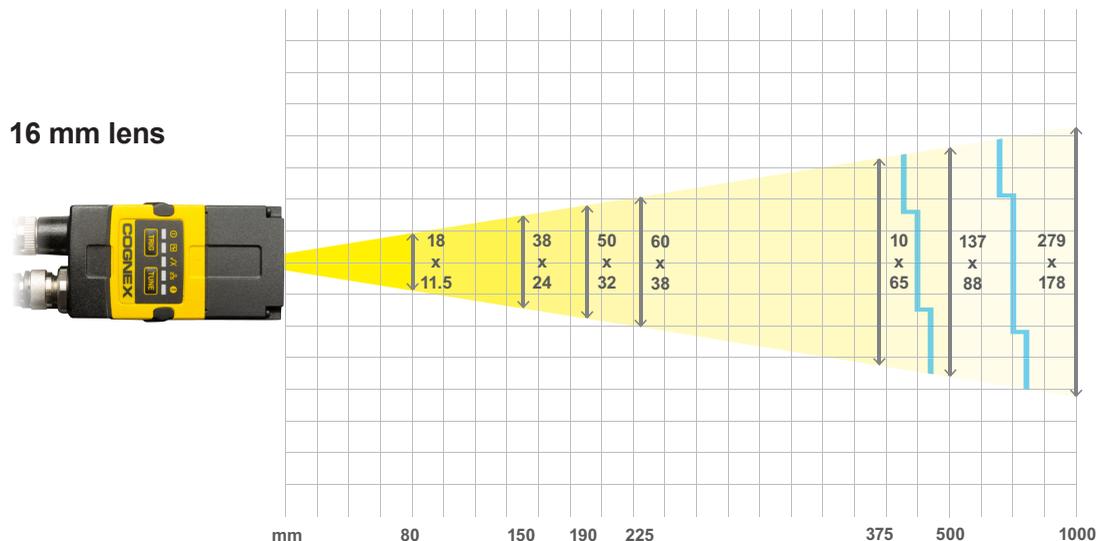| | @40 | | @65 | | @105 | |
|---|---|---|---|---|---|---|
| **1D** | 30 mil | 45–90 mm * | 30 mil | 45–170 mm * | 15 mil | 45–170 mm * |
| | 15 mil | 45–70 mm | 15 mil | 45–103 mm * | 6 mil | 70–120 mm |
| | 6 mil | 28–51 mm | 6 mil | 45–82 mm | | |
| **2D** | 30 mil | 25–95 mm | 30 mil | 25–160 mm | 30 mil | 25–265 mm |
| | 15 mil | 20–70 mm | 15 mil | 35–120 mm | 15 mil | 55–200 mm |
| | 10 mil | 25–60 mm | 10 mil | 45–100 mm | 10 mil | 75–160 mm |
| | 5 mil | 40–50 mm | | | | |

**\*** min. Distance limited by code size

### DataMan barcode reader quick setup app

This convenient web-based app allows you to remotely set up and configure your networked Ethernet-based fixed-mount barcode readers on your phone or mobile device. Available from Google Play or iTunes App Store, this app allows you to see images in real-time, adjust and share configuration settings among multiple readers, save and send images, and much more. You can even troubleshoot issues and check read rates anywhere on your factory or distribution center floor without using a PC.
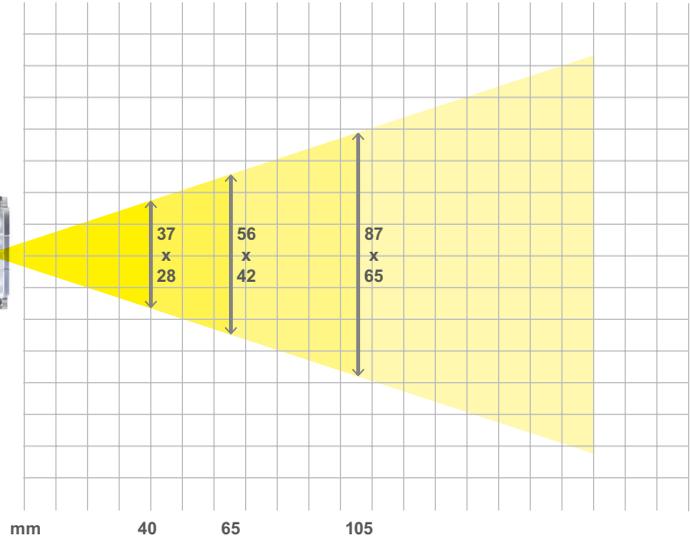


