

COGNEX

Advanced machine vision made easy

Ultimate Flexibility, Unmatched Code Reading

DataMan 280 Series



DataMan 280 Series

Fixed-mount Barcode Readers

Premium decoding technology
in a compact form factor

The DataMan 280 is an all purpose, all powerful barcode reader designed to perform in a variety of code-reading environments. The 280 series incorporates AI tuning to ensure high read performance on difficult applications.

From hands-free code reading in a logistics facility to decoding direct part markings (DPMs) in a manufacturing plant, DataMan 280 readers increase traceability, and boost throughput by delivering the highest read rates.



DataMan 280



DataMan 282

Key features



High performance in a compact package

Improve throughput and productivity across a variety of applications using industry-leading 1D/2D algorithms, including HotBars and PowerGrid, and uniform lighting.



Robust reading

Operate in the most challenging code-reading environments with dynamic auto-focus and advanced high dynamic range imaging.



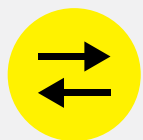
Out-of-the-box functionality

Unbox, install, and decode with fast, intuitive deployment even for specialized applications.



AI-enabled tuning

AI tuning allows for fast setup on challenging applications.



Flexible connectivity and communications

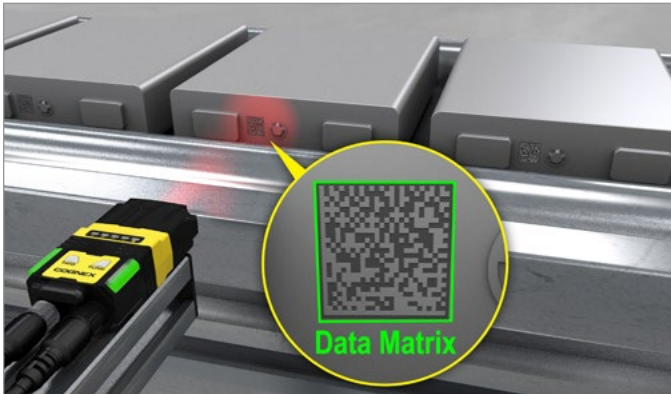
Increase efficiency and exchange information faster:

- 1 GB/second Ethernet
- Rapid image offload
- Easy data management
- Multi-reader sync

Solve tough manufacturing and logistics applications

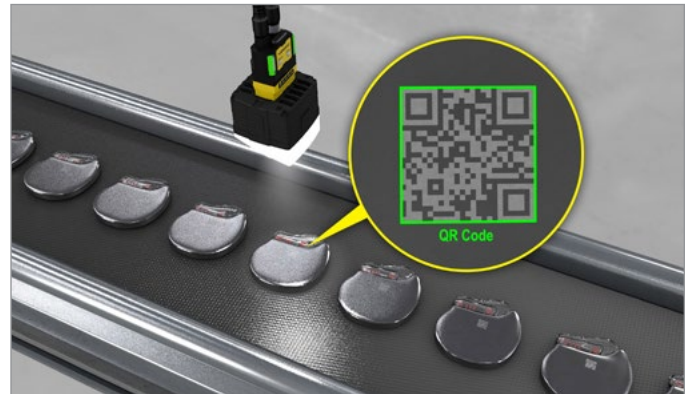
DataMan 280 series barcode readers provide unprecedented read rates on 1D and 2D label-based codes and DPMs.

Automotive DPM reading



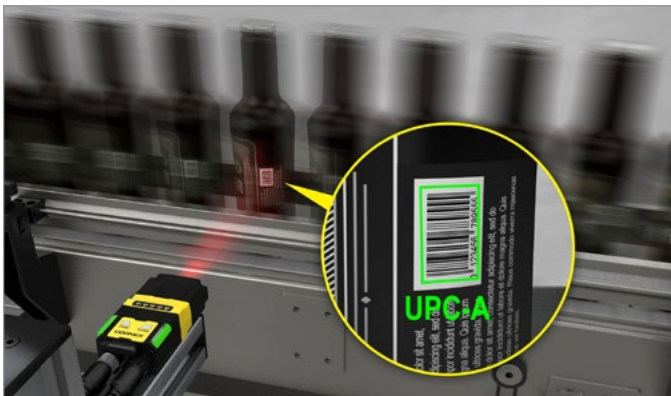
Easily decode difficult DPMs on automotive part surfaces.

Medical device DPM reading



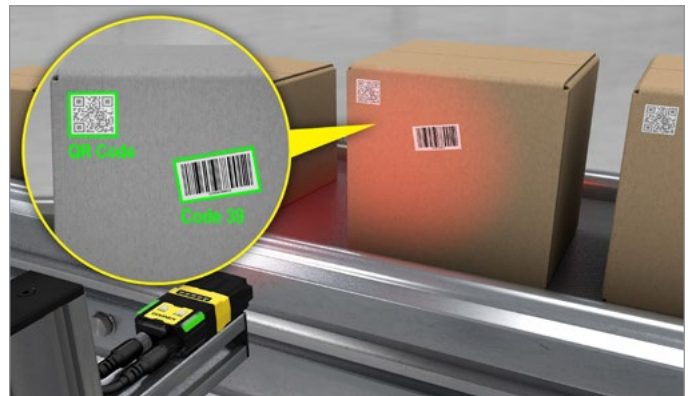
Accurately read and trace small DPMs on critical medical devices.

