NEON-1000-MDX Series

AI Smart Camera

User's Manual



Manual Rev.:	1.0
Revision Date:	August 26, 2020
Part No:	50-1Z331-1000

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Leading **EDGE COMPUTING**

Revision History

Revision	Release Date	Description of Change(s)
1.0	2020-08-26	Initial release

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Preface

Copyright © 2020 ADLINK Technology, Inc.

This document contains proprietary information protected by copyright. All rights are reserved. No part of this manual may be reproduced by any mechanical, electronic, or other means in any form without prior written permission of the manufacturer.

Disclaimer

The information in this document is subject to change without prior notice in order to improve reliability, design, and function and does not represent a commitment on the part of the manufacturer.

In no event will the manufacturer be liable for direct, indirect, special, incidental, or consequential damages arising out of the use or inability to use the product or documentation, even if advised of the possibility of such damages.

Environmental Responsibility

ADLINK is committed to fulfill its social responsibility to global environmental preservation through compliance with the European Union's Restriction of Hazardous Substances (RoHS) directive and Waste Electrical and Electronic Equipment (WEEE) directive. Environmental protection is a top priority for ADLINK. We have enforced measures to ensure that our products, manufacturing processes, components, and raw materials have as little impact on the environment as possible. When products are at their end of life, our customers are encouraged to dispose of them in accordance with the product disposal and/or recovery programs prescribed by their nation or company.

Trademarks

Product names mentioned herein are used for identification purposes only and may be trademarks and/or registered trademarks of their respective companies.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Conventions

Take note of the following conventions used throughout this manual to make sure that users perform certain tasks and instructions properly.


NOTE:

Additional information, aids, and tips that help users perform tasks.


CAUTION:

Information to prevent ***minor*** physical injury, component damage, data loss, and/or program corruption when trying to complete a task.
ATTENTION: Informations destinées à prévenir les blessures corporelles mineures, les dommages aux composants, la perte de données et/ou la corruption de programme lors de l'exécution d'une tâche.


WARNING:

Information to prevent ***serious*** physical injury, component damage, data loss, and/or program corruption when trying to complete a specific task.
AVERTISSEMENT: Informations destinées à prévenir les blessures corporelles graves, les dommages aux composants, la perte de données et/ou la corruption de programme lors de l'exécution d'une tâche spécifique.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Table of Contents

Revision History ii

Preface iii

List of Figures vii

List of Tables ix

1 Introduction 1

1.1 Overview 1
1.2 Features 2
1.3 General Specifications 3
1.4 Mechanical Dimensions 5
1.4.1 Camera Dimensions 5
1.4.2 USB Type-C Screw Lock Location and Dimensions 5
1.4.3 LED Light Mounting Thread 6

2 Connectors and I/O 7

2.1 Bottom Side I/O and Connector Description 8
2.1.1 D-sub I/O Connector 9
2.2 Top Side I/O and Connector Description 11
2.3 Front Side I/O and Connector Description 12

3 Getting Started 13

3.1 Mounting the Device 13
3.2 Digital I/O Connections 14
3.3 Attaching a Lens 15
3.4 Power and Peripheral Connections 16
3.5 Image Capture and Inference 18
3.5.1 Image Capture Sample Code 18
3.5.2 Image Capture and Inference Sample Code 20

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.6 Using the Basler pylon Utility 22
3.6.1 Capturing Images with pylon 22
3.6.2 Modifying Image Sensor Settings with pylon 24
3.6.3 Using APIs to Modify Image Sensor Settings 32

Important Safety Instructions 33

Consignes de Sécurité Importante 35

Getting Service 37

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

List of Figures

Figure 2-1: NEON-1000-MDX Orientation 7
Figure 2-2: Bottom Side I/O and Connectors 8
Figure 2-3: D-sub I/O Connector 9
Figure 2-4: Top Side I/O and Connectors 11
Figure 2-5: Front Side I/O and Connectors 12
Figure 3-1: NEON-1000-MDX Mounting Holes 13
Figure 3-2: Digital Input Schematic Diagram 14
Figure 3-3: Digital Output Schematic Diagram 14
Figure 3-4: Lens Attachment Assembly 15
Figure 3-5: Separate Power and Peripheral Connections 16
Figure 3-6: Combined Power and Peripheral Connections 17
Figure 3-7: Single-Shot Image Capture 19
Figure 3-8: Continuous Image Capture 20
Figure 3-9: Image Capture and Inference 21

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page is intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

List of Tables

Table 1-1: NEON-1000-MDX Model and Sensor Specifications . 1
Table 2-1: Bottom Side I/O and Connectors 8
Table 2-2: D-sub I/O Connector Pin Definitions 9
Table 2-3: D-sub I/O Connector Specifications 10
Table 2-4: Top Side I/O and Connectors 11
Table 2-5: Front Side I/O and Connectors 12

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

This page is intentionally left blank.

Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1 Introduction

1.1 Overview

The NEON-1000-MDX series is an open camera platform equipped with an Intel Atom® E3930 processor and Intel® Movidius™ Myriad™ X MA2485 VPU that provide image capture and inferencing capabilities. The NEON-1000-MDX is designed for deep learning inference and other vision applications that require a compact device. The system comprises a CPU, VPU, and image sensor, and the vertical I/O orientation reduces space requirements and minimizes cabling, compatibility, and reliability issues. The following table lists the current NEON-1000-MDX models and their respective sensor specifications.

Model Name	Image Sensor Specification	Image Sensor Module
NEON-101B-MDX	1/3”, 1.2M, Global Shutter, 1280x960, 54fps, Color	Basler, daA1280-54uc-CS
NEON-102B-MDX	1/1.8”, 1.9M, Global Shutter, 1600x1200, 60fps, Color	Basler, daA1600-60uc-CS
NEON-103B-MDX	1/3.7”, 2M, Rolling Shutter, 1920x1080, 30fps, Color	Basler, daA1920-30uc-CS
NEON-104B-MDX	1/2.5”, 5M, Rolling Shutter, 2592x1944, 14fps, Color	Basler, daA2500-14uc-CS

Table 1-1: NEON-1000-MDX Model and Sensor Specifications

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.2 Features

- All-in-one design reduces space requirements and minimizes cabling, installation, and maintenance effort
- Intel Atom® E3930 processor, Intel® Movidius™ Myriad™ X MA2485 VPU, image sensor, and FPGA-based I/O integration designed for the image processing vertical market
- USB 3.0 sensor interface compatible with most machine vision software
- USB Type-C connector with DC power and DisplayPort support to reduce cabling
- One microSD slot for easy storage expansion
- Highly integrated and compact system for easy deployment

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

1.3 General Specifications

- Lens mount: C-mount
- Total weight: <700g (without lens)
- Operating temperature: 45°C (tested with both Intel® HD Graphics 500 and VPU enabled, running YOLOv3; airflow 0.6 m/s)
- Power consumption: <30W
- Compute module:
  - CPU: Intel Atom® E3930, dual-core, 1.8 GHz
  - VPU: Intel® Movidius™ Myriad™ X MA2485
  - Memory: 4 GB DDR3
  - Storage: 32 GB eMMC
- Camera I/O and connectors
  - 1x USB Type-C for power input and DisplayPort support
  - 1x DC jack for 12V DC input
  - 1x GbE Ethernet port
  - 1x 15-pin D-sub for DI/O and COM which includes:
    - 4x GPI/O, including 1x Camera Trigger In and 1x Trigger Out
    - 1x COM
  - 1x microSD slot for external storage


