Converter Current Control Signal Attributes

These are the active and reactive current control attributes for the associated Motion Device Axis of a Regenerative Converter.

Converter Operative Current Limit

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV	T	REAL	-	-	-	% Rated

The Converter Operative Current Limit attribute represents the current limit value applied to the magnitude of the compensated current reference vector, consisting of Active and Reactive components. This value represents the minimum of all Converter Current Limit Sources.

% Rated is defined as percent of the Converter Rated Input Current.

Active Power Limit

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	% Rated

The Active Power Limit attribute is the current limit that corresponds to the maximum active power transfer between the AC Line and the converter. This value is calculated by the converter based on the value of the source impedance between the converter and the AC Line, and the DC Bus Voltage level.

% Rated is defined as percent of the Converter Rated Input Current.

Reactive Power Limit

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	% Rated

The Reactive Power Limit attribute is the current limit that corresponds to the maximum reactive power transfer between the AC Line and the converter. This value is calculated by the converter based on the value of the source impedance between the converter and the AC Line, and the DC Bus Voltage level.

% Rated is defined as percent of the Converter Rated Input Current.

Converter Current Limit Source

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values

Optional - G	Get/GSV	T	DINT	-	-	-	Enumeration: 0 = Not Limited 1 = Motoring Power Limit 2 = Regenerative Power Limit 3 = Current Vector Limit 4 = Thermal Current Limit 5 = Active Power Limit 6 = Reactive Power Limit 7-127 = Reserved 128-255 = Vendor specific

The Converter Current Limit Source attribute represents the operative source of a converter current limit when a current limit condition occurs.

Active Current Reference - Limited

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - G	Get/GSV	T	REAL	-	-	-	% Rated

The Active Current Reference - Limited attribute is the commanded active current reference signal after passing through the Current Limiter block. % Rated is defined as percent of the Converter Rated Input Current.

Reactive Current Reference - Limited

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - G	Get/GSV	T	REAL	-	-	-	% Rated

The Reactive Current Reference - Limited attribute is the commanded reactive current reference signal after passing through the Current Limiter block. % Rated is defined as percent of the Converter Rated Input Current.

Active Current Error

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV	T	REAL	-	-	-	% Rated

The Active Current Error attribute is the error between active current reference and active current feedback signals that is the output of the active power producing current loop summing junction. % Rated is defined as percent of the Converter Rated Input Current.

Reactive Current Error

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values

Attributes

Converter Current Control Configuration Attributes
Converter Current Control Signal Attributes
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Converter Current Reference Signal Attributes
Converter Output Attributes
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Converter Types
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Cyclic Read and Cyclic Write
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Device Commissioning Attributes
Drive General Purpose I/O Attributes
Drive Output Attributes
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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

Optional - G	Get/GSV	T	REAL	-	-	-	% Rated

The Reactive Current Error attribute is the error between reactive current reference and reactive current feedback signals that is the output of the reactive power producing current loop summing junction. % Rated is defined as percent of the Converter Rated Input Current.

Active Decoupling Voltage

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The Active Decoupling Voltage attribute is the voltage signal added to the active current control loop output to compensate for the effects of reactive current and apply an active feedforward signal.

Reactive Decoupling Voltage

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The Reactive Decoupling Voltage attribute is the voltage signal added to the reactive current control loop output to compensate for the effects of active current and apply a reactive feedforward signal.

Active Voltage Output

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The Active Voltage Output attribute is the active power producing output voltage from the active current control loop.

Reactive Voltage Output

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The Reactive Voltage Output attribute is the reactive power producing output voltage from the reactive current control loop.

AC Line 1 Voltage Output

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The AC Line 1 Voltage Output attribute is the instantaneous output voltage applied between the L1 and L2 phases of AC line by the PWM modulator and power structure. The resultant modulated output voltage is applied on the converter side of the AC Line Filter.

AC Line 2 Voltage Output

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The AC Line 2 Voltage Output attribute is the instantaneous output voltage to be applied between the L2 and L3 phases of AC line by the PWM generator and power structure. The resultant modulated output voltage is applied on the converter-side of the AC Line Filter.

AC Line 3 Voltage Output

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The AC Line 3 Voltage Output attribute is the instantaneous output voltage to be applied between the L3 and L1 phases of AC line by the PWM generator and power structure. The resultant modulated output voltage is applied on the converter-side of the AC Line Filter.

AC Line 1 Current Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Amps

The AC Line 1 Current Feedback attribute is the measured instantaneous current applied to the L1 phase of AC Line from sensors on the converter-side of the AC Line Filter.

AC Line 2 Current Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Amps

The AC Line 2 Current Feedback attribute is the measured instantaneous current applied to the L2 phase of AC Line from sensors on the converter-side of the AC Line Filter.

AC Line 3 Current Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Amps

The AC Line 3 Current Feedback attribute is the measured instantaneous current applied to the L3 phase of AC Line from sensors on the converter-side of the AC Line Filter.

Active Current Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV	T	REAL	-	-	-	% Rated

The Active Current Feedback attribute is the measured active power producing current of the AC line based on transformed AC Line Current Feedback from the three phases. A positive value indicates motoring current and negative value indicates regenerative current.

Reactive Current Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV	T	REAL	-	-	-	% Rated

The Reactive Current Feedback attribute is the reactive power producing current of the AC line based on transformed AC Line Current Feedback from the three phases. A positive value indicates lagging current and negative value indicates leading current.

AC Line 1 Voltage Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The AC Line 1 Voltage Feedback attribute is the measured instantaneous voltage applied between the L1 and L2 phases of AC Line from sensors on the grid-side of the AC Line Filter.

AC Line 2 Voltage Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The AC Line 2 Voltage Feedback attribute is the measured instantaneous voltage applied between the L2 and L3 phases of AC Line from sensors on the grid-side of the AC Line Filter.

AC Line 3 Voltage Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The AC Line 3 Voltage Feedback attribute is the measured instantaneous voltage applied between the L3 and L1 phases of AC Line from sensors on the grid-side of the AC Line Filter.

Active Voltage Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The Active Voltage Feedback attribute is the active power producing voltage of the AC line based on transformed AC Line Voltage Feedback from the three phases.

Reactive Voltage Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		REAL	-	-	-	Volts

The Reactive Voltage Feedback attribute is the reactive power producing voltage of the AC line based on transformed AC Line Voltage Feedback from the three phases.

AC Line Electrical Angle

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV	T	REAL	-	-	-	Degrees

The AC Line Electrical Angle attribute is the estimated electrical angle of the AC line voltage.

See also

Converter Current Reference Signal Attributes

Axis Info Attributes

▷ Select/Limit Instructions
▷ Sequential Function Chart (SFC) Instructions
▷ Statistical Instructions
▷ Safety Instructions
▷ Studio 5000 Logix Designer Glossary

How are we doing?