AMT VIEWPOINT™ USER GUIDE

AMT VIEWPOINT

HELP

AMT313S
Firmware: 0x15 - Datecode: 3518

📄 Encoder Datasheet

⊕ AMT Landing Page

📄 Viewpoint User Guide

🔧 Mounting Instructions

👁 CUI Insights Motion Blog
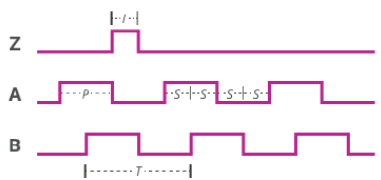
▶ Resource Library

✈ Technical Support

↻ RECONNECT

CURRENT CONFIGURATION:
R: **125**   D: **Clockwise**   P: **6**

Resolution: 125

Direction:

Pole Count: 6

PROGRAM

ACQUIRE DIAGNOSTICS

U   V   **W**

ALIGN

QUADRATURE   COMMUTATION

Z
A
B

I 0.72   P 1.44   T 2.88
S 0.72   Readings are in Mechanical Degrees

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INTRODUCTION

The AMT Viewpoint™ is a Graphical User Interface (GUI) that allows for an unprecedented level of visibility and control thanks to the innovative design of the AMT modular encoder series. Via the simple software interface, users are able to set and control a range of parameters, reducing development time and virtually eliminating tedious steps in the assembly process. Additionally, the software allows engineers access to a range of diagnostic data for quick analysis during design or in the field.

What You'll Need:
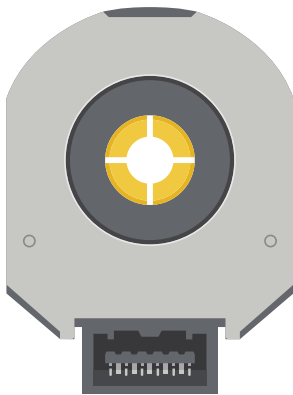
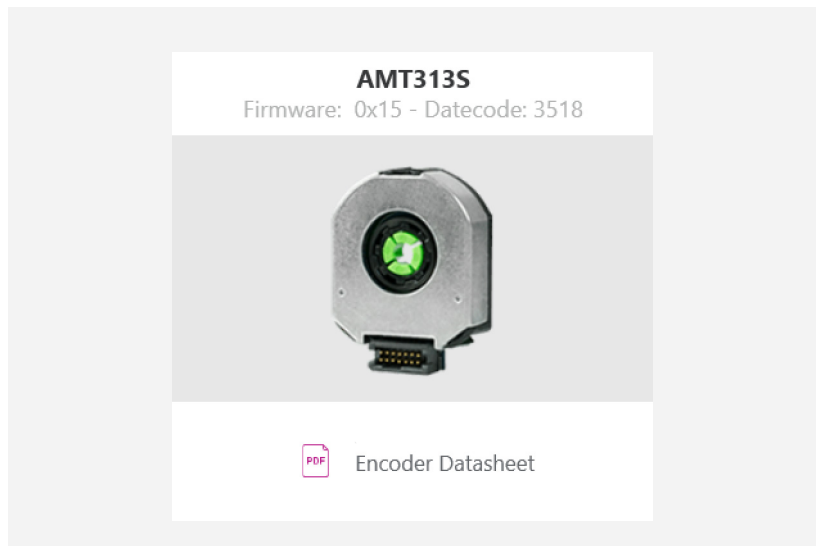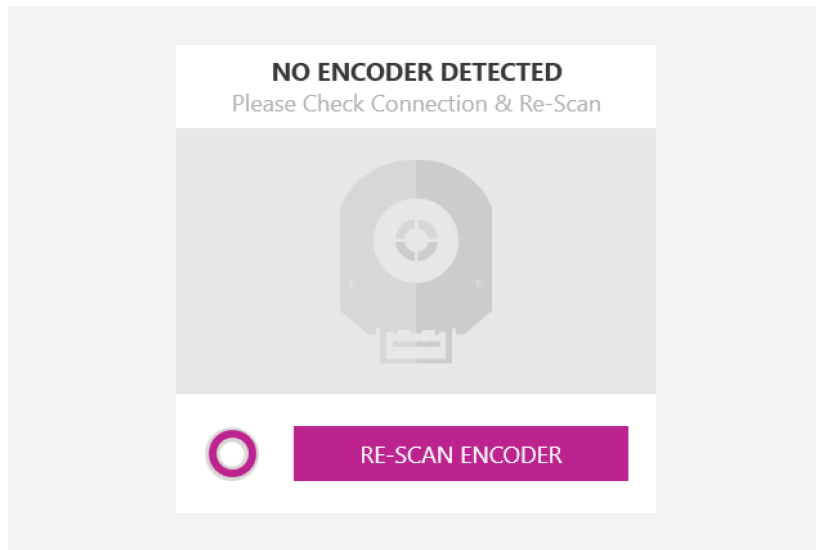AMT11, AMT13, AMT20, AMT21, AMT22, AMT23, AMT24, AMT31, or AMT33 Encoder
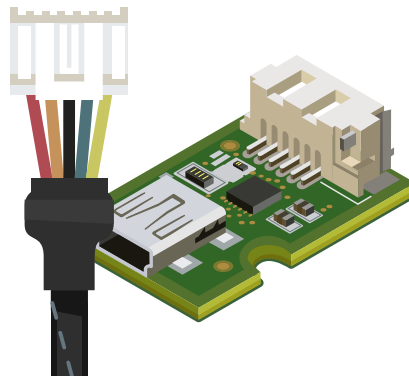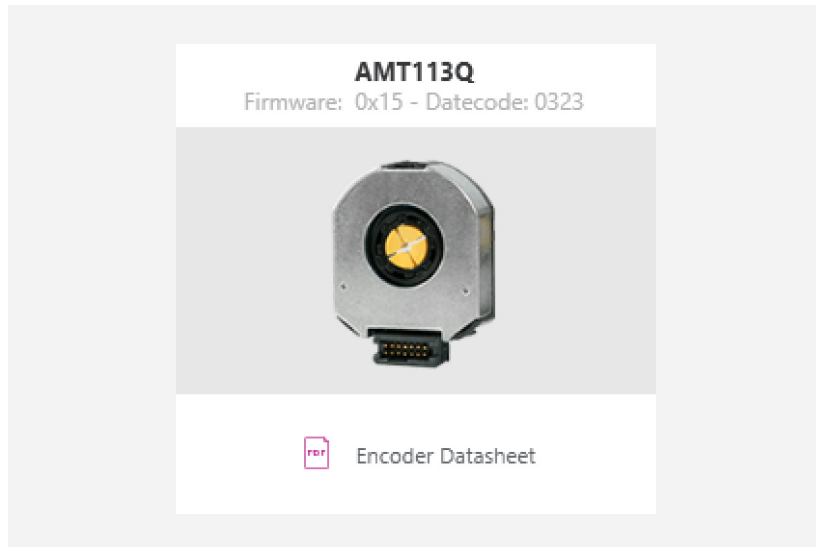
The Appropriate AMT Programming Module and Cable

