

# MicroHAWK V430-F

## Autofocus Multicode Reader

### Autofocus to read codes at different distances.

- Simple configuration with WebLink.
- 5 megapixel sensor available.
- Autofocus available.
- Alternate LED configuration available.
- Smallest in class.
- IP65 / IP67.
- Ethernet TCP/IP, EtherNet/IP, and PROFINET.



## MicroHAWK V430-F

### Mounting Options

| Appearance                                                                          | Type                                                     | Part Number |
|-------------------------------------------------------------------------------------|----------------------------------------------------------|-------------|
|   | L Bracket Adjustable Angle Mounting Kit                  | V430-AM0    |
|  | 1/4-20 Camera Mounting Block Kit                         | V430-AM1    |
|  | 4" (102 mm) Ram Mount Stand                              | V430-AM2    |
|  | APG Pan and Tilt Camera Mount                            | V430-AM3    |
|  | Nylon Screw and Washer Electrical Isolation Mounting Kit | V430-AM4    |
|  | MS-4 / MINI to V/F4XX-F Adapter Plate                    | V430-AM5    |
|  | Smart Ring Light to V/F4XX-F Mounting Bracket            | V430-AM6    |
|  | QX / Vision HAWK to V/F4XX-F Adapter Plate               | V430-AM7    |

## Optics Options

| Appearance                                                                          | Type                                | Part Number |
|-------------------------------------------------------------------------------------|-------------------------------------|-------------|
|    | Front Window Installation Kit       | V430-AF10 * |
|    | Diffuser Installation Kit           | V430-AF11 * |
|    | Polarizer Installation Kit          | V430-AF12 * |
|    | Right Angle Mirror Installation Kit | V430-AF3    |
|    | YAG Filter Installation Kit         | V430-AF4    |
|   | ESD-Safe Window Installation Kit    | V430-AF5    |
|  | Red Filter Installation Kit         | V430-AF6    |
|  | Blue Filter Installation Kit        | V430-AF7    |

\* **Note:** V430-AF10, AF11, and AF12 are used for **MicroHAWK V/F4X0-FXXXXXXX-XXX** readers in this datasheet. The prior generation **MicroHAWK V430-FXXXXXXX** code reader uses part numbers V430-AF0, AF1, and AF2. Please select the correct accessory from the table based on your camera part number format.

| Accessory                     | Prior V430-FXXXXXXX Code Reader | New V/F4X0-FXXXXXXX-XXX Code Reader and Smart Camera |
|-------------------------------|---------------------------------|------------------------------------------------------|
| Front Window Installation Kit | V430-AF0                        | V430-AF10                                            |
| Diffuser Installation Kit     | V430-AF1                        | V430-AF11                                            |
| Polarizer Installation Kit    | V430-AF2                        | V430-AF12                                            |

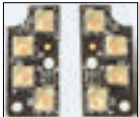
## Additional Optics Options

| Product                                                                                                              | Appearance                                                                          | Type                          | Part Number |
|----------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------|-------------|
| <b>V430-F Window Kits</b><br><br> |  | Front Window Installation Kit | V430-AF0R   |
|                                                                                                                      |  | Diffuser Installation Kit     | V430-AF1R   |
|                                                                                                                      |  | Polarizer Installation Kit    | V430-AF2R   |

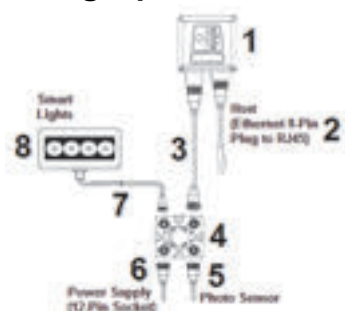
## Lighting Options

| Product                                                                                                            | Appearance                                                                        | Type                              | Part Number      |
|--------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------|-----------------------------------|------------------|
| <b>V430-F Ring Light Kits</b><br> |  | Red Ring Light Installation Kit   | <b>V430-ALRR</b> |
|                                                                                                                    |                                                                                   | White Ring Light Installation Kit | <b>V430-ALWR</b> |
|                                                                                                                    |                                                                                   | Blue Ring Light Installation Kit  | <b>V430-ALBR</b> |
|                                                                                                                    |                                                                                   | IR Ring Light Installation Kit    | <b>V430-ALIR</b> |

## Additional Lighting Options

| Appearance                                                                        | Type                         | Part Number     |
|-----------------------------------------------------------------------------------|------------------------------|-----------------|
|  | Red Light Installation Kit   | <b>V430-ALR</b> |
|                                                                                   | White Light Installation Kit | <b>V430-ALW</b> |
|                                                                                   | Blue Light Installation Kit  | <b>V430-ALB</b> |
|                                                                                   | IR Light Installation Kit    | <b>V430-ALI</b> |

## Wiring Options



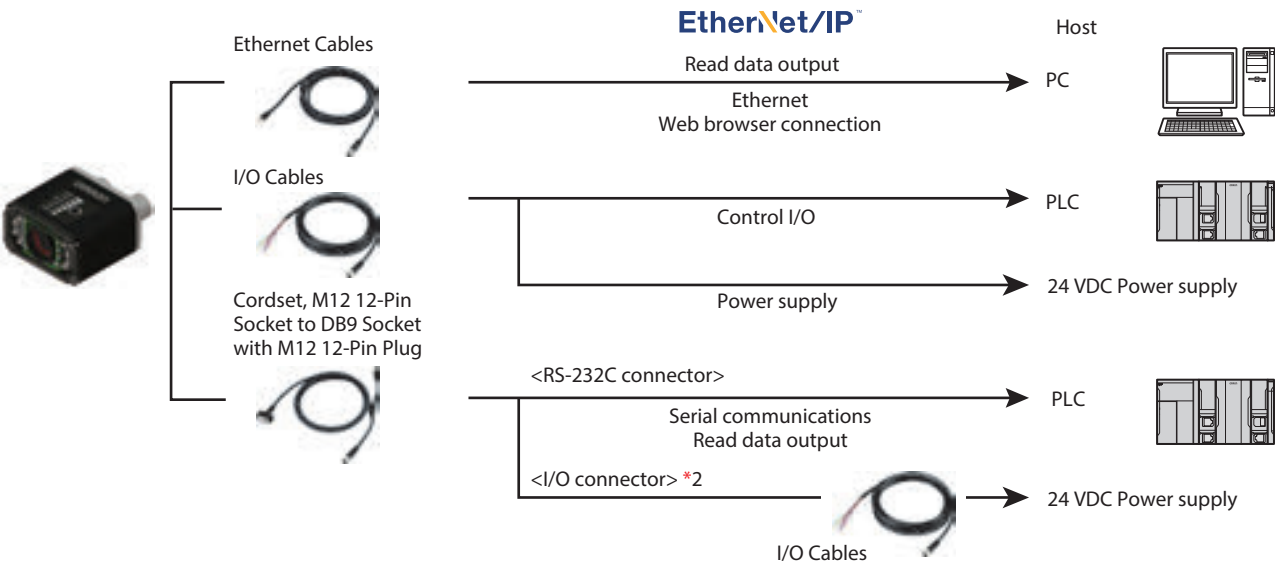
| Drawing Reference | Appearance                                                                          | Category                                                                                                                         | Length / Spec                   | Part Number          |
|-------------------|-------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|---------------------------------|----------------------|
| <b>2</b>          |  | Ethernet Communication Cables – Straight Connectors<br>M12 Plug on Camera to RJ45 Connector                                      | 1 Meter                         | <b>V430-WE-1M</b>    |
|                   |                                                                                     |                                                                                                                                  | 3 Meters                        | <b>V430-WE-3M</b>    |
|                   |                                                                                     |                                                                                                                                  | 5 Meters                        | <b>V430-WE-5M</b>    |
|                   |  | Ethernet Communication Cables – Right Angle M12 Connectors*<br>M12 Plug on Camera to RJ45 Connector                              | 3 Meters – Right Angle Up*      | <b>V430-WELU-3M</b>  |
| <b>3</b>          |  | Camera to QX-1 Interconnect Cables<br>M12 Socket to M12 Plug<br>QX-1 is used as breakout module for common IO signals and power. | 1 Meter                         | <b>V430-WQ-1M</b>    |
|                   |                                                                                     | M12 Socket to M12 Plug, with Power Filter                                                                                        | 300 mm                          | <b>V430-WQF-1M</b>   |
|                   |                                                                                     | Camera to QX-1 Interconnect Cables<br>M12 Socket to M12 Plug<br>QX-1 is used as breakout module for common IO signals and power. | 3 Meters                        | <b>V430-WQ-3M</b>    |
|                   |                                                                                     |                                                                                                                                  | 5 Meters                        | <b>V430-WQ-5M</b>    |
| <b>4</b>          |  | QX-1 Interconnect Module – Power, Trigger, Smart Light Control Breakout                                                          |                                 | <b>98-000103-02</b>  |
| <b>5</b>          |  | QX-1 Photo Sensor, M12 4-Pin Plug, NPN                                                                                           | 2 Meters – Light ON/<br>Dark ON | <b>99-9000016-01</b> |
|                   |  | QX-1 Field-Wireable M12 4-Pin Plug for Any Trigger Source or Photo Sensor                                                        | Screw Terminals                 | <b>98-9000239-01</b> |

| Drawing Reference | Appearance                                                                        | Category                                                | Length / Spec                              | Part Number                                                                |
|-------------------|-----------------------------------------------------------------------------------|---------------------------------------------------------|--------------------------------------------|----------------------------------------------------------------------------|
| 6                 |  | Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket     | 1 Meter<br>US/Euro Plug                    | 97-000012-01                                                               |
| 7                 |  | QX-1 M12 to Smart Light Power and Strobe Control Cables | 3 Meters – Continuous Power                | 61-000204-01                                                               |
|                   |                                                                                   | M12 Plug on QX-1 to 5 Pin Socket on light               | 3 Meters – Strobe Control                  | 61-000218-01                                                               |
| 8                 |  | Omron Microscan Smart Light Series                      | Integrated Power and Strobe Control Module | See Omron Microscan Smart Light Offering - Ring, DOAL, Large Area Lighting |

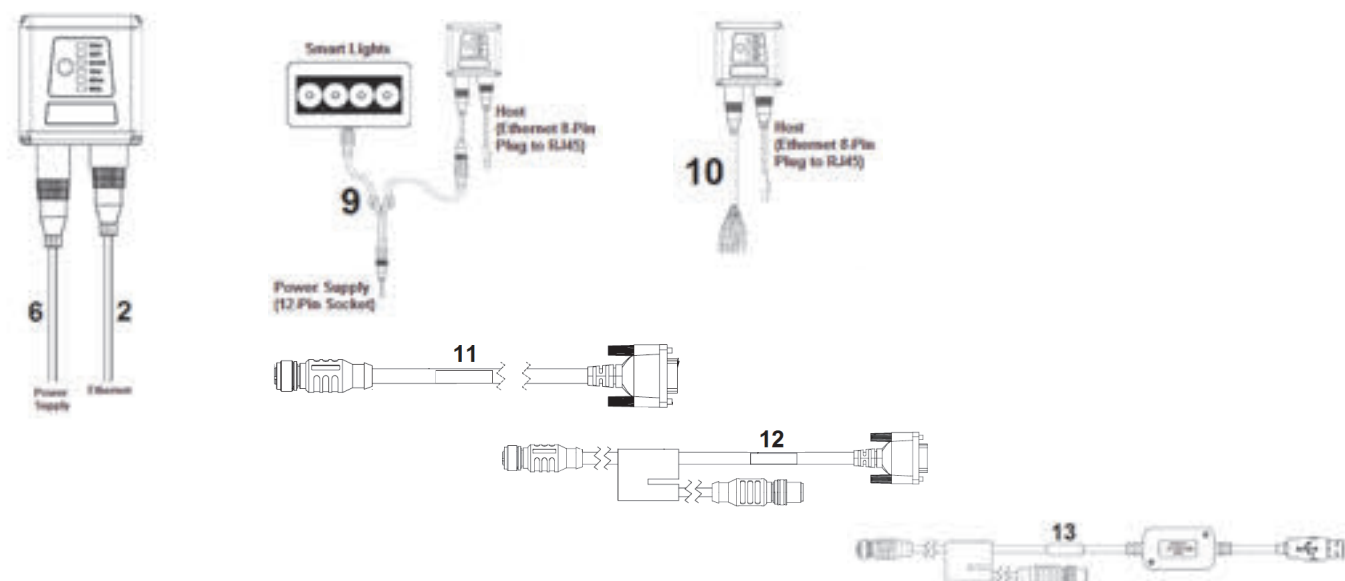
\* Right angle cables.

Right angle up

Right angle down



## Alternate Wiring Options



| Drawing Reference | Appearance | Category                                                            | Length / Spec               | Part Number   |
|-------------------|------------|---------------------------------------------------------------------|-----------------------------|---------------|
| 9                 |            | Y Cable, Camera/Power and Smart Light Power (Continuous On)         | 1 Meter                     | 61-9000135-01 |
|                   |            | Y Cable, Camera/Power and Smart Light Strobe Control                | 1 Meter                     | 61-9000137-01 |
| 10                |            | M12 to Flying Leads Cable, Straight Power, IO, RS-232, USB          | 3 Meters                    | V430-W8-3M    |
|                   |            | M12 to Flying Leads Cable, with Power Filter                        |                             | V430-W8F-3M   |
|                   |            | M12 to Flying Leads Cable, Straight Power, IO, RS-232, USB          | 5 Meters                    | V430-W8-5M    |
|                   |            | M12 to Flying Leads Cable, with Power Filter                        |                             | V430-W8F-5M   |
|                   |            | M12 to Flying Leads Cable Right Angle Power, IO, RS232, USB         | 3 Meters – Right Angle Up   | V430-W8LU-3M  |
|                   |            | M12 to Flying Leads Cable Right Angle, with Power Filter            |                             | V430-W8LUF-3M |
|                   |            | M12 to Flying Leads Cable Right Angle Power, IO, RS232, USB         | 3 Meters – Right Angle Down | V430-W8LD-3M  |
|                   |            | M12 to Flying Leads Cable Right Angle, with Power Filter            |                             | V430-W8LDF-3M |
| 11                |            | M12 to RS-232 Breakout                                              | 1 Meter                     | V430-WR-1M    |
|                   |            |                                                                     | 3 Meters                    | V430-WR-3M    |
| 12                |            | Camera to QX-1 Interconnect Cables with RS-232 Breakout             | 2.7 Meters                  | V430-WQR-3M   |
| 13                |            | Camera to QX-1 Interconnect Cables with USB Keyboard Wedge Breakout | 2.7 Meters                  | V430-WQK-3M   |

## V430-F Part Number Structure

Use this legend when defining product part numbers. Please note that not all combinations of parameters are valid. For instance, color cameras are only available with white lighting, and 400 mm fixed focus is only available with UHD lenses. When ordering, use valid part numbers from the tables in the Ordering Information section only.