High-speed barcode reading



Reliably read every barcode on high-speed manufacturing lines.

Multiple barcode reading



Read multiple codes simultaneously in the field of view and offload images quickly.

Pallet code reading



Read 1D and 2D label-based codes on pallets, even codes behind specular wraps.

Hands-free barcode reading



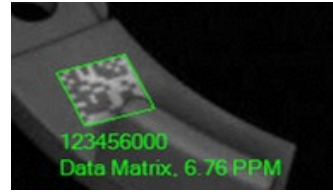
Improve handling efficiency with a large depth of focus that accurately reads user-presented codes.

Take your operations to the next level with advanced reading and imaging technology

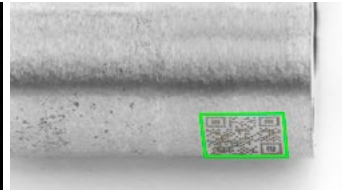
DataMan 280 series barcode readers leverage patented decoding algorithms and imaging technology to deliver unparalleled read rates for 1D and 2D label-based codes, as well as DPMs.



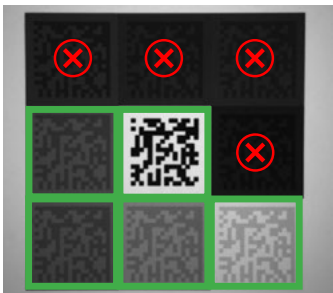
1DMax™ with Hotbars® is optimized for omnidirectional 1D barcode reading and decodes low-resolution codes up to 10X the speed of a conventional barcode reader.



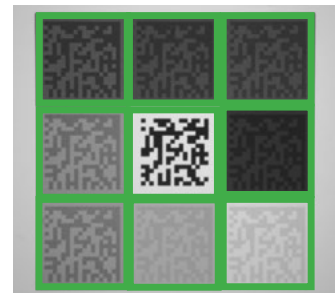
2DMax® with PowerGrid® is designed to read 2D codes (including QR codes) with significant damage or complete elimination of finder and clocking pattern, or quiet zone.



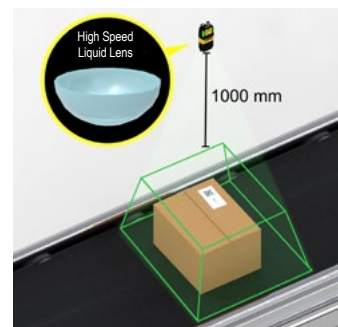
Conventional Sensor



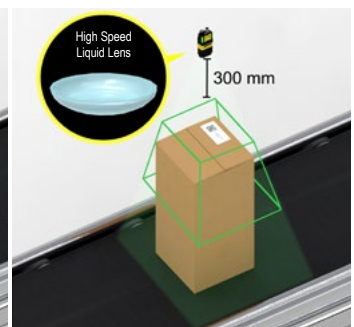
HDR



High Dynamic Range (HDR) enables you to read codes in low-contrast conditions, using an advanced image sensor to reduce dark noise, improve saturation capacity, and interpret low-light codes.



High-Speed Liquid Lens (HSLL) technology dynamically autofocuses without any mechanical parts, addressing high-speed, high-variability applications with fewer cameras and in less time.

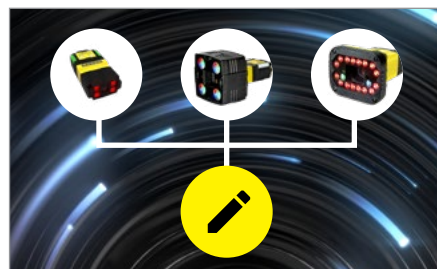


Simplify setup and deploy real-time performance monitoring with Edge Intelligence

DataMan 280 series readers combined with Cognex Edge Intelligence (EI) transform big data into smart data to improve overall equipment effectiveness and throughput. EI allows users to configure multiple devices simultaneously, facilitating immediate system performance monitoring and analysis. The technology informs users when issues occur, allowing operators to identify and resolve root causes faster using powerful analytics and image view tools.



Connect via web browser



Configure multiple devices simultaneously



Identify performance trends and issues

Full-featured barcode reader addresses broad range of symbologies and markings

Accelerate throughput, achieve higher read rates, and be prepared for any code-reading challenge. DataMan 280 series barcode readers utilize patented decoding algorithms and imaging technology to deliver the highest read rates for DPMs and label-based codes.