A Windows PC (Windows 10 or higher required)

GETTING STARTED

NO ENCODER DETECTED
Please Check Connection & Re-Scan

RE-SCAN ENCODER

AMT313S
Firmware: 0x15 - Datecode: 3518

PDF Encoder Datasheet

1. Download the AMT Viewpoint: www.cuidevices.com/amt-viewpoint

2. Plug the AMT Programming Module into your PC using your own USB Mini B to Type A cable.

3. Connect the encoder to the programming cable.

4. Open the AMT Viewpoint GUI.

5. Upon opening, the GUI will search for an encoder (see below).

6. If the "NO ENCODER DETECTED" message appears, double check your encoder's connection and click "RE-SCAN".

7. Once an encoder has been detected the window will populate with an encoder specific layout.

GETTING STARTED

AMT113Q
Firmware: 0x15 - Datecode: 0323

📄 Encoder Datasheet

⊕ AMT Landing Page

📄 Viewpoint User Guide

🔧 Mounting Instructions

👁 CUI Insights Motion Blog

📄 Resource Library

✈ Technical Support

1. Encoder Overview Card

When an encoder is connected, this card highlights the firmware revision, date code, and quick link to the datasheet.

2. Resource Card

AMT Landing Page - View the most up-to-date information on the AMT Viewpoint. Read the change logs for recent updates and download the latest versions.

Viewpoint User Guide - This guide.

Assembly Instructions - Watch the video or text instructions for putting together your AMT encoder.
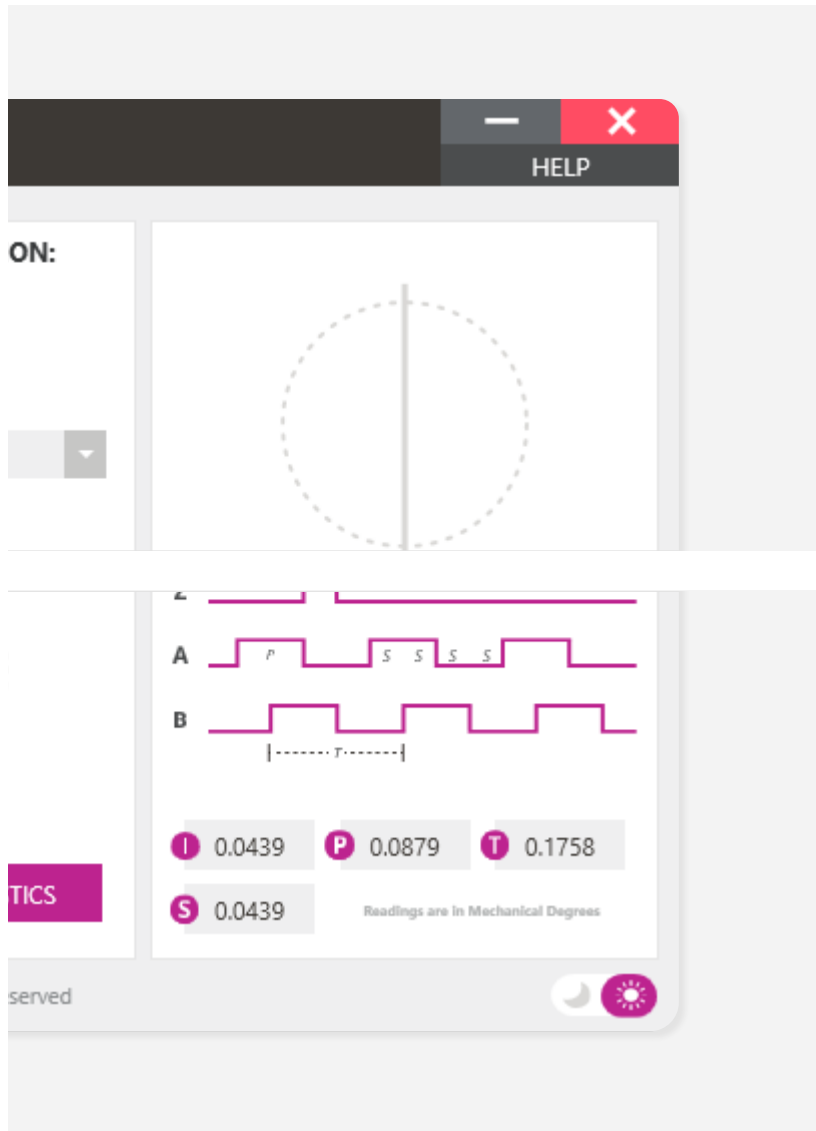
CUI Insights Motion Blog - Read our ever-expanding selection of encoder-specific blog posts.

Resource Library - View all of CUI Devices' motion-specific resources from white papers and application notes to videos.