### V430-F[XXX][Y][ZZZ]-[L][C][P]

| Key | Classification      | Code | Meaning                                                 |
|-----|---------------------|------|---------------------------------------------------------|
| XXX | Focus Distance (mm) | 000  | Autofocus – Variable Distance                           |
|     |                     | 050  | Fixed Focus at 50 mm                                    |
|     |                     | 064  | Fixed Focus at 64 mm                                    |
|     |                     | 081  | Fixed Focus at 81 mm                                    |
|     |                     | 102  | Fixed Focus at 102 mm                                   |
|     |                     | 133  | Fixed Focus at 133 mm                                   |
|     |                     | 190  | Fixed Focus at 190 mm                                   |
|     |                     | 300  | Fixed Focus at 300 mm                                   |
|     |                     | 400  | Fixed Focus at 400 mm                                   |
| Y   | Lens                | W    | Wide Field of View – 5.2 mm Focal Length Lens           |
|     |                     | M    | Medium Field of View – 7.7 mm Focal Length Lens         |
|     |                     | N    | Narrow Field of View – 16 mm Focal Length Lens          |
|     |                     | L    | Narrow 16 mm Lens – Autofocus to 1160 mm                |
| ZZZ | Sensor              | 03M  | 752 x 480 (0.3 MP) Pixel, Mono Sensor, Global Shutter   |
|     |                     | 12M  | 1280 x 960 (1.2 MP) Pixel, Mono Sensor, Global Shutter  |
|     |                     | 50C  | 2592 x 1944 (5 MP) Pixel, Color Sensor, Rolling Shutter |
| L   | Light Type          | N    | No Outer Light                                          |
|     |                     | S    | Standard Outer Light                                    |
|     |                     | R    | Ring Light                                              |
| C   | Light Color         | N    | No Outer Light                                          |
|     |                     | R    | Red                                                     |
|     |                     | W    | White                                                   |
| P   | Software License    | P    | High Speed, Plus Mode                                   |
|     |                     | X    | High Speed, X-Mode                                      |

#### Example Part Numbers:

- V430-F081W03M-NNP: Fixed Focus at 81 mm, Wide Lens, 0.3 MP Monochrome Sensor, No Outer Light, High Speed, Plus Mode
- V430-F000N12M-RRX: Autofocus, Narrow Lens, 1.2 MP Mono, Ring Light, Red, High Speed, X-Mode
- V430-F000L50C-SWP: Autofocus, Long Range Lens, 5 MP Color, Standard Light, White, High Speed, Plus Mode

## V430-F Valid Product Matrix

| Model  | Category   | Focus Type           | Sensor   | Lens    | Focus Distance (mm)                           | Light             | License |
|--------|------------|----------------------|----------|---------|-----------------------------------------------|-------------------|---------|
| V430-F | Monochrome | Fixed Focus          | 03M, 12M | W, M    | 50, 64, 81, 102, 133, 190, 300                | None, Red, White  | P, X    |
|        |            |                      | 12M      | N       | 64, 400                                       | None, Red, White  | P, X    |
|        |            | Autofocus            | 03M      | W, M    | 50 <-> 300 Autofocus                          | None, Red, White  | P, X    |
|        |            |                      | 12M      | W, M, N | 50 <-> 300 (W, M)<br>40 <-> 150 (N) Autofocus | None, Red, White  | P, X    |
|        | Color      | Fixed Focus          | 50C      | W, M    | 50, 64, 81, 102, 133, 190, 300                | None, White       | P, X    |
|        |            | Autofocus            | 50C      | W, M    | 50 <-> 300 Autofocus                          | None, White       | P, X    |
|        | Specialty  | Ring Light Autofocus | 12M      | M, N    | 50 <-> 300 (M)<br>40 <-> 150 (N) Autofocus    | Red, White (Ring) | X       |
|        |            | Long Range Autofocus | 12M      | L       | 75 <-> 1160 Autofocus                         | None, Red, White  | P, X    |

## V430-F Ordering Information

### Categories:

#### 1. Fixed Focus Camera

- a.) V430-F Monochrome Fixed Focus Camera
- b.) V430-F Color Fixed Focus Camera
- c.) V430-F 1.2 MP Monochrome Fixed Focus Camera with Narrow Lens

#### 2. Autofocus Camera

- a.) V430-F 0.3 MP Monochrome Autofocus Camera (50 - 300 mm)
- b.) V430-F 1.2 MP Monochrome Autofocus Camera (50 - 300 mm for Wide and Medium Lens, 40 - 150 mm for Narrow Lens)
- c.) V430-F Color Autofocus Camera (50 - 300 mm)
- d.) V430-F 1.2 MP Monochrome Autofocus Camera with Ring Light (50 - 300 mm for Medium Lens, 40 - 150 mm for Narrow Lens)
- e.) V430-F 1.2 MP Monochrome Long Range Autofocus Camera (75 - 1160 mm)

### 1a) V430-F Monochrome Fixed Focus Camera: Valid Combinations

V430-F[XXX][Y][ZZZ]-[L][C][P]

| Key | Classification      | Code | Meaning                                                |
|-----|---------------------|------|--------------------------------------------------------|
| XXX | Focus Distance (mm) | 050  | Fixed Focus at 50 mm                                   |
|     |                     | 064  | Fixed Focus at 64 mm                                   |
|     |                     | 081  | Fixed Focus at 81 mm                                   |
|     |                     | 102  | Fixed Focus at 102 mm                                  |
|     |                     | 133  | Fixed Focus at 133 mm                                  |
|     |                     | 190  | Fixed Focus at 190 mm                                  |
|     |                     | 300  | Fixed Focus at 300 mm                                  |
| Y   | Lens                | W    | Wide Field of View - 5.2 mm Focal Length Lens          |
|     |                     | M    | Medium Field of View - 7.7 mm Focal Length Lens        |
| ZZZ | Sensor              | 03M  | 752 x 480 (0.3 MP) Pixel, Mono Sensor, Global Shutter  |
|     |                     | 12M  | 1280 x 960 (1.2 MP) Pixel, Mono Sensor, Global Shutter |
| L   | Light Type          | N    | No Outer Light                                         |
|     |                     | S    | Standard Outer Light                                   |
| C   | Light Color         | N    | No Outer Light                                         |
|     |                     | R    | Red                                                    |
|     |                     | W    | White                                                  |
| P   | Software License    | P    | High Speed, Plus Mode                                  |
|     |                     | X    | High Speed, X-Mode                                     |

### 1b) V430-F 5.0 MP Color Fixed Focus Camera: Valid Combinations

**Note:** 5 MP Color cameras are available with No Outer Light or White Light options only.

V430-F[XXX][Y]50C-[L][C][P]

| Key | Classification      | Code | Meaning                                         |
|-----|---------------------|------|-------------------------------------------------|
| XXX | Focus Distance (mm) | 050  | Fixed Focus at 50 mm                            |
|     |                     | 064  | Fixed Focus at 64 mm                            |
|     |                     | 081  | Fixed Focus at 81 mm                            |
|     |                     | 102  | Fixed Focus at 102 mm                           |
|     |                     | 133  | Fixed Focus at 133 mm                           |
|     |                     | 190  | Fixed Focus at 190 mm                           |
|     |                     | 300  | Fixed Focus at 300 mm                           |
| Y   | Lens                | W    | Wide Field of View - 5.2 mm Focal Length Lens   |
|     |                     | M    | Medium Field of View - 7.7 mm Focal Length Lens |
| L   | Light Type          | N    | No Outer Light                                  |
|     |                     | S    | Standard Outer Light                            |
| C   | Light Color         | N    | No Outer Light                                  |
|     |                     | W    | White                                           |
| P   | Software License    | P    | High Speed, Plus Mode                           |
|     |                     | X    | High Speed, X-Mode                              |

## V430-F

### 1c) V430-F 1.2 MP Monochrome Fixed Focus Camera with Narrow Lens: Valid Combinations

**Note:** Fixed Focus Narrow lens option available for 1.2 MP Mono camera only.

**V430-F[XXX]N12M-[L][C][P]**

| Key | Classification      | Code | Meaning               |
|-----|---------------------|------|-----------------------|
| XXX | Focus Distance (mm) | 064  | Fixed Focus at 64 mm  |
|     |                     | 400  | Fixed Focus at 400 mm |
| L   | Light Type          | N    | No Outer Light        |
|     |                     | S    | Standard Outer Light  |
| C   | Light Color         | N    | No Outer Light        |
|     |                     | R    | Red                   |
|     |                     | W    | White                 |
| P   | Software License    | P    | High Speed, Plus Mode |
|     |                     | X    | High Speed, X-Mode    |

### 2a) V430-F 0.3 MP Monochrome Autofocus Camera (50 - 300 mm): Valid Combinations

**V430-F000[Y]03M-[L][C][P]**

| Key | Classification   | Code | Meaning                                         |
|-----|------------------|------|-------------------------------------------------|
| Y   | Lens             | W    | Wide Field of View - 5.2 mm Focal Length Lens   |
|     |                  | M    | Medium Field of View – 7.7 mm Focal Length Lens |
| L   | Light Type       | N    | No Outer Light                                  |
|     |                  | S    | Standard Outer Light                            |
| C   | Light Color      | N    | No Outer Light                                  |
|     |                  | R    | Red                                             |
|     |                  | W    | White                                           |
| P   | Software License | P    | High Speed, Plus Mode                           |
|     |                  | X    | High Speed, X-Mode                              |

### 2b) V430-F 1.2 MP Monochrome Autofocus Camera (50 - 300 mm for Wide and Medium, 40 – 150 mm for Narrow): Valid Combinations

**V430-F000[Y]12M-[L][C][P]**

| Key | Classification   | Code | Meaning                                         |
|-----|------------------|------|-------------------------------------------------|
| Y   | Lens             | W    | Wide Field of View - 5.2 mm Focal Length Lens   |
|     |                  | M    | Medium Field of View – 7.7 mm Focal Length Lens |
|     |                  | N    | Narrow Field of View – 16 mm Focal Length Lens  |
| L   | Light Type       | N    | No Outer Light                                  |
|     |                  | S    | Standard Outer Light                            |
| C   | Light Color      | N    | No Outer Light                                  |
|     |                  | R    | Red                                             |
|     |                  | W    | White                                           |
| P   | Software License | P    | High Speed, Plus Mode                           |
|     |                  | X    | High Speed, X-Mode                              |

### 2c) V430-F 5.0 MP Color Autofocus Camera (50 - 300 mm): Valid Combinations

**Note:** Narrow Autofocus lens option not available for color camera.

**V430-F000[Y]50C-[L][C][P]**

| Key | Classification   | Code | Meaning                                         |
|-----|------------------|------|-------------------------------------------------|
| Y   | Lens             | W    | Wide Field of View - 5.2 mm Focal Length Lens   |
|     |                  | M    | Medium Field of View – 7.7 mm Focal Length Lens |
| L   | Light Type       | N    | No Outer Light                                  |
|     |                  | S    | Standard Outer Light                            |
| C   | Light Color      | N    | No Outer Light                                  |
|     |                  | W    | White                                           |
| P   | Software License | P    | High Speed, Plus Mode                           |
|     |                  | X    | High Speed, X-Mode                              |

## 2d) V430-F 1.2 MP Monochrome Autofocus Camera with Ring Light (50 - 300 mm for Medium, 40 – 150 mm for Narrow): Valid Combinations

**Note:** Ring Light version is available for Autofocus, Medium, and Narrow lens, 1.2 MP Monochrome camera only.

### V430-F000[Y]12M-R[C]X

| Key | Classification | Code | Meaning                                         |
|-----|----------------|------|-------------------------------------------------|
| Y   | Lens           | M    | Medium Field of View – 7.7 mm Focal Length Lens |
|     |                | N    | Narrow Field of View – 16 mm Focal Length Lens  |
| C   | Light Color    | R    | Red                                             |
|     |                | W    | White                                           |

## 2e) V430-F 1.2 MP Monochrome Long Range Autofocus Camera (75 - 1160 mm): Valid Combinations

**Note:** Autofocus Long Range lens option available for 1.2 MP Monochrome camera only.

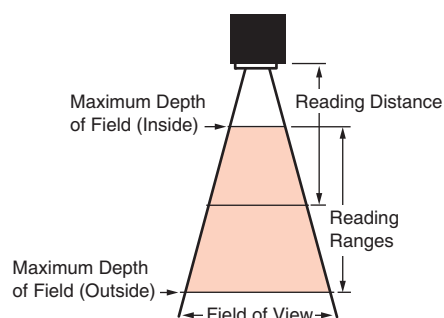
### V430-F000L12M-[L][C][P]

| Key | Classification   | Code | Meaning               |
|-----|------------------|------|-----------------------|
| L   | Light Type       | N    | No Outer Light        |
|     |                  | S    | Standard Outer Light  |
| C   | Light Color      | N    | No Outer Light        |
|     |                  | R    | Red                   |
|     |                  | W    | White                 |
| P   | Software License | P    | High Speed, Plus Mode |
|     |                  | X    | High Speed, X-Mode    |

# V430-F

## Read Ranges

Read range specifications are subject to change.