### DataMan 150/260 with 16 mm lens



| | 18 x 11.5 | 38 x 24 | 50 x 32 | 60 x 38 | | 10 x 65 | 137 x 88 | 279 x 178 |
| mm | 80 | 150 | 190 | 225 | | 375 | 500 | 1000 |

### Reading distances

| | @80 | | @150 | | @190 | | @225 | | @375 | | @500 | | @1000 | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| **1D** | 30 mil | 60–100 mm | 30 mil | 110–190 mm | 30 mil | 130–245 mm | 30 mil | 155–290 mm | 30 mil | 255–490 mm | 30 mil | 340–650 mm | 30 mil | 700–1250 mm |
| | 15 mil | 70–90 mm | 15 mil | 130–165 mm | 15 mil | 165–215 mm | 15 mil | 190–260 mm | 15 mil | 325–430 mm | 15 mil | 425–575 mm | | |
| | 6 mil | 78–82 mm | 6 mil | 145–155 mm | 6 mil | 185–200 mm | 6 mil | 215–235 mm | 6 mil | 373–377 mm | | | | |
| **2D** | 30 mil | 60–100 mm | 30 mil | 115–185 mm | 30 mil | 140–235 mm | 30 mil | 170–275 mm | 30 mil | 280–470 mm | 30 mil | 370–625 mm | 30 mil | 800–1150 mm |
| | 15 mil | 75–85 mm | 15 mil | 140–160 mm | 15 mil | 170–210 mm | 15 mil | 200–250 mm | 15 mil | 335–415 mm | 15 mil | 450–515 mm | | |
| | 6 mil | 78–82 mm | 6 mil | 148–152 mm | 6 mil | 185–195 mm | 6 mil | 223–227 mm | | | | | | |

# Field of View and Reading Distances

## DataMan 152/262 with 6.2 mm lens



### Reading distances

| | @40 | @65 | @105 |
|---|---|---|---|
| **1D** | 30 mil 45–90 mm<br>15 mil 45–65 mm<br>12 mil 20–60 mm<br>10 mil 25–55 mm<br>8 mil 30–50 mm<br>6 mil 35–45 mm | 30 mil 45–110 mm<br>15 mil 45–105 mm<br>12 mil 35–95 mm<br>10 mil 40–90 mm<br>8 mil 45–85 mm<br>6 mil 50–75 mm | 30 mil 50–175 mm<br>15 mil 45–165 mm<br>12 mil 60–150 mm<br>10 mil 65–145 mm<br>8 mil 75–135 mm<br>6 mil 85–125 mm |
| **2D** | 30 mil 25–95 mm<br>15 mil 25–53 mm<br>12 mil 28–50 mm<br>10 mil 30–48 mm<br>8 mil 32–45 mm<br>6 mil 35–42 mm | 30 mil 50–100 mm<br>15 mil 45–85 mm<br>12 mil 50–80 mm<br>10 mil 55–75 mm<br>8 mil 58–72 mm<br>6 mil 60–70 mm | 30 mil 50–175 mm<br>15 mil 75–135 mm<br>12 mil 80–130 mm<br>10 mil 85–125 mm<br>8 mil 90–120 mm<br>6 mil 95–115 mm |

