

# Converter Bus Voltage Control Signal Attributes

These are the attributes of the bus voltage control loop associated with a regenerative converter.

## Bus Voltage Reference

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - G	Get/GSV		Real	-	-	-	Volts
Optional - N							
Voltage Control only - G							

The Bus Voltage Reference attribute is the converter DC bus voltage reference signal into the bus voltage regulation summing junction to be compared with the bus voltage feedback signal. When the Bus Voltage Reference Source is set to Manual, the Bus Voltage Reference value shall equal the rate limited Bus Voltage Set Point when the axis is in the Running state. In all other axis states, or when the Bus Voltage Reference Source is set to Automatic, the Bus Voltage Reference is under local control of the Converter and typically derived from the AC Line Voltage.

## Bus Voltage - High Limit

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		Real	-	-	-	Volts
Voltage Control only							

The Bus Voltage - High Limit attribute is the high limit for the Bus Voltage Reference signal established by the regenerative converter.

## Bus Voltage - Low Limit

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G	Get/GSV		Real	-	-	-	Volts
Voltage Control only							

The Bus Voltage - Low Limit attribute is the low limit for the Bus Voltage Reference signal established by the regenerative converter. This limit is typically derived from the AC Line Voltage Nominal attribute value.

## Bus Voltage Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values

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Required - G Voltage Control only	Get/GSV	T	Real	-	-	-	Volts
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The Bus Voltage Feedback attribute is the measured DC bus voltage of the converter output that is applied to the bus voltage summing junction.

## Bus Voltage Error

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - G Voltage Control only	Get/GSV	T	Real	-	-	-	Volts

The Bus Voltage Error attribute is the error between the Bus Voltage Reference and Bus Voltage Feedback signals that is the output of the bus voltage loop summing junction.

## Bus Voltage Loop Output

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G Voltage Control only	Get/GSV		Real	-	-	-	Volts/Seconds

The Bus Voltage Loop Output attribute is the output of the bus voltage loop forward path representing the total control effort of the bus voltage control loop.

## Bus Observer Voltage Rate Estimate

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G Voltage Control only	Get/GSV	T	Real	-	-	-	Volts/Seconds

The Bus Observer Voltage Rate Estimate attribute is the output of the Bus Observer that, when the Bus Observer block is enabled, is applied to the voltage rate summing junction. When the Bus Observer is enabled, this signal compensates for disturbances to the DC Bus relative to an ideal DC Bus model with fixed capacitance. When the Bus Observer is disabled, this signal is 0.

## Bus Observer Current Estimate

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - G Voltage Control only	Get/GSV	T	Real	-	-	-	% Rated

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The Bus Observer Current Estimate attribute is the product of the Bus Observer Voltage Rate Estimate signal and the current System Capacitance value, Kc. In the Bus Observer configuration, this signal represents the estimated current disturbances to the DC Bus relative to an ideal DC Bus model. When the Load Observer is disabled, this signal is 0.

## See also

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[Converter Current Reference Configuration Attributes](#)  
[Converter AC Line Monitoring Attributes](#)

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