

Converter Current Control Configuration Attributes

These are the current control configuration attributes for the Regenerative Converter.

Converter Current Loop Bandwidth

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Set/SSV		REAL	0 Eq 24	0	∞	Loop Bandwidth Units

The Converter Current Loop Bandwidth attribute is the AC Line Current Loop Proportional Gain value that multiplies the active and reactive AC Line Current Error signals. This value directly determines the bandwidth of the active and reactive AC line current loops.

Converter Current Integrator Bandwidth

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Set/SSV		REAL	0 24	0	∞	Loop Bandwidth Units

The Converter Current Integrator Bandwidth attribute is the AC Line Current Loop Integral Gain value that, together with Kcp, multiplies the active and reactive AC Line Current Error signals before applying them to the active and reactive AC Line Current Integrator Error accumulators. This value represents the bandwidth of the velocity integrator beyond which the integrator is ineffective. A value of 0 for this attribute disables the integrators.

Converter Current Vector Limit

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Set/SSV		REAL	100 Eq29	0	10^3	% Rated

The Converter Current Vector Limit attribute sets the value applied to current vector limiter to provide a configurable limit to the magnitude of the converter's active and reactive current reference signals.

Converter Current Loop Tuning Method

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Set/SSV		USINT	0	-	-	Enumeration: 0 = Direct 1 = Calculated 2-255 = Reserved

Use the Converter Current Loop Tuning Method attribute to configure the responsiveness of the active and reactive current loops.

► [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](#)

On this page

[Attributes](#)

With the Direct method, the current loop response is determined directly by the Converter Current Integrator Bandwidth value that maps to the integral gain, Kci, of the converter's current loop. When configured for the Direct tuning method, the Converter Current Loop Damping attribute value has no effect on the current control loops.

With the Calculated method, the loop response is determined by the Converter Current Loop Damping value. The converter uses this value to calculate the appropriate internal current loop integral gain, Kci, based on the Converter Current Loop Bandwidth and known load characteristics of the AC Line. When configured for the Calculated tuning method, the Converter Current Loop Integrator Bandwidth attribute value has no effect on the current control loops.

Converter Current Loop Damping

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Set/SSV		REAL	1	0.5	2.0	

The Converter Current Loop Damping attribute is the Damping factor that, together with the specified Converter Current Loop Bandwidth value, determines responsiveness of the active and reactive AC line current loops. This attribute may be used as an alternative to directly setting the Kci gain value for the current loops. A damping factor of 1 results in a critically damped current loop.

See also

[Converter Current Control Signal 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](#)

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 Signal Attributes

Motion Control Status

Attributes

Motion Database Storage

Attributes

Motion Dynamic

Configuration Attributes

Motion Fault and Alarm Exceptions

Motion Homing Configuration

Motion Instruction Compatibility

Motion Planner Configuration Attribu

Motion Planner Output

Attributes

[MOTOR ATTRIBUTES MODEI](#)

- [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](#)

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[How are we doing?](#)