



Install and Startup

APP #152

RM6G1 - VFD R2 / R4 Models Hardwire and Modbus Settings



Any questions regarding this release, contact: support@mcscontrols.com

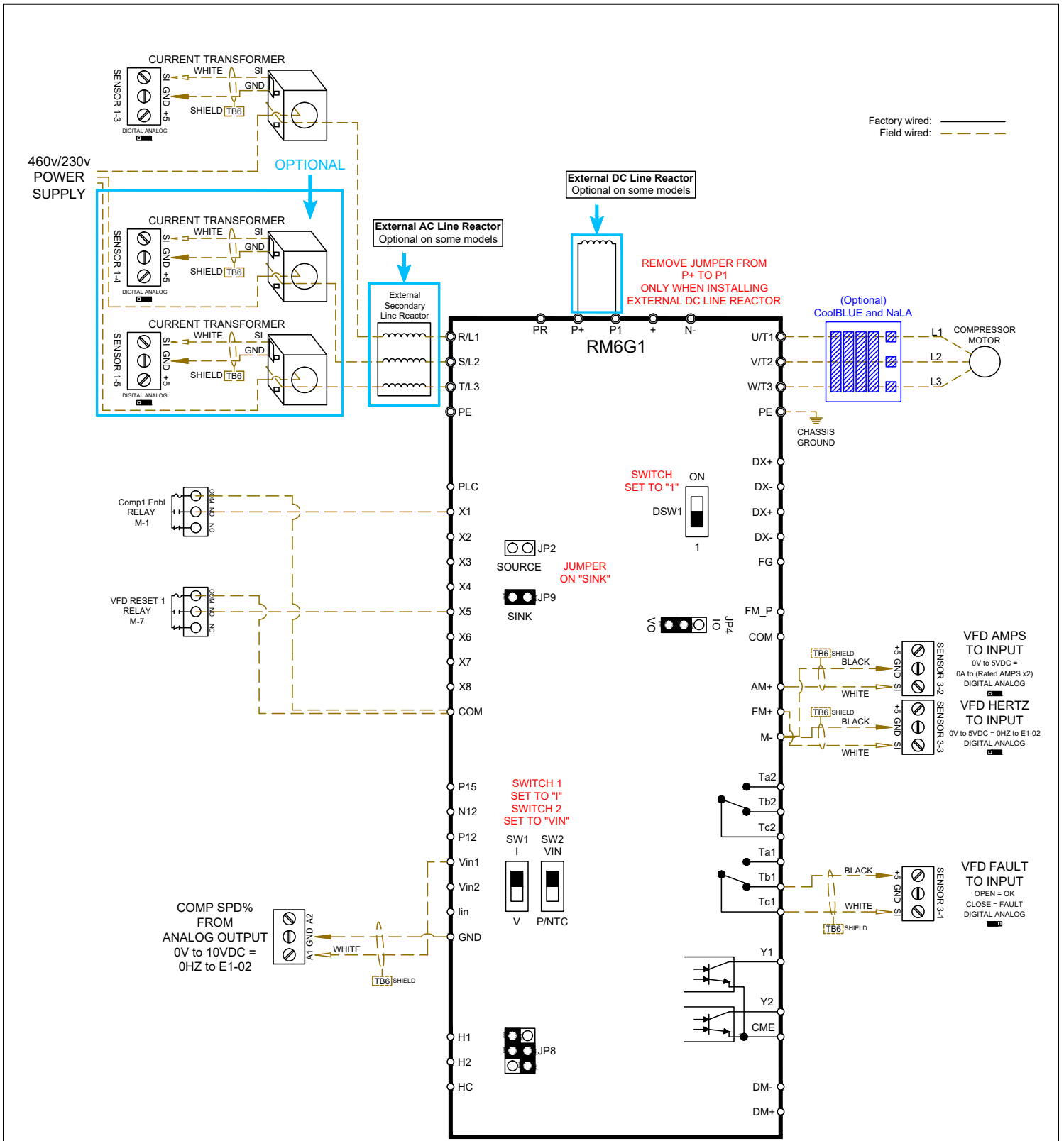
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HARDWIRED WIRING DIAGRAM