DataMan 280



DataMan 282



High-powered integrated torch (HPIT) allows you to switch between red, white, blue and green lighting with a click of a button

Built in high-powered illumination

Time-of-flight sensor paired with HSSL augments depth of field and speed of real-time auto-focus

Multi-core processor enables fast image processing

Indicator lights for operator feedback

Gigabit Ethernet delivers fast communication speeds and image offload

USB-C connection enables instantaneous, seamless communication (serial or keyboard output) to devices such as computers, touchscreens, or displays

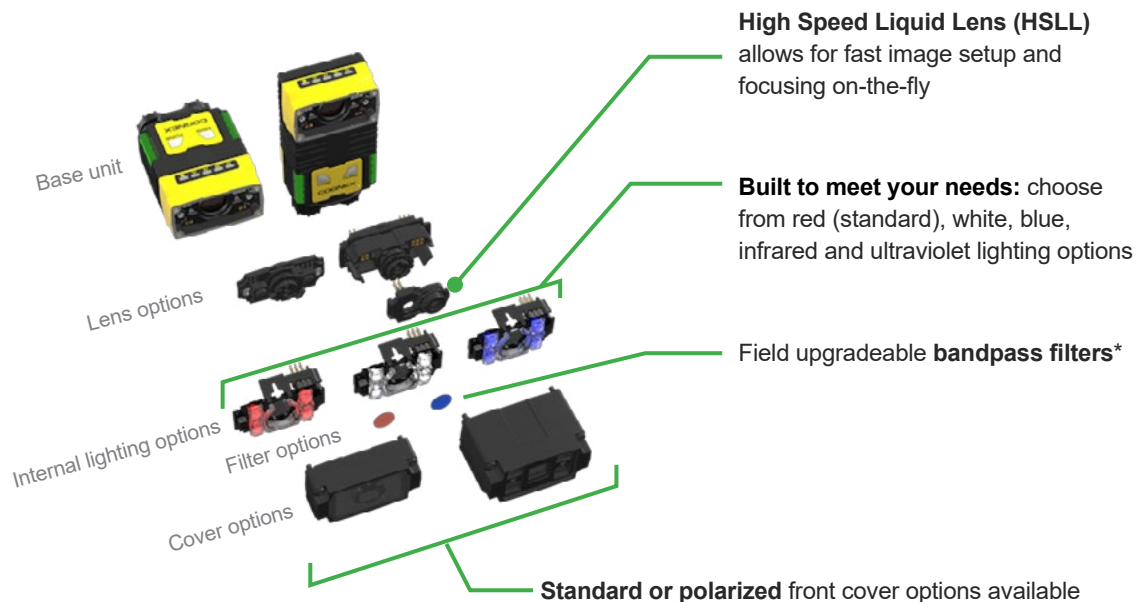
Compact form factor with **in-line** or **right-angle** configuration



Flexible platform built for scalability

Whether you need a standard solution for straightforward decoding or advanced lighting and optics for specialized applications, the modular design of DataMan 280 series readers allows you to customize your reader to fit your needs. Readers are built to order and ready to address a variety of applications.

DataMan 280



*Sold separately

Build YOUR Reader

Select from different combinations of lenses, lighting, and covers to build your custom solution.



configurator.cognex.com/en/dataman280

DataMan 282



Enhanced code reading with a single click

DataMan 282 readers are equipped with the HPIT, enabling operators to quickly toggle between red, white, blue and green lighting options. The HPIT ensures you have the right lighting for your application, enabling optimal contrast, a greater depth of field, and higher read rates.

Multicolor lighting can also serve as a performance indicator, delivering immediate color-coded operator feedback.



*Sold separately

DataMan 280 Series Specifications

| | DataMan 280 | DataMan 282 |
|--------------------------------|---|---|
| Algorithms and Technologies | 1DMax, 2DMax, Hotbars, PowerGrid | |
| Image Sensor | 1/3" CMOS | 1/2.8" CMOS |
| Image Sensor Properties | Diagonal 6.21 mm, 3.45 μ m square pixels | Diagonal 6.17 mm, 2.8 μ m square pixels |
| Image Resolution | 1440 x 1080 pixels | 1920 x 1080 pixels |
| Electronic Shutter Speed | Min. exposure: 29 μ s Max. exposure: Up to 10 ms (internal illumination) / Up to 200 ms (external illumination) | |
| Acquisition | Up to 45 Hz | |
| Lens Options | 6.2 mm or 16 mm High Speed Liquid Lens | 8 mm, 12 mm, or 16 mm High Speed Liquid Lens |
| Trigger and Tune Buttons | Yes, with Quick Setup Intelligent Tuning | |
| Aimer | 2 LEDs | Laser cross pattern (class 2) |
| Discrete Inputs | 2 opto-isolated, 2 configurable | |
| Discrete Outputs | 2 opto-isolated, 2 configurable | |
| Other I/O Points | 2 user configurable as inputs or outputs | |
| Status Outputs | 5 status LEDs, audible beeper, 2 visual indicator lights | 5 status LEDs, audible beeper, 2 visual indicator lights, 4 HPIT light color options |
| Lighting | Standard: 4 LED lights for 6.2mm lens (red, blue, white, IR, and UV options) HPIL: 4 LED high-powered lights for 16 mm lens (red, white options) Optional bandpass filters. Front cover options: polarized/half-polarized and clear. | HPIT: 4 multi-color LED lights (red, green, blue, and white) Optional bandpass filters. Front cover options: clear, diffused, polarized and dome. |
| Communications | Serial and 1 GB/second Ethernet interface, USB-C, and keyboard capability | |
| Protocols | RS-232, TCP/IP, PROFINET (class B), EtherNet/IP™, SLMP, CC-Link, Modbus TCP, NTP, SFTP, FTP, MRS, Java Scripting enabled for custom protocols | |
| Power | 24V +/- 10% and Power over Ethernet (PoE) | 24V +/- 10% |
| Power Consumption | ≤ 7.5 W | |
| Material | Zinc alloy/aluminum | |
| Weight | 6.2 mm: 141 g; 16 mm: 169 g Right angle configuration adds 50 g | 290 g Right angle configuration adds 50 g |
| Operating Temperature | 0–40° C (32–104° F) | |
| Storage Temperature | -10–60° C (14–140° F) | |
| Operating and Storage Humidity | <95% non-condensing | |
| Protection | IP67 | |
| RoHS Certified | Yes | |
| Approvals | EU [CE], US [FCC], TUV, CB, NRTL, IEC 61010, Korea [KCC], India [BIS] | |