## DataMan 152/262 with 16 mm lens
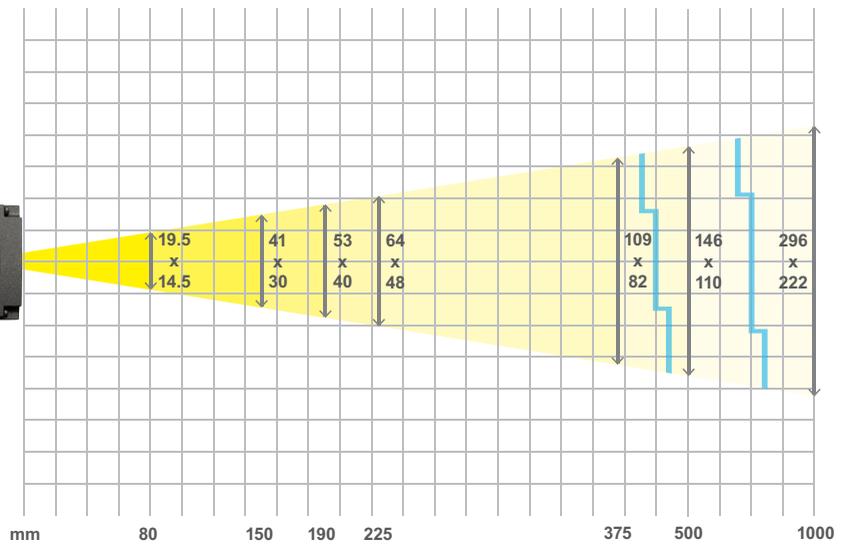


### Reading distances

| | @80 | @150 | @190 | @225 | @375 | @500 | @1000 |
|---|---|---|---|---|---|---|---|
| **1D** | 30 mil 55–105 mm<br>15 mil 70–90 mm<br>6 mil 78–85 mm | 30 mil 105–195 mm<br>15 mil 130–170 mm<br>6 mil 142–158 mm | 30 mil 130–250 mm<br>15 mil 160–218 mm<br>6 mil 180–198 mm | 30 mil 152–295 mm<br>15 mil 190–260 mm<br>6 mil 212–235 mm | 30 mil 250–490 mm<br>15 mil 320–435 mm<br>6 mil 355–395 mm | 30 mil 335–660 mm<br>15 mil 420–580 mm<br>6 mil 475–525 mm | 30 mil 670–1300 mm<br>15 mil 900–1100 mm |
| **2D** | 30 mil 60–100 mm<br>15 mil 75–87 mm<br>6 mil 78–82 mm | 30 mil 112–188 mm<br>15 mil 135–165 mm<br>6 mil 145–155 mm | 30 mil 140–238 mm<br>15 mil 168–210 mm<br>6 mil 182–198 mm | 30 mil 165–280 mm<br>15 mil 198–252 mm<br>6 mil 215–230 mm | 30 mil 275–475 mm<br>15 mil 330–420 mm | 30 mil 370–630 mm<br>15 mil 440–560 mm | 30 mil 775–1200 mm |

