












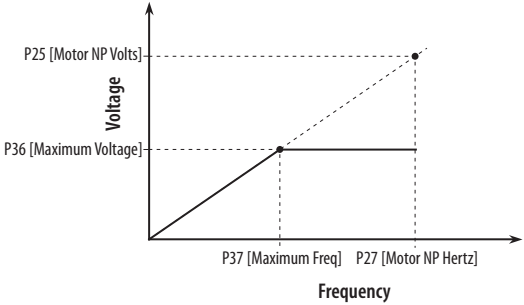




Drive (Port 0) Motor Control File



File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Motor Data	25	Motor NP Volts  Motor Nameplate Volts Rated volts shown on the motor nameplate.	Units: Default: Min/Max:	V AC Based on Drive Rating and Voltage Class 0.10 x P25 [Motor NP Volts] / Based on Drive Rating and Voltage Class	RW	Real
		26	Motor NP Amps  Motor Nameplate Amps Rated full load amps shown on the motor nameplate.	Units: Default: Min/Max:	Amps Based on Drive Rating 0.01 x P21 [Rated Amps] / 14200.00	RW	Real
		27	Motor NP Hertz  Motor Nameplate Hertz Rated frequency shown on the motor nameplate.	Units: Default: Min/Max:	Hz Based on Drive Rating 2.00 / 650.00	RW	Real
		28	Motor NP RPM  Motor Nameplate Revolutions Per Minute Rated RPM shown on the motor nameplate. Note: The value of this parameter must reflect the slip speed of the motor. For example, for a 60 Hz, 4 pole motor, a value of 1800 is synchronous speed, and 1750 is slip speed.	Units: Default: Min/Max:	RPM Based on Drive Rating 1.0 / 40000.0	RW	Real
		29	Mtr NP Pwr Units  Motor Nameplate Power Units  Power units shown on the motor nameplate.	Default: Options:	Based on Drive Rating 0 – HP 1 – kW	RW	32-bit Integer
		30	Motor NP Power  Motor Nameplate Power Rated power shown on the motor nameplate.	Units: Default: Min/Max:	HP (P29 = 0) kW (P29 = 1) Based on Drive Rating 0.01 / 2000.00	RW	Real
		31	Motor Poles  Motor Poles Number of poles in the motor. Poles = $\frac{120 \times [\text{Motor NP Hertz}]}{[\text{Motor NP RPM}]}$	Units: Default: Min/Max:	Pole 4 2 / 200	RW	32-bit Integer

File	Group	No.	Display Name Full Name Description	Values	Read-Write	Data Type
MOTOR CONTROL	Mtr Ctrl Options	35	Motor Ctrl Mode  Motor Control Mode Motor type and motor control mode. InductionVHz (0) – Induction motor, volts per Hertz control mode. Note: When using the Induction VHz (0) motor control mode, see the diagram for voltage and frequency in the Volts per Hertz group on page 62 for additional detail on the drive programming. Induction SV (1) – Induction motor, sensorless vector control mode. Induct Econ (2) – Induction motor, economize control mode. Induction FV (3) – Induction motor, flux vector control mode. PM VHz (4) – Permanent magnet motor, volts per Hertz control mode. PM SV (5) – Permanent magnet motor, sensorless vector control mode. PM FV (6) – Permanent magnet motor, flux vector control mode. SyncRel VHz (7) – Synchronous Reluctance motor, volts per Hertz control mode. SyncRel SV (8) – Synchronous Reluctance motor, sensorless vector control mode. Adj VltgMode (9) – Adjustable voltage control mode. IPM FV (10) – Interior permanent magnet motor, flux vector control mode.	Default: 1 – Induction SV Options: 0 – InductionVHz 1 – Induction SV 2 – Induct Econ 3 – Induction FV 4 – PM VHz  ⁽¹⁾ 5 – PM SV  ⁽¹⁾ 6 – PM FV  ⁽¹⁾ 7 – SyncRel VHz 8 – SyncRel SV 9 – Adj VltgMode ⁽²⁾ 10 – IPM FV (1) See the table in P80 [PM Cfg] on page 64 . For permanent magnet motors see Motor Name Plate and Rating Specifications table in Appendix E for motor data. (2) In the Adjustable control voltage mode, verify that P40 [Mtr Option Cfg] Bit 15 = 0 and P36 [Maximum Voltage] and 37 [Maximum Freq] ≠ 0.	RW	32-bit Integer
		36	Maximum Voltage Maximum Voltage The highest voltage the drive will output.	Units: V AC Default: Based on Drive Rating and Voltage Class Min/Max: Based on Drive Rating and Voltage Class	RW	Real
		37	Maximum Freq  Maximum Frequency Determines the frequency where voltage limiting begins. Voltage limiting is either the corresponding voltage from the curve or the value of parameter 36 [Maximum Voltage]. Only active when parameter 35 [Motor Ctrl Mode] is set to 0 "InductionVHz." 	Units: Hz Default: Based on P27 [Motor NP Hertz] / P28 [Motor NP RPM] and Voltage Class Min/Max: $0.00016667 \times P27$ [Motor NP Hertz] / 650.00	RW	Real
		38	PWM Frequency  Pulse Width Modulation Frequency Pulse Width Modulated frequency (power transistor switching frequency). Drive derating may occur with increased values. See the PowerFlex 750-Series AC Drive Technical Data, publication 750-TD001 , for derating guidelines.	Units: kHz Default: Based on Drive Rating Min/Max: Based on Drive Rating	RW	Real





