

[Instruction Set](#) > [CIP Axis Attributes](#) > Load Transmission and Actuator Attributes

Load Transmission and Actuator Attributes

These are the motor configuration attributes that apply specifically to rotary transmission and linear actuator mechanisms associated with the axis.

Load Type

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - All	Set/GSV	USINT	0 DB	-	-	Enumeration 0 = Direct Rotary 1 = Direct Linear 2 = Rotary Transmission 3 = Linear Actuator 4-255 = Reserved

The Load Type attribute is used to determine how the load is mechanically linked to the motor. Direct enumerations indicate that the motor is directly coupled to the load. Rotary enumerations indicate that the load is rotating and load dynamics are measured using a rotary system of units. Linear enumeration indicate that the load is moving linearly and load dynamics are measured using a linear system of units.

Transmission Ratio Input

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - All	Set/GSV	DINT	1 DB	1	2 ³¹ -1	Input Shaft Revs

The Transmission Ratio Input attribute is an integer number of input shaft revolutions per transmission cycle associated with the rotary transmission.

Transmission Ratio Output

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - All	Set/GSV	DINT	1 DB	1	2 ³¹ -1	Output Shaft Revs

The Transmission Ratio Output attribute is an integer number of output shaft revolutions per transmission associated with the rotary transmission.

Actuator Type

Usage	Access	Data Type	Default	Min	Max	Semantics of Values

Search

- [Quick Start Steps](#)
- [Logix Designer](#)
- [Module Information](#)
- ▴ [Instruction Set](#)

[Logix 5000 Controllers Instruction and Application Considerations](#)

[Logix Designer Application Instruction Set](#)

[Interpret the Attribute Tables Array Concepts](#)
- ▴ [CIP Axis Attributes](#)

[AXIS_CIP_DRIVE Diagrams](#)

[AXIS_CIP_DRIVE Structure](#)

▸ [Accessing Attributes](#)

[AC Line Condition Attributes](#)

[Acceleration Control Attributes](#)

[Acceleration Control Configuration Attributes](#)

[Additional Error Code Information](#)

▸ [APR Fault Attributes](#)

[Auto-Tune Configuration Attributes](#)

▸ [Axis Exception Action Configuration Attributes](#)

[Axis Info Attributes](#)

[Axis Safety Status Attributes](#)

[Axis Statistical Attributes](#)

[CIP Axis Status Attributes](#)

[CIP Error Codes](#)

[CIP Motion Axis Control Modes](#)

▸ [Command Reference Generation Attributes](#)

[Configuration Fault Attributes](#)

[Control Mode Attributes](#)

[Converter AC Line Configuration Attributes](#)

[Converter AC Line Monitoring Attributes](#)

[Converter AC Line Source Configuration Attributes](#)

[Converter Bus Voltage Control Configuration Attributes](#)

[Converter Bus Voltage Control Signal Attributes](#)

[Converter Control Mode Attributes](#)

Required - All	Set/GSV	USINT	0 DB	-	-	Enumeration 0 = None (R) 1 = Screw (O) 2 = Belt and Pulley (O) 3 = Chain and Sprocket (O) 4 = Rack & Pinion (O) 5-255 = Reserved
----------------	---------	-------	-------------	---	---	--

The Actuator Type attribute indicates the type of mechanism used for linear actuation.

Actuator Lead

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - All	Set/GSV	REAL	1 DB	0+		Actuator Lead Units

The Actuator Lead attribute is a floating point value that represents the lead or pitch of a screw actuator that is a measure of the linear movement of the screw mechanism per revolution of the screw shaft.

Actuator Lead Unit

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - All	Set/GSV	USINT	0	-	-	Enumeration 0 = mm/Rev 1 = Inch/Rev 2-255 = Reserved

The Actuator Lead Unit attribute indicates the units of the Actuator Lead attribute.

Actuator Diameter

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - All	Set/GSV	REAL	1	0+		Actuator Diameter Units

The Actuator Diameter attribute is a floating point value that represents the diameter of the pulley, sprocket, or pinion used to convert rotary motion into tangential linear displacement of the load. The Actuator Diameter is internally converted to circumference of the pulley, sprocket, or pinion to determine the amount of tangential displacement per revolution.

Actuator Diameter Unit

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
-------	--------	-----------	---------	-----	-----	---------------------

[Attributes](#)

[Converter Current Control Configuration Attributes](#)

[Converter Current Control Signal Attributes](#)

[Converter Current Reference Configuration Attributes](#)

[Converter Current Reference Signal Attributes](#)

[Converter Output Attributes](#)

[Converter Reactive Power Control Attributes](#)

[Converter Types](#)

[Current Control Signal Attributes](#)

[Current Control Configuration Attributes](#)

[Cyclic Read and Cyclic Write](#)

[DC Bus Condition Attributes](#)

[Device Function Codes](#)

[Device Commissioning Attributes](#)

[Drive General Purpose I/O Attributes](#)

[Drive Output Attributes](#)

[Drive Parameters](#)

[Event Capture Attributes](#)

[Exception Factory Limit Info Attributes](#)

[Exception User Limit Configuration Attributes](#)

[Exception, Fault and Alarm Attributes](#)

[Exceptions](#)

[Fault and Alarm Behavior](#)

[Feedback Interface Types](#)

[Feedback Configuration Attributes](#)

[Frequency Control Configuration Attributes](#)
[Frequency Control Signal Attribute](#)

[General Feedback Info Attributes](#)

[General Feedback Signal Attributes](#)

[General Linear Motor Attributes](#)

[General Motor Attributes](#)

[General Permanent Magnet Motor Attributes](#)

[General Rotary Motor](#)

Required - All	Set/GSV	USINT	0	-	-	Enumeration 0 = mm 1 = Inch 2-255 = Reserved
----------------	---------	-------	---	---	---	---

The Actuator Diameter Unit attribute is a value that indicates the units of the Actuator Diameter attribute.