Technical Support - Contact CUI Devices for any technical questions or issues you're experiencing.
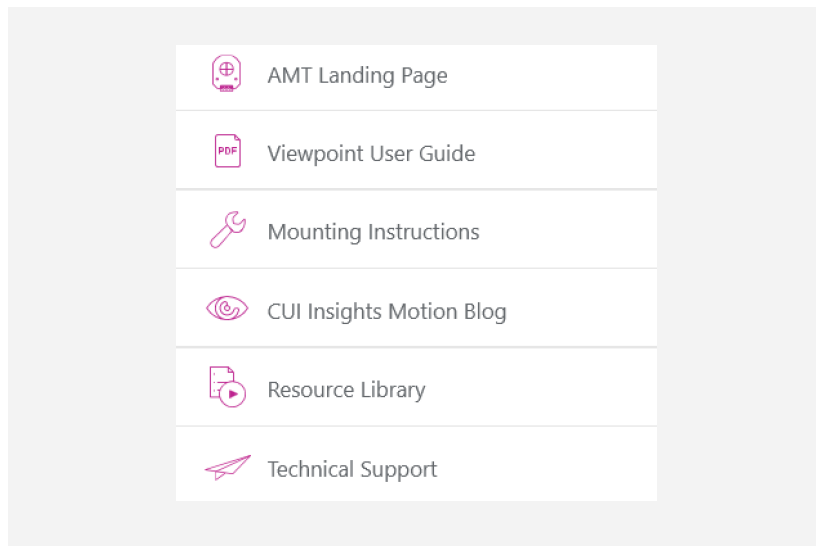
GETTING STARTED

1 **Help Button**

View a menu with an array of links designed to help you overcome any roadblocks you may hit while using the GUI.

About AMT Viewpoint - Learn about the details behind the AMT Viewpoint including version number.

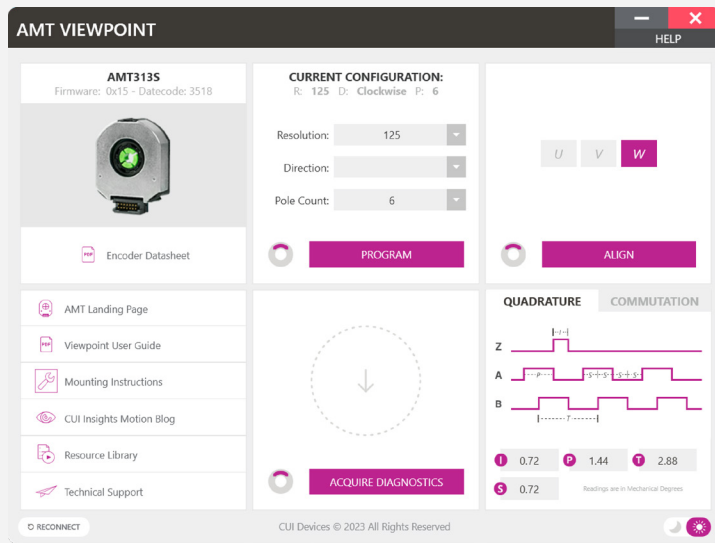Contact CUI Devices - Get in touch with us for any questions you might have on the AMT Viewpoint.

AMT Viewpoint User Guide - This guide.
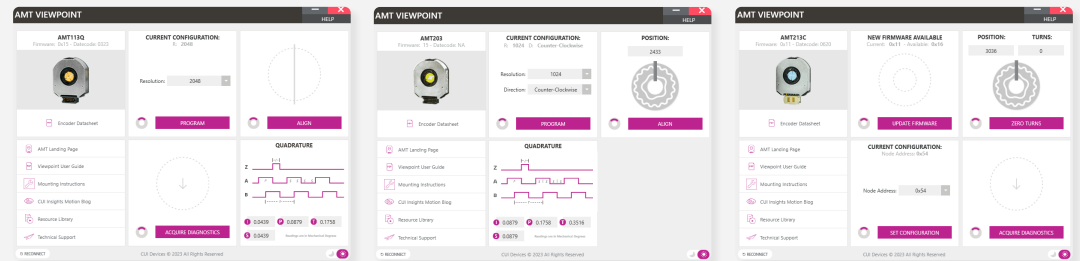
2 **Theme Toggle**

Toggle between light and dark themes based on preference.
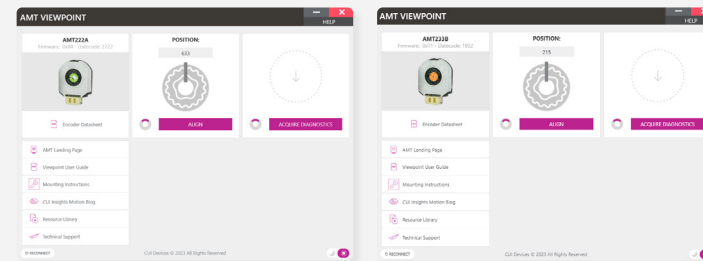
ENCODER SPECIFIC WINDOWS

AMT31 & AMT33

AMT11 & AMT13

AMT20

AMT21 & AMT24

AMT22

AMT23

The AMT Viewpoint's format and settings will adapt based on the type of encoder that is connected. On the following pages, features and interface instructions for each AMT encoder series is discussed.

AMT11 & 13 SERIES

Current Configuration Card

Encoder Overview Card

AMT VIEWPOINT

HELP

AMT113Q
Firmware: 0x15 - Datecode: 0323

📄 Encoder Datasheet

CURRENT CONFIGURATION:
R: 2048

Resolution: 2048 ▾

PROGRAM

Alignment Card

ALIGN

Resource Card

🔲 AMT Landing Page

📄 Viewpoint User Guide

🔧 Mounting Instructions

👁 CUI Insights Motion Blog

📄 Resource Library

✈ Technical Support

↻ RECONNECT

ACQUIRE DIAGNOSTICS

QUADRATURE

Z

A

B

⊘ 0.0439 Ⓟ 0.0879 Ⓣ 0.1758

Ⓢ 0.0439   Readings are in Mechanical Degrees

Waveforms Card

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Diagnostics Card

AMT11 & 13 SERIES

CURRENT CONFIGURATION:
R: 2048

Resolution: 2048

PROGRAM

ALIGN

1 **Current Configuration Card**

To program an encoder, select programmable options from the dropdown menus and press the "PROGRAM" button. The status circle will spin while the encoder is being programmed. This will take about 30 seconds. When programming is complete, the circle will appear green.