Field of view diagrams

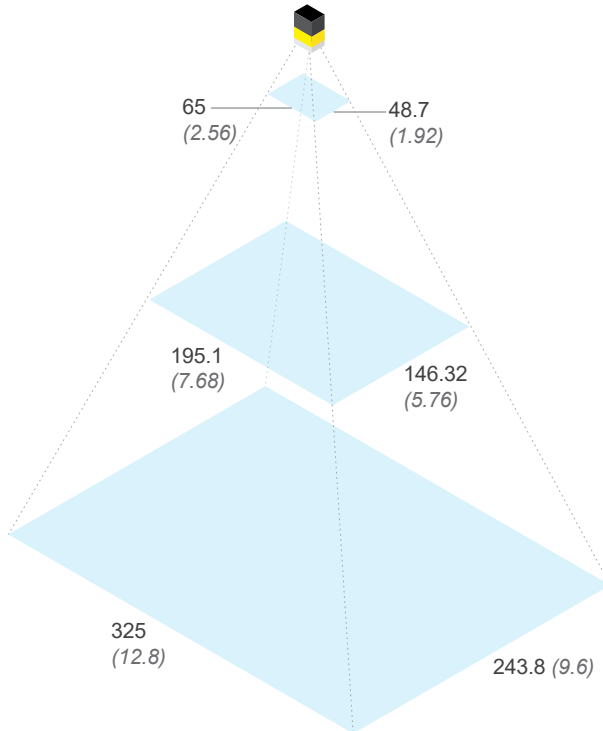
Working distances
Units: mm (*in*)

Minimum
50 (1.97)

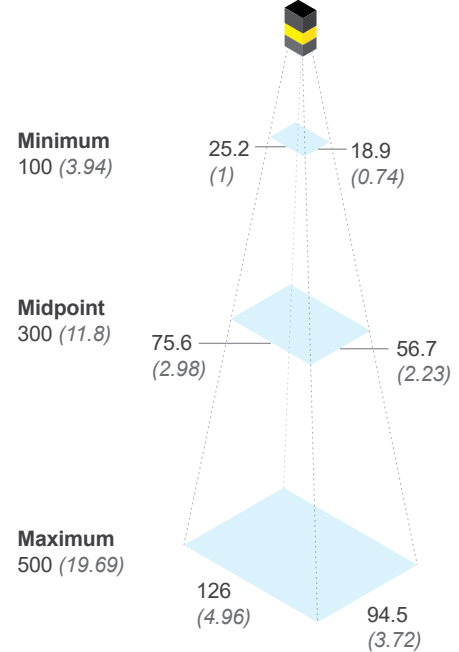
Midpoint
300 (11.8)

Maximum
500 (19.69)

**DataMan 280 with
6.2 mm lens**



**DataMan 280 with
16 mm lens**



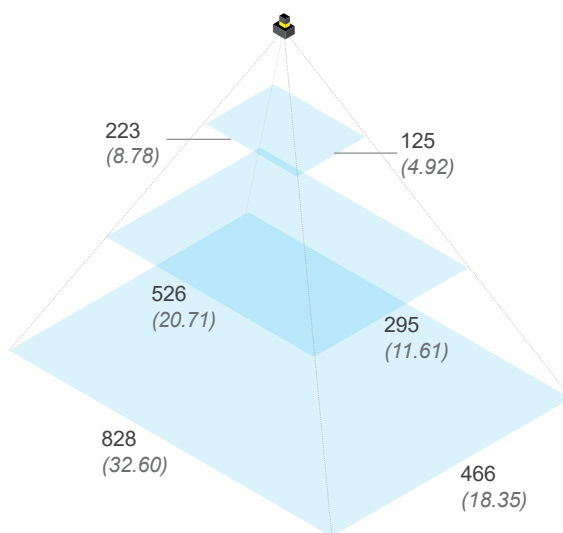
Working distances
Units: mm (*in*)

Minimum
300 (11.81)

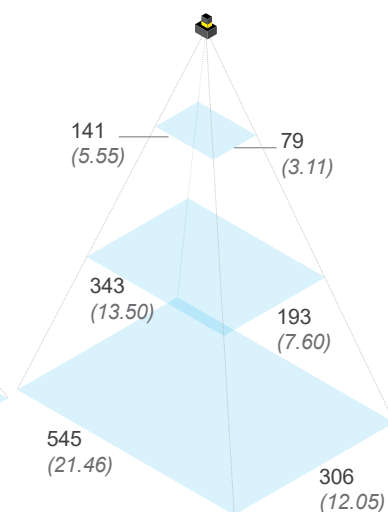
Midpoint
750 (29.53)

Maximum
1200 (47.24)