File	Group	No.	Display Name Full Name Description	Values	Read-Write	Data Type																																																																																																
MOTOR CONTROL	Mtr Ctrl Options	40	Mtr Options Cfg Motor Options Configuration Configuration of motor control-related functions. For motors above 200 Hz, a carrier frequency of 8 kHz or higher is recommended. Consider drive derate and motor lead distance restrictions. Options <table><tr><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Jerk Select</td><td>Not Used</td><td>Common Mode</td><td>Xsistor Diag ⁽¹⁾</td><td>Elect Stab</td><td>DB WhileStop</td><td>PWM FreqLock</td><td>AsyncPWMLock</td><td>PWM Type Sel</td><td>RS Adaption</td><td>Reflect Wave</td><td>Mtr Lead Rev</td><td>EnclsTrqProv ⁽²⁾</td><td>Trq ModeLog</td><td>Trq ModeStop</td><td>Zero TrqStop</td></tr><tr><td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>0</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td><td>0</td><td>0</td><td>1</td><td>1</td><td>1</td></tr><tr><td>Bit</td><td>32</td><td>30</td><td>29</td><td>28</td><td>27</td><td>26</td><td>25</td><td>24</td><td>23</td><td>22</td><td>21</td><td>20</td><td>19</td><td>18</td><td>17</td><td>16</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> (1) 753 drive default is 1 = Enabled. 755 drive default is 0 = Disabled. (2) 755 drives only. Bit 0 “Zero TrqStop” – Configures stopped condition when in torque mode. 0 = wait for zero speed before shutting off drive output, 1 = wait for zero torque before shutting off drive output. Bit 1 “Trq ModeStop” – Configures stopping behavior when in torque mode. 0 = remain in torque mode, 1 = switch to speed mode Bit 2 “Trq ModeJog” – Configures jogging behavior when in torque mode. 0 = remain in torque mode, 1 = switch to speed mode Bit 3 “EnclsTrqProv” – Enables encoderless mode when using the torque prove function. 0 = Disabled, 1 = Enabled. Bits 0 and 1 of P1100 [Trq Prove Cfg] must also be set to use this mode. Bit 4 “Mtr Lead Rev” – Reverses the phase rotation of the applied voltage, effectively reversing the motor leads. 0 = Not Reversed, 1 = Reversed Bit 5 “Reflect Wave” – Enables reflected wave voltage protection for long motor cables. 0 = Disabled, 1 = Enabled Bit 6 “RS Adaption” – Adapts for changes in motor stator resistance due to motor temperature. Active only in FV motor control mode with feedback. 0 = Disabled, 1 = Enabled Bit 7 “PWM Type Sel” – Configures 3 Phase / 2 Phase switching of the power devices. 0 = 3 Phase modulation with auto switchover to 2 phase modulation. 1 = Full time 3 phase modulation (no switchover) Bit 8 “AsyncPWMLock” – Configures Synchronous / Asynchronous switching of the power devices. 0 = Automatically changes between synchronous and asynchronous. 1 = Asynchronous switching only. Bit 9 “PWM FreqLock” – Configures switching frequency of the power devices while in FV motor control mode without feedback. 0 = switching frequency automatically reduces to 2 kHz at low speeds (best performance), 1 = switching frequency does not reduce (setting used when switching frequency reduction is undesirable) Bit 10 “DB WhileStop” – Enables operation of the dynamic brake transistor while the drive is stopped. 0 = Disabled, 1 = Enabled Bit 11 “Elect Stab” – Enables stability control for Sensorless Vector and V/Hz motor control modes. 0 = Disabled, 1 = Enabled Bit 12 “Xsistor Diag” – Enables power transistor diagnostic test at each start command. Recommended to set to Disabled if an output filter is installed with the drive. Refer to publication PFLEX-AT002 for additional information. 0 = Disabled, 1 = Enabled Bit 13 “Common Mode” – Enables the common mode reduction feature. See Parameter 41, Common Mode Type, for common mode type selection. Bit 15 “Jerk Select” – Limits the rate of change to the velocity reference for improved current limiting. This setting applies only to Sensorless Vector and V/Hz motor control modes. 0 = Disabled (0.0 second ramp time achievable), 1 = Enabled (0.0 second ramp time prevented)	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Jerk Select	Not Used	Common Mode	Xsistor Diag ⁽¹⁾	Elect Stab	DB WhileStop	PWM FreqLock	AsyncPWMLock	PWM Type Sel	RS Adaption	Reflect Wave	Mtr Lead Rev	EnclsTrqProv ⁽²⁾	Trq ModeLog	Trq ModeStop	Zero TrqStop	Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	1	1	0	0	1	1	1	Bit	32	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	RW	32-bit Integer
		Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	Jerk Select	Not Used	Common Mode	Xsistor Diag ⁽¹⁾	Elect Stab	DB WhileStop	PWM FreqLock	AsyncPWMLock	PWM Type Sel	RS Adaption	Reflect Wave	Mtr Lead Rev	EnclsTrqProv ⁽²⁾	Trq ModeLog	Trq ModeStop	Zero TrqStop																																																																					
Default	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1	0	0	0	1	1	1	0	0	1	1	1																																																																							
Bit	32	30	29	28	27	26	25	24	23	22	21	20	19	18	17	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																						
		41	 Common Mode Type Common Mode Type CMV (0) – Reduces common mode voltage that degrades motor bearings and corrupts signals in control systems. It produces high DC bus ripple and reduces DC bus capacitor life. CMI (1) – Reduces common mode current within the drive that helps reduce the stress on the power components when the jumpers are disconnected on a solidly grounded network.	Default: 0 – CMV Options: 0 – CMV 1 – CMI	RW	32-bit Integer																																																																																																