2 **Alignment Card**

Typically when aligning an encoder the user must go through a tedious installation process to accurately align the mechanical disk. The AMT encoder is unique in that its index can be set digitally. With the push of a button (or more accurately, the delivery of a serial command), the encoder can be instantly aligned to its current position.

To align an encoder using the AMT Viewpoint, simply press the "ALIGN" button. This action will only take a second. It is finished when the status circle appears completely green. The zero position is now stored in the encoder's memory and will remain there even after power has been removed.

AMT11 & 13 SERIES

③ Diagnostics Card

CUI Devices' encoders allow for the extraction of diagnostic information for quicker field failure analysis. To gather diagnostics from an encoder, click "ACQUIRE DIAGNOSTICS" and wait for the data to be retrieved.

Once data has been acquired it will need to be saved and sent to CUI Devices for review. The files can be sent to: www.cuidevices.com/contact
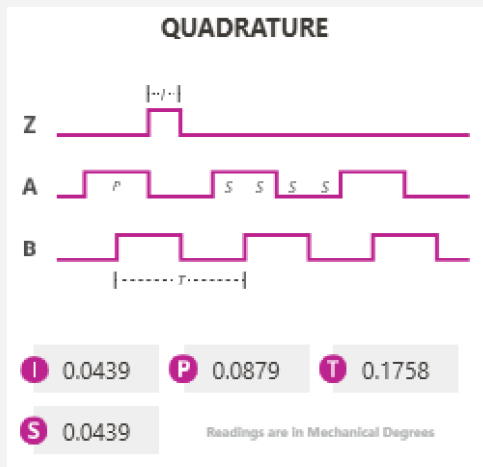
④ Waveforms Card

The AMT11 and AMT13 encoders allow for multiple resolutions to be selected. This card calculates the various timing values for each resolution. Select a different resolution to adjust the values.

QUADRATURE

| I | 0.0439 | P | 0.0879 | T | 0.1758 |
| S | 0.0439 |

Readings are in Mechanical Degrees

AMT20 SERIES

Current Configuration Card

Encoder Overview Card

Position Card

AMT VIEWPOINT

HELP

AMT203
Firmware: 15 - Datecode: NA

📄 Encoder Datasheet

CURRENT CONFIGURATION:
R: **1024** D: **Counter-Clockwise**

Resolution: 1024

Direction: Counter-Clockwise

PROGRAM

POSITION:

2433

ALIGN

Resource Card

🔲 AMT Landing Page

📄 Viewpoint User Guide

🔧 Mounting Instructions

👁 CUI Insights Motion Blog

📲 Resource Library

✈ Technical Support

QUADRATURE

Z

A

B

I 0.0879   P 0.1758   T 0.3516

S 0.0879   Readings are in Mechanical Degrees

↻ RECONNECT

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Waveforms Card

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AMT20 SERIES

CURRENT CONFIGURATION:
R: 1024   D: Counter-Clockwise

Resolution: 1024

Direction: Counter-Clockwise

PROGRAM

POSITION:

2433

ALIGN

1 Current Configuration Card

To program an encoder, select programmable options from the dropdown menus and press the "PROGRAM" button.
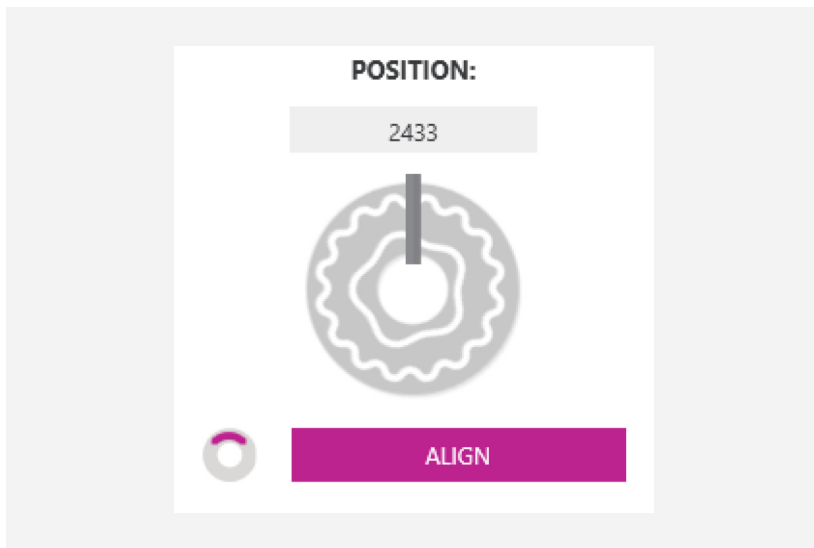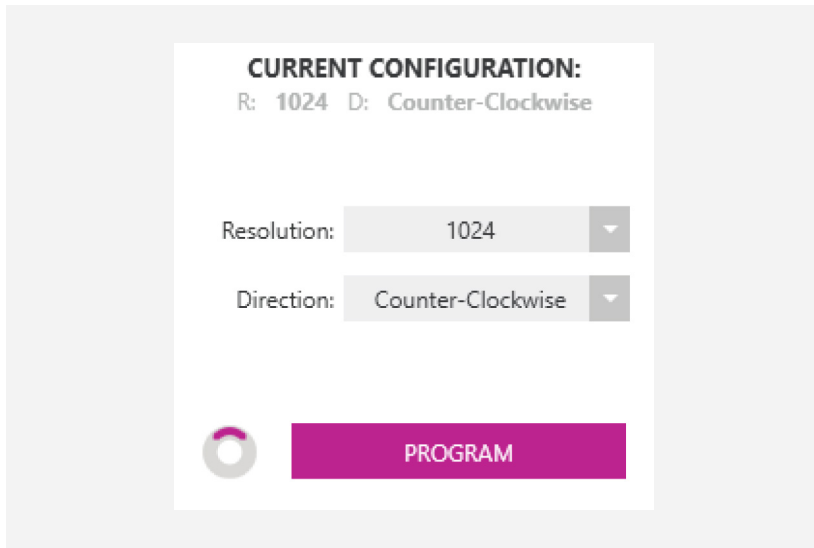
The status circle will spin while the encoder is being programmed. This will take about 4 seconds. When programming is complete, the circle will appear green. The AMT20 does not have the ability to reset itself, so after programming the encoder, it must be power cycled. Once programming is complete a message will appear instructing you to remove the encoder from the programming cable.

