**QUICK REFERENCE GUIDE**

**SYSTEM SPECIFICATIONS**

MX-U81 Processor: Intel Core i7 2.3 GHz
- 16 GB RAM - 128 GB SSD
- Dedicated USB 3.0 camera ports: 4
- Additional USB 3.0 ports: 4
- Plus the following:
  - HD graphics (1920x1200)
  - 2 x 10/100/1000 Mbps Base-T Network Interface
  - Ethernet/IP, Modbus TCP, OPC, PROFINET communications supported
  - Microsoft Windows OEM Embedded Standard 7 64-bit

**POWER CONNECTIONS**

- USB3.0 camera communication
- Industrial Application Design
- Low Maintenance
- Quick reference guide

**DIGITAL I/O CONNECTIONS**

37 pin D-Sub Digital I/O connector
- Use cable 606-0675-xx (with terminal block 661-0399 or 248-0140). Refer to the MX-U81 Hardware Guide.

**COMMUNICATIONS**

Camera communication and power are provided by the USB 3.0 camera ports. Maximum cable length is 5 meters. Use only Datalogic provided cables. Camera trigger and strobe output are provided by an external 6-pin I/O connector with no connection to the processor. Use cable 606-0672-xx (unterminated) or cable 606-0674-xx (terminal block 661-0399 or 248-0140). Refer to the MX-U81 Hardware Guide.

**APPLICATIONS**

- Use View Vision Manager (VPM) software on the processor to create vision programs and configure input and output responses. Refer to the Impact Reference Guide for all details.

**MECHANICAL DIMENSIONS**

- Dimensions: 130 x 270 x 254.75 mm
- Relative Humidity (30 °C): 20 °C to 60 °C
- Operating: 10 to 90% Storage: 5 to 95%
- Vibration: 2 to 80 Hz, 1 g (at 10 to 100 Hz)
- Shock: 30 g (at 3-500 Hz)

**DIGITAL I/O SPECIFICATIONS**

- Cable: Digital I/O 3pin-2pin to camera block 248-0110
- Input: 500 kΩ max
- Output: 500 kΩ max

**THERMAL DATA**

- Operating Temperature: -40 °C to 70 °C
- Storage Temperature: -20 °C to 80 °C
- CPU Power: ≤100W
- Camera Interface USB 3.0: 125W
- Camera Communication and Power: 5 Gigabit/s max

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**FOR MORE INFORMATION**

Datalogic S.p.A., Via S. Vitalino 13 - 40012 Calderara di Reno - Italy • tel: +39 051 62291 • fax: +39 051 6373044 • e-mail: info.industry@datalogic.com • www.datalogic.com
**MX-U81 Processor**

with NPN (sinking) I/O

**QUICK REFERENCE GUIDE**

**DESCRIPTION**

This guide covers MXU Processor model MX-U81-A4-N1. This model provides NPN (sourcing) inputs and outputs.

The MX-U81 machine vision processor offers the most powerful and flexible way to solve even complex machine vision applications.

- Rugged IP20 housing
- Low Profile
- Industrial Application Design
- 16 Inputs and Outputs
- Up to 4 USB 3.0 cameras
- Gigabit Ethernet
- USB 3.0 camera communication
- Easily Accessed connectors

**SYSTEM SPECIFICATIONS**

- **MX-U81 Processor**: Intel Core i7 2.3 GHz
- **Shade**: 16 GB RAM - 128 GB SSD
- **MX-U81 Processor**: Intel Core i7 2.3 GHz
- **Multiple USB 3.0 ports**: 4
- **Plus the following**:
  - Additional USB 3.0 ports: 4
  - Storage: 16 GB RAM - 128 GB SSD
  - **MX-U81 Processor**: Intel Core i7 2.3 GHz
  - **Multiple USB 3.0 ports**: 4
  - **Plus the following**:
    - Additional USB 3.0 ports: 4
    - Storage: 16 GB RAM - 128 GB SSD
  - **Additional Features**: Ethernet/IP, Modbus TCP, OPC, PROFINET communications supported
  - **16 x Optically Isolated Digital In**: 16 x Optically Isolated Digital Out
  - **Reset Button**: Triggers a hardware and PCI reset. The unit is restarted.
  - **Power Button**: Use Vision Program Manager (VPM) software on the processor to create vision programs and configure input and output responses. Refer to the Impact Guide for programming details.