### Fixed Focus Field of View (mm) - Wide Lens

| Distance (mm) | 0.3 MP |        | 1.2 MP |        | 5 MP  |        |
|---------------|--------|--------|--------|--------|-------|--------|
|               | Width  | Height | Width  | Height | Width | Height |
| 50            | 49     | 32     | 53     | 39     | 50    | 38     |
| 64            | 62     | 39     | 66     | 49     | 63    | 47     |
| 81            | 76     | 49     | 81     | 61     | 78    | 58     |
| 102           | 95     | 60     | 101    | 75     | 96    | 72     |
| 133           | 121    | 78     | 129    | 97     | 124   | 92     |
| 190           | 171    | 109    | 182    | 136    | 174   | 130    |
| 300           | 266    | 170    | 283    | 213    | 271   | 202    |
| 400           | 353    | 225    | 376    | 282    | 359   | 268    |

### Fixed Focus Field of View (mm) - Medium Lens

| Distance (mm) | 0.3 MP |        | 1.2 MP |        | 5 MP  |        |
|---------------|--------|--------|--------|--------|-------|--------|
|               | Width  | Height | Width  | Height | Width | Height |
| 50            | 34     | 22     | 36     | 27     | 35    | 26     |
| 64            | 43     | 27     | 45     | 34     | 43    | 32     |
| 81            | 53     | 34     | 56     | 42     | 54    | 40     |
| 102           | 66     | 42     | 70     | 52     | 67    | 50     |
| 133           | 84     | 54     | 90     | 67     | 86    | 64     |
| 190           | 119    | 76     | 126    | 95     | 121   | 90     |
| 300           | 185    | 118    | 196    | 147    | 188   | 140    |
| 400           | 245    | 156    | 260    | 195    | 249   | 186    |

### Fixed Focus Field of View (mm) - Narrow Lens

| Distance (mm) | 0.3 MP |        | 1.2 MP |        | 5 MP  |        |
|---------------|--------|--------|--------|--------|-------|--------|
|               | Width  | Height | Width  | Height | Width | Height |
| 50            | 15     | 10     | 16     | 12     | 16    | 12     |
| 64            | 19     | 12     | 21     | 15     | 20    | 15     |
| 81            | 24     | 15     | 25     | 19     | 24    | 18     |
| 102           | 30     | 19     | 32     | 24     | 30    | 22     |
| 133           | 38     | 24     | 40     | 30     | 39    | 29     |
| 190           | 54     | 34     | 57     | 43     | 54    | 41     |
| 300           | 83     | 53     | 89     | 67     | 85    | 63     |
| 400           | 111    | 71     | 118    | 88     | 113   | 84     |

### Autofocus Field of View (mm) - Wide Lens

| Distance (mm) | 0.3 MP |        | 1.2 MP |        | 5 MP  |        |
|---------------|--------|--------|--------|--------|-------|--------|
|               | Width  | Height | Width  | Height | Width | Height |
| 50            | 51     | 33     | 55     | 41     | 52    | 39     |
| 100           | 97     | 62     | 103    | 77     | 98    | 73     |
| 150           | 142    | 90     | 151    | 113    | 144   | 107    |
| 200           | 187    | 119    | 199    | 149    | 190   | 142    |
| 250           | 232    | 148    | 247    | 185    | 236   | 176    |
| 300           | 277    | 177    | 295    | 221    | 282   | 210    |

### Autofocus Field of View (mm) - Medium Lens

| Distance (mm) | 0.3 MP |        | 1.2 MP |        | 5 MP  |        |
|---------------|--------|--------|--------|--------|-------|--------|
|               | Width  | Height | Width  | Height | Width | Height |
| 50            | 33     | 21     | 36     | 27     | 34    | 25     |
| 100           | 63     | 40     | 67     | 50     | 64    | 48     |
| 150           | 92     | 59     | 98     | 73     | 94    | 70     |
| 200           | 121    | 77     | 129    | 97     | 123   | 92     |
| 250           | 151    | 96     | 160    | 120    | 153   | 114    |
| 300           | 180    | 115    | 191    | 144    | 183   | 136    |

### Autofocus Field of View (mm) - Narrow Lens

| Distance (mm) | 0.3 MP |        | 1.2 MP |        | 5 MP  |        |
|---------------|--------|--------|--------|--------|-------|--------|
|               | Width  | Height | Width  | Height | Width | Height |
| 50            | 15     | 10     | 16     | 12     | 16    | 12     |
| 100           | 29     | 19     | 31     | 23     | 30    | 22     |
| 150           | 43     | 27     | 45     | 34     | 43    | 32     |

### Long Range Autofocus Field of View (mm)

| Distance (mm) | 0.3 MP |        | 1.2 MP |        | 5 MP  |        |
|---------------|--------|--------|--------|--------|-------|--------|
|               | Width  | Height | Width  | Height | Width | Height |
| 75            | 22     | 14     | 24     | 18     | 23    | 17     |
| 100           | 29     | 19     | 31     | 23     | 30    | 22     |
| 200           | 56     | 36     | 60     | 45     | 57    | 43     |
| 300           | 83     | 53     | 89     | 67     | 85    | 63     |
| 400           | 111    | 71     | 118    | 88     | 113   | 84     |
| 500           | 138    | 88     | 147    | 110    | 140   | 105    |
| 600           | 165    | 105    | 176    | 132    | 168   | 125    |
| 700           | 192    | 123    | 204    | 153    | 196   | 146    |
| 800           | 219    | 140    | 233    | 175    | 223   | 166    |
| 900           | 247    | 157    | 262    | 197    | 251   | 187    |
| 1000          | 274    | 175    | 291    | 218    | 279   | 208    |
| 1200          | 328    | 209    | 349    | 262    | 334   | 249    |
| 1300          | 355    | 227    | 378    | 283    | 362   | 270    |
| 1400          | 382    | 244    | 407    | 305    | 389   | 290    |
| 1500          | 410    | 261    | 436    | 327    | 417   | 311    |

# V430-F

## Ratings and Specifications

| V430-F                    |                                    | V430-F□□□□□03M-□□□□                                                                                                                                                     | V430-F□□□□□12M-□□□□                                                      | V430-F□□□□□50C-□□□□    |
|---------------------------|------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|------------------------|
| Symbolologies *1          | 1D Symbolologies                   | Code 39, Code 128, BC412, Interleaved 2 of 5, UPC/EAN, Codabar, Code 93, Pharmacode, PLANET, Postnet, Japanese Post, Australian Post, Royal Mail, Intelligent Mail, KIX |                                                                          |                        |
|                           | 2D Symbolologies                   | Data Matrix (ECC 0-200), QR Code, Micro QR Code, Aztec Code, DotCode                                                                                                    |                                                                          |                        |
|                           | Stacked Symbolologies              | PDF417, MicroPDF417, GS1 Databar (Composite and Stacked)                                                                                                                |                                                                          |                        |
| Reading Performance *2    | Number of Reading Digits           | No Upper Limit (depending on bar width and reading distance)                                                                                                            |                                                                          |                        |
|                           | Aiming Light                       | Two Blue LEDs                                                                                                                                                           |                                                                          |                        |
|                           | Illumination                       | Inner LEDs: Four White and Four Red (Wavelength: 625 nm)                                                                                                                |                                                                          |                        |
|                           |                                    | Outer LEDs:<br>8 Red or White                                                                                                                                           | Outer LEDs:<br>8 Red or White; 24 Red or White for<br>V430-F□□□□□12M-R□□ | Outer LEDs:<br>8 White |
|                           | Reading Distance / Field of View   | Refer to <i>Read Ranges</i> section for detail.                                                                                                                         |                                                                          |                        |
|                           | Pitch Angle ( $\alpha$ ) *3        | ±30°                                                                                                                                                                    |                                                                          |                        |
|                           | Skew Angle ( $\beta$ ) *3          | ±30°                                                                                                                                                                    |                                                                          |                        |
| Image Capture             | Tilt Angle ( $\gamma$ ) *3         | ±180°                                                                                                                                                                   |                                                                          |                        |
|                           | Focus                              | Liquid Lens Autofocus or Fixed Focus (Wide = 5.2 mm, Medium = 7.7 mm, Narrow = 16 mm, L = 16 mm)                                                                        |                                                                          |                        |
|                           | Resolution                         | 752 (H) x 480 (V)                                                                                                                                                       | 1280 (H) x 960 (V)                                                       | 2592 (H) x 1944 (V)    |
|                           | Color / Monochrome                 | Monochrome CMOS                                                                                                                                                         | Monochrome CMOS                                                          | Color CMOS             |
|                           | Shutter                            | Global Shutter                                                                                                                                                          | Global Shutter                                                           | Rolling Shutter        |
|                           | Frames per Second                  | 60 fps                                                                                                                                                                  | 42 fps                                                                   | 5 fps                  |
| Exposure                  |                                    | 50 to 100,000 $\mu$ s                                                                                                                                                   |                                                                          |                        |
| Image Logging             |                                    | FTP                                                                                                                                                                     |                                                                          |                        |
| Trigger                   |                                    | External Trigger (Edge or Level), Communication Trigger (Ethernet, RS-232C)                                                                                             |                                                                          |                        |
| I/O Specifications        | Input Signals                      | Trigger Input; New Master: Bi-Directional, Optoisolated, 4.5-28 V rated (10 mA @ 28 VDC)                                                                                |                                                                          |                        |
|                           | Output Signals                     | 3 Signals : Bi-Directional, Optoisolated, 1-28V rated, (ICE < 100 mA at 24VDC, current limited by user)                                                                 |                                                                          |                        |
| Communication             | Connectivity                       | RS-232C, Ethernet TCP/IP, EtherNet/IP, PROFINET                                                                                                                         |                                                                          |                        |
|                           | Ethernet Specifications            | 100BASE-TX / 10BASE-T                                                                                                                                                   |                                                                          |                        |
| Indicator LEDs            |                                    | PASS (Green), TRIG (Amber), MODE (Amber), LINK (Amber), FAIL (Red), PWR (Green)                                                                                         |                                                                          |                        |
| Power Supply Voltage      |                                    | 5 to 30.0 VDC, 200 mV p-p max ripple                                                                                                                                    |                                                                          |                        |
| Current Consumption       |                                    | 0.18 A at 24 VDC (max.)                                                                                                                                                 |                                                                          |                        |
| Environmental Immunity *4 | Ambient Temperature Range          | Operating: 0 to 45° C Storage: -50 to 75°C (No Icing or Condensation)                                                                                                   |                                                                          |                        |
|                           | Ambient Humidity Range             | Operating and Storage: 5% to 95% (Non-Condensing)                                                                                                                       |                                                                          |                        |
|                           | Ambient Atmosphere                 | No Corrosive Gases                                                                                                                                                      |                                                                          |                        |
|                           | Vibration Resistance (Destructive) | Sine Vibration: 10 Hz to 55 Hz, 0.35 mm displacement, 20 cycles/axis. Random Vibration: 20 Hz to 2000 Hz, 6.295 Grms, 30 min/axis                                       |                                                                          |                        |
|                           | Shock Resistance (Destructive)     | 50G, 11 ms, sawtooth profile. 3X in each X, Y, Z axis                                                                                                                   |                                                                          |                        |
|                           | Degree of Protection               | IEC 60529 IP65 and IP67                                                                                                                                                 |                                                                          |                        |
| Weight                    | Main Body Only                     | Approx. 68 g                                                                                                                                                            |                                                                          |                        |
|                           | Packaging Weight                   | Approx. 174 g (including packing)                                                                                                                                       |                                                                          |                        |
| Dimensions                | Main Body Dimensions               | 44.5 (W) x 44.5 (D) x 25.4 (H) mm                                                                                                                                       |                                                                          |                        |
|                           | Packaging Dimensions               | 170 (W) x 117 (D) x 86 (H) mm                                                                                                                                           |                                                                          |                        |
| Accessories               |                                    | ReadMeFirst, CE Compliance Sheet                                                                                                                                        |                                                                          |                        |
| LED Safety Standard       |                                    | IEC 62471-1: 2006 Risk-Exempt Group                                                                                                                                     |                                                                          |                        |
| Safety Standards          |                                    | EN 55024:2010, EN 55032:2015 + AC:2016<br>FCC Part 15, Subpart B (Class B) UL60950-1<br>BIS<br>RCM, KC, EAC and BSMI Pending                                            |                                                                          |                        |
| Materials                 | Case                               | Aluminum Diecast, Alumite (Black)                                                                                                                                       |                                                                          |                        |
|                           | Reading Window                     | Acrylic                                                                                                                                                                 |                                                                          |                        |
| Software                  |                                    | WebLink                                                                                                                                                                 |                                                                          |                        |

\*1. These symbolologies are supported based on Omron's read capability validation standard. Omron recommends that validation be performed for each application.

\*2. Unless otherwise specified, reading performance is defined with center of field of view, angle  $R = \infty$ .