NOTE:

1. When powering from the DC jack, the USB Type-C connector provides up to 3W of power to an external device such as a USB Type-C hub. Devices that require more than 3W cannot be used.
2. DC power can be supplied either from the USB Type-C port or DC jack.
3. Use only recommended ADLINK power adapters.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

	NEON-101B-MDX	NEON-102B-MDX	NEON-103B-MDX	NEON-104B-MDX
Processor	Intel Atom® E3930			
VPU	Intel® Movidius™ Myriad™ X MA2485			
Display Output	DisplayPort over USB Type-C, 1920x1080 @ 30fps			
Image Sensor Resolution	1280x960	1600x1200	1920x1080	2592x1944
Image Sensor Size	1/3”	1/1.8”	1/3.7”	1/2.5”
Frame Rate (fps)	54	60	30	14
Shutter	Global		Rolling	
Color/Mono	Color			
Image Sensor Trigger Mode	External trigger (see note below), software trigger, free run			
Digital Input	4x DI, includes 1x sensor trigger			
Digital Output	4x DO, includes 1x strobe out			
UART	TXD, RXD, GND			
Dimensions/Weight	123.3 x 66.81 x 77.5 mm; 700g			
Power Supply	DC power from USB Type-C connector or DC jack			
USB	1x USB OTG port; 1x USB 3.0 and 1x USB 2.0 from USB Type-C connector			


NOTE:

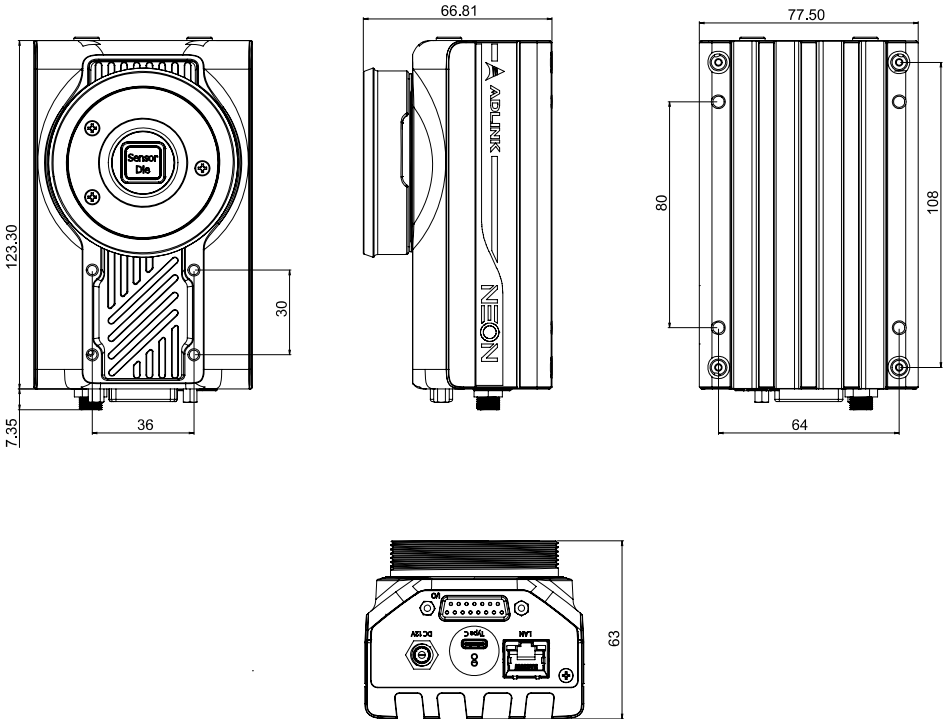
In External Trigger Mode, you can adjust the sensor exposure time in the Basler pylon utility.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

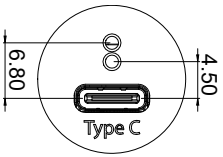
1.4 Mechanical Dimensions

This section provides dimensions and related mechanical information for the NEON-1000-MDX.

1.4.1 Camera Dimensions

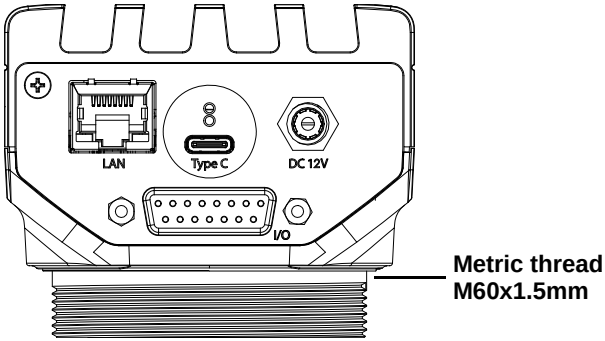


1.4.2 USB Type-C Screw Lock Location and Dimensions



Dimensions: mm

1.4.3 LED Light Mounting Thread



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2 Connectors and I/O

This chapter includes the locations and descriptions of the connectors and I/O on the NEON-1000-MDX.

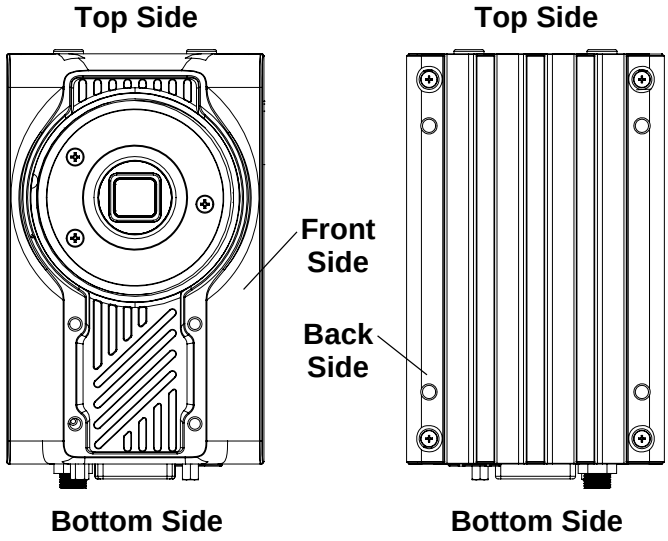


Figure 2-1: NEON-1000-MDX Orientation

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.1 Bottom Side I/O and Connector Description

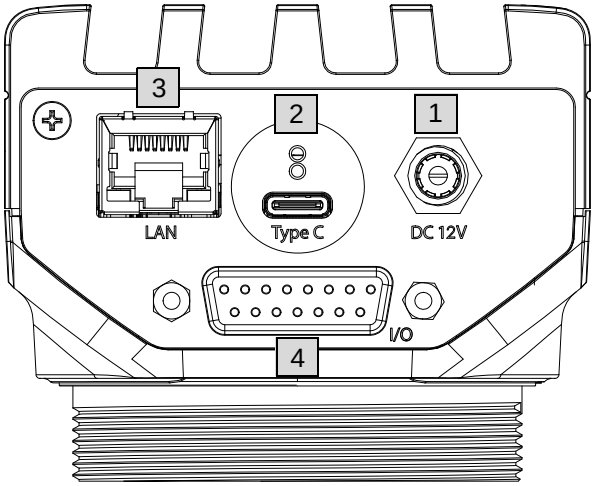


Figure 2-2: Bottom Side I/O and Connectors

Item	Description
1	• DC jack for DC input with included ADLINK AC/DC adapter (P/N 31-62156-1000-A0) • Power input: 12V DC at >30 W
2	• USB Type-C connector w/ screw lock • Supports DisplayPort (up to 1080P @ 30 fps) • The NEON-1000-MDX can be powered using either this port or the DC jack
3	1 GbE LAN at 10/100/1000 Mbit/s
4	15-pin D-sub I/O connector for the digital I/O and UART. Use to connect external I/O devices such as sensors, COM and LED/strobe controllers.