File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Mtr Ctrl Options	42	Bus Utilization Bus Utilization The maximum allowed bus voltage utilization for the Motor Control. Do not change this value without consulting Technical Support. Higher values may result in control instability or over-current faults.	Units: Default: Min/Max:	% 95.00 85.00 / 100.00	RW	Real
		43	Flux Up Enable Flux Up Enable Manual (0) – Flux is established for P44 [Flux Up Time] before initial acceleration. Automatic (1) – Flux is established for a calculated time period based on motor nameplate data before acceleration. P44 [Flux Up Time] is not used.	Default: Options:	1 – Automatic 0 – Manual 1 – Automatic	RW	32-bit Integer
		44	Flux Up Time Flux Up Time The amount of time the drive will use to try to achieve full motor stator flux. When a Start command is issued, DC current at P26 [Motor NP Amps] level is used to build stator flux before accelerating. This parameter cannot be changed unless P43 [Flux Up Enable] is set to 0 “Manual.”	Units: Default: Min/Max:	Secs 0.0000 0.0000 / 5.0000	RW	Real
		45	Flux Down Ki Flux Down Ki The integral term used in the voltage regulator which controls the removal of flux in the motor. Refer to the PowerFlex 750-Series AC Drives Installation Instructions, publication 750-IN001 , for jumper locations and positions.	Default: Min/Max:	0.20 0.00 / 100.00	RW	Real
		46	Flux Down Kp Flux Down Kp The proportional term used in the voltage regulator which controls the removal of flux in the motor.	Default: Min/Max:	150.0 0.0 / 10000.0	RW	Real
		47	Econ At Ref Ki Economize At Reference Ki Integral gain that determines the response of the output voltage when P35 [Motor Ctrl Mode] option 2 “Induct Econ” is selected and the output frequency is at its reference.	Default: Min/Max:	305.0 0.0 / 100000.0	RW	Real
		48	Econ AccDec Ki Economize Acceleration/Deceleration Ki Integral gain that determines the response of the output voltage when P35 [Motor Ctrl Mode] option 2 “Induct Econ” is selected and the output frequency is either accelerating or decelerating to a reference.	Default: Min/Max:	200.0 0.0 / 100000.0	RW	Real
		49	Econ AccDec Kp Economize Acceleration/Deceleration Kp Proportional gain that determines the response of the output voltage when P35 [Motor Ctrl Mode] option 2 “Induct Econ” is selected and the output frequency is either accelerating or decelerating to a reference.	Units: Default: Min/Max:	V/A 100.0 0.0 / 1000000.0	RW	Real
		50	Stability Filter Stability Filter The filter time constant for the angle and voltage stability control.	Units: Default: Min/Max:	Secs 5162.22 0.00 / 1000000.00	RW	Real
		51	Stab Volt Gain Stability Voltage Gain The gain of the voltage stability control function. Active in all modes except when any FV motor control mode is selected in P35 [Motor Ctrl Mode] with speed feedback.	Default: Min/Max:	5322.22 0.00 / 10000000.00	RW	Real
		52	Stab Angle Gain Stability Angle Gain The gain of the electrical angle stability control function. Active in all modes except when any FV motor control mode is selected in P35 [Motor Ctrl Mode] with speed feedback.	Default: Min/Max:	790.43 0.00 / 10000000.00	RW	Real

File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Mtr Ctrl Options	1648	IPM V FB HP Filt IPM Voltage Feedback High Pass Filter High Pass Filter setting for the High Speed angle control. Note: This parameter is not used by Frame 8 drives and larger.	Default: Min/Max:	15.0 1.0 / 50.0	RW	Real
		1649	IPM SpdEst Filt IPM Speed Estimator Filter Bandwidth (BW) setting for the Speed Estimator filter. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	R/S 1000.0 1.0 / 9999.9	RW	Real
		1650	IPM SpdEst Kp IPM Speed Estimator Kp Kp tuning value for the Speed Estimator. Note: This parameter is not used by Frame 8 drives and larger.	Default: Min/Max:	30.0 0.0 / 1000.0	RW	Real
		1651	IPM SpdEst Ki IPM Speed Estimator Ki Ki tuning value for the Speed Estimator. Note: This parameter is not used by Frame 8 drives and larger.	Default: Min/Max:	2500.0 0.0 / 25000.0	RW	Real
		1652	IPM SpdEst KiAdj IPM Speed Estimator Ki Adjust Step size used to adjust the Ki value of the Speed Estimator during no load conditions. Note: This parameter is not used by Frame 8 drives and larger.	Default: Min/Max:	75.0 0.0 / 500.0	RW	Real
		1653	IPM Tran PWM IPM Transition PWM Transition frequency where the PWM type is changed during deceleration. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	Hz 8.0 3.0 / 200.0	RW	Real
		1654	IPMTran PWM Hyst IPM Transition PWM Hysteresis Hysteresis frequency used with P1653 [IPM Tran PWM] during acceleration. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	Hz 2.0 0.0 / 50.0	RW	Real
		1655	IPM Tran Mode IPM Transition Mode Transition frequency where the control angle is changed during deceleration. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	Hz 4.0 0.5 / 200.0	RW	Real
		1656	IPM TranMod Hyst IPM Transition Mode Hysteresis Hysteresis frequency used with P1655 [IPM Tran Mode] during acceleration. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	Hz 3.0 0.0 / 50.0	RW	Real
		1657	IPM Tran Filt Lo IPM Transition Filter Low Bandwidth (BW) setting for the frequency used for Transition of angle and PWM during acceleration. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	R/S 35.0 1.0 / 9999.0	RW	Real
		1658	IPM Tran Filt Hi IPM Transition Filter High Bandwidth (BW) setting for the frequency used for Transition of angle and PWM during deceleration. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	R/S 1000.0 1.0 / 9999.0	RW	Real








File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Mtr Ctrl Options	1659	IPM Tran Angle IPM Transition Angle Difference Threshold between High and Low angle control to allow transition. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	Cnts 100.0 5.0 / 500.0	RW	Real
		1660	 IPM Stc Ofstst K IPM Static Offset Test Constant Reduction factor for Static Offset test pulses. Note: This parameter is not used by Frame 8 drives and larger.	Default: Min/Max:	1.00 0.10 / 9.00	RW	Real
		1661	 IPM Lq Cmd BW IPM Lq Command Bandwidth IqFddk Filter Bandwidth (BW) used to select the Active Lq for the IPM control. Note: This parameter is not used by Frame 8 drives and larger.	Units: Default: Min/Max:	R/S 10.0 1.0 / 999.9	RW	Real
		1662	IPM SpdEst Kp Hi IPM Speed Estimator Kp High Kp High tuning value for the Speed Estimator at high speed. Note: This parameter is not used by Frame 8 drives and larger.	Default: Min/Max:	30.0 0.00 / 5000.0	RW	Real