2 Position Card

The AMT20 is a digital serial absolute encoder, so with the AMT Viewpoint you have the ability to view the current absolute position, along with the ability to zero set that position.

Typically when aligning an encoder the user must go through a tedious installation process to accurately align the mechanical disk. The AMT encoder is unique in that its zero position can be set digitally. With the push of a button (or more accurately, the delivery of a serial command), the encoder can be instantly aligned to its current position. *(continued)*

AMT20 SERIES

QUADRATURE

Z

A

B

| I | 0.0879 | P | 0.1758 | T | 0.3516 |
| S | 0.0879 | | | | |

Readings are in Mechanical Degrees

To align an encoder using the AMT Viewpoint, simply press the "ALIGN" button. This action will only take a second. It is finished when the status circle appears completely green. The zero position is now stored in the encoder's memory and will remain there even after power has been removed. Again, the AMT20 does not have the ability to reset itself, so after programming the encoder, it must be power cycled. Once programming is complete a message will appear instructing you to remove the encoder from the programming cable.
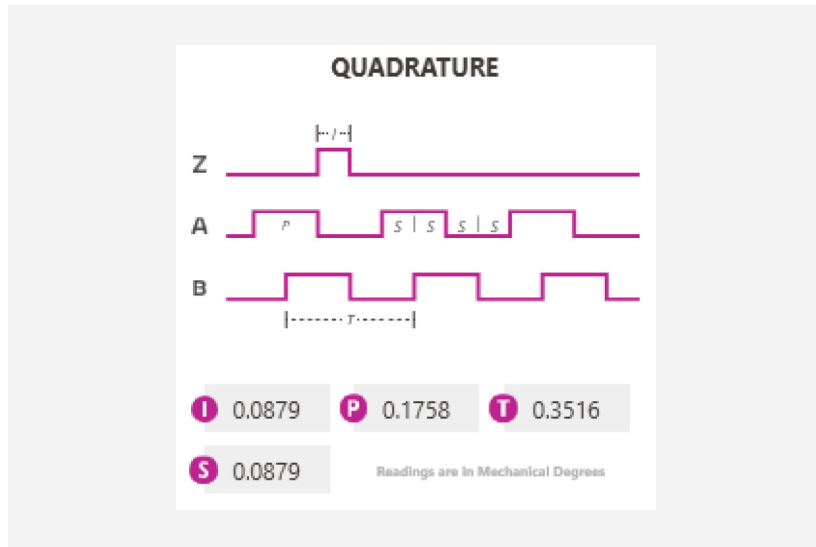
3 Waveforms Card

The AMT20 encoder allows for multiple resolutions to be selected. This card calculates the various timing values for each resolution. Select a different resolution to adjust the values.

AMT21 & 24 SERIES

New Firmware Card

Encoder Overview Card

Position Card

Resource Card

Diagnostics Card

Current Configuration Card

AMT VIEWPOINT

HELP

AMT213C
Firmware: 0x11 - Datecode: 0620

Encoder Datasheet

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NEW FIRMWARE AVAILABLE
Current: 0x11 - Available: 0x16

UPDATE FIRMWARE

CURRENT CONFIGURATION:
Node Address: 0x54

Node Address: 0x54

SET CONFIGURATION

POSITION: 3036 **TURNS:** 0

ZERO TURNS

ACQUIRE DIAGNOSTICS

RECONNECT

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AMT21 & 24 SERIES

CURRENT CONFIGURATION:
Node Address: 0x54

Node Address: 0x54

SET CONFIGURATION

POSITION: **TURNS:**
3036   0

ZERO TURNS

① Current Configuration Card

The AMT21 & AMT24 are able to share a bus with multiple encoders. To do this each encoder must have a unique RS485 node address. Select an address from the dropdown list and click "SET CONFIGURATION" to program the encoder with the new address.
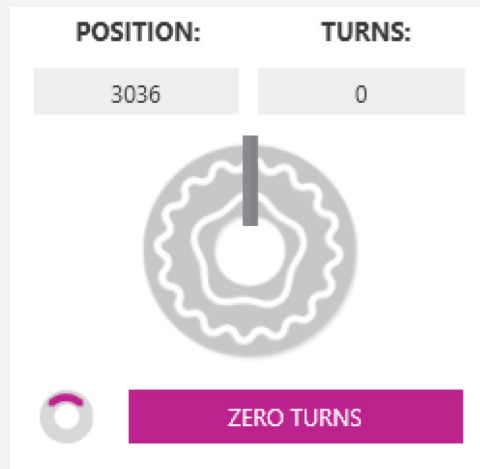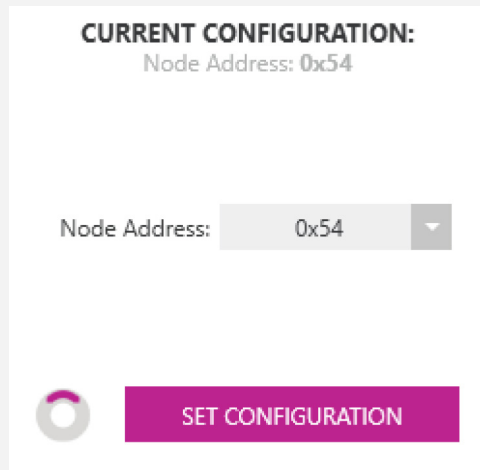
The status circle will spin while the encoder is being programmed. This will take about 4 seconds. When programming is complete, the circle will appear green.