Table 2-1: Bottom Side I/O and Connectors

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.1.1 D-sub I/O Connector

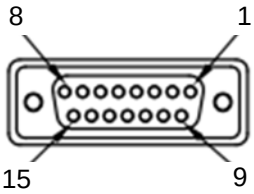


Figure 2-3: D-sub I/O Connector

Pin	Function	Pin	Function
1	UART - TX	2	DI/O GND
3	Digital output 0/Strobe output 0 (see Note 2)	4	Digital output 1
5	Digital output 2	6	Digital output 3
7	UART GND	8	Reserved
9	UART – RX	10	DI/O GND
11	Digital input 0/Trigger input 0 (see note 1)	12	Digital input 1
13	Digital input 2	14	Digital input 3
15	Reserved	-	-

Table 2-2: D-sub I/O Connector Pin Definitions

NOTE:

1. Pin 11 (Digital input 0/Trigger input 0) is programmable. When configured for trigger input, pin 11 is used for hardware triggering of the image sensor. Connect an external sensor signal to pin 11 and set the camera to hardware trigger mode to enable real-time or hardware triggered image capture.

2. Pin 3 (Digital output 0/Strobe output 0) is programmable. When configured for strobe output, pin 3 can be connected to an LED light/strobe controller to adjust the timing latency/delay according to the camera connected to pin 11.

I/O Category	Specifications
UART	Baud rate: 115200bps @ 8N1

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

I/O Category	Specifications		
Digital input	Common sharing:	1 common for sharing ground	
	Input range:	0-5 VDC	
	High level threshold:	2-5 VDC	
	Low level threshold:	0-0.8 VDC	
Digital output	Open-collector	Input voltage range	3.3-30 VDC
		Maximum sink current	100 mA

Table 2-3: D-sub I/O Connector Specifications

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.2 Top Side I/O and Connector Description

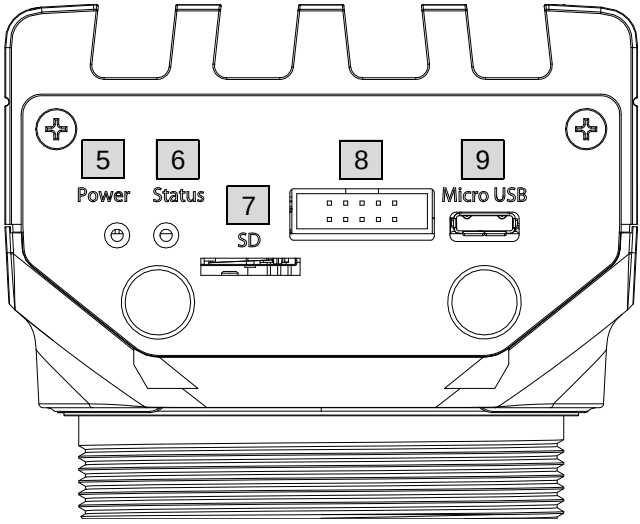


Figure 2-4: Top Side I/O and Connectors

Item	Description
5	Power status LED. Lights green when connected to power.
6	Operating system status LED. Flashes orange when the system is booting, and lights when the system has booted successfully.
7	microSD card slot for additional storage. An optional 32 GB microSD card is available from ADLINK. (P/N 29-F0500-1020)
8	Wafer connector (reserved) See “System Flash” on page 39.
9	Micro-USB Type-A port. This connector supports USB 2.0. See “System Flash” on page 39.

Table 2-4: Top Side I/O and Connectors

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

2.3 Front Side I/O and Connector Description

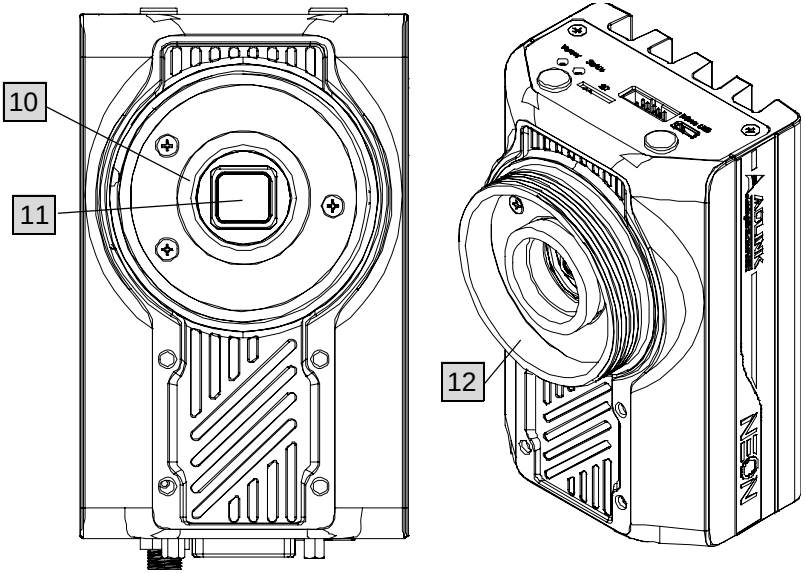


Figure 2-5: Front Side I/O and Connectors

Item	Description
10	C-mount type lens mount
11	Image sensor
12	Strobe/LED light mounting thread. See “LED Light Mounting Thread” on page 6.

Table 2-5: Front Side I/O and Connectors

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3 Getting Started

3.1 Mounting the Device

The NEON-1000-MDX can be mounted using the mounting screw holes on either the front (A) or back (B) sides.

Le NEON-1000-MDX peut être monté à l'aide des trous de vis de montage sur les côtés avant (A) ou arrière (B).

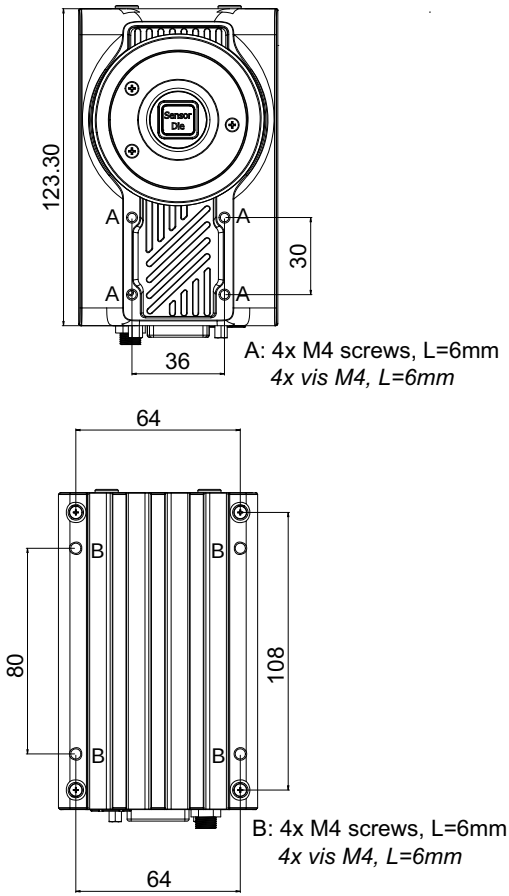


Figure 3-1: NEON-1000-MDX Mounting Holes

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.2 Digital I/O Connections

External devices such as trigger sensors, LED light controllers, or relays can be connected to the NEON-1000-MDX to implement different applications. This section shows how to connect such devices.