See also

[Motor Attributes](#)

[General Motor Attributes](#)

[General Permanent Magnet Motor Attributes](#)

[General Rotary Motor Attributes](#)

[General Linear Motor Attributes](#)

[Attributes](#)

[Guard Safety Attributes](#)

[Guard Safety Status Attributes](#)

[Hookup Test Configuration Attributes](#)

[Hookup Test Result Attributes](#)

[Identify Motion Axis](#)

[Attributes Based on Device Function Codes](#)

[Induction Motor Attributes](#)

[Inertia Test Configuration Attributes](#)

[Inertia Test Result Attributes](#)

[Initialization Faults Attributes](#)

[Interior Permanent Magnet Motor Attributes](#)

[Linear PM Motor Attributes](#)

[Load Transmission and Actuator Attributes](#)

[Local Mode Configuration Attribute](#)

[Module/Node Fault and Alarm Attributes](#)

▷ [Motion Control Axis Behavior Model](#)

[Motion Control Configuration Attributes](#)

[Motion Control Interface Attributes](#)

[Motion Control Methods](#)

[Motion Control Modes](#)

[Motion Control Signal Attributes](#)

[Motion Control Status Attributes](#)

[Motion Database Storage Attributes](#)

[Motion Dynamic Configuration Attributes](#)

[Motion Fault and Alarm Exceptions](#)

[Motion Homing Configuration Attributes](#)

[Motion Instruction Compatibility](#)

[Motion Planner Configuration Attributes](#)

[Motion Planner Output Attributes](#)

▷ [Motion Scaling Attributes Motor Attributes](#)

[Motion Attributes Model](#)

[Motor Attributes Model](#)

[Motor Test Result Attributes](#)

[No Control Mode](#)

[Position Control Mode](#)

[Position Loop Signal Attributes](#)

[Position Loop Configuration Attributes](#)

[Power and Thermal Management Configuration Attributes](#)

[Power and Thermal Management Status Attributes](#)

[Replicated Attributes](#)

[Required vs. Optional Axis Attributes](#)

[Reset an APR Fault](#)

[Rockwell Automation Specific CIP Axis Alarm Names](#)

[Rockwell Automation Specific Exceptions](#)

[Rockwell Automation Specific CIP Axis Fault Names](#)

[Rockwell Automation Specific Initialization Faults](#)

[Rockwell Automation Specific Start Inhibits](#)

[Rotary PM Motor Attributes Standard CIP Axis Fault and Alarm Names](#)

[Standard Exceptions](#)

[Rotary PM Motor Attributes Standard Initialization Faults](#)

[Standard Start Inhibits](#)

[Start Inhibits Attributes](#)

[State Behavior](#)

▷ [Stopping and Braking Attributes](#)

[Torque Control Mode](#)

[Torque/Force Control Configuration Attributes](#)

[Torque/Force Control Signal Attributes](#)

[Velocity Control Mode](#)

[Velocity Loop Configuration Attributes](#)

[Velocity Loop Signal Attributes](#)

▷ [Module Configuration Attributes](#)

[Bit Addressing](#)

[Common Attributes](#)

[Data Conversions](#)

[Elementary data types](#)

[LINT data types](#)

[Floating Point Values](#)

[Immediate values](#)

[Index Through Arrays](#)

[Math Status Flags](#)

[Motion Error Codes \(.ERR\)](#)

[Structures](#)

- ▷ [Equipment Sequence instructions](#)
- ▷ [Equipment Phase Instructions](#)
- ▷ [Alarm Instructions](#)
- ▷ [Advanced Math Instructions](#)
- ▷ [Array_\(File\)/Misc Instructions](#)
- ▷ [Array_\(File\)/Shift Instructions](#)
- ▷ [ASCII Conversion Instructions](#)
- ▷ [ASCII Serial Port Instructions](#)
- ▷ [ASCII String Instructions](#)
- ▷ [Bit Instructions](#)
- ▷ [Compare Instructions](#)
- ▷ [Debug Instructions](#)
- ▷ [Drives Instructions](#)
- ▷ [Drive Safety Instructions](#)
- ▷ [For/Break Instructions](#)
- ▷ [Filter Instructions](#)
- ▷ [Function Block Attributes](#)
- ▷ [Structured Text Attributes](#)
- ▷ [Compute/Math Instructions](#)
- ▷ [Move/Logical Instructions](#)
- ▷ [Input/Output Instructions](#)
- ▷ [License Instructions](#)
- ▷ [Math Conversion Instructions](#)
- ▷ [Metal Form Instructions](#)
- ▷ [Motion Configuration Instructions](#)
- ▷ [Motion Event Instructions](#)
- ▷ [Motion Group Instructions](#)
- ▷ [Motion Move Instructions](#)
- ▷ [Motion State Instructions](#)
- ▷ [Multi-Axis Coordinated Motion Instructions](#)
- ▷ [Logical and Move Instructions](#)
- ▷ [Program Control Instructions](#)
- ▷ [Sequencer Instructions](#)
- ▷ [Special Instructions](#)
- ▷ [Timer and Counter Instructions](#)
- ▷ [Trigonometric Instructions](#)
- ▷ [Process Control Instructions](#)

- ▷ [Select/Limit Instructions](#)
- ▷ [Sequential Function Chart \(SFC\) Instructions](#)
- ▷ [Statistical Instructions](#)
- ▷ [Safety Instructions](#)
- ▷ [Studio 5000 Logix Designer Glossary](#)

Copyright © 2019 Rockwell Automation Technologies, Inc. All Rights Reserved.

[How are we doing?](#)