② Position Card

The AMT21 & AMT24 are digital serial absolute encoders, so with the AMT Viewpoint you have the ability to view the current absolute position, along with the ability to zero set that position.

Typically when aligning an encoder the user must go through a tedious installation process to accurately align the mechanical disk. The AMT encoder is unique in that its zero position can be set digitally. With the push of a button (or more accurately, the delivery of a serial command), the encoder can be instantly aligned to its current position.
[continued]

AMT21 & 24 SERIES

NEW FIRMWARE AVAILABLE
Current: **0x11** - Available: **0x16**

UPDATE FIRMWARE

ACQUIRE DIAGNOSTICS

To align an encoder using the AMT Viewpoint, simply press the "ALIGN" button. This action will only take a second. It is finished when the status circle appears completely green. The zero position is now stored in the encoder's memory and will remain there even after power has been removed. For multi-turn versions of the AMT21 & AMT24, only the turns counter can be zeroed.

3 New Firmware Card

If a firmware update is available, this card will appear showing the newest firmware version. Click "UPDATE FIRMWARE" to update the encoder's firmware.

4 Diagnostics Card

CUI Devices' encoders allow for the extraction of diagnostic information for quicker field failure analysis. To gather diagnostics from an encoder, click "ACQUIRE DIAGNOSTICS" and wait for the data to be retrieved.

Once data has been acquired it will need to be saved and sent to CUI Devices for review. The files can be sent to: www.cuidevices.com/contact

AMT22 SERIES

Position Card

AMT VIEWPOINT

HELP

Encoder Overview Card

Diagnostics Card

AMT222A
Firmware: 0x04 - Datecode: 2722

POSITION:

633

PDF Encoder Datasheet

ALIGN

ACQUIRE DIAGNOSTICS

Resource Card

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CUI Insights Motion Blog

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⟳ RECONNECT

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AMT22 SERIES

POSITION:

633

ALIGN

NEW FIRMWARE AVAILABLE
Current: **0x11** - Available: **0x16**

UPDATE FIRMWARE

1 **Position Card**

The AMT22 is a digital serial absolute encoder, so with the AMT Viewpoint you have the ability to view the current absolute position, along with the ability to zero set that position.

Typically when aligning an encoder the user must go through a tedious installation process to accurately align the mechanical disk. The AMT encoder is unique in that its zero position can be set digitally. With the push of a button (or more accurately, the delivery of a serial command), the encoder can be instantly aligned to its current position.

To align an encoder using the AMT Viewpoint, simply press the "ALIGN" button. This action will only take a second. It is finished when the status circle appears completely green. The zero position is now stored in the encoder's memory and will remain there even after power has been removed.

2 **New Firmware Card**

If a firmware update is available, this card will appear showing the newest firmware version. Click "UPDATE FIRMWARE" to update the encoder's firmware.
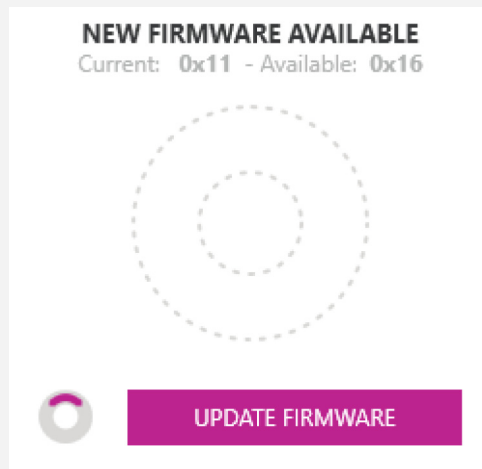
AMT22 SERIES
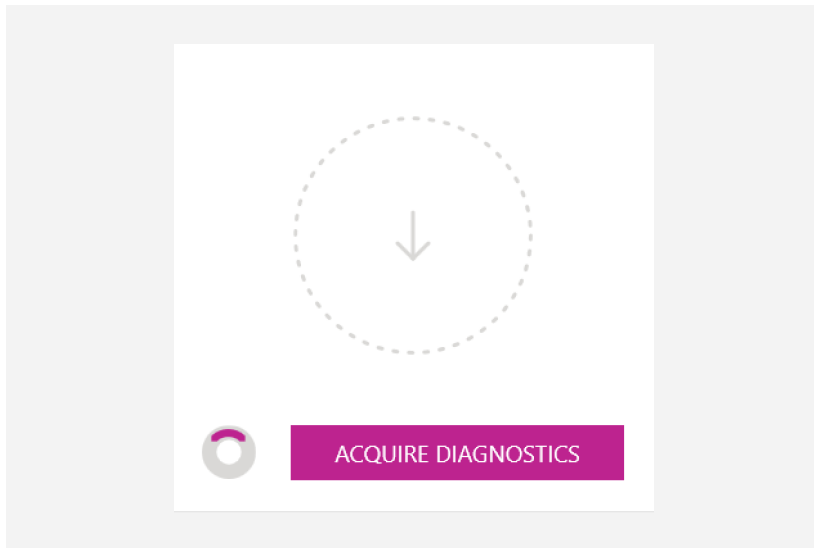
3 Diagnostics Card

CUI Devices' encoders allow for the extraction of diagnostic information for quicker field failure analysis. To gather diagnostics from an encoder, click "ACQUIRE DIAGNOSTICS" and wait for the data to be retrieved.

