



## MX-U81 VISION PROCESSOR

The MX-U81 Vision Processor delivers maximum power and fast image acquisition for highly demanding machine vision applications.

With a USB 3.0 Vision interface standard for high speed camera connectivity and a state-of-art Intel® chipset, the MX-U81 Vision Processor guarantees outstanding performance delivering higher multi-camera inspection rates.

MX-U81 is equipped with NPN or PNP digital I/O and supports four independent USB 3.0 cameras resulting in application flexibility while dramatically reducing the cost per inspection point.

Powered by IMPACT Software, MX-U81 Series offers quick and easy application prototyping and deployment as well as seamless integration.



VISION



## HIGHLIGHTS

- Rugged, industrial, high-powered vision processor
- USB3 Vision standard connectivity and multi-camera support
- Multiple camera resolutions simultaneously supported by a single vision processor
- 4 dedicated high speed USB 3.0 camera ports
- 4 USB 3.0 ports for connecting external devices (i.e keyboard and mouse)
- Support of a wide selection of USB3.0 grayscale and color cameras, from VGA up to 20Mpix
- Complete IMPACT Software Suite included for ultimate programming flexibility
- Universal dongle for easier SW license management

## BENEFITS

- Multi-camera capability enables data collection and analysis from multiple points independently
- Shared processing reduces cost per inspection point
- Increased inspection power and USB3.0 data transfer speed for higher inspection rates
- Reduces cost by eliminating additional PC for operator user interface
- State-of-the-art Intel chipsets ensure long term product availability
- Easy integration with smart cameras for data sharing and inter-camera communication without needing a PC
- Universal dongles enable IMPACT software license and add-on license functionalities on MX-U81 and all other Datalogic vision processors

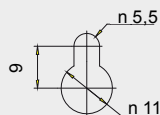
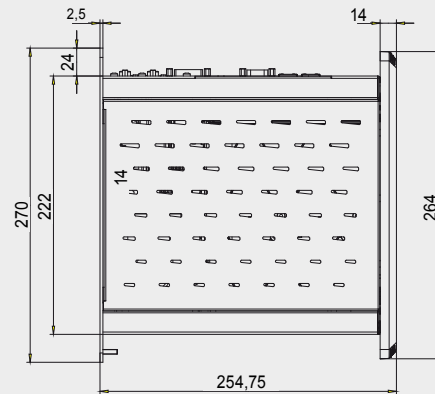
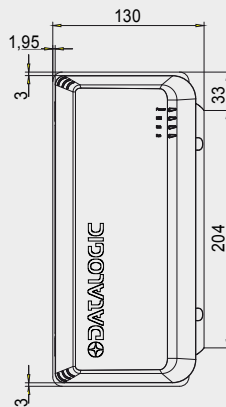
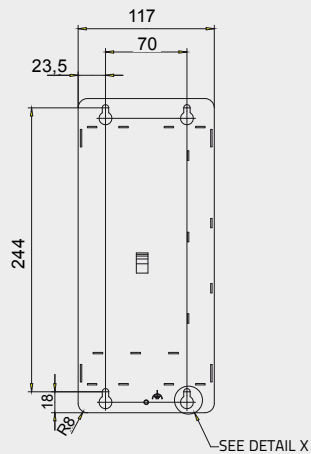
## TECHNICAL DATA

|                                    | MX-U81   |
|------------------------------------|--|
| CPU                                | Intel® Core i7 3615QE 2.3 Ghz – quad core                        |
| System memory                      | 8 GB DDR3 RAM  |
| Storage                            | 128 GB SATA SSD (MLC)  |
| Graphics                           | Intel® HD 3000 (1920x1200 resolution) - DVI                      |
| Camera interface                   | 4x USB3.0 ports - 5 Gb/s max<br>1500 mA Max per port             |
| Camera imager limit                | None   |
| Network interface                  | 2x LAN ports - 10/100/1000 Mbps Base-T                           |
| Serial communications              | 1x RS-232 serial port  |
| Keyboard/mouse                     | 4x USB3.0 ports - 5 Gb/s max<br>1000 mA max per port             |
| Comm connectivity                  | Supports Ethernet/IP, Profinet, Modbus TCP and OPC               |
| I/O                                | see table below  |
| Operating system                   | Windows Embedded Standard 7                                      |
| Supply voltage                     | 24 VDC +/- 25%   |
| Nominal current draw               | 5.5 A @ 24 VDC   |
| Dimensions                         | 270 (H) x 130 (W) x 255 (D) mm - 10.6 (H) x 5.1 (W) x 10 (D) in. |
| Weight                             | 2050 g   |
| Housing                            | Galvanized plate - plastic                                       |
| Operating temperature              | 0 to 55° C - 32 to 131° F  |
| Operating humidity                 | 10 to 90% (non-condensing)                                       |
| Mechanical protection              | IP20   |
| Certifications (safety compliance) | CE, c-UL-us  |