## SPECIFICATIONS

| | 150 S | 150 QL | 150 Q | 150 X | 152 S | 152 QL | 152 Q | 152 X | 260 S | 260 QL | 260 Q | 260 X | 262 S | 262 QL | 262 Q | 262 X |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1-D and Stacked Codes | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| Omnidirectional 1-D Codes | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ | ■ |
| 2-D Codes | ■ | | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ | ■ | ■ | | ■ | ■ |
| Algorithms | 1DMax, 2DCode | 1DMax, Hotbars | 1DMax, 2DMax | 1DMax, 2DMax, PowerGrid | 1DMax, 2DCode | 1DMax, Hotbars | 1DMax, 2DMax | 1DMax, 2DMax, PowerGrid | 1DMax, 2DCode | 1DMax, Hotbars | 1DMax, 2DMax | 1DMax, 2DMax, PowerGrid | 1DMax, 2DCode | 1DMax, Hotbars | 1DMax, 2DMax, Hotbars | 1DMax, 2DMax, PowerGrid |
| Image Resolution | 752 x 480 Global shutter | | | | 1280 x 960 Global shutter | | | | 752 x 480 Global shutter | | | | 1280 x 960 Global shutter | | | |
| Image Sensor | 1/3" CMOS | | | | 1/3" CMOS | | | | 1/3" CMOS | | | | 1/3" CMOS | | | |
| Acquisition | 2 fps | 60 fps | | | 2 fps | 45 fps | | | 2 fps | 60 fps | | | 2 fps | 45 fps | | |
| Max Decode Rate | 2/sec. | 45/sec. | | | 2/sec. | 45/sec. | | | 2/sec. | 45/sec. | | | 2/sec. | 45/sec. | | |
| Lens Options | 6.2 mm (3 position or liquid lens, 50..250 mm), 16 mm (manual focus or liquid lens, 80 mm .. 1 m) | | | | | | | | | | | | | | | |
| Trigger and Tune Buttons | Yes. Quick Setup Intelligent Tuning | | | | | | | | | | | | | | | |
| Aimer | 2 Green Aimer LEDs | | | | | | | | | | | | | | | |
| Discrete Inputs | 2 opto-isolated | | | | | | | | 2 opto-isolated | | | | | | | |
| Discrete Outputs | 2 opto-isolated | | | | | | | | 4 opto-isolated | | | | | | | |
| Status Outputs | 5 Status LEDs and Beeper | | | | | | | | | | | | | | | |
| Lighting | Modular/Field Configurable Lighting: Four Independently Controled, High-power LEDs (Red, White, Blue, IR) Band-Pass Filters & Polarizing Filter Available | | | | | | | | | | | | | | | |
| Power | 5–26 VDC, 2.5 W (USB bus power option) DB-15 pig tail cable, pin compatible to DM100 | | | | | | | | Two models with 24V +/- 10% or PoE (Power over Ethernet) | | | | | | | |
| Power Consumption | <2.5 W (USB) | | | | | | | | <3.0 W (PoE or external power) | | | | | | | |
| Communication | RS-232 and USB Interface | | | | | | | | RS-232 and Ethernet Interface | | | | | | | |
| Material | Aluminum | | | | | | | | | | | | | | | |
| Weight | 128 g | | | | | | | | 142 g | | | | | | | |
| Dimensions | Straight: 42.5 mm x 22 mm x 55(63) mm Right-Angle: 42.5 mm x 28(36) x 49.6 mm | | | | | | | | Straight: 42.5 mm x 22 mm x 76.1 mm Right-Angle: 42.5 mm x 48.5 mm x 49.6 mm | | | | | | | |
| Operating Temperature | Temperature (operating) 0 °C–40 °C | | | | | | | | | | | | | | | |
| Storage Temperature | Temperature (storage) -10 °C–60 °C | | | | | | | | | | | | | | | |
| Operating and Storage Humidity | Humidity < 95% non-condensing | | | | | | | | | | | | | | | |
| Protection | IP-65 | | | | | | | | | | | | | | | |
| RoHS Certified | Yes | | | | | | | | | | | | | | | |
| Approvals (CE, UL, FCC) | USA FCC Part 15, Class A; Canada ICES-003; European Community EN55022:2006 +A1:2007, Class A, EN55024:1998 +A1:2001 +A2: 2003, EN60950 | | | | | | | | Australia C-TICK, AS/NZS CISPR 22 / EN 55022 for Class A Equipment; Japan J55022, Class A; KCC; Safety: IEC 60950-1:2005 (2nd Edition); Am 1:2009 | | | | | | | |
| Operating System | Microsoft Windows XP, 7 and 10 | | | | | | | | | | | | | | | |

# COGNEX

Companies around the world rely on Cognex vision and barcode reading solutions to optimize quality, drive down costs and control traceability.

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