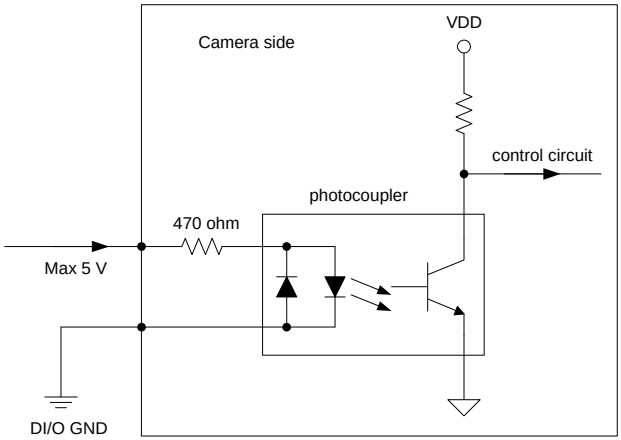


Figure 3-2: Digital Input Schematic Diagram

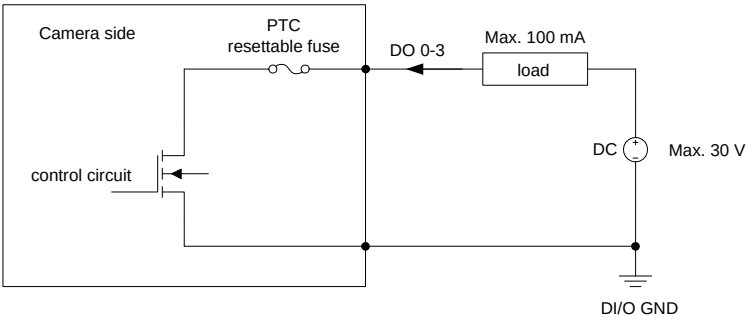


Figure 3-3: Digital Output Schematic Diagram

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.3 Attaching a Lens

The NEON-1000-MDX is compatible with C-mount type lenses.

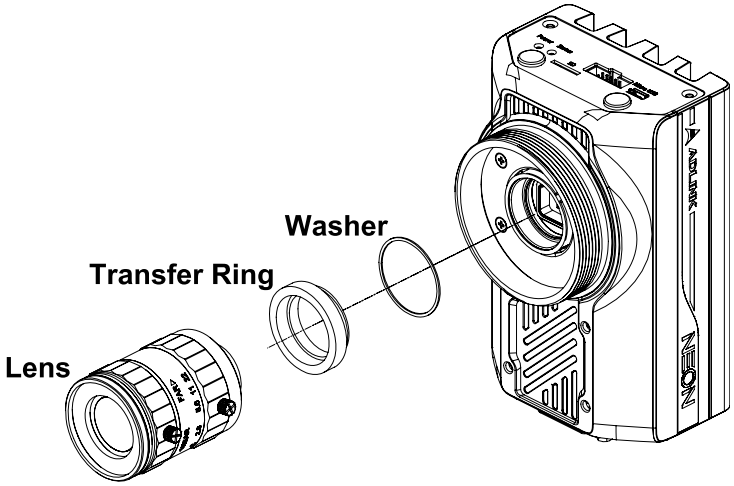


Figure 3-4: Lens Attachment Assembly

NOTE:

The transfer ring is preinstalled on the NEON-1000-MDX. The washer is used only with the NEON-102B-MDX.

3.4 Power and Peripheral Connections

The NEON-1000-MDX can be powered from either a USB Type-C adapter or the DC jack. The USB Type-C connector also supports DisplayPort video signal and USB 3.0, which can be used to connect a keyboard and mouse. The following figures show possible power and peripheral connection configurations.

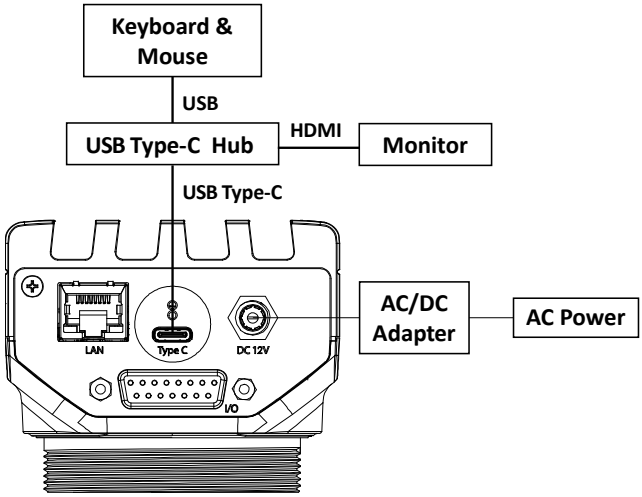


Figure 3-5: Separate Power and Peripheral Connections

NOTE:

This configuration requires an ADLINK AC/DC power adapter (P/N 31-62156-1000-A0).

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

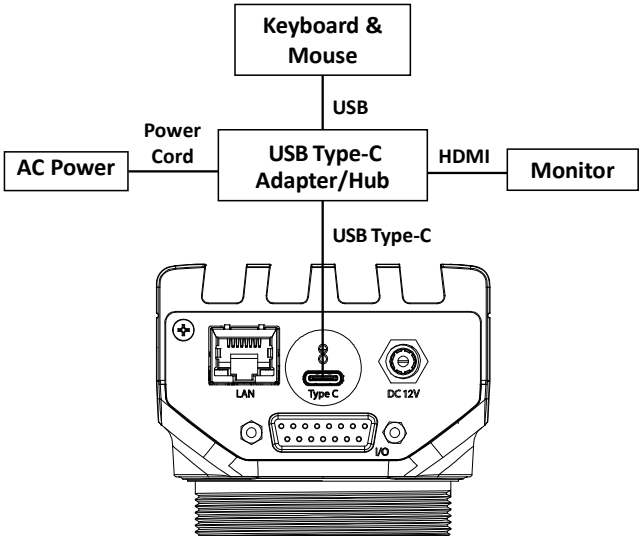


Figure 3-6: Combined Power and Peripheral Connections

NOTE:

This configuration requires an ADLINK USB Type-C adapter/hub (P/N 92-99090-1010).

3.5 Image Capture and Inference

NOTE: The NEON-1000-MDX does not come with software preinstalled. To get the latest software and sample code for your product, contact ADLINK support at http://askanexpert.adlink-tech.com.