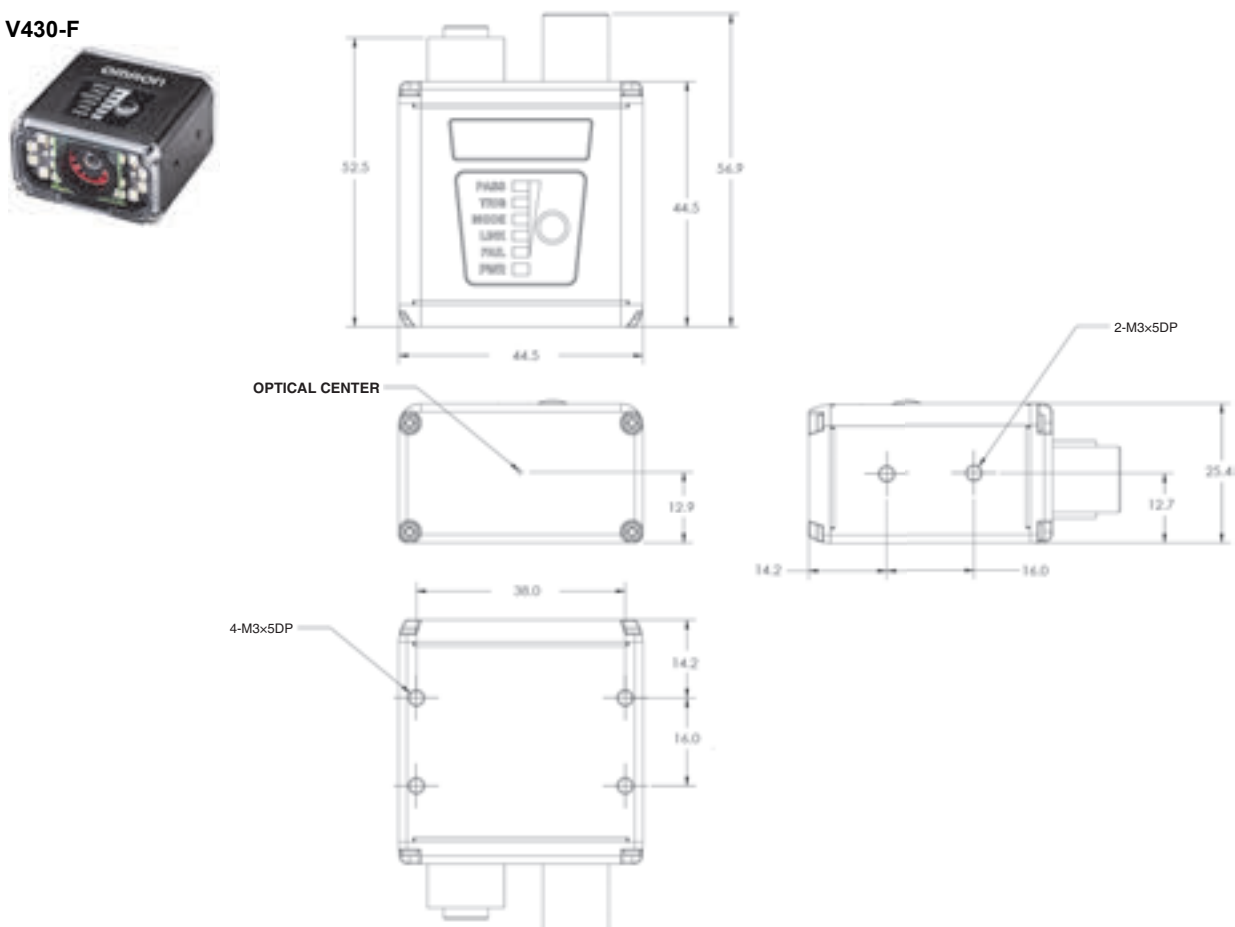


\*4. In an electrically noisy environment, use only the V430-F in combination with a noise filter cable (V430-W□F-□M) to ensure proper operation.

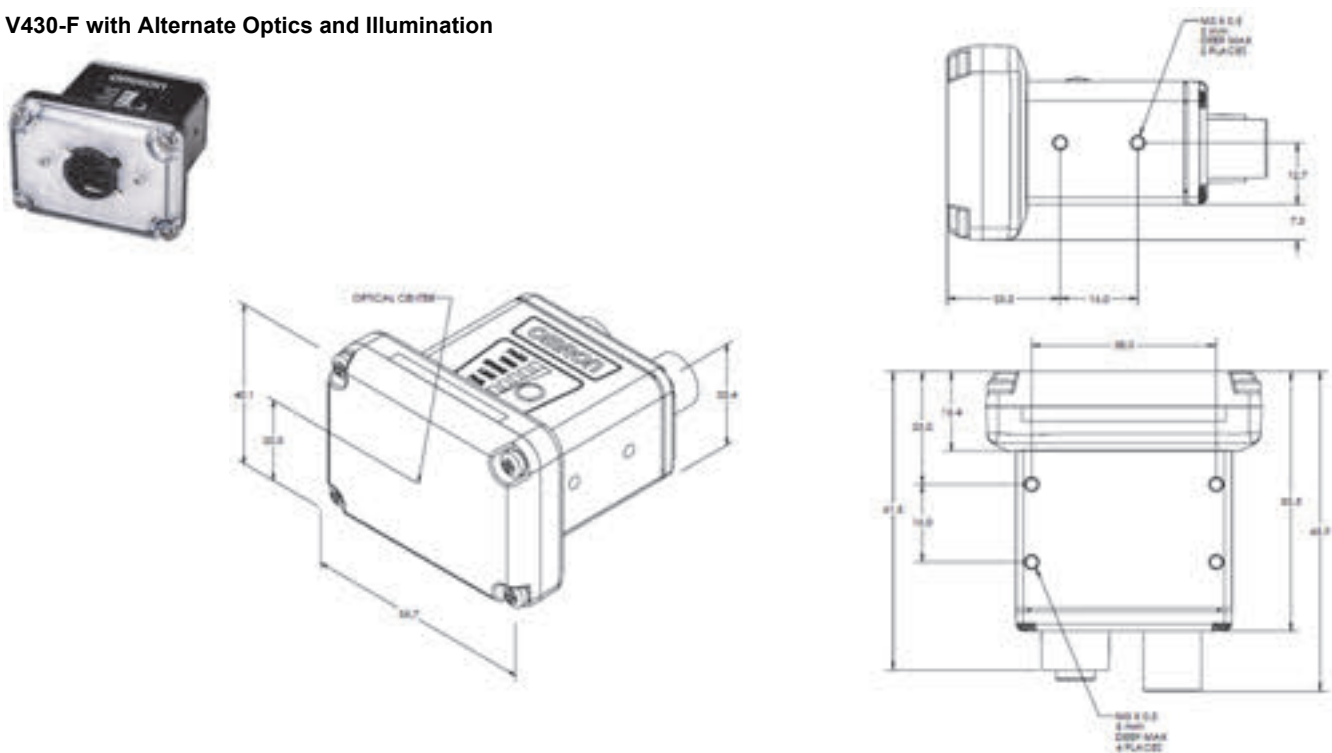
# Dimensions

(Unit: mm)

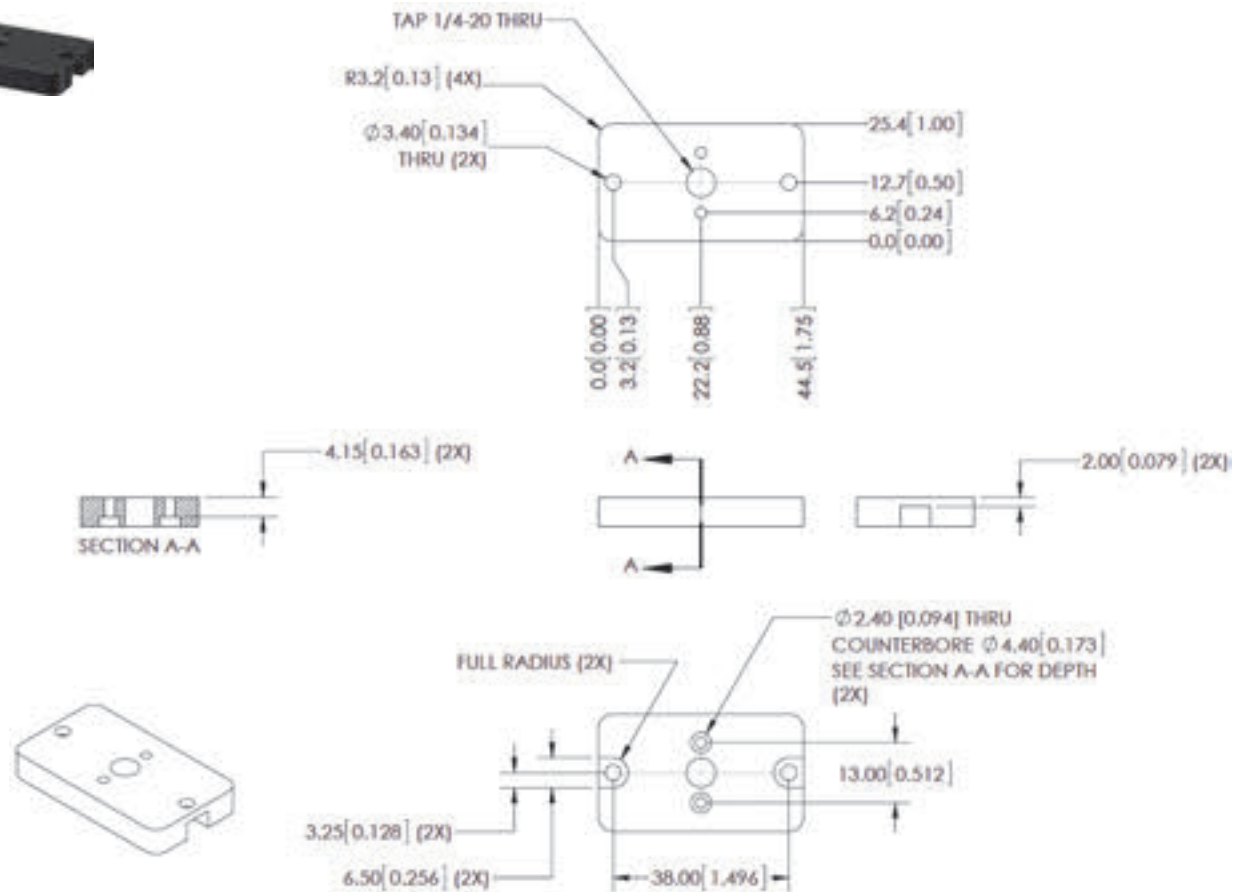
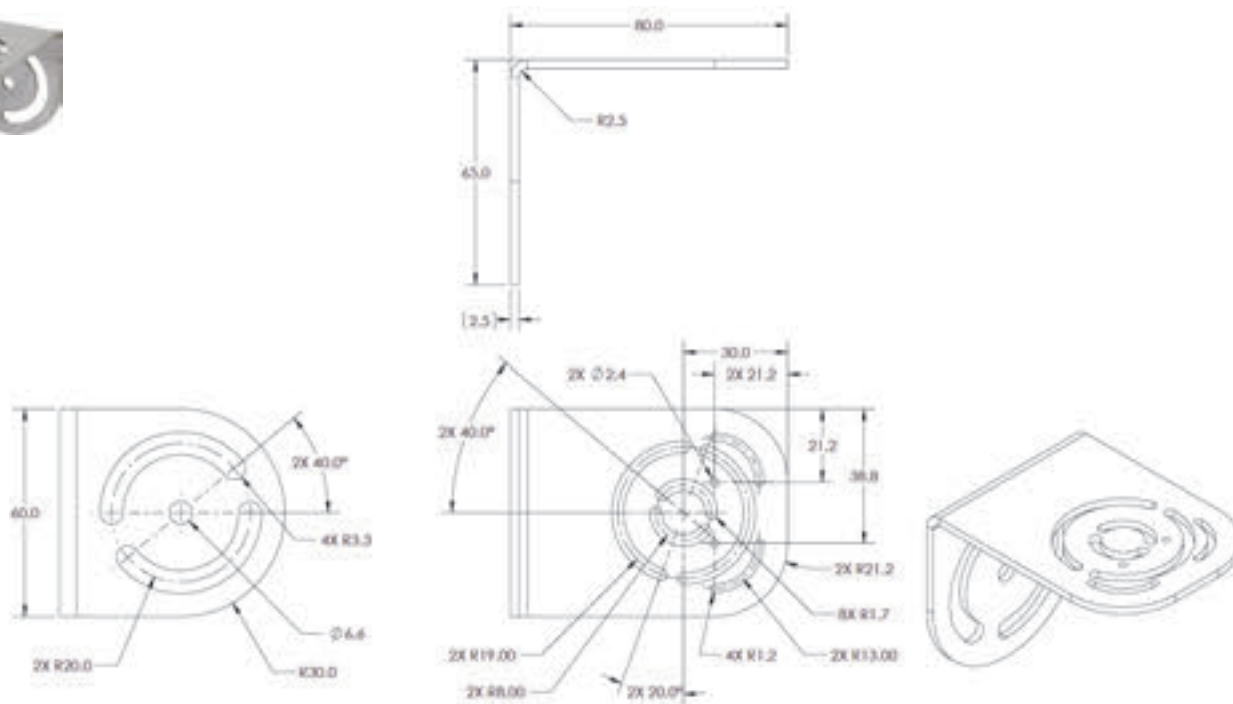
V430-F