NOTE: Check Jumper and Switch Settings

SCREW & CENTRIFUGAL (60Hz) HARDWIRED SETTING

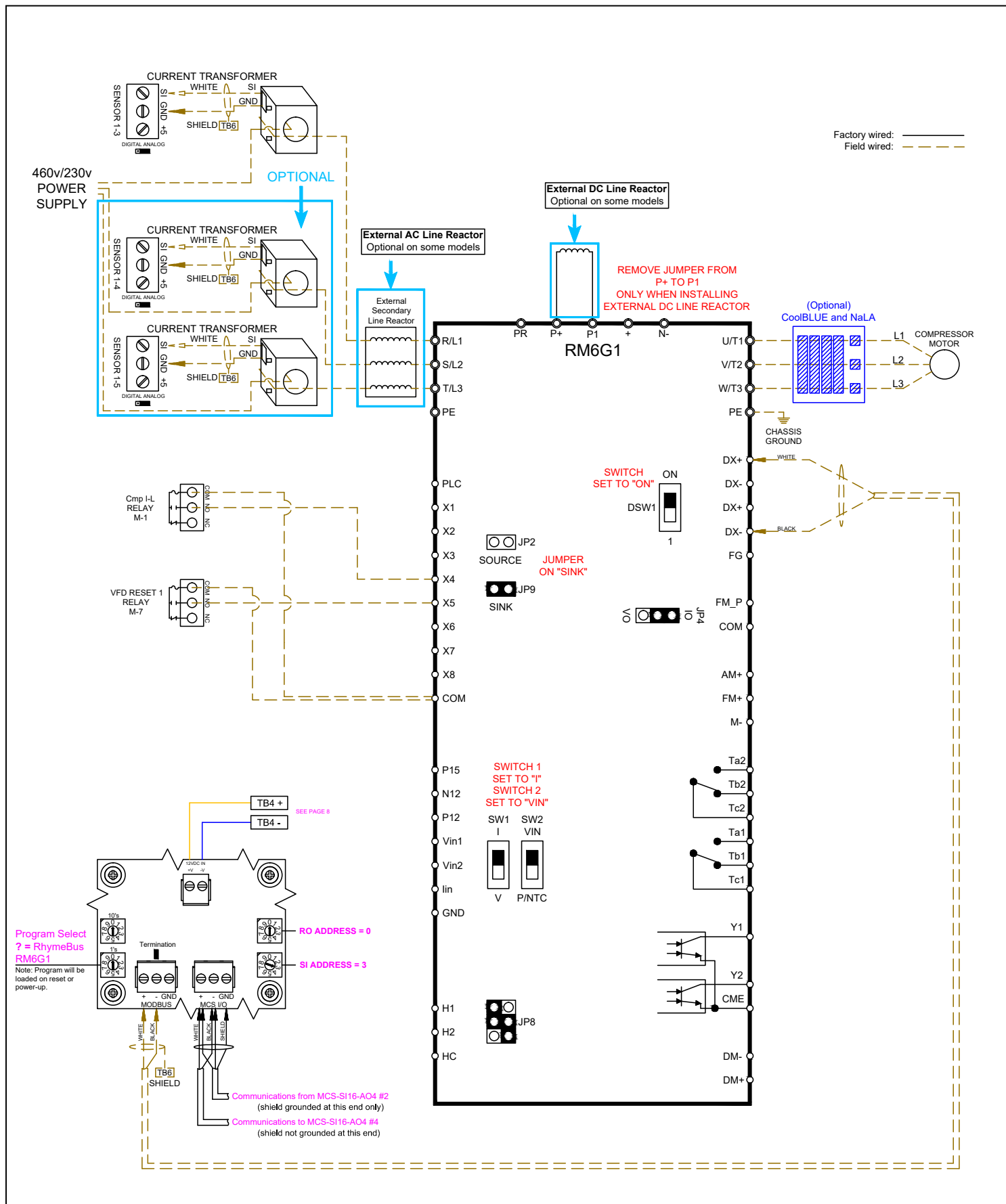
Key features include: Start/Stop, 0-10V Speed Reference, Speed Reference Feedback																													
RM6G1 Parameters & Values							Parameter Description													Comments									
#	Value	Comments					Default values in parenthesis (xxxxxx)													Mfg / User									
A1-05	DF60	DF60					60Hz													Set Hz first									
A1-05	DF-HD	Heavy Duty Mode					HD: heavy duty mode													Set HD mode next									
A1-04		Input Voltage Setting					100.0~300.0V(220V series) 240.0~500.0V (380V series)													Set to Motor Voltage									
A3-16	0	Display					0: Disable - Alternately Display																						
A3-23	104	Dual Display					104 - Left side shows output amps / Right side shows Main Display																						
B1-00	2	Primary Frequency Selection					2: Analog Input (Vin 1)																						
B1-02	1	Primary Start Command					1: Digital Input (X1)																						
B1-04	1	Primary Direction Command					1: Digital Input (X1)																						
B1-10	1	Stop Method					1: Coast to stop																						
b1-11	1	Reverse Operation Selection					1: Disabled																						
C1-01	10/15	Acceleration Time (sec)					10 sec - Acceleration Time from Min Frequency to Max Frequency													15 sec for Centrifugal									