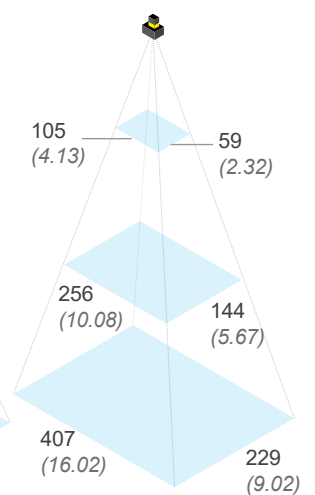
**DataMan 282 with
8 mm lens**



**DataMan 282 with
12 mm lens**



**DataMan 282 with
16 mm lens**








Focus distances

Minimum
50 mm (1.97)

Maximum
2000 mm* (78.74)


*Applications with working distances beyond 500 mm may result in an in-focus image but light uniformity/intensity will be significantly lower. External lighting is recommended for these scenarios.




Product configurations and descriptions*



| DataMan 280 series | | | | | | |
|---|------------|------------------|------------|----------------|-------------|-------------------|
| | Resolution | Light | Lens | Cover | Orientation | Part Number |
|  | 1.6MP | Red HPIL | 16 mm HSL | Half Polarized | Straight | DMR-280X-MAX |
|  | | | | | Right Angle | DMR-280X-1541-P |
|  | | Red Standard | 6.2 mm HSL | Clear | Straight | DMR-280X-1120 |
|  | | | | | Right Angle | DMR-280X-1121 |
|  | 2.0MP | Multi Color HPIT | 12 mm HSL | Clear | Straight | DMR-282X-1960-C |
| | | | 16 mm HSL | | | DMR-282X-1940-C |
|  | | | 8 mm HSL | Diffuse Dome | | DMR-282X-1920-DOM |

*This table includes only the most common product models. To get information on other available models, including angled configurations, please contact Cognex Sales at cognex.com/contact-sales.

Components and accessories

| Power and I/O Cables | | | |
|---|---------------|--------|-------------------------------------|
| | Product ID | Length | Description |
|  | CCB-PWRIO-05 | 5M | M12-12 to flying lead, straight |
| | CCB-PWRIO-10 | 10M | |
| | CCB-PWRIO-15 | 15M | |
| | CCB-PWRIO-05R | 5M | M12-12 to flying lead, right-angled |
| | CCB-PWRIO-10R | 10M | |
| | CCB-PWRIO-15R | 15M | |

| Mounting Brackets | | |
|---|-----------------|---|
| | Product ID | Description |
|  | DM100-UBRK-000 | Universal mounting bracket |
|  | DM100-PIVOTM-01 | Pivot mounting bracket |
|  | 280-BKT-ADAPT | Flat surface mounting plate adapter for DM282 configuration |



| Ethernet Cables | | | |
|---|-------------------|--------|---|
| | Product ID | Length | Description |
|  | CCB-84901-2001-02 | 2M | X-coded M12-8 to RJ-45, straight |
| | CCB-84901-2001-05 | 5M | |
| | CCB-84901-2001-10 | 10M | |
| | CCB-84901-2001-15 | 15M | |
| | CCB-84901-2001-30 | 30M | |
| | CCB-84901-2002-02 | 2M | X-coded M12-8 to RJ-45, right-angled |
| | CCB-84901-2002-05 | 5M | |
| | CCB-84901-2002-10 | 10M | |
| | CCB-84901-2RBT-02 | 2M | Robotic X-coded M12-8 to RJ-45, straight |
| | CCB-84901-2RBT-05 | 5M | |
| | CCB-84901-2RBT-10 | 10M | |
|  | CCB-M12X8MS-XCAC | 0.5M | X-coded to A-coded Ethernet cable adapter |

DataMan 280 accessories

Bandpass Filters

| | Product ID | Description |
|---|-------------|---|
|  | DM150-BP470 | Blue bandpass filter (6.2 mm lens only) |
|  | DM150-BP635 | Red bandpass filter (6.2 mm lens only) |

Front Covers



| | Product ID | Description |
|---|--------------------|---|
|  | DM280-CVR-62 | Front cover (6.2 mm lens)—clear |
| | DM280-LENS-62CVR-P | Front cover (6.2 mm lens)—half polarized |
| | DM280-LENS-62CVR-F | Front cover (6.2 mm lens)—polarized |
|  | DM260-LENS-16CVR | HPIL front cover (16 mm lens)—clear |
| | DM260-LENS-16CVR-P | HPIL front cover (16 mm lens)—half polarized |
| | DM260-LENS-16CVR-F | HPIL front cover (16 mm lens)—fully polarized |

DataMan 282 accessories

Bandpass Filters

| | Product ID | Description |
|---|-----------------|-------------------------------|
|  | 280-TORCH-BP450 | Blue bandpass filter (450 nm) |
|  | 280-TORCH-BP635 | Red bandpass filter (635 nm) |