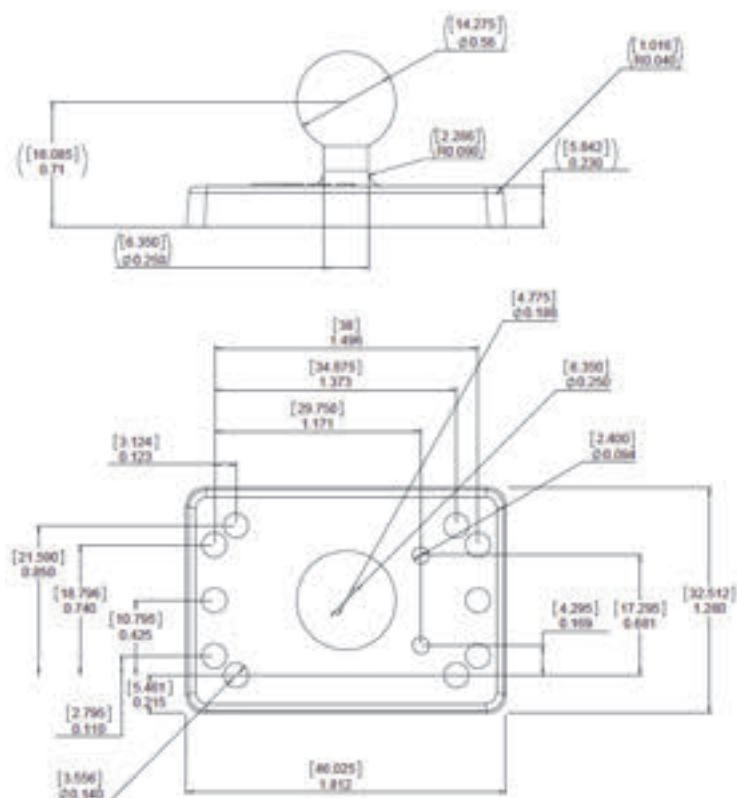
V430-F with Alternate Optics and Illumination



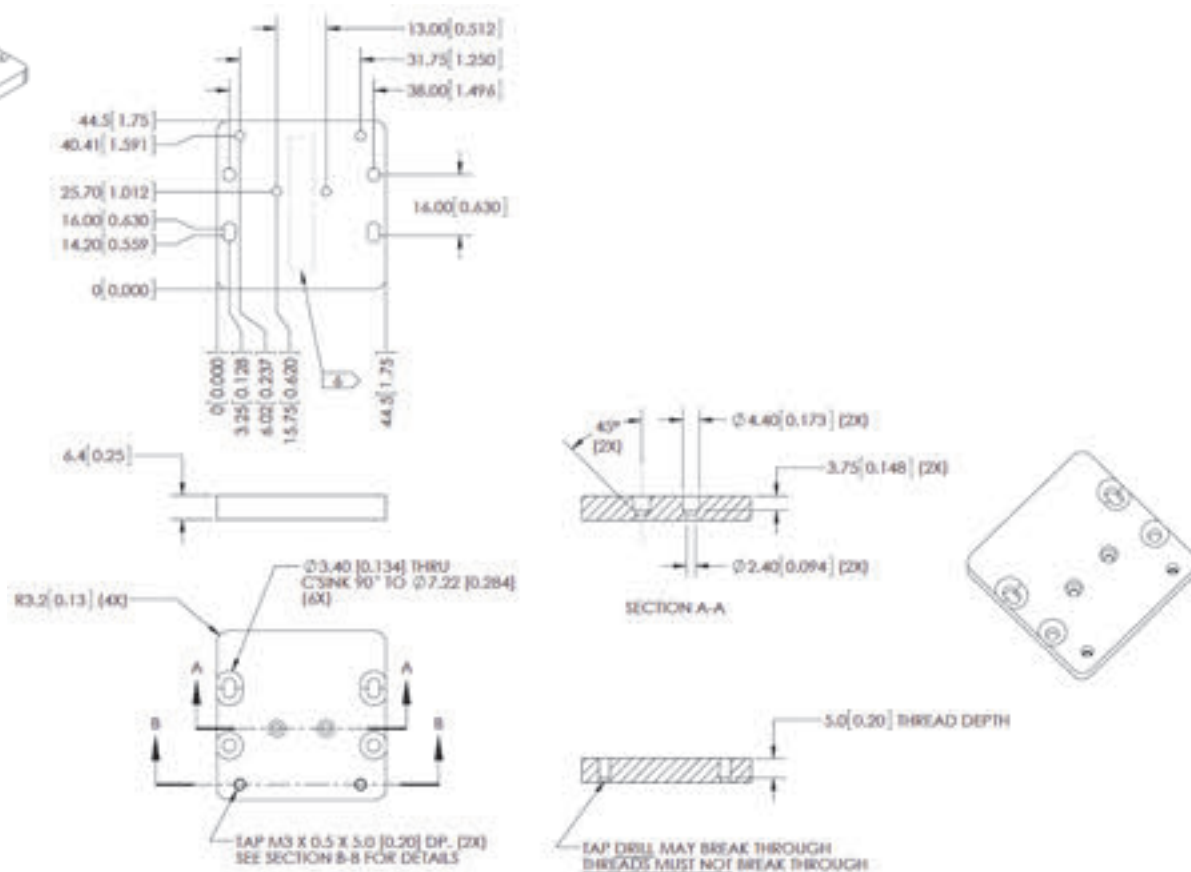
## L Bracket Adjustable Angle Mounting Kit V430-AM0



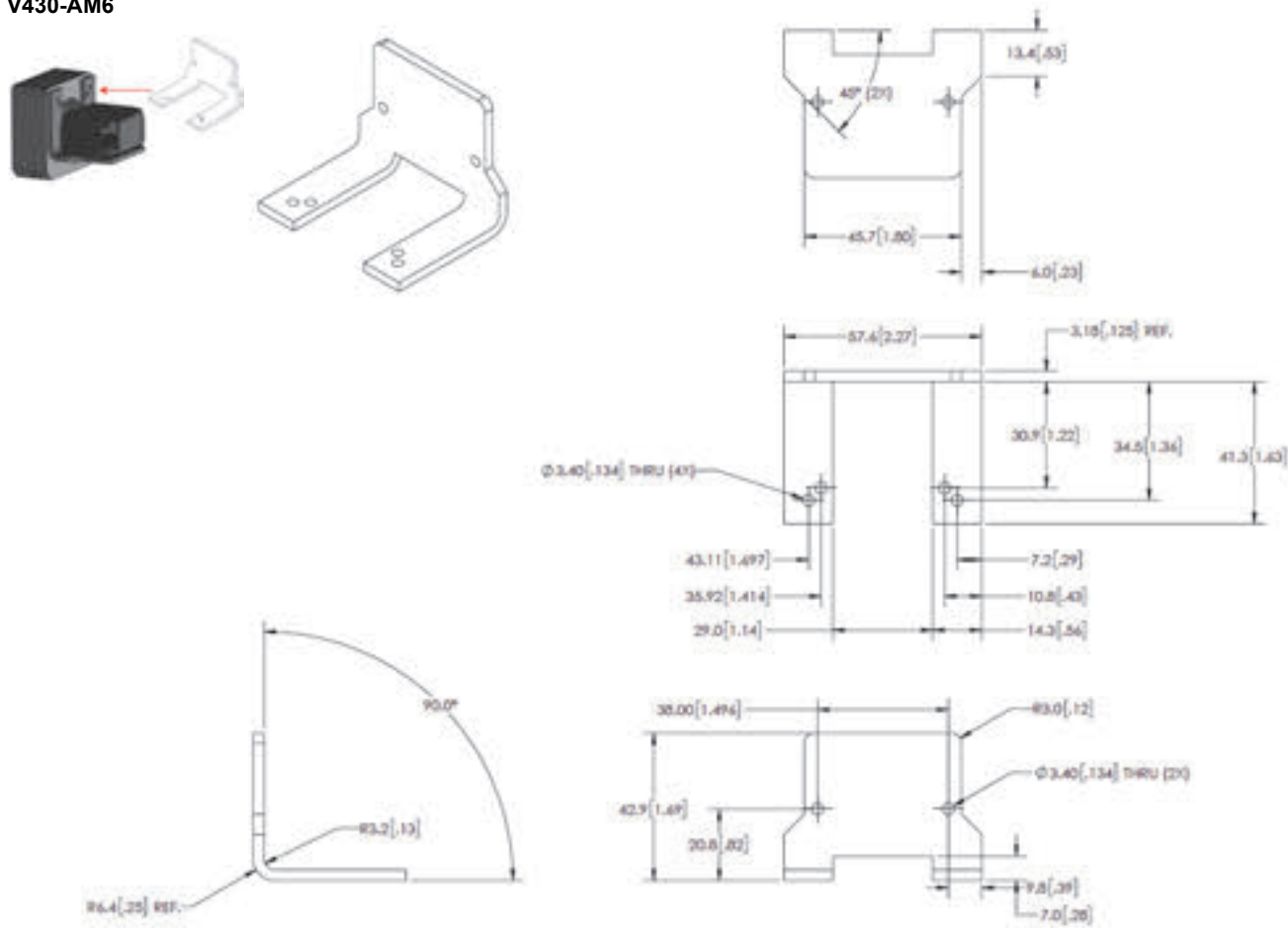
# 4" (102 mm) Ram Mount Stand V430-AM2



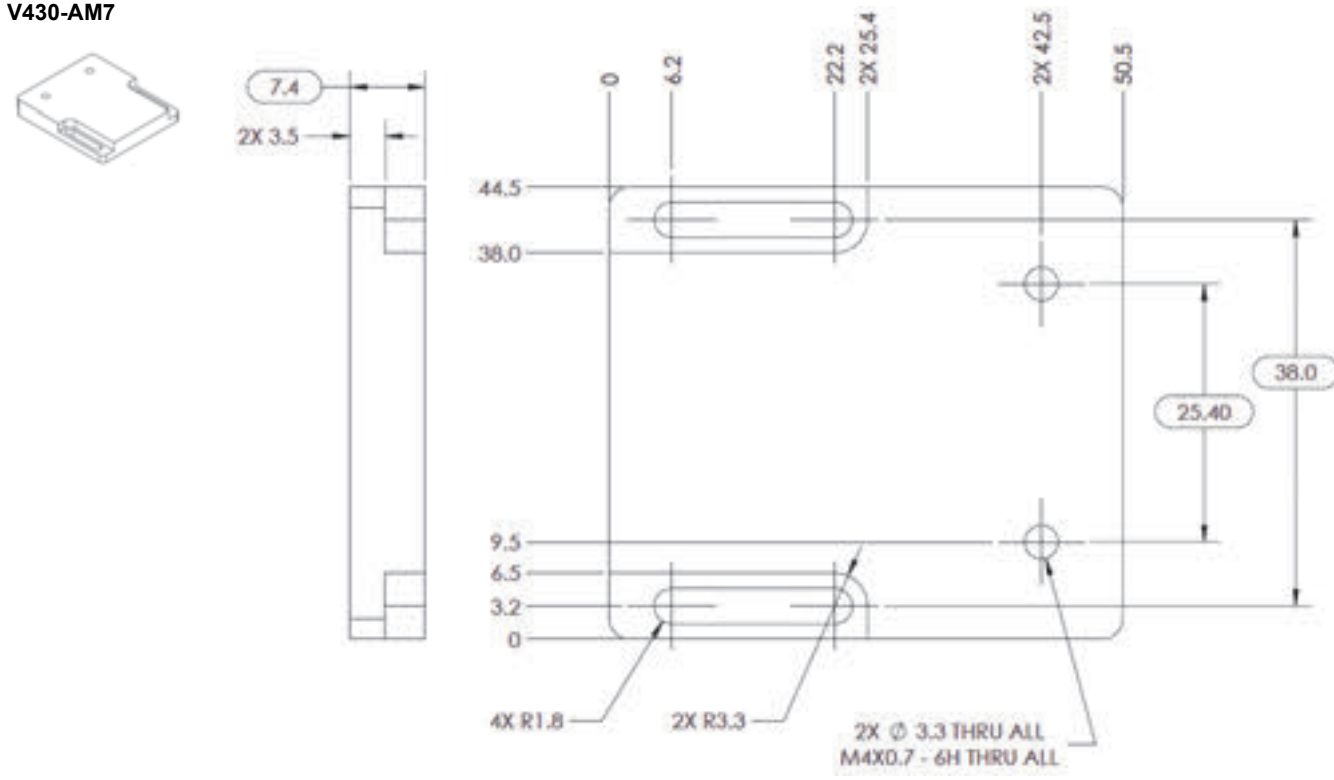
# MS-4 / MINI to V/F4XX-F Adapter Plate V430-AM5



Smart Ring Light to V/F4XX-F Mounting Bracket  
V430-AM6



QX / Vision HAWK to V/F4XX-F Adapter Plate  
V430-AM7



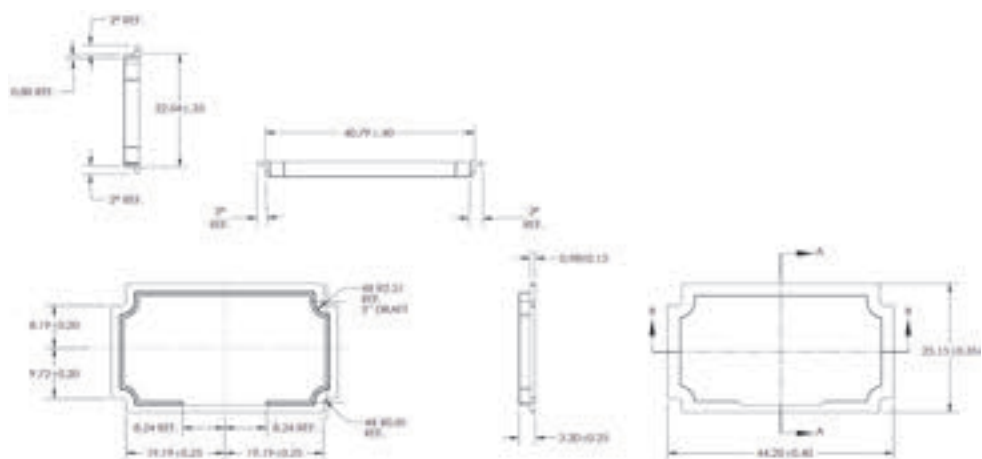
## Front Window Installation Kit V430-AF10

