

NAOMI Sequencer2 Python API Commands

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Nigel Dipper 01-December-2000

University of Durham, Dept. of Physics

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Scope.

This is a temporary document that will be incorporated into the NAOMI Sequencer API ICD at a later date.

Level0Gui support Library (L0GuiEPM).

This library provides access to all NAOMI mechanisms at the assembly record level.

A list of available commands follows for each NAOMI assembly record.

Note that the NAOMI SDSU camera commands have not yet been included.

The format for sending a command to Sequencer2 (See Sequencer API ICD) is:

CommandToElectra("L0GuiEPM.<Assembly>.<Command>(<args>)") where the assemblies and commands are as follows:

1) Pickoff

The EPM state variables for this assembly are:

PickoffPosnX, PickoffPosnY:	Position in mm
PickoffTime:	Length of time for movement
LensletNumber	Lenslet number
PickoffOk:	Status

1.1) Get

Get the status of the assembly and update the relevant state variables in the EPM.

Example: CommandToElectra("L0GuiEPM.Pickoff.Get()")

1.2) Index

Index the entire assembly.

Example: CommandToElectra("L0GuiEPM.Pickoff.Index()")

1.3) Setup

Setup the entire assembly. This sets all devices within the assembly to a default startup state.

Example: CommandToElectra("L0GuiEPM.Pickoff.Setup()")

1.4) SetTime

Set the time taken (in secs) for subsequent movements of the pickoff.

Example: `CommandToElectra("LOGuiEPM.Pickoff.SetTime(5.0)")`

1.5) SetLenslet

Move the lenslet wheel so that a numbered lenslet is deployed.

Example: `CommandToElectra("LOGuiEPM.Pickoff.SetLenslet(2)")`

1.6) Move

Moves the pickoff to an absolute position in mm in x and y.

Example: `CommandToElectra("LOGuiEPM.Pickoff.Move(x=10, y=20)")`

If either the x or y argument is not present, the relevant current position will be used.

Example: `CommandToElectra("LOGuiEPM.Pickoff.Move(y=20)")`

will move the pickoff to y=20 mm with the x position unchanged.

1.7) Offset

Moves the pickoff to a new position with respect to its current position. The offsets are in mm.

(Positive => Up/Right; Negative => Down/Left).

Example: `CommandToElectra("LOGuiEPM.Pickoff.Offset(x=5.1, y=-15.2)")`

Moves the pickoff 5.1mm to right and 15.2 mm down from its current position.

If either the x or y argument is not present, no movement will occur in that dimension.

Example: `CommandToElectra("LOGuiEPM.Pickoff.Offset(y=20)")`

will move the pickoff 20 mm up, with no movement in x.

1.8) Up

Move the pickoff up by one coarse increment.

Example: `CommandToElectra("LOGuiEPM.Pickoff.Up()")`

1.9) Down

Move the pickoff down by one coarse increment.

Example: `CommandToElectra("LOGuiEPM.Pickoff.Down()")`

1.10) Left

Move the pickoff left by one coarse increment.

Example: `CommandToElectra("LOGuiEPM.Pickoff.Left()")`

1.11) Right

Move the pickoff right by one coarse increment.

Example: `CommandToElectra("LOGuiEPM.Pickoff.Right()")`

1.8) UpFine

Move the pickoff up by one fine increment.

Example: `CommandToElectra("LOGuiEPM.Pickoff.UpFine()")`

1.9) DownFine

Move the pickoff down by one fine increment.

Example: `CommandToElectra("L0GuiEPM.Pickoff.DownFine()")`

1.10) LeftFine

Move the pickoff left by one fine increment.

Example: `CommandToElectra("L0GuiEPM.Pickoff.LeftFine()")`

1.11) RightFine

Move the pickoff right by one fine increment.

Example: `CommandToElectra("L0GuiEPM.Pickoff.RightFine()")`

2) Filters

The EPM state variables for this assembly are:

FilterNumber:	Filter number
FilterOk:	Status

2.1) Get

Get the status of the assembly and update the relevant state variables in the EPM.

Example: `CommandToElectra("L0GuiEPM.Filter.Get()")`

2.2) Index

Index the entire assembly.

Example: `CommandToElectra("L0GuiEPM.Filter.Index()")`

2.3) Setup

Setup the entire assembly. This sets all devices within the assembly to a default startup state.

Example: `CommandToElectra("L0GuiEPM.Filter.Setup()")`

2.4) Set

Move the filter wheel so that a numbered filter is deployed

Example: `CommandToElectra("L0GuiEPM.Filter.Set(4)")`

3) Deformable Mirror Stage

The EPM state variables for this assembly are:

DMstagePosnX, DMstagePosnY:	Position in ??
DMstageOk:	Status

3.1) Get

Get the status of the assembly and update the relevant state variables in the EPM.

Example: `CommandToElectra("L0GuiEPM.DMstage.Get()")`

3.2) Index

Index the entire assembly.

Example: `CommandToElectra("L0GuiEPM.DMstage.Index()")`

3.3) Setup

Setup the entire assembly. This sets all devices within the assembly to a default startup state.
Example: `CommandToElectra("L0GuiEPM.DMstage.Setup()")`

3.4) Move

Moves the DM stage to an absolute position in mm in x and y.

