

# Position Loop Signal Attributes

These are the position loop signal related attributes associated with a Motion Control Axis.

## Position Command

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - P	Get	T	DINT	0	- maxpos	maxpos	Position Control Units

The Position Command attribute is the command position output from the Find Command Generator (if active) into the position loop when configured for position loop control.

## Position Trim

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - P	Set	T	DINT	0	- maxpos	maxpos	Position Control Units

The Position Trim attribute is an additional position command added to the Position Command to generate the Position Reference signal into the position loop summing junction.

## Position Reference

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - P	Get	T	DINT	-	-	-	Position Control Units

The Position Reference attribute is the command position reference signal into the position loop summing junction to be compared with a position feedback signal.

## Velocity Feedforward Command

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - P	Get/GSV	T	REAL	-	-	-	Velocity Control Units/Sec

The Velocity Feedforward Command attribute is a command signal that represents a scaled version of the command velocity profile. This signal is the Velocity Fine Command signal scaled by Velocity Feedforward Gain and applied to the output of the position loop.

## Position Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - E	Get	T	DINT	0	- maxpos	maxpos	Position Control Units

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The Position Feedback attribute is a 32-bit position feedback value that when configured for Position Control mode, is applied to the position proportional control summing junction. In most cases the Position Feedback signal is derived directly from the feedback device specified by the Feedback Mode selection. If, however, axis Feedback Mode is configured for *Master Feedback* Position Feedback represents the actual position of the feedback device specified by the Feedback Master Select. If Feedback Master Select is not supported, the Feedback 1 channel is used.

## Position Feedback - 64 Bit

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Optional - E	Get	T	LINT	-	-	-	Position Control Units

This 64-bit position feedback value, when supported, extends the range of the 32-bit Position Feedback attribute. When configured for Position Control mode, the lower 32-bits of this attribute becomes the Position Feedback signal that is applied to the position proportional control summing junction. In most cases the Position Feedback - 64 Bit signal is derived directly from the feedback device specified by the Feedback Mode selection. If axis Feedback Mode is configured for *Master Feedback* Position Feedback - 64 Bit represents the actual position of the feedback device specified by the Feedback Master Select. If Feedback Master Select is not supported, the Feedback 1 channel is used.

## Position Integral Feedback

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - P	Get	T	DINT	-	-	-	Position Control Units

The Position Integral Feedback attribute is position feedback value channeled into the position integral control summing junction.

## Position Error

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - P	Get/GSV	T	REAL	-	-	-	Position Units

The Position Error attribute is the error between commanded and actual position that is the output of the position loop summing junction.

## Position Integrator Output

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - P	Get/GSV	T	REAL	-	-	-	Velocity Units

The Position Integrator Output attribute is the output of position integrator representing the contribution of the position integrator to Position Loop Output.

## Position Loop Output

Usage	Access	T	Data Type	Default	Min	Max	Semantics of Values
Required - P	Get/GSV	T	REAL	-	-	-	Velocity Units

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