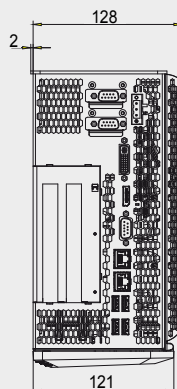
## PART NUMBER KEY

| MODEL    | PROCESSING POWER  | - | NO. OF PORTS        | - | I/O TYPE   | - | OPERATING SYSTEM |
|----------|---|---|---------------------|---|--|---|------------------|
| MX-U     | XX  | - | X                   | - | X  | - | X                |
|          | 81 = i7 - 2.3GHz Quad Core  |   | 4 = 4x USB3.0 ports |   | P = 16 IN - 16 OUT PNP<br>N = 16 IN - 16 OUT NPN |   | 1 = WES7         |
| Examples | MX-U81-4-N-1 = MX-U81 with 4 camera ports, NPN digital I/Os and WES7 Operating System |   |                     |   |  |   |                  |

## MECHANICAL DRAWINGS



DETAIL X



All dimensions in mm

## U-CAMERA

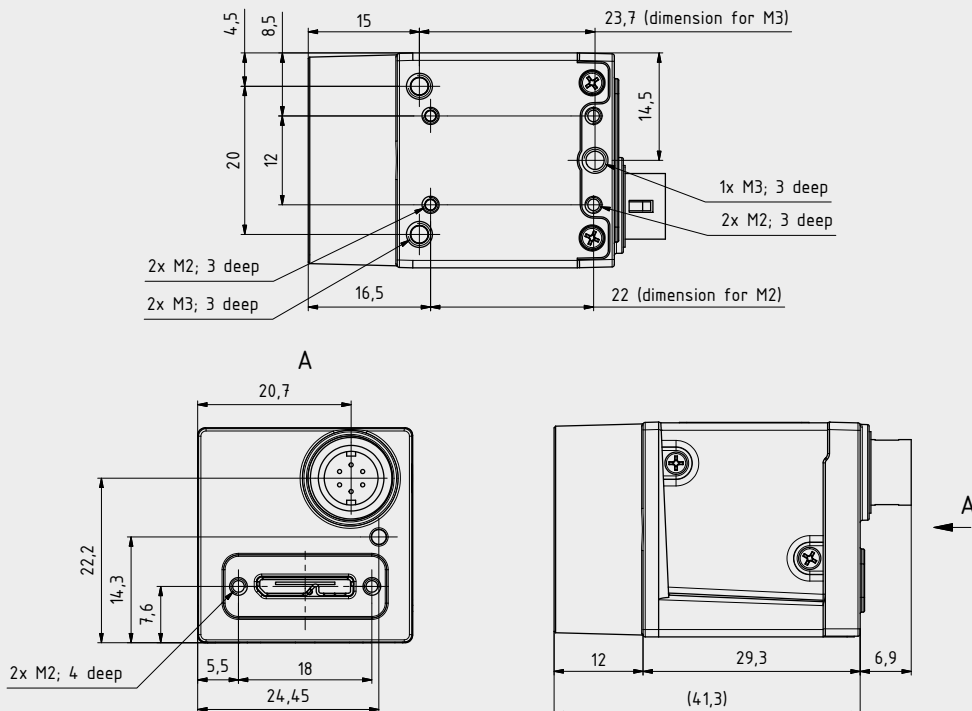
The U-Camera Series offers excellent performance packed into an incredibly compact housing (29x29x47mm). Ranging from VGA up to 5 MPix imager resolutions, the U-Cameras are available in both grayscale or color models providing the maximum application flexibility. The U-Camera Series supports the new USB 3.0 Vision communication protocol delivering ultra-high image transfer speeds to tackle even the most challenging machine vision applications.