File	Group	No.	Display Name Full Name Description	Values	Read-Write	Data Type
MOTOR CONTROL	Volts per Hertz	60	Start Acc Boost Start/Acceleration Boost The voltage boost level for starting and acceleration when a “VHz” mode is selected, according to P35 [Motor Ctrl Mode]. Refer to diagram for P524 [Overspeed Limit].	Units: V AC Default: Based on Drive Rating Min/Max: 0.00 / Based on Drive Rating and Voltage Class	RW	Real
		61	Run Boost Run Boost The boost level for steady state and deceleration when a “VHz” mode is selected, according to P35 [Motor Ctrl Mode]. Refer to diagram for P524 [Overspeed Limit].	Units: V AC Default: Based on Drive Rating Min/Max: 0.00 / Based on Drive Rating and Voltage Class	RW	Real
		62	Break Voltage Break Voltage The voltage the drive will output at P63 [Break Frequency] when a “VHz” mode is selected, according to P35 [Motor Ctrl Mode]. Refer to diagram for P524 [Overspeed Limit].	Units: V AC Default: Based on Drive Rating and Voltage Class Min/Max: 0.00 / P25 [Motor NP Volts] x 1.5	RW	Real
		63	Break Frequency Break Frequency The frequency the drive will output at P62 [Break Voltage] when a “VHz” mode is selected, according to P35 [Motor Ctrl Mode]. Refer to diagram for P524 [Overspeed Limit].	Units: Hz Default: P27 [Motor NP Hertz] x 0.25 Min/Max: 0.00 / P27 [Motor NP Hertz]	RW	Real
		<p>This diagram (with P65 set to Custom V/Hz) depicts the Voltage to Frequency ratio when using the Induction VHz (0) motor control mode.</p>				
		64	SVC Boost Filter SVC Boost Filter The voltage boost filter time constant when a “SVC” mode is selected, according to P35 [Motor Ctrl Mode].	Units: Secs Default: 0.1000 Min/Max: 0.0001 / 1000.0000	RW	Real
		65	VHz Curve VHz Curve Selects either a predefined curve (for example Fan/Pump), or a custom curve when a “VHz” mode is selected, according to P35 [Motor Ctrl Mode]. Refer to diagram for P524 [Overspeed Limit]. See Motor Control Modes in the PowerFlex 750-Series AC Drives Reference Manual, publication 750-RM002 , for more information on the Fan/Pump option.	Default: 0 – Custom V/Hz Options: 0 – Custom V/Hz 1 – Fan/Pump	RW	32-bit Integer

File	Group	No.	Display Name Full Name Description	Values	Read-Write	Data Type
MOTOR CONTROL	Autotune	70	Autotune  <p>Autotune</p> <p>Provides a manual or automatic method for setting P73 [IR Voltage Drop], P74 [Ixo Voltage Drop] and P75 [Flux Current Ref]. Valid only when parameter P35 [Motor Ctrl Mode] is set to 1 "Induction SV", 2 "Induct Econ", or 3 "Induction FV."</p> <p>Ready (0) – Parameter returns to this setting following a "Static Tune" or "Rotate Tune", at which time another start transition is required to operate the drive in normal mode. It also permits manually setting P73 [IR Voltage Drop], P74 [Ixo Voltage Drop] and P75 [Flux Current Ref].</p> <p>Calculate (1) – Uses motor nameplate data to automatically set P73 [IR Voltage Drop], P74 [Ixo Voltage Drop], P75 [Flux Current Ref] and P621 [Slip RPM at FLA].</p> <p>Static Tune (2) – A temporary command that initiates a non-rotational motor stator resistance test for the best possible automatic setting of P73 [IR Voltage Drop] in all valid modes and a non-rotational motor leakage inductance test for the best possible automatic setting of P74 [Ixo Voltage Drop] in a Flux Vector (FV) mode. A start command is required following initiation of this setting. Used when motor cannot be rotated.</p> <p>Rotate Tune (3) – A temporary command that initiates a "Static Tune" followed by a rotational test for the best possible automatic setting of P75 [Flux Current Ref]. In Flux Vector (FV) mode, with encoder feedback, a test for the best possible automatic setting of P621 [Slip RPM at FLA] is also run. A start command is required following initiation of this setting. Important: If using rotate tune for a Sensorless Vector (SV) mode, the motor should be uncoupled from the load or results may not be valid. With a Flux Vector (FV) mode, either a coupled or uncoupled load will produce valid results.</p> <hr/> <div>  <p>ATTENTION: Rotation of the motor in an undesired direction can occur during this procedure. To guard against possible injury and/or equipment damage, it is recommended that the motor be disconnected from the load before proceeding.</p> </div> <hr/> <p>Inertia Tune (4) – A temporary command that initiates an inertia test of the motor/load combination. The motor will ramp up and down while the drive measures the amount of inertia. This option only applies to FV modes selected in P35 [Motor Ctrl Mode]. Final test results should be obtained with load coupled to the motor.</p>	Default: 1 – Calculate Options: 0 – Ready 1 – Calculate 2 – Static Tune 3 – Rotate Tune 4 – Inertia Tune	RW	32-bit Integer
		71	Autotune Torque  <p>Autotune Torque</p> <p>The motor torque applied to the motor during the flux current and inertia tests.</p>	Units: % Default: 50.00 Min/Max: 0.00 / 200.00	RW	Real
		73	IR Voltage Drop <p>IR Voltage Drop</p> <p>Value of voltage drop across the resistance of the motor stator at rated motor current. Used only when P35 [Motor Ctrl Mode] is set to 1 "Induction SV", 2 "Induct Econ", or 3 "Induction FV." This parameter cannot be changed unless P70 [Autotune] is set to 0 "Ready."</p>	Units: Volt Default: Based on Drive Rating Min/Max: 0.00 / Based on Drive Rating and Voltage Class	RW	Real
		74	Ixo Voltage Drop  <p>Ixo Voltage Drop</p> <p>Value of voltage drop across the leakage inductance of the motor at rated motor current. Used only when P35 [Motor Ctrl Mode] is set to 3 "Induction FV." This parameter cannot be changed unless P70 [Autotune] is set to 0 "Ready."</p>	Units: V AC Default: Based on Drive Rating and Voltage Class Min/Max: 0.00 / P25 [Motor NP Volts]	RW	Real
		75	Flux Current Ref <p>Flux Current Reference</p> <p>Value of amps for full motor flux. This parameter cannot be changed unless P70 [Autotune] is set to 0 "Ready."</p>	Units: Amps Default: P21 [Rated Amps] x 0.35 Min/Max: 0.00 / P21 [Rated Amps] x 0.995	RW	Real
		76	Total Inertia <p>Total Inertia</p> <p>Time in seconds for a motor coupled to a load to accelerate from zero to base speed at rated motor torque. Calculated during auto-tune. Only use this parameter when P35 [Motor Ctrl Mode] is set to 3 "Induction FV."</p>	Units: Secs Default: 2.00 Min/Max: 0.01 / 600.00	RW	Real