## Diffuser Installation Kit V430-AF11

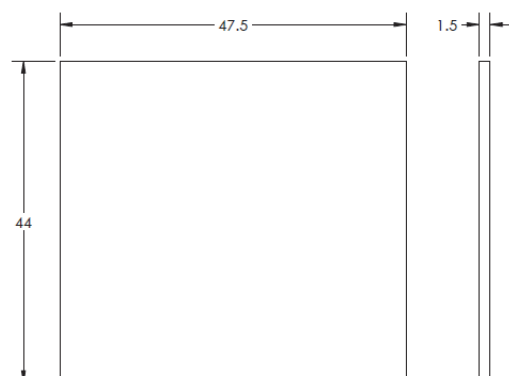
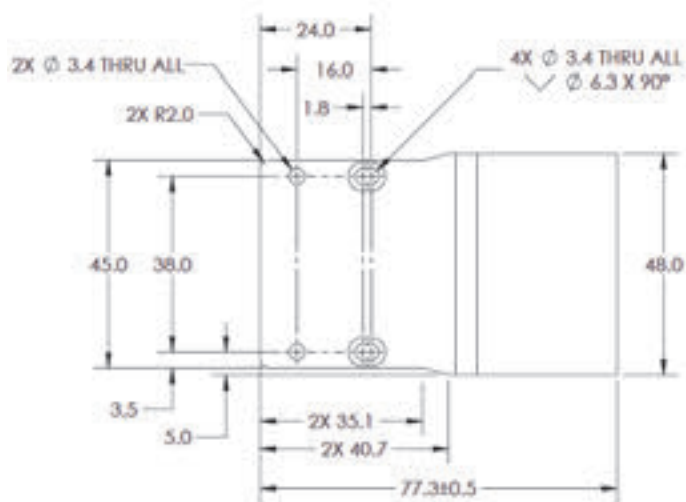
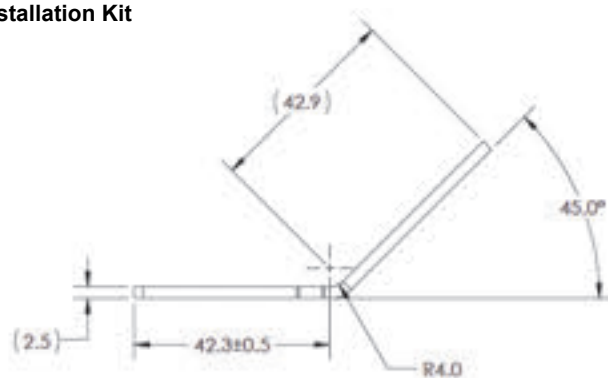
## Polarizer Installation Kit V430-AF12

## YAG Filter Installation Kit V430-AF4

## ESD-Safe Window Installation Kit V430-AF5

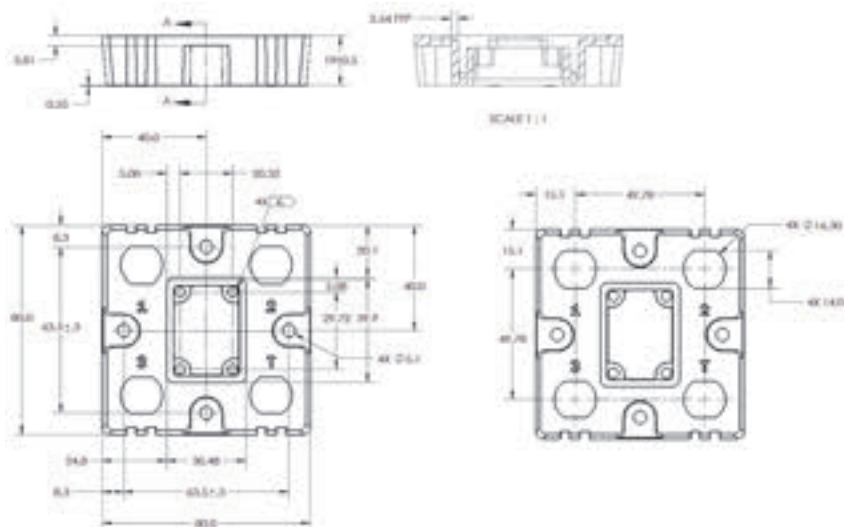


## Right Angle Mirror Installation Kit V430-AF3

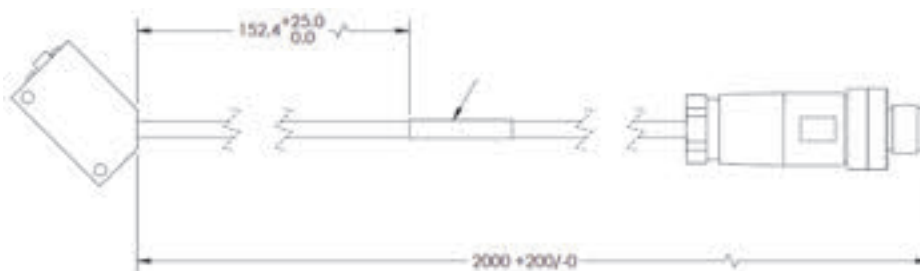




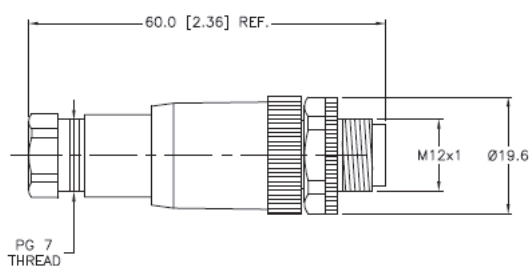
**QX-1 Interconnect Module – Power, Trigger, Smart Light Control Breakout**  
**98-000103-02**



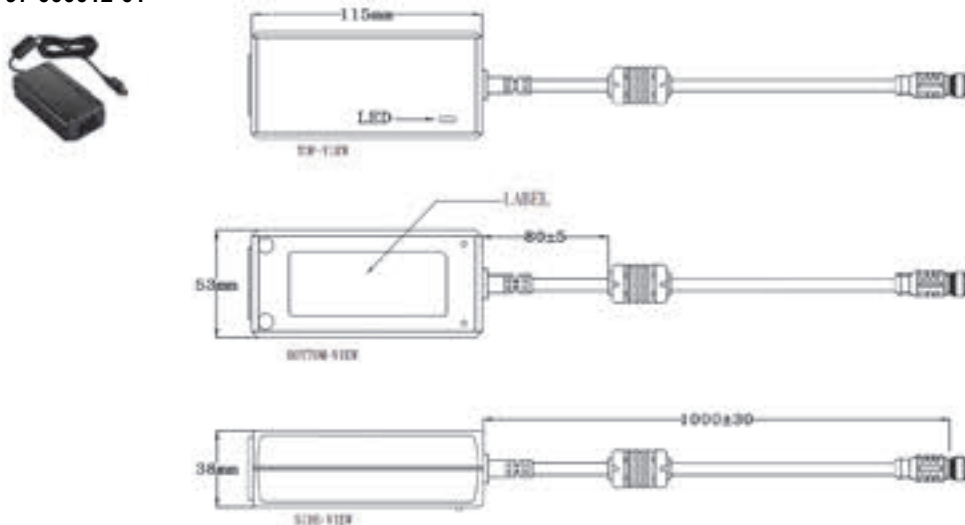
**QX-1 Photo Sensor, M12 4-Pin Plug, NPN – 2 Meters – Light ON / Dark ON**  
**99-9000016-01**



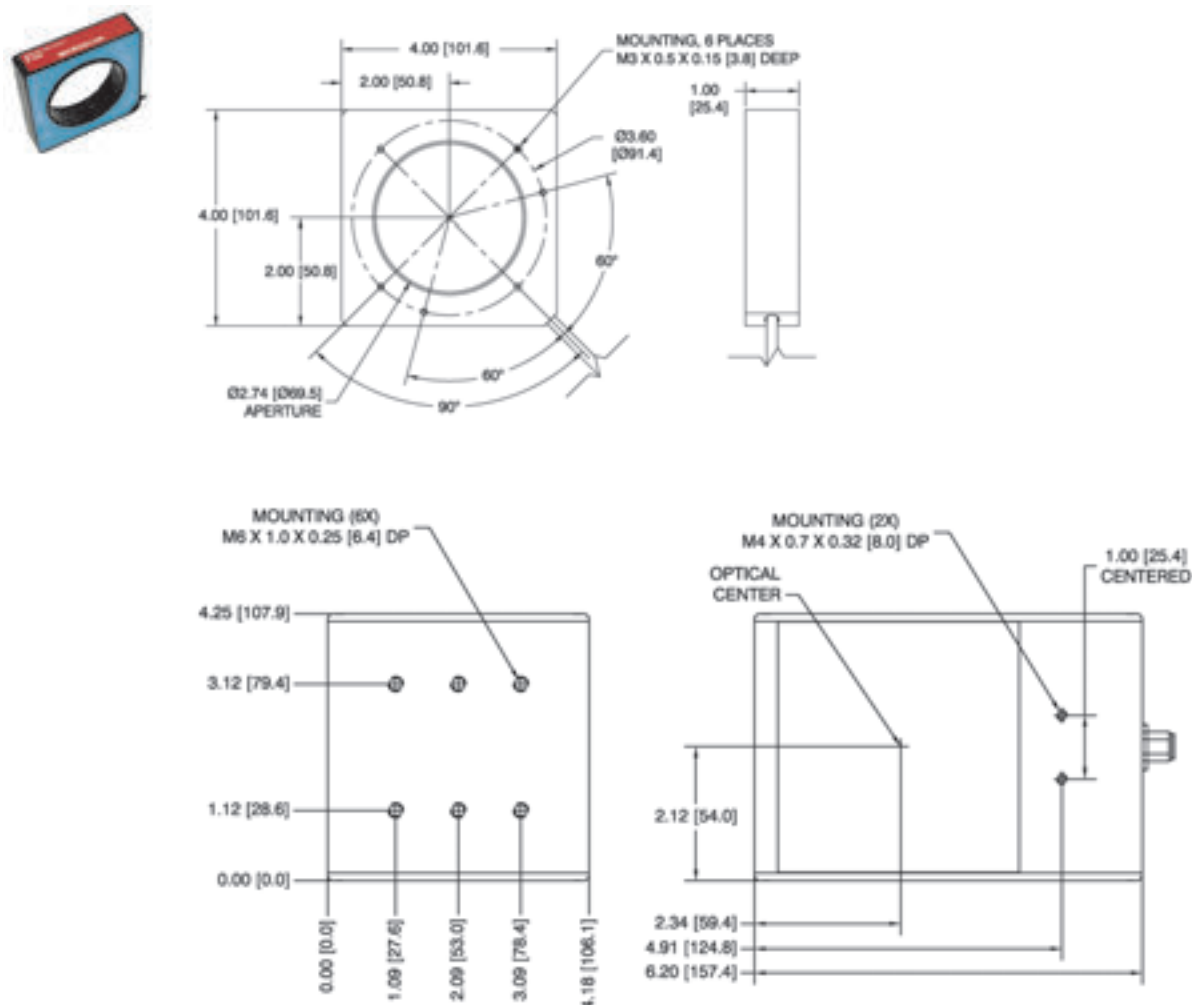
**QX-1 Field-Wireable M12 4-Pin Plug for Any Trigger Source or Photo Sensor – Screw Terminals**  
**98-9000239-01**



Power Supply, 100-240VAC, +24VDC, M12 12-Pin Socket – 1 Meter – U.S. / Euro Plug  
97-000012-01



Omron Microscan Smart Light Series – Integrated Power and Strobe Control Module  
See Omron Microscan Smart Light Offering – Ring, DOAL, Large Area Lighting



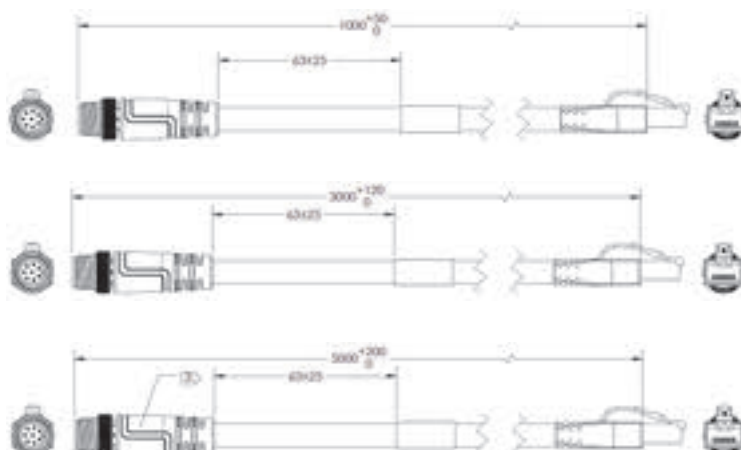
### Ethernet Communication Cables – Straight Connectors – 1 Meter, 3 Meters, or 5 Meters

M12 Plug on Camera to RJ45 Connector

V430-WE-1M

V430-WE-3M

V430-WE-5M



### Ethernet Communication Cables – Right Angle M12 Connectors – 3 Meters

M12 Plug on Camera to RJ45 Connector

V430-WELU-3M (Right Angle Up)\*

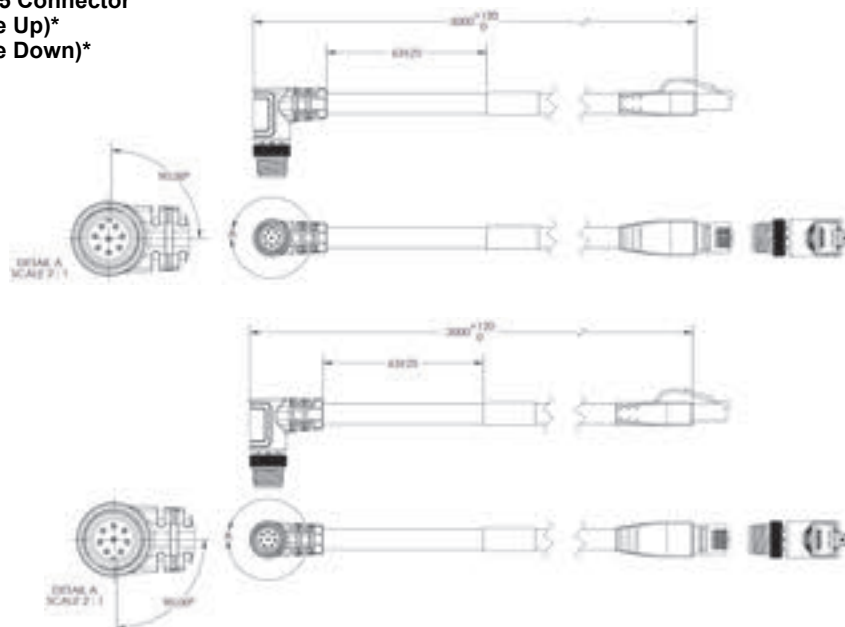
V430-WELD-3M (Right Angle Down)\*



\*Right angle up



\*Right angle down



### Camera to QX-1 Interconnect Cables – 1 Meter, 3 Meters, or 5 Meters

M12 Socket to M12 Plug

QX-1 is used as breakout module for common IO signals and power.