ADLINK provides Python sample code files for testing the built-in Basler image capturing and inference features on the NEON-1000-MDX. To get the sample code files, contact ADLINK support at http://askanexpert.adlinktech.com.

Sample Code Files

Feature	File/Folder Name	Description
Single-shot image capture	imageCaptureOneShot.py	Demonstrates the Basler single-shot image capture feature
Continuous image capture	imageCaptureContinuous.py	Demonstrates the Basler continuous image capture feature
Image capture and inference	objectDetectionYolov3.py	Demonstrates the Basler continuous image capture and inferencing YOLOv3 model to perform object detection
	model	Folder containing the pre-trained YOLOv3 model

3.5.1 Image Capture Sample Code

ADLINK provides single-shot and continuous image capture sample code based on the pypylon API, the official Python API for the Basler pylon Camera Software Suite.

For more information, go to https://github.com/basler/pypylon.

When downloading the sample code files to your device, the default file path is **<path>/samples/ImageCapture**.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

The following steps illustrate how to execute the single-shot and continuous image capture sample code.

1. Go to the directory where the image capture sample code files are saved.
2. Find the image capture sample code file you want to execute (single-shot or continuous).
3. Double-click the file to execute the sample code.

An image will display in the output window to demonstrate the selected image capture feature.

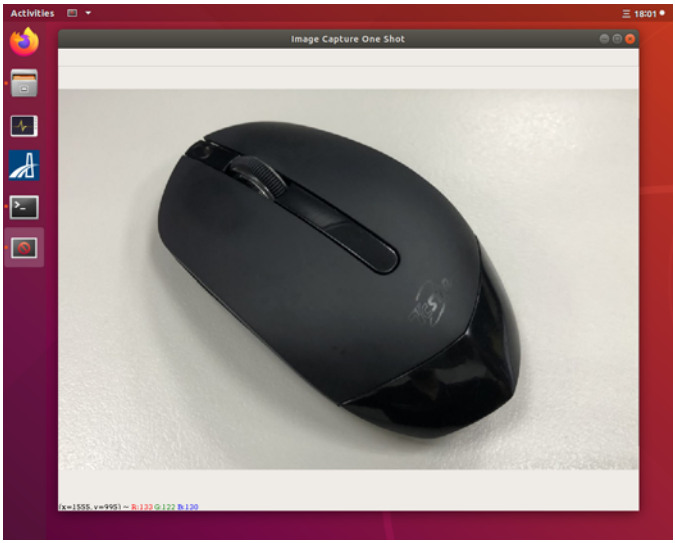


Figure 3-7: Single-Shot Image Capture

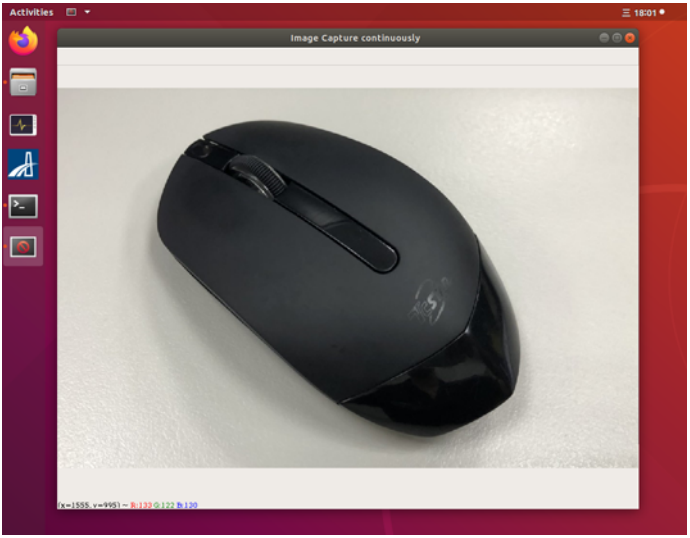


Figure 3-8: Continuous Image Capture

NOTE:

Press ESC to terminate the application.

3.5.2 Image Capture and Inference Sample Code

ADLINK provides an image capture and inference sample code built using the Intel® Distribution of OpenVINO™ toolkit. The sample code uses the pypylon API and inference YOLOv3 model to capture images and perform object detection, respectively.

When downloading the sample code file to your device, the default file path is **<path>/samples/ImageCaptureInference**.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

The following steps illustrate how to execute the image capture and inference sample.

1. Go to the directory where the image capture and inference sample code is saved.
2. Right-click to open the terminal (in the current directory).
3. Enter the following command:

```
$ python3 ./objectDetectionYolov3.py
```

An image will display in the output window to demonstrate the image capture and inference feature.



Figure 3-9: Image Capture and Inference

NOTE:

Press ESC to terminate the application in the output window or press Ctrl+C to terminate the application in the terminal.

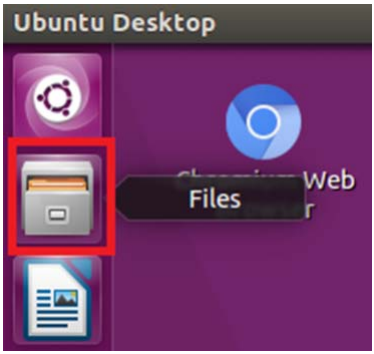
3.6 Using the Basler pylon Utility

This section describes how to use the Basler pylon utility to capture images and adjust, load, and save sensor settings.

3.6.1 Capturing Images with pylon

The following steps illustrate how to capture images using the Basler **pylon Viewer** application.

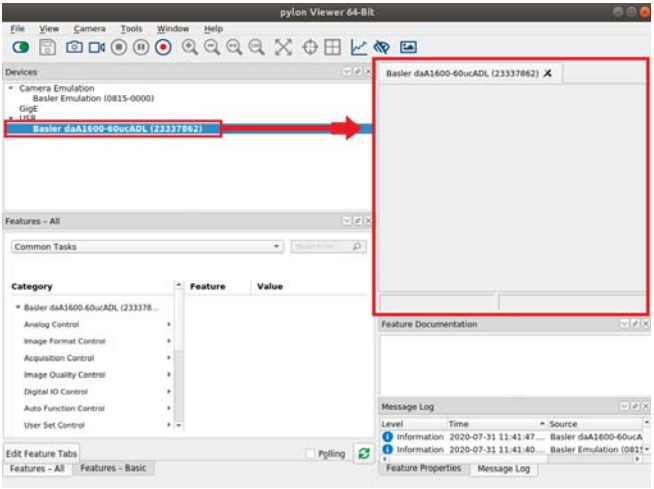
1. Click the **Files** icon.



2. Go to **/opt/pylon/bin** and double-click **pylonviewer** or select **pylon Viewer** in the launcher.



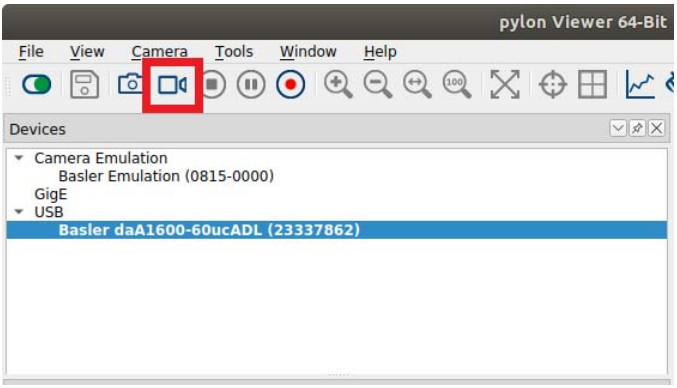
3. Double-click the sensor name to open the image sensor tab.



