



## Artemis Components for National Instruments LabVIEW

The Virtual Instrument files (VIs) allow Artemis cameras to be controlled using LabVIEW, and are compatible with all versions of LabVIEW from 8 onwards. In addition to the VIs summarized below, the Sample\_Artemis\_Exposure VI provides an example of how to combine the components in order to take an exposure with a camera.

### Starting

Before attempting to open any of the VIs in LabVIEW it is necessary to run the Artemis software installer, which can be downloaded from the bottom of our support webpage or directly from <http://www.artemisccd.com/uploads/DOCS/artemisinstaller.exe>. Within LabVIEW, those VIs without a camera reference input must be configured to use the ArtemisDotNetSDK assembly: if you are not prompted to do this when opening the VI, you need to double-click on the constructor node, browse to the file ArtemisDotNetSDK.dll, and select the ArtemisCamera constructor.

### Connecting

<b>Artemis_Camera_Connect</b>		Connects to the camera. Specify a USB identifier of zero in order to connect to the first available camera.
In:	USB identifier	
Out:	camera reference	
<b>Artemis_Camera_Disconnect</b>		Disconnects from the camera.
In:	camera reference	
<b>Artemis_Get_Connected_Cameras</b>		Returns the USB identifiers of all connected cameras.
Out:	USB identifiers (array)	

### Exposing

<b>Artemis_Exposure_Settings</b>		Defines the exposure settings.
In:	camera reference amplifier on x bin factor y bin factor duration (seconds)	
Out:	camera reference	

<b>Artemis_Camera_Set_Subframe</b>		Defines a readout subframe. Set an input parameter to zero to obtain the default value.
In:	camera reference xStart yStart xSize ySize	
Out:	camera reference	
<b>Artemis_Camera_Mode</b>		Sets the camera mode: Normal, Preview, Dark or Subsample.
In:	camera reference mode	
Out:	camera reference	
<b>Artemis_Start_Exposure</b>		Starts an exposure.
In:	camera reference amplifier on x bin factor y bin factor duration (seconds)	
Out:	camera reference	
<b>Artemis_Camera_Get_Image</b>		Downloads the image from the camera. The transposed image can be used with the NI-IMAq ArrayToImage component.
In:	camera reference	
Out:	camera reference image (2D signed I16 array) transposed image (2D signed I16 array)	

## Cooling

<b>Artemis_Set_Cooling</b>		Initiates cooling.
In:	camera reference temperature setpoint (Celsius)	
Out:	camera reference	
<b>Artemis_Camera_Get_Cooling_Status</b>		Gets cooling and temperature information.
In:	camera reference	
Out:	camera reference cooling on cooler load (%) sensor temperature (Celsius) warming up setpoint temperature (Celsius)	
<b>Artemis_Camera_Cooler_Warmup</b>		Initiates the warmup procedure: the sensor will be brought up to ambient temperature gradually, in order to avoid thermal shock.
In:	camera reference	
Out:	camera reference	