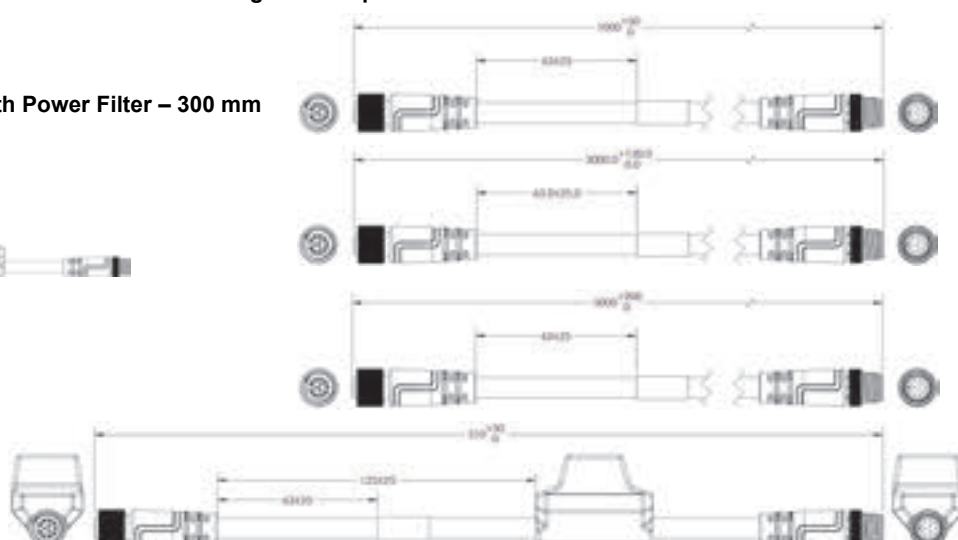
V430-WQ-1M

V430-WQ-3M

V430-WQ-5M

M12 Socket to M12 Plug, with Power Filter – 300 mm

V430-WQF-1M

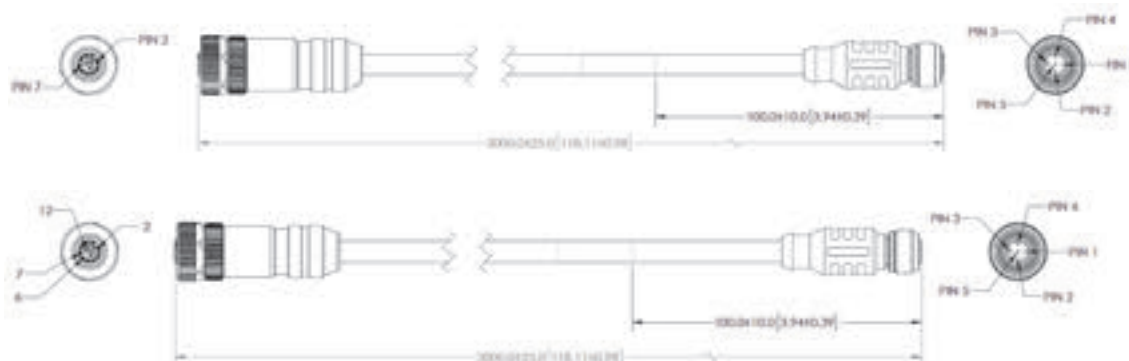


## QX-1 M12 to Smart Light Power and Strobe Control Cables – 3 Meters

### M12 Plug on QX-1 to 5 Pin Socket on Light

#### 61-000204-01 (Continuous Power)

#### 61-000218-01 (Strobe Control)

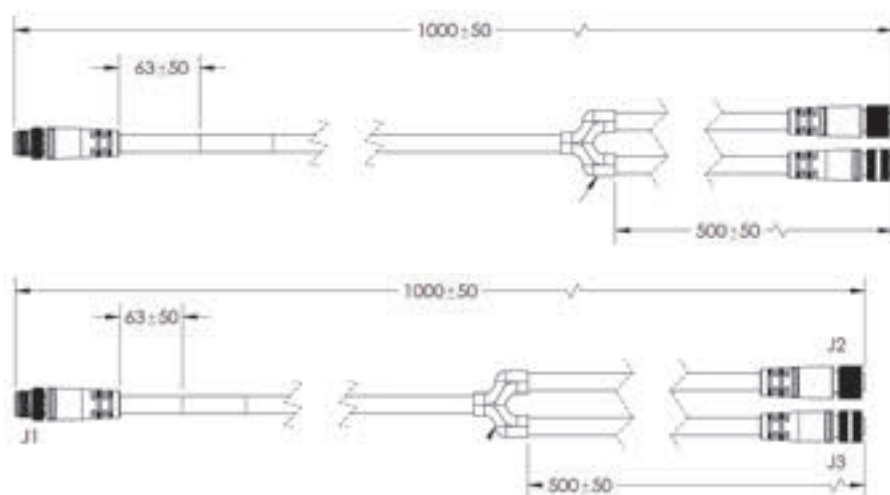
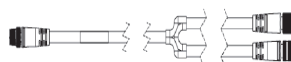


## Y Cable, Camera/Power and Smart Light Power (Continuous On) – 1 Meter

### 61-9000135-01

## Y Cable, Camera/Power and Smart Light Strobe Control – 1 Meter

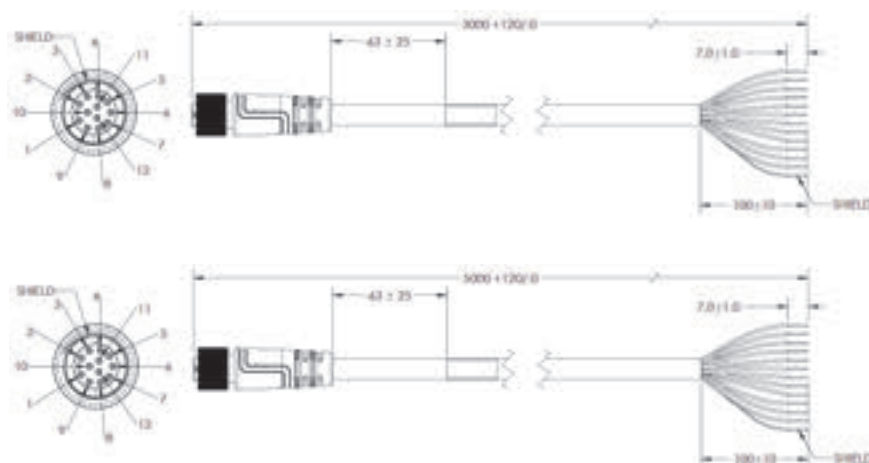
### 61-9000137-01



## M12 to Flying Leads Cable, Straight Power, IO, RS-232, USB – 3 Meters or 5 Meters

### V430-W8-3M

### V430-W8-5M



## M12 to Flying Leads Cable, with Power Filter – 3 Meters or 5 Meters

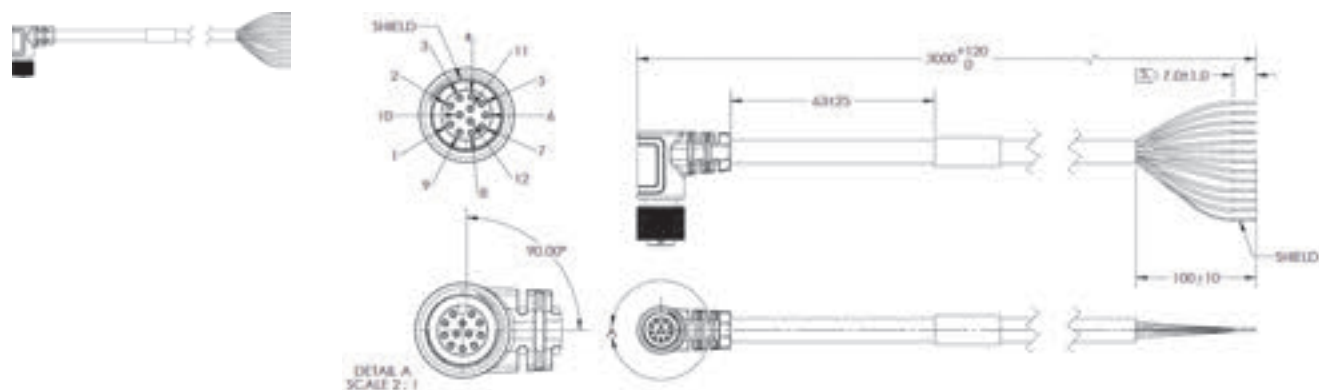
V430-W8F-3M

V430-W8F-5M



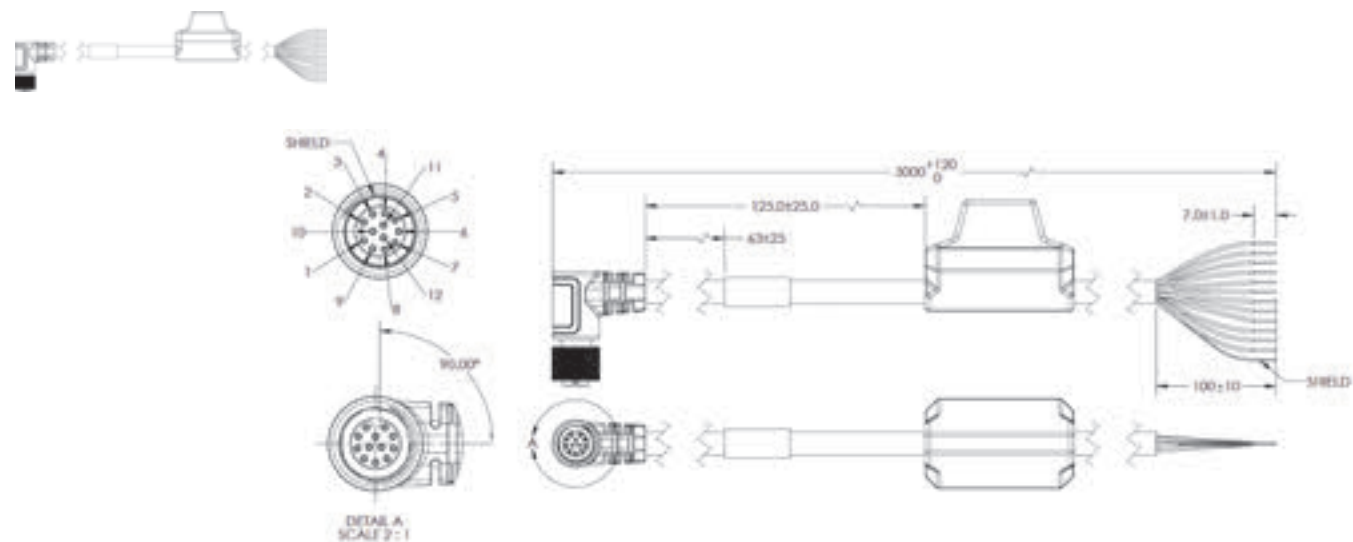
## M12 to Flying Leads Cable Right Angle Up Power, IO, RS232, USB – 3 Meters

V430-W8LU-3M



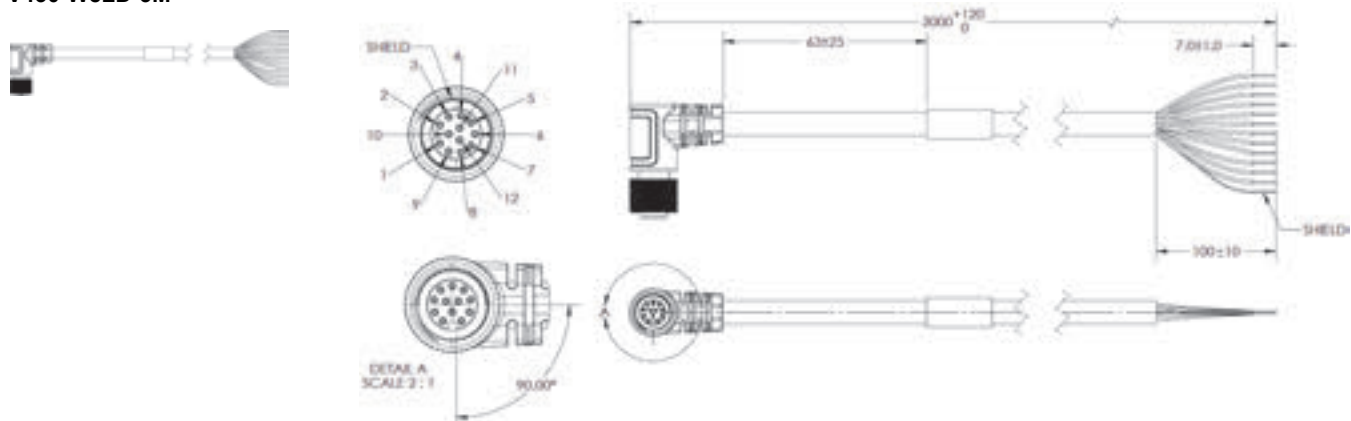
## M12 to Flying Leads Cable Right Angle Up, with Power Filter – 3 Meters