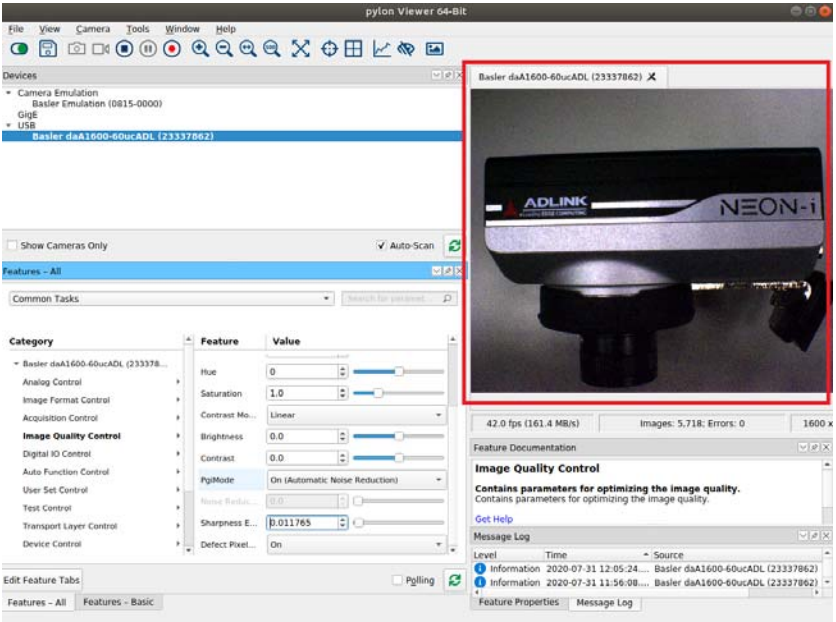
NOTE:

Basler daA1600-60uc is the image sensor for the NEON-102B-MDX. The sensor name that appears will reflect the model being used.

4. Click the **Continuous Shot** button to begin capturing images.



After clicking the **Continuous Shot** button, the camera begins capturing images continuously and displays activity in the image sensor tab.



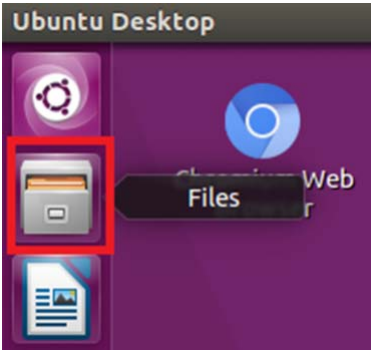
3.6.2 Modifying Image Sensor Settings with pylon

The default NEON-1000-MDX image sensor settings may not be suitable for all applications. This section illustrates how to modify image sensor settings.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

3.6.2.1 Loading Image Sensor Settings

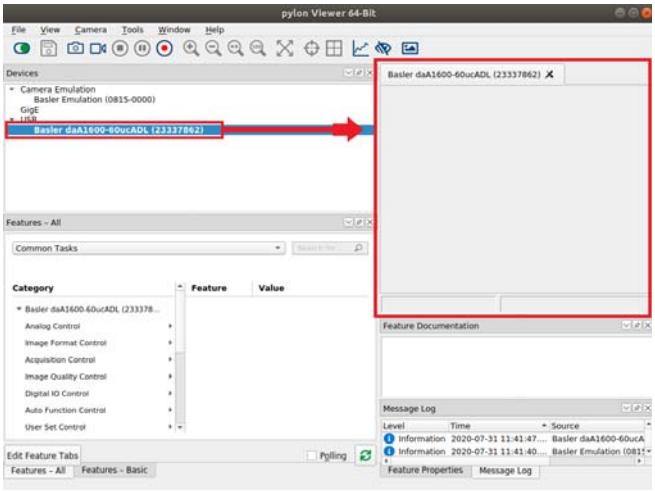
1. Click the **Files** icon.



2. Go to **/opt/pylon/bin** and double-click **pylonviewer** or select the **pylon Viewer** in the launcher.



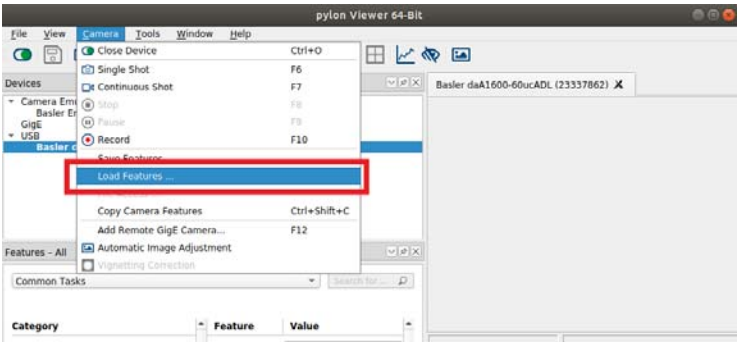
3. Double-click the sensor name to open the image sensor tab.

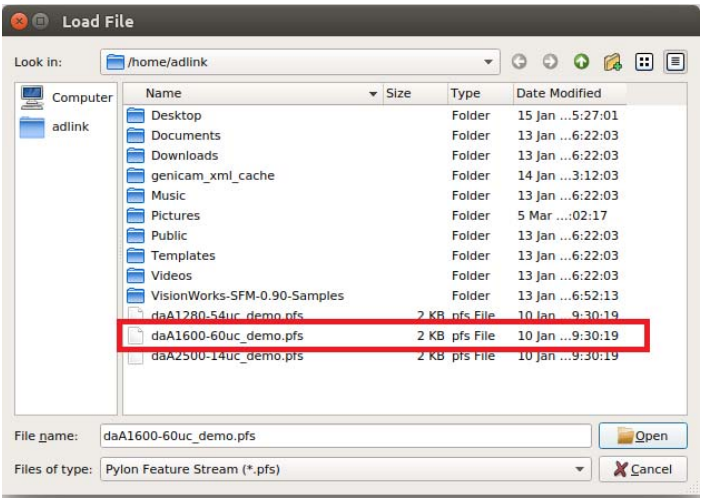


NOTE:

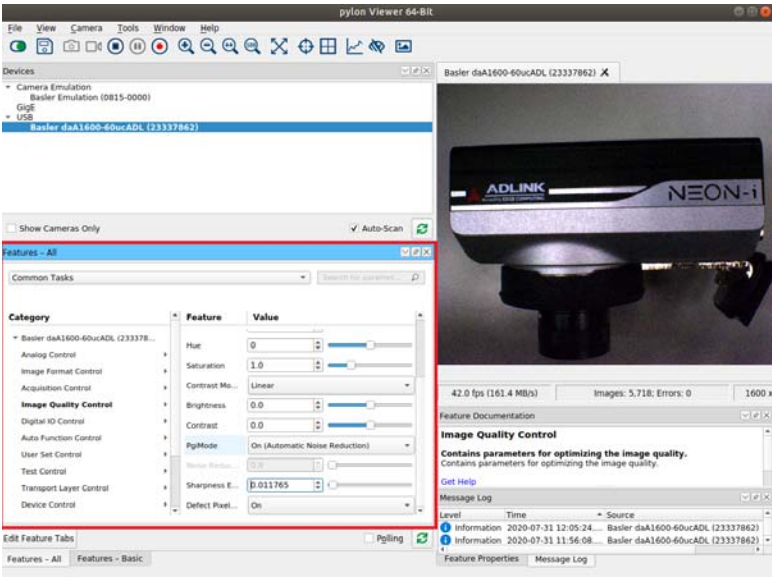
Basler daA1600-60uc is the image sensor for the NEON-102B-MDX. The sensor name that appears will reflect the model being used.