File	Group	No.	Display Name Full Name Description	Values	Read-Write	Data Type																																																																																																																
MOTOR CONTROL	Autotune	77	Inertia Test Lmt Inertia Test Limit Maximum number of revolutions the motor rotates during the Inertia AutoTune test. When the value is zero, the limit is not active.	Units: Revs Default: 0.0 Min/Max: 0.0 / 65535.0	RW	Real																																																																																																																
		78	EncdrLss AngComp Encoderless Angle Compensation Represents electrical angle compensation dependent on motor cable and PWM Frequency. Determined during autotuning when P35 [Motor Ctrl Mode] is set to one of the FV modes without speed feedback.	Units: Rad Default: 0.0000 Min/Max: -/+6.2831	RW	Real																																																																																																																
		79	EncdrLss VltComp Encoderless Voltage Compensation Represents voltage compensation dependent on motor cable and PWM Frequency. Determined during autotuning when P35 [Motor Ctrl Mode] is set to one of the FV modes without speed feedback.	Units: V AC Default: Based on Drive Rating Min/Max: 0.00 / Based on Drive Rating and Voltage Class	RW	Real																																																																																																																
		80	PM Cfg Permanent Magnet Motor Configuration		RW	16-bit Integer																																																																																																																
			<table><tr><td>Mode</td><td>Bit 0</td><td>Bit 1</td><td>Bit 2</td><td>Bit 3</td><td>Bit 4</td><td>Bit 5</td><td>Bit 6</td><td>Bit 7</td></tr><tr><td>PM with Absolute Feedback (Stegmann, SSI, Heidenhaim)</td><td></td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>PM with Incremental Encoder (Pulse, SIN/COS)</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td><td></td><td></td></tr><tr><td>PM without Feedback</td><td></td><td>X</td><td>X</td><td>X</td><td></td><td></td><td></td><td></td></tr><tr><td>IPM with Absolute Feedback (Stegmann, SSI, Heidenhaim)</td><td></td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td></tr><tr><td>IPM with Incremental Encoder (Pulse, SIN/COS)</td><td>X</td><td></td><td></td><td></td><td></td><td>X</td><td></td><td></td></tr><tr><td>IPM without Feedback</td><td></td><td></td><td>X</td><td></td><td></td><td>X</td><td></td><td></td></tr></table> <p>This parameter also includes two options for PM FV mode selected by P35 [Motor Ctrl Mode].</p> <table><tr><td>Options</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>Reserved</td><td>NoMiLimit</td><td>NoIntgHld</td><td>IdsCmdFwdEn⁽¹⁾</td><td>VCmdPhShftEn</td><td>IPMTqTrmEn</td><td>IPM Vqs Disa</td><td>PMStabAnglEn</td><td>StaticTestEn</td><td>Vqs Reg En</td><td>AutoOfstTest</td></tr><tr><td>Default</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>1</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td><td>0</td></tr><tr><td>Bit</td><td>15</td><td>14</td><td>13</td><td>12</td><td>11</td><td>10</td><td>9</td><td>8</td><td>7</td><td>6</td><td>5</td><td>4</td><td>3</td><td>2</td><td>1</td><td>0</td></tr></table> <p>(1) 755 drives only.</p> <p>Bit 0 “AutoOfstTest” – Enables the PM Offset test to be executed before the drive runs normally after a power cycle or drive reset. Required when the feedback device is not an absolute feedback device. Cannot be enabled if Bit 2 is enabled. Allow for up to 90° of shaft rotation. The value set in P83 [PM Ofst Tst Cur] may need to be increased to complete the test. If shaft rotation is not possible, set Bits 0 and 1 to perform a static test at every start.</p> <p>Bit 1 “Vqs Reg En” – Enables the Vqs regulator.</p> <p>Bit 2 “StaticTestEn” – Enables the Static test to be executed before the drive starts. Cannot be enabled if Bit 0 is enabled.</p> <p>Bit 3 “PMStabAnglEn” – Enables the Permanent Magnet Stability Angle regulator. Used for PM FV Encoderless when P35 [Motor Ctrl Mode] = 6 “PM FV” and P125 [Pri Vel Fdbk Sel] = Open Loop.</p> <p>Bit 4 “IPM Vqs Disa” – Disables Vqs regulator when P35 [Motor Ctrl Mode] = 10 “IPM FV.”</p> <p>Bit 5 “IPMTqTrmEn” – Enables Torque Trim when P35 [Motor Ctrl Mode] = 10 “IPM FV.”</p> <p>Bit 6 “VCmdPhShftEn” – Enables the enhancement function on the voltage command calculation in all control modes.</p> <p>Bit 7 “IdsCmdFwdEn” – Enables the feed forward term calculation for the Vqs regulator in PM with feedback mode.</p> <p>Bit 8 “NoIntgHld” – This bit defines behavior of the d-q current regulator integrators. When set, the integrators will not be held during over modulation; when not set, the integrators will be held during over modulation.</p> <p>Bit 9 “NoMiLimit” – When not set, modulation index will be limited based on bus utilization, when set, modulation index will not be limited.</p>	Mode	Bit 0	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7	PM with Absolute Feedback (Stegmann, SSI, Heidenhaim)		X							PM with Incremental Encoder (Pulse, SIN/COS)	X	X							PM without Feedback		X	X	X					IPM with Absolute Feedback (Stegmann, SSI, Heidenhaim)						X			IPM with Incremental Encoder (Pulse, SIN/COS)	X					X			IPM without Feedback			X			X			Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	NoMiLimit	NoIntgHld	IdsCmdFwdEn ⁽¹⁾	VCmdPhShftEn	IPMTqTrmEn	IPM Vqs Disa	PMStabAnglEn	StaticTestEn	Vqs Reg En	AutoOfstTest	Default	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0	Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0	
Mode	Bit 0	Bit 1	Bit 2	Bit 3	Bit 4	Bit 5	Bit 6	Bit 7																																																																																																														
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Options	Reserved	Reserved	Reserved	Reserved	Reserved	Reserved	NoMiLimit	NoIntgHld	IdsCmdFwdEn ⁽¹⁾	VCmdPhShftEn	IPMTqTrmEn	IPM Vqs Disa	PMStabAnglEn	StaticTestEn	Vqs Reg En	AutoOfstTest																																																																																																						
Default	0	0	0	0	0	0	0	0	1	0	0	0	0	0	0	0																																																																																																						
Bit	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	0																																																																																																						
81	PM PriEnc Offset Permanent Magnet Motor Primary Encoder Offset The amount of offset between the primary feedback encoder counts, and the rotor flux center position of the PM motor. A value of 1024 is equal to 360 electrical degrees. This parameter is updated during the PM Offset test which runs at the first start after a power cycle/ system reset (P80 [PM Cfg] Bit 0 = 1) and during autotune in PM FV mode.	Default: 0 Min/Max: 0 / 1023	RW	32-bit Integer																																																																																																																		