**MECHANICAL DIMENSIONS**

Camera trigger and strobe output are provided by an external 6-pin I/O cable with no connection to the processor. Use cable 606-0672-xx (untarnished) or cable 606-0674-xx (with terminal block 661-0399 or 248-0140). Refer to the MX-U81 Hardware Guide.

**CONNECTORS**

<table>
<thead>
<tr>
<th>Pin</th>
<th>Male Connector</th>
<th>Male Side</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Common Minus for output ports</td>
<td>External to 12 to 24VDC Plus</td>
</tr>
<tr>
<td>2</td>
<td>Common Plus for input ports</td>
<td>External to 12 to 24VDC Plus</td>
</tr>
<tr>
<td>3</td>
<td>Common Plus for output ports</td>
<td>External to 12 to 24VDC Plus</td>
</tr>
</tbody>
</table>

**DIGITAL I/O SPECIFICATIONS**

<table>
<thead>
<tr>
<th>Inputs</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format</td>
<td>Opto-coupler isolated input</td>
</tr>
<tr>
<td>Resolution</td>
<td>20 mA or more</td>
</tr>
<tr>
<td>Off Current</td>
<td>2 mA or less</td>
</tr>
<tr>
<td>Response Time</td>
<td>Within 200 µsec</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outputs</th>
<th>Specification</th>
</tr>
</thead>
<tbody>
<tr>
<td>Format</td>
<td>Opto-coupler isolated open collector output</td>
</tr>
<tr>
<td>Output voltage</td>
<td>24 VDC (max)</td>
</tr>
<tr>
<td>Output current</td>
<td>20 mA (max channel max)</td>
</tr>
<tr>
<td>Residual voltage</td>
<td>1.5V or less (Output current 550mA)</td>
</tr>
<tr>
<td>Response Time</td>
<td>Within 200 µsec</td>
</tr>
</tbody>
</table>

**DIGITAL I/O CABLES AND TERMINALS**

Use Vision Program Manager (VPM) software on the processor to create vision programs and configure input and output responses. Refer to the Impact Guide for programming details.

**EXAMPLE I/O CIRCUIT DIAGRAMS**

**TECHNICAL DATA**

- **Supply voltage (V)**: 24 VDC ± 2.5% (ON), 24 VDC ± 5% (OFF)
- **Input current**: On: 2.0 mA or more
  - Off: 0.16 mA or less
- **Output current**: 16 opto-isolated current sinking
- **Output Voltage**: 24 VDC (max)
- **Output saturation voltage**: 11 V
- **Dimensions**: 10/100 Mbps Ethernet 2.1" x 2.5" x 4.5"
- **Camera Interface**: 3.0
- **Camera Trigger and Strobe**: 6-pin to Terminal Block 248-0140 or 661-0399

**POWER SUPPLY VOLTAGE CONNECTION**

- **Power Button**: Press and release to turn on the unit or shut down the OS and switch off. The unit is switched off. Reset Button. Triggers a hardware and PCI reset. The unit is restarted.

**STATUS LEGENDS AND BUTTONS**

- **Power, green**
- **HDD, Yellow**
- **Link, Yellow**
- **Run, Green**
- **Power Button**
- **Reset Button**

**HAP KSY USB PORT**

- **Reset Button**
- **USB Port for HAP Key**

**Camera trigger and strobe output are provided by an external 6-pin I/O cable with no connection to the processor. Use cable 606-0672-xx (untarnished) or cable 606-0674-xx (with terminal block 661-0399 or 248-0140). Refer to the MX-U81 Hardware Guide.**

**CAMERA CABLES, TERMINALS, AND CONFIGURATION**

Camera trigger and strobe output are provided by an external 6-pin I/O cable with no connection to the processor. Use cable 606-0672-xx (untarnished) or cable 606-0674-xx (with terminal block 661-0399 or 248-0140). Refer to the MX-U81 Hardware Guide.