4. Click **Camera > Load Features...** and select the appropriate *.pfs file to load the desired image sensor settings.



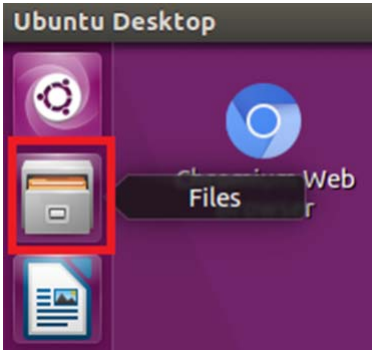


After loading the file, the image sensor settings will be updated. You can view the settings under **Features** in the main window.



3.6.2.2 Modifying Image Sensor Settings

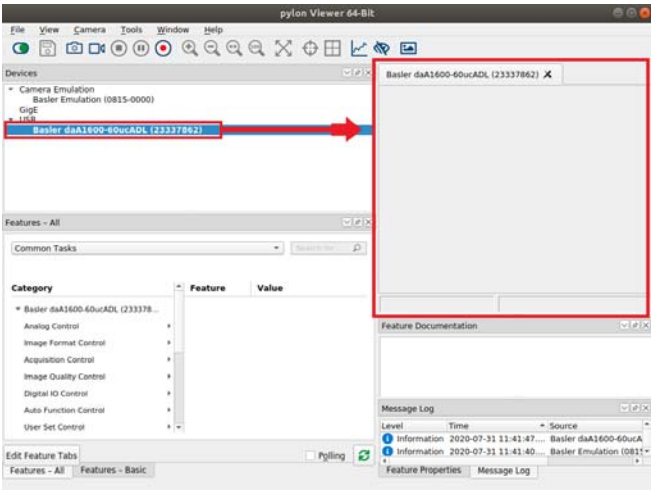
1. Click the **Files** button.



2. Go to **/opt/pylon/bin** and double-click **pylonviewer**, or select **pylon Viewer** in the launcher.



3. Double-click the sensor name to open the image sensor tab.

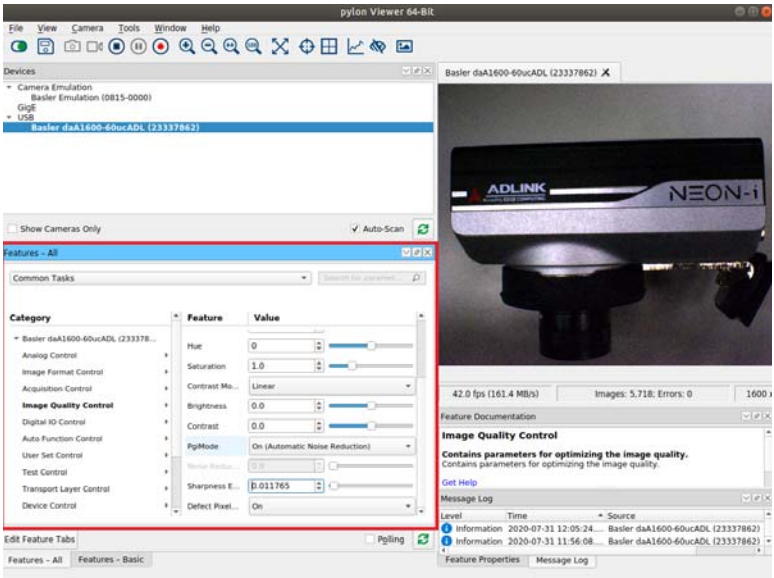


NOTE:

Basler daA1600-60uc is the image sensor for the NEON-102B-MDX. The sensor name that appears will reflect the model being used.

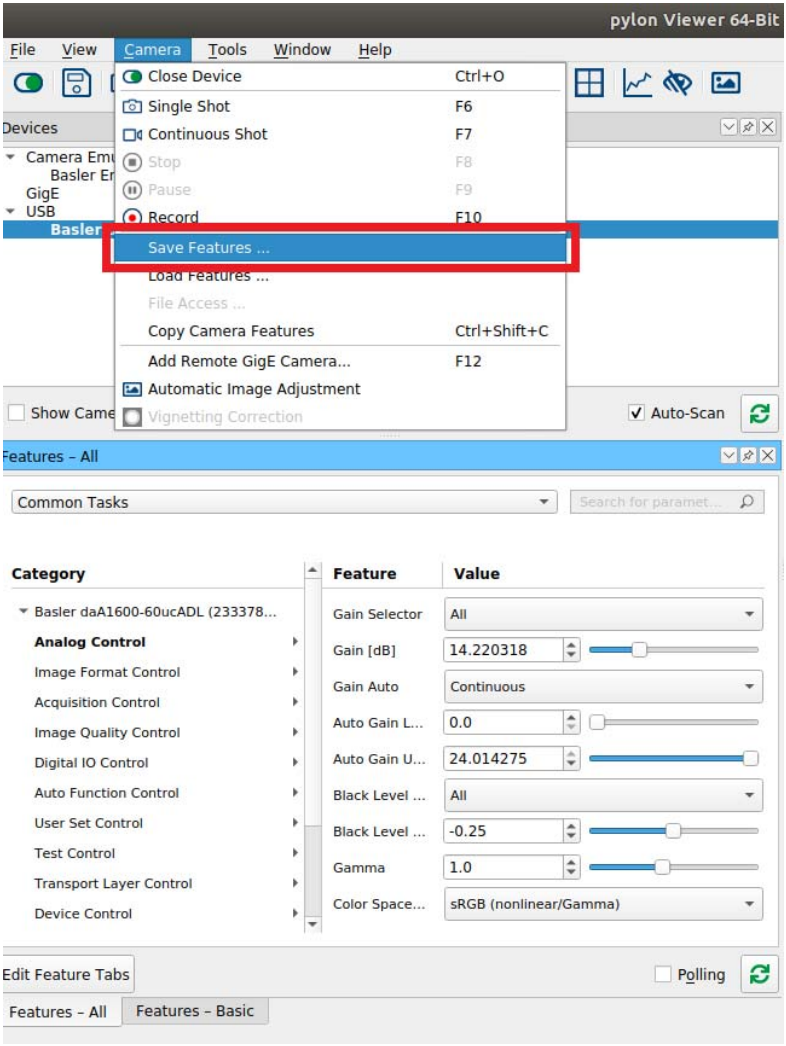
LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

4. Modify the image sensor settings as needed.



LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

5. Click **Camera > Save Features...** from the main menu to save the modified settings to a file.



3.6.3 Using APIs to Modify Image Sensor Settings

After opening the device, you can add the **CFeaturePersistence::Load** function to load features and modify the image sensor settings.