Front Covers

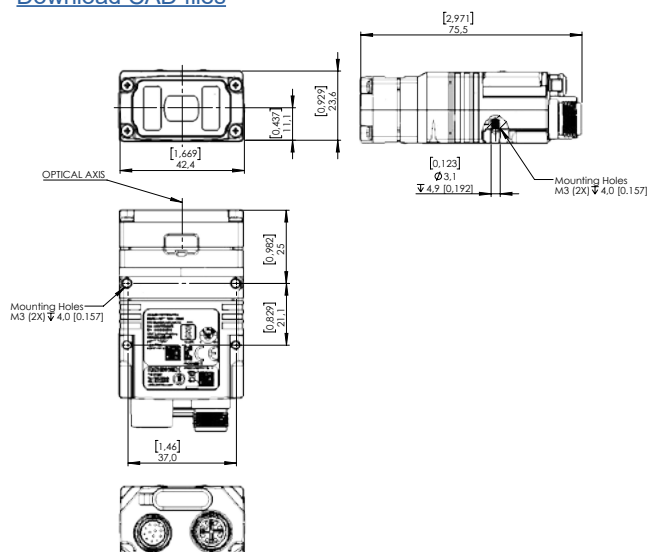
| | Product ID | Description |
|---|-----------------|----------------------------|
|  | 280-HPIT-COVPOL | HPIT cross polarized cover |
| | 280-HPIT-COVCLR | HPIT clear cover |
| | 280-HPIT-COVDIF | HPIT diffused cover |
|  | 280-TORCH-DOME | HPIT dome attachment |

Dimensions Units: mm, [in]

DataMan 280 with 6.2 mm lens front cover

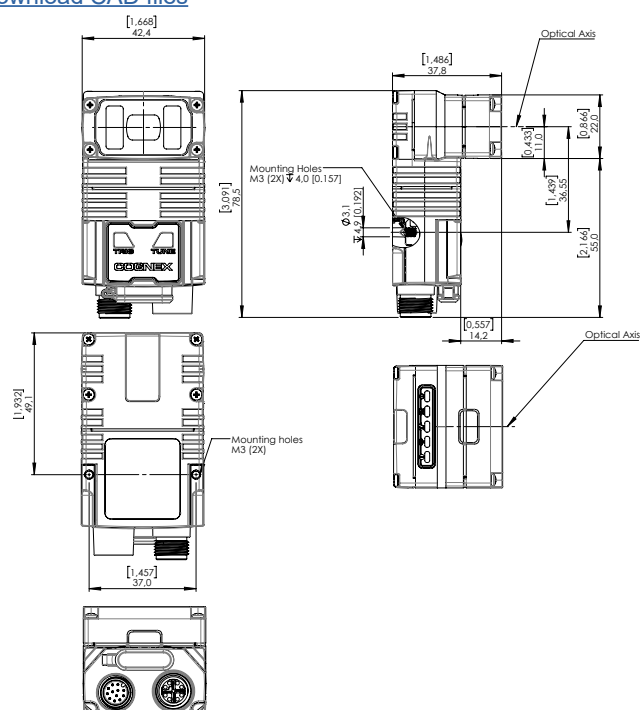
Straight configuration

[Download CAD files](#)



Right angle configuration

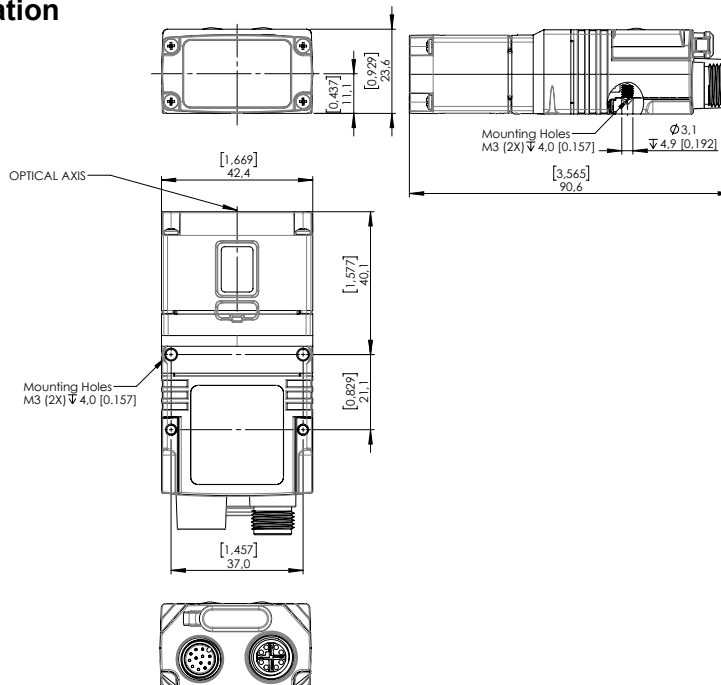
[Download CAD files](#)



