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Interior Permanent Magnet Motor Attributes

The following attribute tables list the motor configuration attributes that apply only to Interior Permanent Magnet (IPM) motor types.

PM Motor Lq Flux Inductance

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - D	SSV	REAL	0 DB	0	-	Henries

A floating point value that specifies the phase-to-neutral, q-axis, inductance of an interior permanent magnet motor.

PM Motor Ld Flux Inductance

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required	SSV	REAL	0 DB	0	-	Henries

A floating point value that specifies the phase-to-neutral, d-axis, inductance of an interior permanent magnet motor.

PM Motor Ld Flux Saturation

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Optional - D	SSV	REAL	100 DB	0	100	% Nominal Inductance

An array of floating point values that specify the amount of d-axis flux saturation in the motor at rate current. The units for d-axis flux saturation values are percent of Nominal Inductance, such that a value of 100% means no saturation, and 90% means the inductance is 90% of its value at zero current given by the PM Motor Ld Inductance attribute. The PM Motor Ld Flux Saturation value specifies the d-axis flux saturation at 100% of the Continuous Current Rating.

PM Motor Ld Flux Saturation

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Optional - D	SSV	REAL	100 DB	0	100	% Nominal Inductance

An array of floating point values that specify the amount of d-axis flux saturation in the motor at rate current. The units for d-axis flux saturation values are percent of Nominal Inductance, such that a value of 100% means no saturation, and 90% means the inductance is 90% of its value at zero current given by the PM Motor Ld Inductance attribute. The PM Motor Ld Flux Saturation value specifies the d-axis flux saturation at 100% of the Continuous Current Rating.

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Commutation Offset Compensation

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Optional - CE	SSV	REAL	0	0	-	Electrical Degrees

This value specifies the change in the Commutation Offset value in units of electrical degrees as a linear function of current. When the Iq current is +100% of rated continuous current, the Commutation Offset value is decreased by the value of this attribute. When the Iq current is -100% the Commutation Offset is increased by the value of the attribute. This attribute is used by the drive to compensate for changes in the optimal Commutation Offset angle that can occur as a function of motor current.

Motor Test Lq Inductance

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - D	GSV	REAL	-	-	-	Henries

This floating point value represents the phase-to-phase q-axis motor inductance measured by the Motor Test procedure.

Motor Test Ld Inductance

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - D	GSV	REAL	-	-	-	Henries

This floating point value represents the phase-to-phase d-axis motor inductance measured by the Motor Test procedure.

Motor Test Lq Flux Saturation

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - D	GSV	REAL [8]	-	-	-	% Nominal Inductance

This array of floating point values represents the phase-to-phase q-axis stator inductance of the motor as measured by the Motor Test procedure expressed as a percentage of the measured Nominal Inductance, Lq, at 25%, 50%, 75%, 100%, 125%, 150%, 175% and 200% rated continuous current.

Motor Test Ld Flux Saturation

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - D	GSV	REAL	-	-	-	% Nominal Inductance

This floating point value represents the phase-to-phase d-axis stator inductance of the motor as measured by the Motor Test procedure expressed as a percentage of the measured Nominal Inductance, Ld, at 100% rated continuous current.

Motor Test Max Speed

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - D	GSV	REAL	-	-	-	RPM (rotary motor type) m/s (linear motor type)

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						m/s (linear motor type)
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This floating point value represents the maximum speed of the motor as determined by the Motor Test procedure.

Motor Test Commutation Offset Comp

Usage	Access	Data Type	Default	Min	Max	Semantics of Values
Required - D	GSV	REAL	-	-	-	Electrical Degrees

This floating point value represents the change in motor Commutation Offset at rated continuous current as measured by the Motor Test procedure.

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