C1-02	10/90	Deceleration Time (sec)					10 sec -Deceleration Time from Max Frequency to Min Frequency													90 sec for Centrifugal									
D2-02	0.50	Frequency Lower Limit (%)					0.50 = 50%													0.70=70% for Centrifugal									
E1-01	Maximum Output Voltage Based on Motor Voltage					0.0-300.0V (220V series) 0.0~550.0V (380V series)													Set to Motor Voltage										
E1-03	Base Voltage					0.0-300.0V (220V series) 0.0~550.0V (380V series)													Set to Base Voltage										
E2-01	RM6G1-2A	010	016	022	031	042	060	075	090	112	150	185	220	275	346	410	500	700	840										
	Rated Output (A)	8	11	17	25	33	46	63	75	90	115	150	185	220	295	346	432	585	700										
	RM6G1-4A	009	012	018	023	031	039	045	058	075	091	110	144	180	216	253	304	377	415	480	585	700	860	960					
	Rated Output (A)	6	9	14	18	24	30	39	45	61	75	91	115	150	180	216	253	310	377	432	480	585	700	866					
E2-04	Set for number of poles on your motor, typically 2	Number of Motor poles					2 = 2 pole motor = 3600 rpm													This parameter only effect the RPM display, if number of poles not set correct, RPM value will be incorrect.									
H1-00	+2	Multi-Function Input Terminal (X1)					+2 FWD Command (X1)																						
H4-01	0.500	Gain (FM+)					Max Frequency = 5vdc																						
H4-04	0.500	Gain (AM+)					Max AMPS = 5vdc																						
H4-07	0	AM Output					0 = 0V to 10VDC, 1 = 0-20MA, 2 = 4-20MA																						