Once data has been acquired it will need to be saved and sent to CUI Devices for review. The files can be sent to: www.cuidevices.com/contact

ACQUIRE DIAGNOSTICS

AMT23 SERIES

Position Card

Encoder Overview Card

Diagnostics Card

AMT VIEWPOINT

HELP

AMT233B
Firmware: 0x11 - Datecode: 1922

POSITION:

215

Encoder Datasheet

ALIGN

ACQUIRE DIAGNOSTICS

Resource Card

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AMT23 SERIES

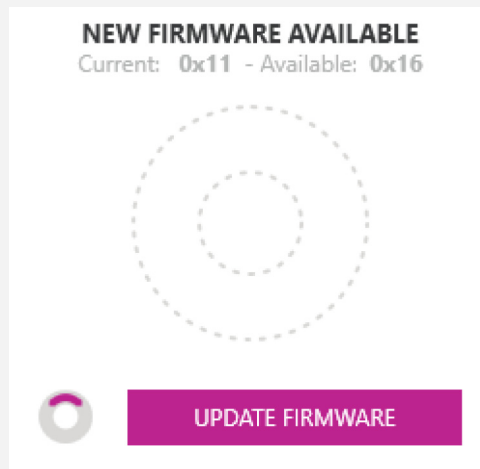### POSITION:

215

ALIGN

1 Position Card

The AMT23 is a digital serial absolute encoder, so with the AMT Viewpoint you have the ability to view the current absolute position, along with the ability to zero set that position.

Typically when aligning an encoder the user must go through a tedious installation process to accurately align the mechanical disk. The AMT encoder is unique in that its zero position can be set digitally. With the push of a button (or more accurately, the delivery of a serial command), the encoder can be instantly aligned to its current position.
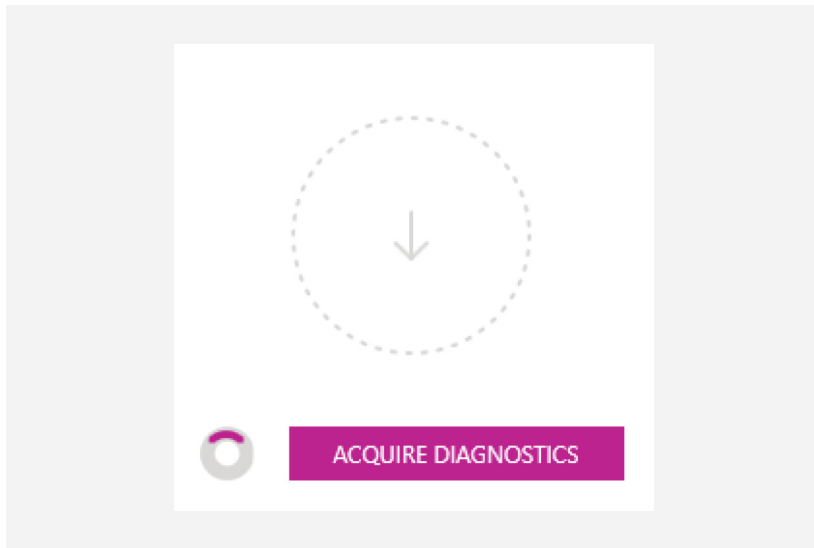
To align an encoder using the AMT Viewpoint, simply press the "ALIGN" button. This action will only take a second. It is finished when the status circle appears completely green. The zero position is now stored in the encoder's memory and will remain there even after power has been removed.

NEW FIRMWARE AVAILABLE
Current: **0x11** - Available: **0x16**

UPDATE FIRMWARE

2 New Firmware Card

If a firmware update is available, this card will appear showing the newest firmware version. Click "UPDATE FIRMWARE" to update the encoder's firmware.

AMT23 SERIES

3 **Diagnostics Card**

CUI Devices' encoders allow for the extraction of diagnostic information for quicker field failure analysis. To gather diagnostics from an encoder, click "ACQUIRE DIAGNOSTICS" and wait for the data to be retrieved.

Once data has been acquired it will need to be saved and sent to CUI Devices for review. The files can be sent to: www.cuidevices.com/contact

AMT31 & 33 SERIES

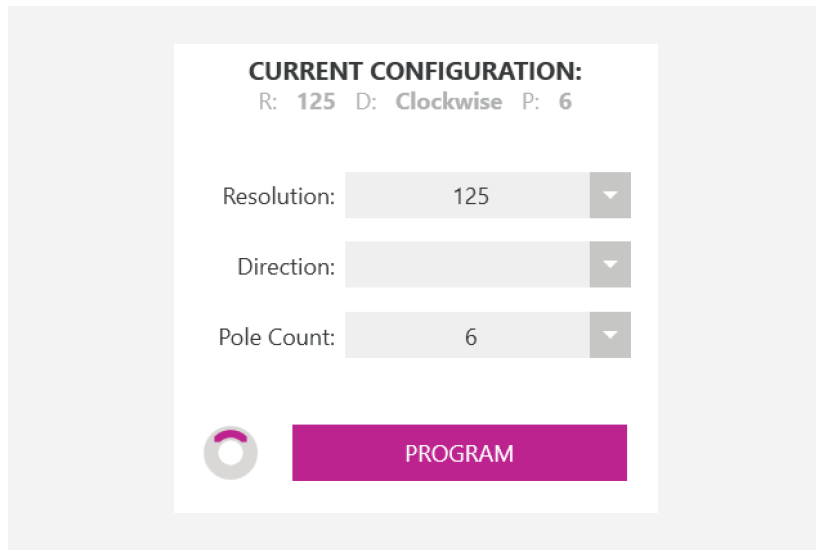Current Configuration Card

Encoder Overview Card

AMT VIEWPOINT

HELP

AMT313S
Firmware: 0x15 - Datecode: 3518

CURRENT CONFIGURATION:
R: **125** D: **Clockwise** P: **6**

Alignment Card

Resolution: 125

Direction:

Pole Count: 6

U V **W**

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Resource Card

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ACQUIRE DIAGNOSTICS

Waveforms Card

QUADRATURE COMMUTATION

Z

A

B

I 0.72 P 1.44 T 2.88

S 0.72 Readings are in Mechanical Degrees

RECONNECT CUI Devices © 2023 All Rights Reserved

Diagnostics Card

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AMT31 & 33 SERIES

CURRENT CONFIGURATION:
R: **125** D: **Clockwise** P: **6**

Resolution: 125

Direction:

Pole Count: 6

PROGRAM

U V **W**

ALIGN

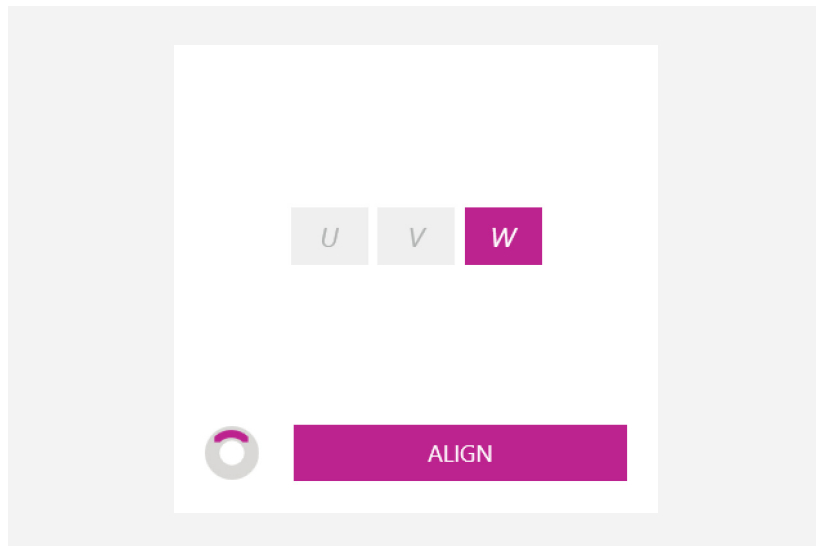**① Current Configuration Card**

To program an encoder, select programmable options from the dropdown menus and press the "PROGRAM" button.

The status circle will spin while the encoder is being programmed. This will take about 30 seconds. When programming is complete, the circle will appear green.

② Alignment Card

When an AMT31 or AMT33 encoder is loaded into the AMT Viewpoint, the current U/V/W signal states are loaded onto the alignment card. Note that these values do not update in real time but are only loaded during connection and after the encoder programs and aligns.

Typically when aligning an encoder the user must go through a tedious installation process to accurately align the mechanical disk. The AMT encoder is unique in that its index can be set digitally. With the push of a button (or more accurately, the delivery of a serial command), the encoder can be instantly aligned to its current position.
*(continued)*

AMT31 & 33 SERIES
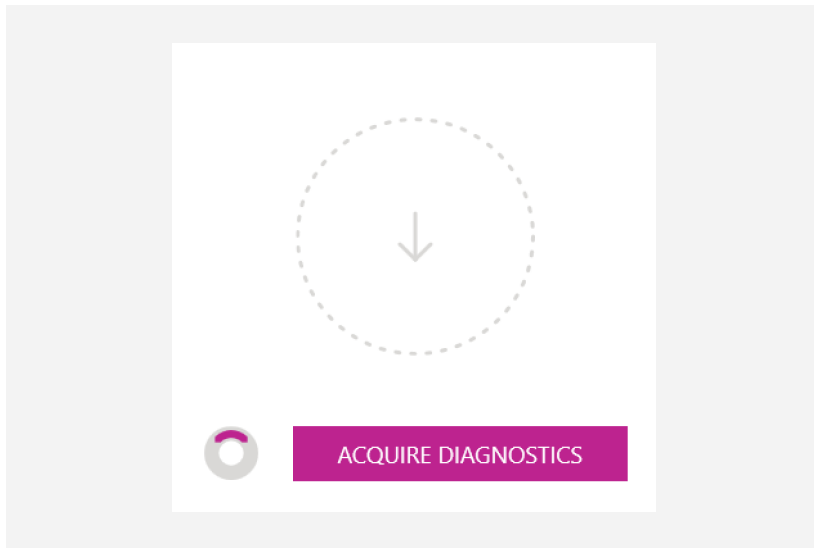
To align an encoder using the AMT Viewpoint, simply press the "ALIGN" button. This action will only take a second. It is finished when the status circle appears completely green. The zero position is now stored in the encoder's memory and will remain there even after power has been removed. The U/V/W status boxes will update with the newly aligned position.

3 Diagnostics Card

CUI Devices' encoders allow for the extraction of diagnostic information for quicker field failure analysis. To gather diagnostics from an encoder, click "ACQUIRE DIAGNOSTICS" and wait for the data to be retrieved.
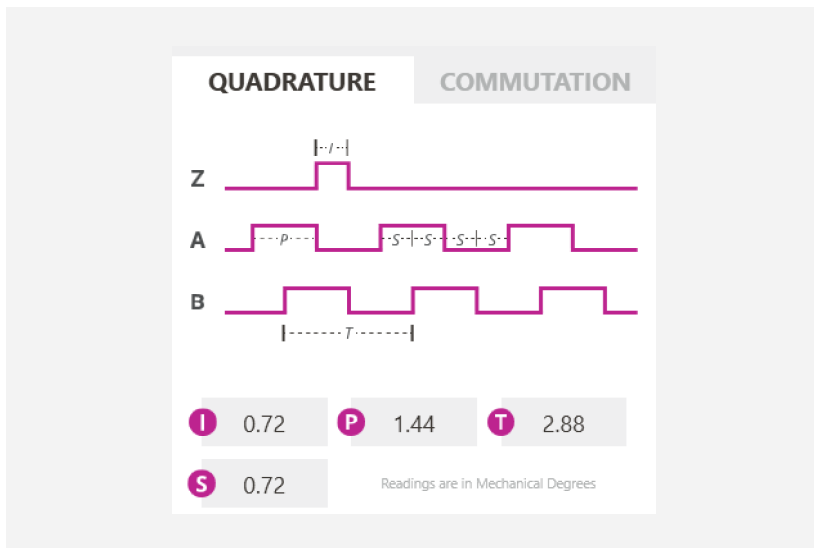
Once data has been acquired it will need to be saved and sent to CUI Devices for review. The files can be sent to: www.cuidevices.com/contact

4 Waveforms Card

The AMT31 and AMT33 encoders allow for multiple resolutions to be selected. This card calculates the various timing values for each resolution. Select a different resolution to adjust the values.

Thank you for downloading the AMT Viewpoint™.

If you have any questions, you can contact us at: www.cuidevices.com/contact