DataMan 280 with 16 mm lens HPIL front cover

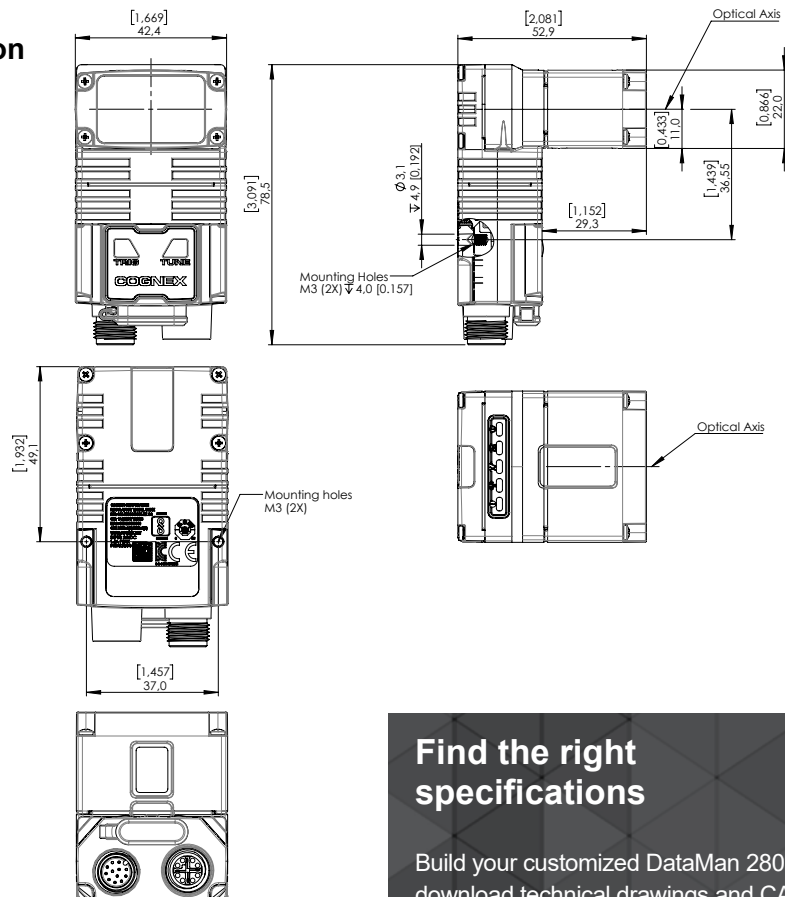
Straight configuration

[Download CAD files](#)



Right angle configuration

[Download CAD files](#)



Find the right specifications

Build your customized DataMan 280 and download technical drawings and CAD files for your configuration.