SCREW & CENTRIFUGAL (100Hz) HARDWIRED SETTING

Key features include: Start/Stop, 0-10V Speed Reference, Speed Reference Feedback																									
RM6G1 Parameters & Values							Parameter Description													Comments					
#	Value	Comments	Default values in parenthesis (xxxxxx)																						Mfg / User
A1-05	DF60	DF100	100Hz																						Set Hz first
A1-05	DF-HD	Heavy Duty Mode	HD:heavy duty mode																						Set HD mode next
A1-04	480	Input Voltage Setting	100.0~300.0V(220V series) 240.0~500.0V (380V series)																						Set to Motor Voltage
A3-16	0	Display	0: Disable - Alternately Display																						
A3-23	104	Dual Display	104 - Left side shows output amps / Right side shows Main Display																						
B1-00	2	Primary Frequency Selection	2: Analog Input (Vin 1)																						
B1-02	1	Primary Start Command	1: Digital Input (X1)																						
B1-04	1	Primary Direction Command	1: Digital Input (X1)																						
B1-10	1	Stop Method	1: Coast to stop																						
b1-11	1	Reverse Operation Selection	1: Disabled																						
C1-01	10/15	Acceleration Time (sec)	10 sec - Acceleration Time from Min Frequency to Max Frequency													15 sec for Centrifugal									
C1-02	10/90	Deceleration Time (sec)	10 sec -Deceleration Time from Max Frequency to Min Frequency													90 sec for Centrifugal									
*D2-02	0.50	Frequency Lower Limit (%)	0.00 to 1.00 = 0Hz to Max Hz																						
*E1-00	100	Maximum Output Frequency	0.1~600.0 Hz																						
E1-01	Maximum Output Voltage - 480 Based on Motor Voltage		0.0-300.0V (220V series) 0.0~550.0V (380V series)																	Set to Motor Voltage					
*E1-02	100	Base Frequency	0.1~600.0 Hz																						
E1-03	Base Voltage - 480		0.0-300.0V (220V series) 0.0~550.0V (380V series)																	Set to Base Voltage					
E2-01	RM6G1-2A	010	016	022	031	042	060	075	090	112	150	185	220	275	346	410	500	700	840						
	Rated Output (A)	8	11	17	25	33	46	63	75	90	115	150	185	220	295	346	432	585	700						
	RM6G1-4A	009	012	018	023	031	039	045	058	075	091	110	144	180	216	253	304	377	415	480	585	700	860	960	
	Rated Output (A)	6	9	14	18	24	30	39	45	61	75	91	115	150	180	216	253	310	377	432	480	585	700	866	
E2-04	Set for number of poles on your motor, typically 2	Number of Motor poles					2 = 2 pole motor = 3600 rpm							This parameter only effect the RPM display, if number of poles not set correct, RPM value will be incorrect.											
H1-00	+2	Multi-Function Input Terminal (X1)		+2 FWD Command (X1)																					
H4-01	0.500	Gain (FM+)		Max Frequency = 5vdc																					
H4-04	0.500	Gain (AM+)		Max AMPS = 5vdc																					
H4-07	0	AM Output		0 = 0V to 10VDC, 1 = 0-20MA, 2 = 4-20MA																					

*Set these Parameters based on Min/Max Hz allowable for your compressor

MODBUS Wiring Diagram



SCREW & CENTRIFUGAL (60 Hz) MODBUS VFD SETTINGS

Key features include: Start/Stop, 0-10V Speed Reference, Speed Reference Feedback

RM6G1 Parameters & Values		Parameter Description		Comments																									
#	Value	Comments	Default values in parenthesis (xxxxxx)	Mfg / User																									
A1-05	DF60	DF60	60HZ	Set HZ first																									
A1-05	DF-HD	Heavy Duty Mode	HD:heavy duty mode	Set HD mode next																									
A1-04		Input Voltage Setting	100.0~300.0V(220V series) 240.0~500.0V (380V series)	Set to Motor Voltage																									
A3-16	0	Display	0: Disable - Alternately Display																										
A3-23	104	Dual Display	104 - Left side shows output amps / Right side shows Main Display																										
B1-00	3	Primary Frequency Selection	3: Modbus Communications																										
B1-02	2	Primary Start Command	2: Modbus Communications																										
B1-04	2	Primary Direction Command	2: Modbus Communications																										
B1-10	1	Stop Method	1: Coast to stop																										
b1-11	1	Reverse Operation Selection	1: Disabled																										
C1-01	10/15	Acceleration Time (sec)	10 sec - Acceleration Time from Min Frequency to Max Frequency	15 sec for Centrifugal																									
C1-02	10/90	Deceleration Time (sec)	10 sec -Deceleration Time from Max Frequency to Min Frequency	90 sec for Centrifugal																									
D2-02	0.50	Frequency Lower Limit (%)	0.50= 50%	0.70=70% for Centrifugal																									
E1-01	Maximum Output Voltage Based on Motor Voltage		0.0-300.0V (220V series) 0.0~550.0V (380V series)	Set to Motor Voltage																									
E1-03	Base Voltage		0.0-300.0V (220V series) 0.0~550.0V (380V series)	Set to Base Voltage																									
E2-01	RM6G1-2A	010	016	022	031	042	060	075	090	112	150	185	220	275	346	410	500	700	840										
	Rated Output (A)	8	11	17	25	33	46	63	75	90	115	150	185	220	295	346	432	585	700										
	RM6G1-4A	009	012	018	023	031	039	045	058	075	091	110	144	180	216	253	304	377	415	480	585	700	860	960					
	Rated Output (A)	6	9	14	18	24	30	39	45	61	75	91	115	150	180	216	253	310	377	432	480	585	700	866					
E2-04	Set for number of poles on your motor, typically 2	Number of Motor poles		2 = 2 pole motor = 3600 rpm				This parameter only effect the RPM display, if number of poles not set correct, RPM value will be incorrect.																					
H1-03	-22	Multi-Function Input Terminal (X4)		-22 External Fault - Interlock Relay																									
H5-00	1	Comm. Address		1: Modbus Address																									
H5-01	38400	Baud Rate		38400 Baud Rate on Modbus Communication																									
H5-04	2	Comm. Overtime Disposal (COT)		2: Keep Running on Loss of Communication (Interlock will stop VFD)																									
H5-05	5	Comm. Overtime (COT)		0.0 ~ 100.0 sec - Time Out																									