## MODELS

| GRAY-SCALE MODEL | COLOR MODEL | SHUTTER | RESOLUTION  | IMAGER      | FRAME RATE (FPS) | DIMENSIONS                                 |
|------------------|-------------|---------|-------------|-------------|------------------|--|
| U100             | U100C       | Global  | 659 x 494   | 1/4" CCD    | 120              | 29 x 29 x 47 mm<br>(1.14 x 1.14 x 1.85 in) |
| U101             | U101C       | Global  | 659 x 480   | 1/4" CMOS   | 750              |  |
| U110             | U110C       | Global  | 659 x 494   | 1/3" CCD    | 90               |  |
| U150             | U150C       | Global  | 1296 x 966  | 1/3" CCD    | 30               |  |
| U151             | U151C       | Global  | 1280 x 1024 | 1/2" CMOS   | 200              |  |
| U180             | U180C       | Global  | 1628 x 1236 | 1/1.8" CCD  | 20               |  |
| U190             | U190C       | Global  | 2048 x 1088 | 2/3" CMOS   | 165              |  |
| U193             | U193C       | Global  | 2048 x 1536 | 1/1.8" CMOS | 55               |  |
| U195             | U195C       | Global  | 2048 x 2048 | 1" CMOS     | 90               |  |
| U197             | U197C       | Rolling | 2592 x 1944 | 1/2.5" CMOS | 14               |  |
| U198             | U198C       | Global  | 2448 x 2048 | 2/3" CMOS   | 35               |  |