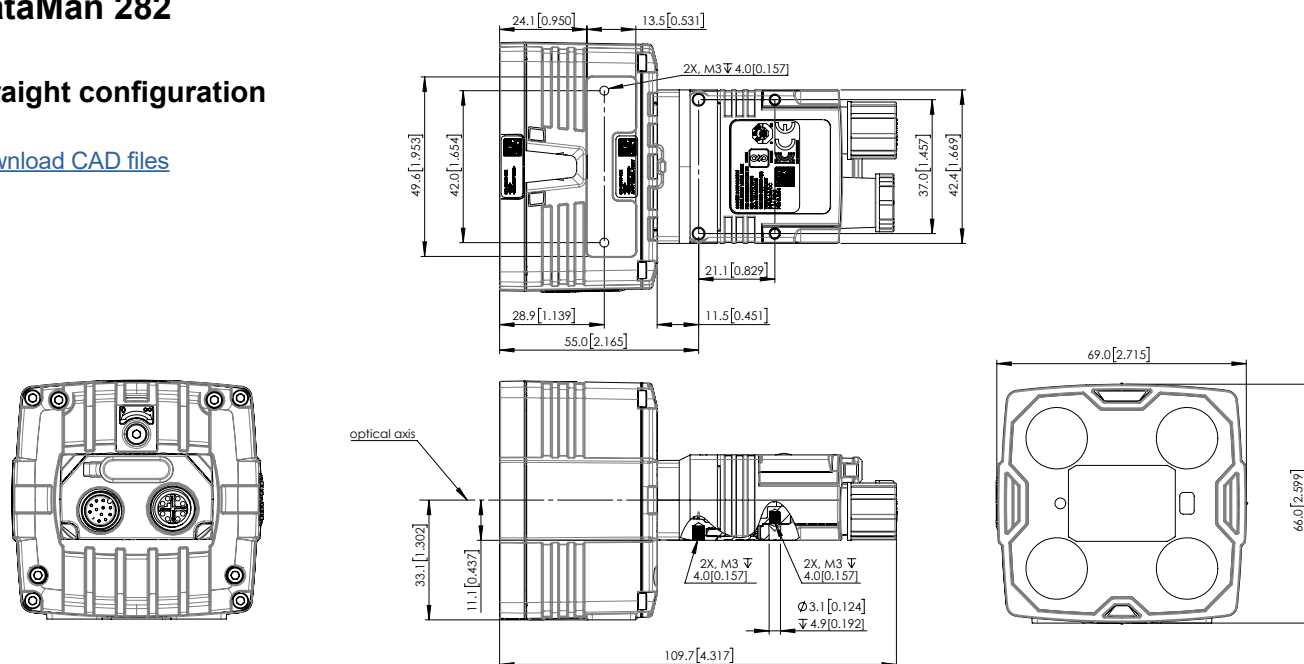
configurator.cognex.com/en/dataman280



DataMan 282

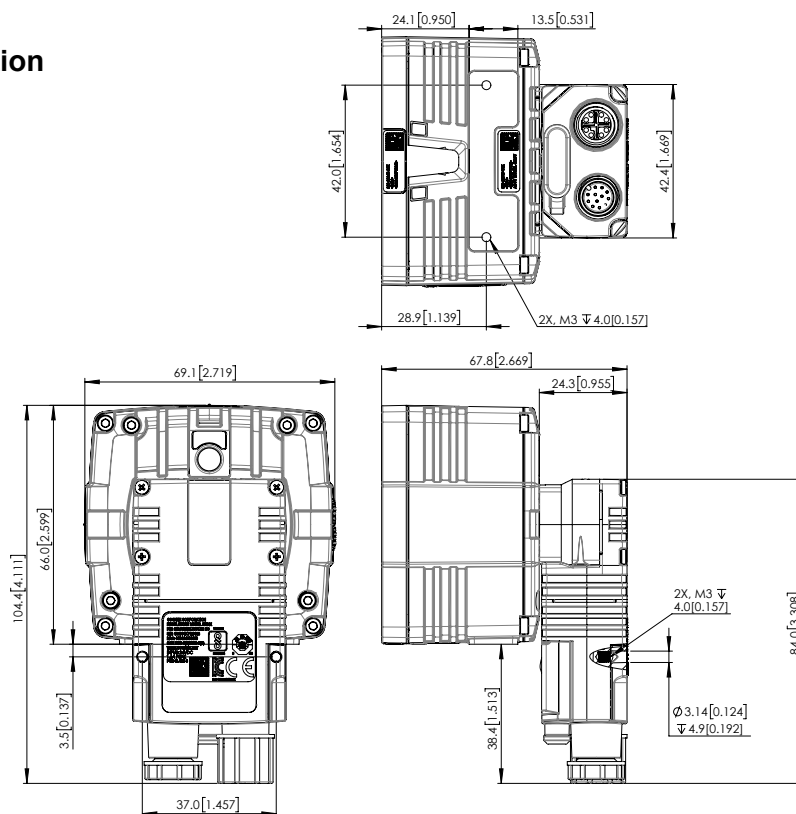
Straight configuration

[Download CAD files](#)



Right angle configuration

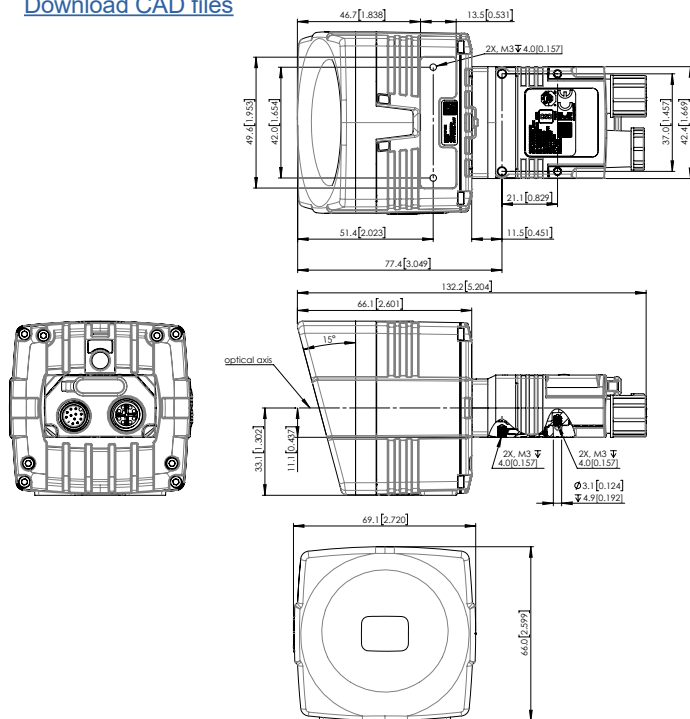
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DataMan 282 with dome diffuser

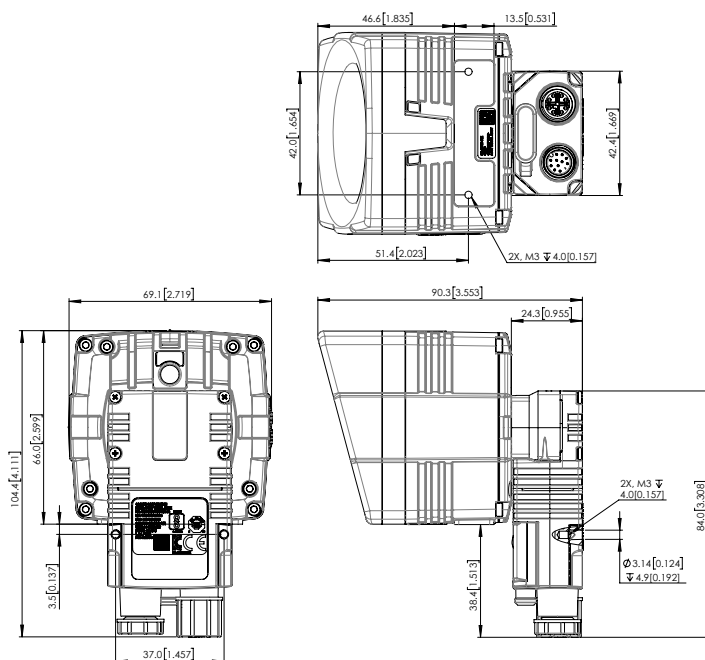
Straight configuration

[Download CAD files](#)



Right angle configuration

[Download CAD files](#)



For more information, including software downloads, application examples, and product collateral, please visit:

cognex.com/dataman-280

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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