You can find supporting documentation and additional sample code in the following directories:

- **/opt/pylon/share/pylon/doc/C++**
- **/opt/pylon/share/pylon/samples/C++**

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Important Safety Instructions

For user safety, please read and follow all instructions, Warnings, Cautions, and Notes marked in this manual and on the associated device before handling/operating the device, to avoid injury or damage.

- Read these safety instructions carefully
- Keep the User's Manual for future reference
- Read the Specifications section of this manual for detailed information on the recommended operating environment
- Operating temperature: 35ºC with USB Type-C adapter/hub or 40ºC with the adapter supply.
- When installing/mounting or uninstalling/removing device; or when removal of a chassis cover is required for user servicing:
  - Turn off power and unplug any power cords/cables
  - Reinstall all chassis covers before restoring power
- To avoid electrical shock and/or damage to device:
  - Keep device away from water or liquid sources
  - Keep device away from high heat or humidity
  - Keep device properly ventilated (do not block or cover ventilation openings)
  - Always use recommended voltage and power source settings
  - Always install and operate device near an easily accessible electrical outlet
  - Secure the power cord (do not place any object on/over the power cord)
  - Only install/attach and operate device on stable surfaces and/or recommended mountings
- If the device will not be used for long periods of time, turn off and unplug from its power source
- Never attempt to repair the device, which should only be serviced by qualified technical personnel using suitable tools

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

- A Lithium-type battery may be provided for uninterrupted backup or emergency power.



Risk of explosion if battery is replaced with one of an incorrect type; please dispose of used batteries appropriately.

- The device must be serviced by authorized technicians when:
  - The power cord or plug is damaged
  - Liquid has entered the device interior
  - The device has been exposed to high humidity and/or moisture
  - The device is not functioning or does not function according to the User's Manual
  - The device has been dropped and/or damaged and/or shows obvious signs of breakage
- Disconnect the power supply cord before loosening the thumbscrews and always fasten the thumbscrews with a screwdriver before starting the system up
- It is recommended that the device be installed only in a server room or computer room where access is:
  - Restricted to qualified service personnel or users familiar with restrictions applied to the location, reasons therefor, and any precautions required
  - Only afforded by the use of a tool or lock and key, or other means of security, and controlled by the authority responsible for the location

	***BURN HAZARD*** Touching this surface could result in bodily injury. To reduce risk, allow the surface to cool before touching.

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Consignes de Sécurité Importante

S'il vous plaît prêter attention stricte à tous les avertissements et mises en garde figurant sur l'appareil, pour éviter des blessures ou des dommages.

- *Lisez attentivement ces consignes de sécurité.*
- *Conservez le manuel de l'utilisateur pour pouvoir le consulter ultérieurement.*
- *Lisez la section Spécifications de ce manuel pour des informations détaillées sur l'environnement d'exploitation recommandé.*
- *Température de fonctionnement: 35 ° C avec adaptateur / concentrateur USB Type C ou 40 ° C avec l'adaptateur.*
- *Lors de l'installation / du montage ou de la désinstallation / suppression du périphérique; ou lorsque le retrait d'un capot de châssis est requis pour l'entretien par l'utilisateur:*
  - *Coupez l'alimentation et débranchez tous les cordons / câbles d'alimentation*
  - *Réinstallez tous les couvercles de châssis avant de rétablir l'alimentation*
- *Pour éviter les chocs électriques et / ou les dommages à l'appareil:*
  - *Gardez l'appareil éloigné de l'eau ou des sources de liquide*
  - *Gardez l'appareil loin de la chaleur ou de l'humidité élevée*
  - *Gardez l'appareil correctement ventilé (ne bloquez pas et ne couvrez pas les ouvertures de ventilation)*
  - *Utilisez toujours les paramètres de tension et de source d'alimentation recommandés*
  - *Installez et utilisez toujours l'appareil à proximité d'une prise électrique facilement accessible*
  - *Fixez le cordon d'alimentation (ne placez aucun objet sur / par-dessus le cordon d'alimentation)*
  - *Installez / fixez et utilisez l'appareil uniquement sur des surfaces stables et / ou des supports recommandés*
- *Si l'appareil n'est pas utilisé pendant de longues périodes, éteignez-le et débranchez-le de sa source d'alimentation*
- *N'essayez jamais de réparer l'appareil, qui ne doit être entre-*

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

tenu que par du personnel technique qualifié à l'aide d'outils appropriés.

- *Une batterie de type lithium peut être fournie pour une alimentation de secours ou une alimentation de secours ininterrompue.*



Risque d'explosion si la pile est remplacée par une autre de type incorrect. Veuillez jeter les piles usagées de façon appropriée.

- *L'appareil doit être réparé par des techniciens autorisés lorsque:*
  - *Le cordon d'alimentation ou la fiche est endommagé*
  - *Du liquide a pénétré à l'intérieur de l'appareil*
  - *L'appareil a été exposé à une humidité élevée et / ou à l'humidité*
  - *L'appareil ne fonctionne pas ou ne fonctionne pas selon le manuel de l'utilisateur*
  - *L'appareil est tombé et / ou endommagé et / ou montre des signes évidents de casse*
- *Débranchez le cordon d'alimentation avant de desserrer les vis moletées et fixez toujours les vis moletées avec un tournevis avant de démarrer le système*
- *Il est recommandé d'installer l'appareil uniquement dans une salle de serveurs ou une salle informatique où l'accès est:*
  - *Réservé au personnel de service qualifié ou aux utilisateurs familiers avec les restrictions appliquées à l'emplacement, les raisons de celles-ci et les précautions nécessaires*
  - *Seulement permis par l'utilisation d'un outil ou d'une serrure et d'une clé, ou d'autres moyens de sécurité, et contrôlé par l'autorité responsable de l'emplacement*

	***RISQUE DE BRÛLURES*** *Ne touchez pas cette surface, cela pourrait entraîner des blessures.* *Pour éviter tout danger, laissez la surface refroidir avant de la toucher.*

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000

Getting Service

Ask an Expert: http://askanexpert.adlinktech.com

ADLINK Technology, Inc.
9F, No.166 Jian Yi Road, Zhonghe District
New Taipei City 235, Taiwan
Tel: +886-2-8226-5877
Fax: +886-2-8226-5717
Email: service@adlinktech.com

Ampro ADLINK Technology, Inc.
5215 Hellyer Avenue, #110
San Jose, CA 95138, USA
Tel: +1-408-360-0200
Toll Free: +1-800-966-5200 (USA only)
Fax: +1-408-360-0222
Email: info@adlinktech.com

ADLINK Technology (China) Co., Ltd.
300 Fang Chun Rd., Zhangjiang Hi-Tech Park
Pudong New Area, Shanghai, 201203 China
Tel: +86-21-5132-8988
Fax: +86-21-5132-3588
Email: market@adlinktech.com

ADLINK Technology GmbH
Hans-Thoma-Strasse 11
D-68163 Mannheim, Germany
Tel: +49-621-43214-0
Fax: +49-621 43214-30
Email: emea@adlinktech.com

Please visit the Contact page at www.adlinktech.com for information on how to contact the ADLINK regional office nearest you:

LRI Distribuída no Brasil pela LRI | vendas@lri.com.br | 51 2129-3000