V430-W8LUF-3M

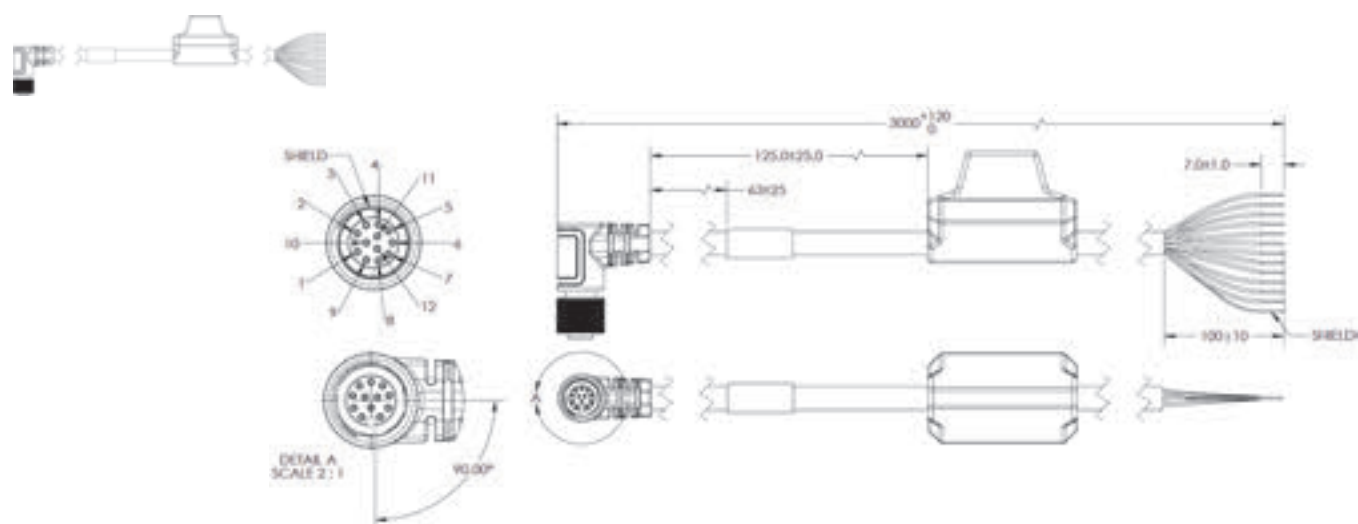


# V430-F

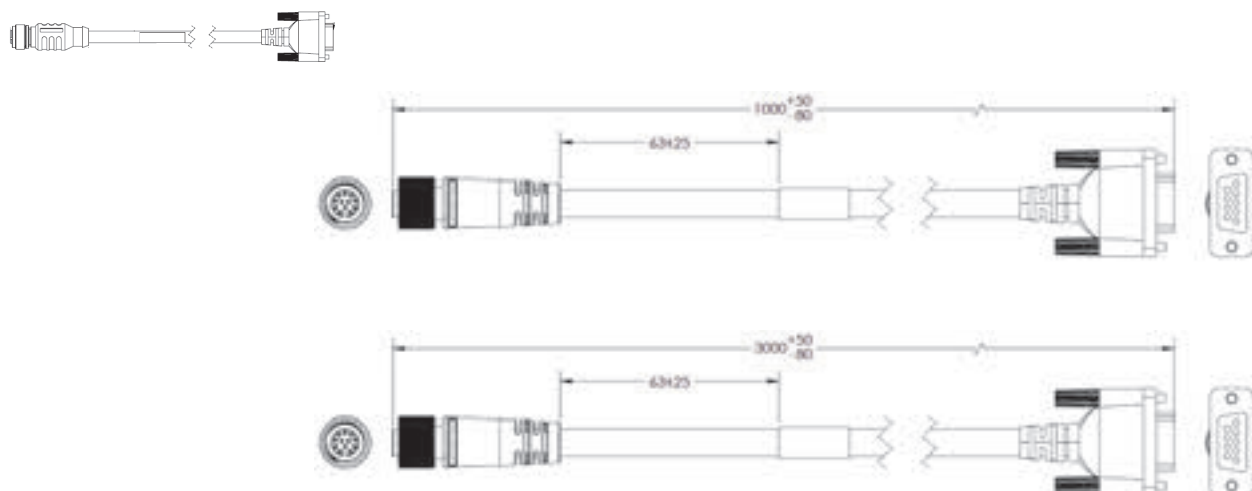
## M12 to Flying Leads Cable Right Angle Down Power, IO, RS232, USB – 3 Meters V430-W8LD-3M



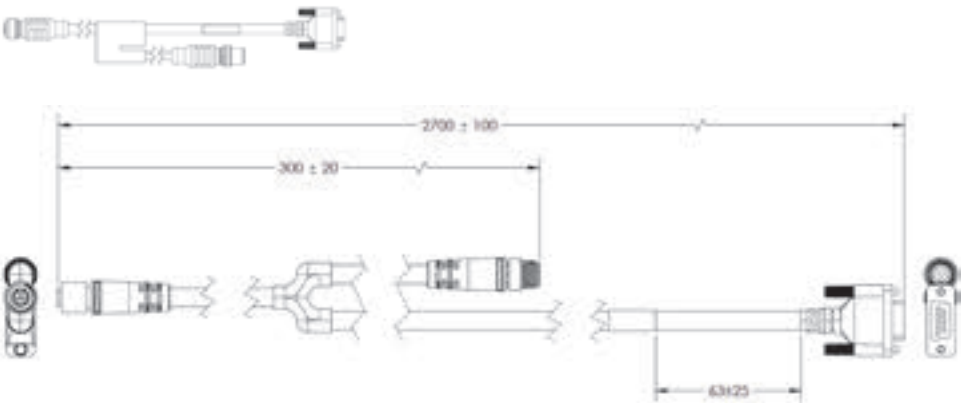
## M12 to Flying Leads Cable Right Angle Down, with Power Filter – 3 Meters V430-W8LDF-3M



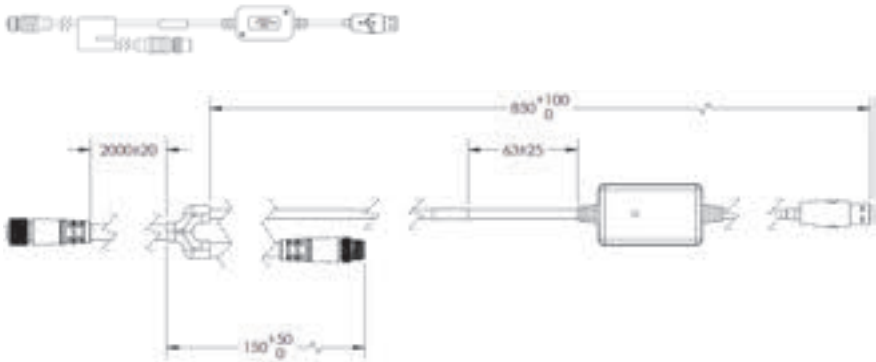
## M12 to RS-232 Breakout – 1 Meter or 3 Meters V430-WR-1M V430-WR-3M



Camera to QX-1 Interconnect Cables with RS-232 Breakout – 2.7 Meters  
V430-WQR-3M



Camera to QX-1 Interconnect Cables with USB Keyboard Wedge Breakout – 2.7 Meters  
V430-WQK-3M



Related Manuals

| Man. No.                  | Model                          | Manual                                                  |
|---------------------------|--------------------------------|---------------------------------------------------------|
| Z432-E-02 (84-9000400-02) | V320-F, V330-F, V420-F, V430-F | MicroHAWK V320-F / V330-F / V420-F / V430-F User Manual |

# Terms and Conditions Agreement

## Read and understand this catalog.

Please read and understand this catalog before purchasing the products. Please consult your OMRON representative if you have any questions or comments.

## Warranties.

- (a) Exclusive Warranty. Omron's exclusive warranty is that the Products will be free from defects in materials and workmanship for a period of twelve months from the date of sale by Omron (or such other period expressed in writing by Omron). Omron disclaims all other warranties, express or implied.
- (b) Limitations. OMRON MAKES NO WARRANTY OR REPRESENTATION, EXPRESS OR IMPLIED, ABOUT NON-INFRINGEMENT, MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OF THE PRODUCTS. BUYER ACKNOWLEDGES THAT IT ALONE HAS DETERMINED THAT THE PRODUCTS WILL SUITABLY MEET THE REQUIREMENTS OF THEIR INTENDED USE.

Omron further disclaims all warranties and responsibility of any type for claims or expenses based on infringement by the Products or otherwise of any intellectual property right. (c) Buyer Remedy. Omron's sole obligation hereunder shall be, at Omron's election, to (i) replace (in the form originally shipped with Buyer responsible for labor charges for removal or replacement thereof) the non-complying Product, (ii) repair the non-complying Product, or (iii) repay or credit Buyer an amount equal to the purchase price of the non-complying Product; provided that in no event shall Omron be responsible for warranty, repair, indemnity or any other claims or expenses regarding the Products unless Omron's analysis confirms that the Products were properly handled, stored, installed and maintained and not subject to contamination, abuse, misuse or inappropriate modification. Return of any Products by Buyer must be approved in writing by Omron before shipment. Omron Companies shall not be liable for the suitability or unsuitability or the results from the use of Products in combination with any electrical or electronic components, circuits, system assemblies or any other materials or substances or environments. Any advice, recommendations or information given orally or in writing, are not to be construed as an amendment or addition to the above warranty.

See <http://www.omron.com/global/> or contact your Omron representative for published information.

## Limitation on Liability; Etc.

OMRON COMPANIES SHALL NOT BE LIABLE FOR SPECIAL, INDIRECT, INCIDENTAL, OR CONSEQUENTIAL DAMAGES, LOSS OF PROFITS OR PRODUCTION OR COMMERCIAL LOSS IN ANY WAY CONNECTED WITH THE PRODUCTS, WHETHER SUCH CLAIM IS BASED IN CONTRACT, WARRANTY, NEGLIGENCE OR STRICT LIABILITY.

Further, in no event shall liability of Omron Companies exceed the individual price of the Product on which liability is asserted.

## Suitability of Use.

Omron Companies shall not be responsible for conformity with any standards, codes or regulations which apply to the combination of the Product in the Buyer's application or use of the Product. At Buyer's request, Omron will provide applicable third party certification documents identifying ratings and limitations of use which apply to the Product. This information by itself is not sufficient for a complete determination of the suitability of the Product in combination with the end product, machine, system, or other application or use. Buyer shall be solely responsible for determining appropriateness of the particular Product with respect to Buyer's application, product or system. Buyer shall take application responsibility in all cases.

NEVER USE THE PRODUCT FOR AN APPLICATION INVOLVING SERIOUS RISK TO LIFE OR PROPERTY OR IN LARGE QUANTITIES WITHOUT ENSURING THAT THE SYSTEM AS A WHOLE HAS BEEN DESIGNED TO ADDRESS THE RISKS, AND THAT THE OMRON PRODUCT(S) IS PROPERLY RATED AND INSTALLED FOR THE INTENDED USE WITHIN THE OVERALL EQUIPMENT OR SYSTEM.

## Programmable Products.

Omron Companies shall not be responsible for the user's programming of a programmable Product, or any consequence thereof.

## Performance Data.

Data presented in Omron Company websites, catalogs and other materials is provided as a guide for the user in determining suitability and does not constitute a warranty. It may represent the result of Omron's test conditions, and the user must correlate it to actual application requirements. Actual performance is subject to the Omron's Warranty and Limitations of Liability.

## Change in Specifications.

Product specifications and accessories may be changed at any time based on improvements and other reasons. It is our practice to change part numbers when published ratings or features are changed, or when significant construction changes are made. However, some specifications of the Product may be changed without any notice. When in doubt, special part numbers may be assigned to fix or establish key specifications for your application. Please consult with your Omron's representative at any time to confirm actual specifications of purchased Product.

## Errors and Omissions.

Information presented by Omron Companies has been checked and is believed to be accurate; however, no responsibility is assumed for clerical, typographical or proofreading errors or omissions.

- EtherNet/IP™ is a trademark of ODVA.
- QR code is the registered trademark of DENSO WAVE.
- Other company names and product names in this document are the trademarks or registered trademarks of their respective companies.
- The product photographs and figures that are used in this catalog may vary somewhat from the actual products.

Note: Do not use this document to operate the Unit.

## OMRON Corporation Industrial Automation Company

Kyoto, JAPAN

Contact: [www.ia.omron.com](http://www.ia.omron.com)

Regional Headquarters  
OMRON EUROPE B.V.  
Wegalaan 67-69, 2132 JD Hoofddorp  
The Netherlands  
Tel: (31)2356-81-300/Fax: (31)2356-81-388

OMRON ELECTRONICS LLC  
2895 Greenspoint Parkway, Suite 200  
Hoffman Estates, IL 60169 U.S.A.  
Tel: (1) 847-843-7900/Fax: (1) 847-843-7787

OMRON ASIA PACIFIC PTE. LTD.  
No. 438A Alexandra Road # 05-05/08 (Lobby 2),  
Alexandra Technopark,  
Singapore 119967  
Tel: (65) 6835-3011/Fax: (65) 6835-2711

OMRON (CHINA) CO., LTD.  
Room 2211, Bank of China Tower,  
200 Yin Cheng Zhong Road,  
PuDong New Area, Shanghai, 200120, China  
Tel: (86) 21-5037-2222/Fax: (86) 21-5037-2200

Authorized Distributor:

© OMRON Corporation 2020 All Rights Reserved. In the interest of product improvement, specifications are subject to change without notice.

Cat. No. Q274-E-02 (SP116B-EN-0220)

0220 (0919)