Example: `CommandToElectra("L0GuiEPM.DMstage.Move(x=10, y=20)")`

If either the x or y argument is not present, the relevant current position will be used.

Example: `CommandToElectra("L0GuiEPM.DMstage.Move(y=20)")`

will move the DM stage to y=20 mm with the x position unchanged.

4) Atmospheric Dispersion Corrector (ADC)

The EPM state variables for this assembly are:

ADCangle: Angle in degrees of ADC prism

ADCOK: Status

4.1) Get

Get the status of the assembly and update the relevant state variables in the EPM.

Example: `CommandToElectra("L0GuiEPM.ADC.Get()")`

4.2) Index

Index the entire assembly.

Example: `CommandToElectra("L0GuiEPM.ADC.Index()")`

4.3) Setup

Setup the entire assembly. This sets all devices within the assembly to a default startup state.

Example: `CommandToElectra("L0GuiEPM.ADC.Setup()")`

4.4) Set

Set the ADC prism to the given angle in degrees.

Example: `CommandToElectra("L0GuiEPM.ADC.Set(123.4)")`

5) Other Mechanisms

The EPM state variables for this assembly are:

CameraState: Camera on or off

CameraShutterState: Camera shutter Open or Closed

CameraCalibState: Camera calibration source on or off

OtherMechanismsOk: Status

5.1) Get

Get the status of the assembly and update the relevant state variables in the EPM.

Example: `CommandToElectra("L0GuiEPM.Others.Get()")`

5.2) Index

Index the entire assembly.

Example: `CommandToElectra("L0GuiEPM.Others.Index()")`

5.3) Setup

Setup the entire assembly. This sets all devices within the assembly to a default startup state.

Example: `CommandToElectra("L0GuiEPM.Others.Setup()")`

5.4) CameraSwitchSet

Change the camera switch setting to 'On' or 'Off'.

Example: `CommandToElectra("L0GuiEPM.Others.CameraSwitchSet('On')")`

5.5) ShutterSwitchSet

Move the shutter to its 'Open' or 'Closed' position.

Example: `CommandToElectra("L0GuiEPM.Others.ShutterSwitchSet('Open')")`

5.6) CalibrationSourceSwitchSet

Change the WFS calibration source switch setting to 'On' or 'Off'.

Example: `CommandToElectra("L0GuiEPM.Others.CalibrationSourceSwitchSet('Off')")`

6) NAOMI Calibration Unit (NCU) Beamsplitter

The EPM state variables for this assembly are:

NCUbeamsplitState: Deployment ('In' or 'Out')

NCUbeamsplitOk: Status

6.1) Get

Get the status of the assembly and update the relevant state variables in the EPM.

Example: `CommandToElectra("L0GuiEPM.NCUbeamsplitter.Get()")`

6.2) Index

Index the entire assembly.

Example: `CommandToElectra("L0GuiEPM.NCUbeamsplitter.Index()")`

6.3) Setup

Setup the entire assembly. This sets all devices within the assembly to a default startup state.

Example: `CommandToElectra("L0GuiEPM.NCUbeamsplitter.Setup()")`

6.4) Set

Move the beamsplitter either 'In' or 'Out'

Example: `CommandToElectra("L0GuiEPM.NCUbeamsplitter.Set('In')")`

6) NAOMI Calibration Unit (NCU) Mask

The EPM state variables for this assembly are:

NCUmaskState: Deployment ('In' or 'Out')

NCUmaskOk: Status

6.1) Get

Get the status of the assembly and update the relevant state variables in the EPM.

Example: `CommandToElectra("L0GuiEPM.NCUmask.Get()")`

6.2) Index

Index the entire assembly.

Example: `CommandToElectra("L0GuiEPM.NCUMask.Index()")`

6.3) Setup

Setup the entire assembly. This sets all devices within the assembly to a default startup state.

Example: `CommandToElectra("L0GuiEPM.NCUMask.Setup()")`

6.4) Set

Move the mask either 'In' or 'Out'.

Example: `CommandToElectra("L0GuiEPM.NCUMask.Set('In')")`

7) NAOMI Calibration Unit (NCU) Lamp

The EPM state variables for this assembly are:

NCUlampState: Switch set to 'On' or 'Off'

NCUlampIntensity: Lamp intensity

NCUlampOk: Status

7.1) Get

Get the status of the assembly and update the relevant state variables in the EPM.

Example: `CommandToElectra("L0GuiEPM.NCULamp.Get()")`

7.2) Index

Index the entire assembly.

Example: `CommandToElectra("L0GuiEPM.NCULamp.Index()")`

7.3) Setup

Setup the entire assembly. This sets all devices within the assembly to a default startup state.

Example: `CommandToElectra("L0GuiEPM.NCULamp.Setup()")`

7.4) Set

Set the lamp switch to either 'On' or 'Off'

Example: `CommandToElectra("L0GuiEPM.NCULamp.Set('On')")`

7.4) SetIntensity

Set the lamp intensity

Example: `CommandToElectra("L0GuiEPM.NCULamp.SetIntensity(50)")`