File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Autotune	82	PM AltEnc Offset Permanent Magnet Motor Alternate Encoder Offset The amount of offset between the alternate feedback encoder counts, and the rotor flux center position of the PM motor. A value of 1024 is equal to 360 electrical degrees. This parameter is updated during the PM Offset test which runs at the first start after a power cycle/ system reset (P80 [PM Cfg] Bit 0 = 1) and during autotune in PM FV mode. Active only when Alternate Velocity Feedback is being used during Automatic Tach Switchover (see P635 [Spd Options Ctrl]).	Default:	0	RW	32-bit Integer
				Min/Max:	0 / 1023		
		83	 PM OfstTst Cur Permanent Magnet Motor Offset Test Current Amplitude of the current command in percent of the motor rated current during the PM Offset Test, which is one of the auto tune tests in PM FV mode.	Units:	%	RW	Real
				Default:	40.00		
				Min/Max:	0.00 / 200.00		
		84	 PM OfstTst CRamp Permanent Magnet Motor Offset Test Current Ramp Ramp time of the current command during the PM Offset Test in PM FV mode, which is defined as ramp time to reach the P80 [PM Cfg] current command amplitude.	Units:	Secs	RW	Real
				Default:	3.00		
				Min/Max:	0.00 / 100.00		
		85	 PM OfstTst FRamp Permanent Magnet Motor Offset Test Frequency Ramp Defines the frequency ramp time of the current command during the PM Offset Test in PM FV mode, which is defined as ramp time in seconds from 0 to 3 Hz.	Units:	Secs	RW	Real
				Default:	60.00		
				Min/Max:	0.00 / 1000.00		
MOTOR CONTROL	Autotune	86	PM CEMF Voltage Permanent Magnet Motor Counter Electro Motive Force Counter electromotive force (CEMF) voltage displayed in line-to-line rms value, which is normalized to the base motor speed. Updated after the completion of the auto tune in PM FV mode.	Units:	Volt	RW	Real
				Default:	P25 [Motor NP Volts] x 0.0675		
				Min/Max:	0.00 / P25 [Motor NP Volts] x 1.5		
		87	PM IR Voltage Permanent Magnet Motor Stator Voltage Drop Voltage across the stator resistance of the PM motor at the rated motor current displayed in line-to-line rms value. Updated after the completion of the auto tune in PM FV mode.	Units:	Volt	RW	Real
				Default:	Based on Drive Rating		
				Min/Max:	0.00 / Based on Drive Rating and Voltage Class		
		88	 755 PM IXq Voltage Permanent Magnet Motor Q-Axis Stator Inductance Voltage Drop Voltage across the q-axis stator inductance of the PM motor at the rated motor current and the rated motor frequency displayed in line-to-line rms value. This parameter is updated after the completion of the auto tune in PM FV mode.	Units:	Volt	RW	Real
				Default:	P25 [Motor NP Volts] x 0.0435		
				Min/Max:	0.00 / P25 [Motor NP Volts] x 1.5		
MOTOR CONTROL	Autotune	89	 755 PM IXd Voltage Permanent Magnet Motor D-Axis Stator Inductance Voltage Drop Voltage across the d-axis stator inductance of the PM motor at the rated motor current and the rated motor frequency displayed in line-to-line rms value. Updated after the completion of the auto tune in PM FV mode.	Units:	Volt	RW	Real
				Default:	P25 [Motor NP Volts] x 0.0435		
				Min/Max:	0.00 / P25 [Motor NP Volts] x 1.5		
		91	PM Vqs Reg Kp Permanent Magnet Motor Vqs Regulator Proportional Gain Proportional gain of the vqs regulator in PM FV mode. When P80 [PM Cfg] Bit 1 = 1, the vqs regulator will be active either when the motor voltage exceeds the voltage limited by the DC bus voltage or when the motor voltage exceeds the value set by P36 [Maximum Voltage].	Default:	2.50	RW	Real
				Min/Max:	0.00 / 1000.00		
MOTOR CONTROL	Autotune	92	PM Vqs Reg Ki Permanent Magnet Motor Vqs Regulator Integral Gain Integral gain of the vqs regulator in PM FV mode.	Default:	0.50	RW	Real
				Min/Max:	0.00 / 1000.00		
MOTOR CONTROL	Autotune	93	PM Dir Test Cur Permanent Magnet Motor Direction Test Current Amount of current commanded during the direction test when P35 [Motor Ctrl Mode] option 6 "PM FV" is selected. When the Start-Up feature is used, this value is automatically set to 10% of the motor rated current.	Units:	Amps	RW	Real
				Default:	P26 [Motor NP Amps]/10		
				Min/Max:	0.00 / P26 [Motor NP Amps]		