## DIMENSIONAL DRAWINGS



All dimensions in mm

## MODELS AND ACCESSORIES

| DESCRIPTION   | Order no.    |
|---|--------------|
| <b>VISION PROCESSORS</b>  |              |
| MX-U81-4-P-1, 4 ports, PNP, WES7  | 959918109    |
| MX-U81-4-N-1, 4 ports, NPN, WES7  | 959918110    |
| <b>DONGLES</b>  |              |
| DONGLE, IMPACT  | 93ACC0185    |
| DONGLE, IMPACT, OCR   | 93ACC0186    |
| DONGLE, IMPACT, PST   | 93ACC0187    |
| DONGLE, IMPACT, 3rd party camera  | 93ACC0188    |
| DONGLE, IMPACT, OCR, 3rd party camera   | 93ACC0189    |
| DONGLE, IMPACT, PST, 3rd party camera   | 93ACC0190    |
| DONGLE, IMPACT, PST, OCR  | 93ACC0191    |
| DONGLE, IMPACT, PST, OCR, 3rd party camera  | 93ACC0192    |
| <b>CAMERAS</b>  |              |
| Camera, U100, USB3.0, 659x494, 120fps, Grayscale, 1/4" CCD  | 959933003    |
| Camera, U100C, USB3.0, 658x492, 120fps, Color, 1/4" CCD   | 959933004    |
| Camera, U101, USB3.0, 659x480, 750fps, Grayscale, 1/4" CMOS                                       | 959933030    |
| Camera, U101C, USB3.0, 659x480, 750fps, Color, 1/4" CMOS  | 959933031    |
| Camera, U110, USB3.0, 659x494, 90fps, Grayscale, 1/3" CCD   | 959933001    |
| Camera, U110C, USB3.0, 658x492, 90fps, Color, 1/3" CCD  | 959933002    |
| Camera, U150, USB3.0, 1296x966, 30fps, Grayscale, 1/3" CCD  | 959933005    |
| Camera, U150C, USB3.0, 1294x964, 30fps, Color, 1/3" CCD   | 959933006    |
| Camera, U151, USB3.0, 1280x1024, 200fps, Grayscale, 1/2" CMOS                                     | 959933032    |
| Camera, U151C, USB3.0, 1280x1024, 200fps, Color, 1/2" CMOS  | 959933033    |
| Camera, U180, USB3.0, 1628x1236, 20fps, Grayscale, 1/1.8" CCD                                     | 959933007    |
| Camera, U180C, USB3.0, 1624x1234, 20fps, Color, 1/1.8" CCD  | 959933008    |
| Camera, U190, USB3.0, 2048x1088, 165fps, Grayscale, 2/3" CMOS                                     | 959933011    |
| Camera, U190C, USB3.0, 2048x1088, 165fps, Color, 2/3" CMOS  | 959933012    |
| Camera, U193, USB3.0, 2048 x 1536, 55 FPS, Grayscale, 1/1.8' CMOS                                 | 959933046    |
| Camera, U193C, USB3.0, 2048 x 1536, 55 FPS, Color, 1/1.8' CMOS                                    | 959933047    |
| Camera, U195, USB3.0, 2048x2048, 90fps, Grayscale, 1" CMOS  | 959933013    |
| Camera, U195C, USB3.0, 2048x2048, 90fps, Color, 1" CMOS   | 959933014    |
| Camera, U197, USB3.0, 2592x1944, 14fps, Grayscale, 1/2.5" CMOS                                    | 959933009    |
| Camera, U197C, USB3.0, 2590x1942, 14fps, Color, 1/2.5" CMOS                                       | 959933010    |
| Camera, U198, USB3.0, 2448 x 2048, 35 FPS, Grayscale, 2/3' CMOS                                   | 959933048    |
| Camera, U198C, USB3.0, 2448 x 2048, 35 FPS, Color, 2/3' CMOS                                      | 959933049    |
| <b>ACCESSORIES</b>  |              |
| <b>I/O CABLES, MX-U SERIES</b>  |              |
| Cable, I/O, MX Series, Processor to Terminal Block, .75 Meter                                     | 606-0675-.75 |
| Cable, I/O, MX Series, Processor to Terminal Block, 1.5 Meter                                     | 606-0675-1.5 |
| Cable, I/O, MX Series, Processor to Terminal Block, 3 Meter                                       | 606-0675-3   |
| Cable, I/O, MX Series, Processor to Terminal Block, 4.5 Meter                                     | 606-0675-4.5 |
| Cable, I/O, MX Series, Processor to Terminal Block, 7.5 Meter                                     | 606-0675-7.5 |
| Cable, I/O, MX Series, Processor to Terminal Block, 15 Meter                                      | 95A906060    |
| <b>I/O BOARDS, MX-U SERIES</b>  |              |
| I/O Board, MX Series Processors, Female DB37, DIN Rail Mountable, no isolation                    | 248-0110     |
| <b>USB3.0 CABLES, U-SERIES CAMERAS</b>  |              |
| Cable, U1xx Camera, USB3.0, 3 Meter   | 95A906515    |
| Cable, U1xx Camera, USB3.0, 5 Meter   | 95A906516    |
| Cable, U1xx Camera, USB3.0, 8 Meter   | 95A906517    |
| <b>POWER AND I/O CABLES, U-SERIES CAMERAS</b>   |              |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 2 Meter, pigtail   | 606-0672-02  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 3 Meter, pigtail   | 606-0672-03  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 5 Meter, pigtail   | 606-0672-05  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 10 Meter, pigtail  | 606-0672-10  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 2 Meter, Camera to Terminal Block                        | 606-0674-02  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 3 Meter, Camera to Terminal Block                        | 606-0674-03  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 5 Meter, Camera to Terminal Block                        | 606-0674-05  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 10 Meter, Camera to Terminal Block                       | 606-0674-10  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 15 Meter, Camera to Terminal Block                       | 606-0674-15  |
| Cable, M1xx and U1xx Camera, I/O, 6 pin, 20 Meter, Camera to Terminal Block                       | 606-0674-20  |
| <b>I/O BOARDS, U-SERIES CAMERAS</b>   |              |
| I/O Board, M1xx and U1xx Camera, 1 Input / 1 Output, Female DB9, DIN Rail Mountable, no isolation | 248-0140     |
| I/O Board, M1xx and U1xx Camera, w / isolation  | 661-0399     |
| <b>CAMERA BRACKETS, U-SERIES CAMERAS</b>  |              |
| Camera Mount, M1xx, M6xx and U1xx Camera  | 95A903029    |
| <b>LICENSES, MX-U SERIES PROCESSORS</b>   |              |
| License, Pattern Sorting Tool, Processor  | 95A906545    |
| License, 3rd Party Cameras, Processor   | 95A906539    |
| License, OCR, Processor   | 95A906998    |

### NOTE

Dongle must be purchased and installed to make IMPACT running on MX-U81 Vision Processors.