File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Autotune	120	755 PM IXqVoltage125 Permanent Magnet Motor Q-Axis Stator Inductance Voltage Drop 125% Voltage across the q-axis stator inductance of the PM motor at 125% rated motor current and the rated motor frequency displayed in line-to-line rms value. This parameter is updated after the completion of the auto tune in PM FV mode.	Units: Default: Min/Max:	Volt P25 [Motor NP Volts] x 0.0435 0.0000 / P25 [Motor NP Volts] x 1.5	RW	Real
		1630	IPM_Lq_25_pct  Lq for 25% Iq IPM Control Sets Lq at 25% current.	Units: Default: Min/Max:	mH 0.00 0.00 / 999990.00	RW	Real
		1631	IPM_Lq_50_pct  Lq for 50% Iq IPM Control Sets Lq at 50% current.	Units: Default: Min/Max:	mH 0.00 0.00 / 999990.00	RW	Real
		1632	IPM_Lq_75_pct  Lq for 75% Iq IPM Control Sets Lq at 75% current.	Units: Default: Min/Max:	mH 0.00 0.00 / 999990.00	RW	Real
		1633	IPM_Lq_100_pct  Lq for 100% Iq IPM Control Sets Lq at 100% current.	Units: Default: Min/Max:	mH 0.00 0.00 / 999990.00	RW	Real
		1634	IPM_Lq_125_pct  Lq for 125% Iq IPM Control Sets Lq at 125% current.	Units: Default: Min/Max:	mH 0.00 0.00 / 999990.00	RW	Real
		1635	IPM_Ld_0_pct  Ld for 0% Id IPM Control Sets Ld at 0% current.	Units: Default: Min/Max:	mH 0.00 0.00 / 999990.00	RW	Real
		1636	IPM_Ld_100_pct  Ld for 100% Id IPM Control Sets Ld at 100% current.	Units: Default: Min/Max:	mH 0.00 0.00 / 999990.00	RW	Real
		1646	IPM PriOffstComp IPM Primary Encoder Offset Compensation Primary Offset Compensation, AutoTune group.	Default: Min/Max:	0 0 / 512	RW	Real
		1647	IPM AltOffstComp IPM Alternate Encoder Offset Compensation Alternate Offset Compensation, AutoTune group.	Default: Min/Max:	0 0 / 512	RW	Real

File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Vector Regulator	95	VCL Cur Reg BW Vector Closed Loop Current Regulator Bandwidth Sets the bandwidth of the current regulator by automatically adjusting the gains (P96 and P97) based on motor autotune results. When the value of bandwidth is zero (default) the current regulator gains can be manually adjusted. The default values for P95, P96, and P97 typically provide excellent performance, and do not normally need to be adjusted.	Units: Default: Min/Max:	R/S 0.0 0.0 / 9999.0	RW	Real
		96	VCL Cur Reg Kp Vector Closed Loop Current Regulator Proportional Gain Proportional gain of the current regulator. Can be adjusted when P95 is set to zero. The default values for P95, P96, and P97 typically provide excellent performance, and do not normally need to be adjusted.	Default: Min/Max:	1250.0 0.0 / 50000.0	RW	Real
		97	VCL Cur Reg Ki Vector Closed Loop Current Regulator Integral Gain Integral gain of the current regulator. Can be adjusted when P95 is set to zero. The default values for P95, P96, and P97 typically provide excellent performance, and do not normally need to be adjusted.	Default: Min/Max:	60.0 0.0 / 50000.0	RW	Real
		98	VEncdls FReg Kp Encoderless Vector Frequency Regulator Proportional Gain Represents electrical angle compensation dependent on motor cable and PWM Frequency. Determined during autotuning when P35 [Motor Ctrl Mode] is set to one of the FV modes without speed feedback.	Units: Default: Min/Max:	Hz/A 524.0 0.0 / 100000.0	RW	Real
		99	VEncdls FReg Ki Encoderless Vector, Frequency Regulator Integral Gain Determined during autotuning when P35 [Motor Ctrl Mode] is set to one of the FV modes without speed feedback. Represents voltage compensation dependent on motor cable and PWM Frequency.	Units: Default: Min/Max:	Hz/A 9080.0 0.0 / 100000.0	RW	Real
		100	Slip Reg Enable Slip Regulator Enable Enables or disables the slip frequency regulator. This selection is active only in motor control mode flux vector induction (P35 [Motor Ctrl Mode] = 3 "Induction FV") and encoder feedback is used.	Default: Options:	1 = "Enabled" 0 = "Disabled" 1 = "Enabled"	RW	32-bit Integer
		101	Slip Reg Ki Slip Regulator Integral Gain Integral gain for the slip frequency regulator.	Default: Min/Max:	10.00 0.00 / 10000.00	RW	Real
		102	Slip Reg Kp Slip Regulator Proportional Gain Proportional gain for the slip frequency regulator.	Default: Min/Max:	0.50 0.00 / 10000.00	RW	Real
		103	Flux Reg Enable Flux Regulator Enable Enables or disables the flux regulator. This selection is active only in motor control mode flux vector induction (P35 [Motor Ctrl Mode] = 3 "Induction FV").	Default: Options:	1 – Enabled 0 – Disabled 1 – Enabled	RW	32-bit Integer
		104	Flux Reg Ki Flux Regulator Integral Gain Integral gain for the flux regulator.	Default: Min/Max:	30.00 0.00 / 10000.00	RW	Real
		105	Flux Reg Kp Flux Regulator Proportional Gain Proportional gain for the flux regulator.	Default: Min/Max:	1.00 0.00 / 10000.00	RW	Real

File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Vector Regulator	106	Trq Adapt Speed Torque Adaption Speed Operating frequency (speed) at which the adaptive torque control regulators become active as a percent of motor nameplate frequency. As frequency (speed) increases, the torque adapter turns on at a value that is 10 % higher than the value set in this parameter. However, as frequency (speed) decreases, the torque adapter turns off at the value set in this parameter. For example: If this parameter is set to 10.00, as the frequency (speed) increases, the adapter turns on when the value of this parameter reaches 20.00. As the frequency (speed) decreases, the adapter turns off when the value of this parameter reaches 10.00. This selection is active only in motor control mode flux vector induction (P35 [Motor Ctrl Mode] = 3 "Induction FV").	Units: Default: Min/Max:	% 10.00 0.00 / 100.00	RW	Real
		107	Trq Adapt En Torque Adaption Enable Enables or disables the adaptive torque control. This selection is active only in motor control mode flux vector induction (P35 [Motor Ctrl Mode] = 3 "Induction FV").	Default: Options:	1 – Enabled 0 – Disabled 1 – Enabled	RW	32-bit Integer
		108	Phase Delay Comp Phase Delay Compensation Used to adjust the sample delay compensation gain for the current feedback. The gain compensation is scaled to the sample time (for example, +1.0 would be a compensation of positive 1 sample time).	Default: Min/Max:	0.00 –/+100.00	RW	Real
		109	Trq Comp Mode Torque Compensation Mode Automatic: Updates the torque compensation gains (P110 [Trq Comp Mtring] and P111 [Torque Comp Regen]) after autotune.	Default: Options:	1 – Auto 0 – Manual 1 – Auto	RW	32-bit Integer
		110	Trq Comp Mtring Torque Compensation Motoring Motor torque compensation applied to the torque command for motoring power. This parameter can be set manually or determined automatically during autotune. (See P109 [Trq Comp Mode].) In manual mode, a value of 5% will increase the commanded torque by 5% (gain of 1.05). This is used for flux vector motor control mode (P35 [Motor Ctrl Mode] = 3 "Induction FV").	Units: Default: Min/Max:	% 0.00 –/+50.00	RW	Real
		111	Trq Comp Regen Torque Compensation Regeneration Motor torque compensation applied to the torque command for regenerating torque. This parameter can be set manually or determined automatically during autotune. (See P109 [Trq Comp Mode].) In manual mode, a value of -3% will decrease the commanded torque by 3% (gain of 0.97). This is used for flux vector motor control modes (P35 [Motor Ctrl Mode]).	Units: Default: Min/Max:	% 0.00 –/+50.00	RW	Real
		112	Slip Adapt lqs Slip Adaption lqs Level of per unit lqs at which the adaptive slip frequency regulator becomes active. Active when P35 [Motor Ctrl Mode] = 3 "Induction FV."	Default: Min/Max:	0.05 0.00 / 1.00	RW	Real
		113	SFAdapt SlewLmt Slip and Flux Adaption Slew Limit Time that the slip, flux, and torque regulators are allowed to converge before the regulators are turned on after the motor speed reaches the level set in P106 [Trq Adapt Speed]. Active when P35 [Motor Ctrl Mode] = 3 "Induction FV."	Units: Default: Min/Max:	Secs 0.00 0.00 / 60.00	RW	Real
		114	SFAdapt SlewRate Slip and Flux Adaption Slew Rate Rate that the slip and flux regulators can converge before the regulators are enabled. Active when P35 [Motor Ctrl Mode] = 3 "Induction FV."	Default: Min/Max:	0.005 0.00001 / 1.000000	RW	Real
		115	SFAdapt CnvrgLvl Slip and Flux Adaption Converge Level Slip and flux regulator error level that indicates convergence. Active when P35 [Motor Ctrl Mode] = 3 "Induction FV."	Default: Min/Max:	0.01 0.00001 / 1.000000	RW	Real

File	Group	No.	Display Name Full Name Description	Values		Read-Write	Data Type
MOTOR CONTROL	Vector Regulator	116	SFAdapt CnvrgLmt Slip and Flux Adaption Converge Limit Duration of convergence before the adaption regulators are enabled after the error has decreased below the level set in P115 [SFAdapt CnvrgLvl]. Active when P35 [Motor Ctrl Mode] = 3 "Induction FV."	Default: Min/Max:	0.500 0.000 / 5.000	RW	Real
		120	See page 66 .				
		1629	 PM Bus Prot PM Motor Bus Protection Enter a value to set the maximum limit for P1641 [PM Vel Max]. The drive calculates this during Rotated Tune tests. The calculation uses measured Counter-Electro Magnetic Force (CEMF). The purpose is to protect the drive from over-voltage conditions. These can occur when a PM motor is spinning too fast while the output frequency is zero. Do not change this unless you are using an external solution for CEMF protection. One external solution is a 'crowbar' circuit.	Units: Default: Min/Max:	Hz 60 0 / 39000	RW	Real
		1637	IPMVqFFwdCemf IPM Vq Feed Forward CEMF Sets the percentage of the CEMF component of the feed forward voltage in Vq reference when P35 [Motor Ctrl Mode] = 10 "IPM FV."	Units: Default: Min/Max:	% 100.0 0.0 / 100.0	RW	Real
		1638	IPMVqFFwdLldIdWe IPM Vq Feed Forward LldIdWe Sets the percentage of the (Ld x Id x we) component of the feed forward voltage in Vq reference when P35 [Motor Ctrl Mode] = 10 "IPM FV."	Units: Default: Min/Max:	% 100.0 0.0 / 100.0	RW	Real
		1639	IPMVdFFwdLqIqWe IPM Vd Feed Forward LqIqWe Sets the percentage of the (Lq x Iq x we) component of the feed forward voltage in Vd reference when P35 [Motor Ctrl Mode] = 10 "IPM FV."	Units: Default: Min/Max:	% 100.0 0.0 / 100.0	RW	Real
		1640	 IPM Max Cur IPM Maximum Current Sets the current trip level.	Units: Default: Min/Max:	% 200.0 0.0 / 400.0	RW	Real
		1641	 PM Vel Max PM Motor Maximum Velocity Enter a value to set the maximum velocity of the PM motor. The purpose is to protect the drive from over-voltage conditions. These can occur when a PM motor is spinning too fast while the output frequency is zero. P1629 [PM Bus Prot] limits the value of this parameter. Do not change this unless you are using an external solution for CEMF protection. One external solution is a 'crowbar' circuit.	Units: Default: Min/Max:	Hz 60 0.00 / 324	RW	Real
		1642	IPM TrqTrim Kp Torque Trim Kp Gain for IPM Control Sets the Kp term for Torque Trim function.	Default: Min/Max:	0.10 0.00 / 100.00	RW	Real
		1643	IPM TrqTrim Ki Torque Trim Ki Gain for IPM Control Sets the Ki term for Torque Trim function.	Default: Min/Max:	1.00 0.00 / 100.00	RW	Real
		1644	IPM TrqTrim HLim Torque Trim Hi Limit for IPM Control Sets the high limit for Torque Trim function.	Default: Min/Max:	0.20 0.00 / 2.00	RW	Real
		1645	IPM TrqTrim LLim Torque Trim Lo Limit for IPM Control Sets the low limit for Torque Trim function.	Default: Min/Max:	-0.20 -2.00 / 0.00	RW	Real