SCREW & CENTRIFUGAL (100 Hz) MODBUS VFD SETTING

Key features include: Start/Stop, 0-10V Speed Reference, Speed Reference Feedback																								
RM6G1 Parameters & Values					Parameter Description															Comments				
#	Value	Comments	Default values in parenthesis (xxxxxx)															Mfg / User						
A1-05	DF60	DF100	100HZ															Set HZ first						
A1-05	DF-HD	Heavy Duty Mode	HD:heavy duty mode															Set HC mode next						
A1-04	480	Input Voltage Setting	100.0~300.0V(220V series) 240.0~500.0V (380V series)															Set to Motor Voltage						
A3-16	0	Display	0: Disable - Alternately Display																					
A3-23	104	Dual Display	104 - Left side shows output amps / Right side shows Main Display																					
B1-00	2	Primary Frequency Selection	2: Analog Input (Vin 1)																					
B1-02	1	Primary Start Command	1: Digital Input (X1)																					
B1-04	1	Primary Direction Command	1: Digital Input (X1)																					
B1-10	1	Stop Method	1: Coast to stop																					
b1-11	1	Reverse Operation Selection	1: Disabled																					
C1-00	100	Reference Freq. of Accel./Decel. Time	0.01~600.00 Hz																					
C1-01	10/15	Acceleration Time (sec)	10 sec - Acceleration Time from Min Frequency to Max Frequency															15 sec for Centrifugal						
C1-02	10/90	Deceleration Time (sec)	10 sec -Deceleration Time from Max Frequency to Min Frequency															60 sec for Centrifugal						
* D2-02	0.50	Frequency Lower Limit (%)	0.00 to 1.00 = 0Hz to Max Hz																					
* E1-00	100	Maximum Output Frequency	0.1~600.0 Hz																					
E1-01	Maximum Output Voltage - 480 Based on Motor Voltage		0.0-300.0V (220V series) 0.0~550.0V (380V series)															Set to Motor Voltage						
* E1-02	100	Base Freq.	0.1~600.0 Hz																					
E1-03	Base Voltage - 480		0.0-300.0V (220V series) 0.0~550.0V (380V series)															Set to Base Voltage						
E2-01	Model 200V	010	016	022	031	042	060	075	090	112	150	185	220	275	346	410	500	700	840					
	Rated Output (A)	8	11	17	25	33	46	63	75	90	115	150	185	220	295	346	432	585	700					
	Model 400V	009	012	018	023	031	039	045	058	075	091	110	144	180	216	253	304	377	415	480	585	700	860	960
	Rated Output (A)	6	9	14	18	24	30	39	45	61	75	91	115	150	180	216	253	310	377	432	480	585	700	866
E2-04	Set for number of poles on your motor, typically 2	Number of Motor poles					2 = 2 pole motor = 3600 rpm					This parameter only effect the RPM display, if number of poles not set correct, RPM value will be incorrect.												
H1-03	-22	Multi-Function Input Terminal (X4)	-22 External Fault - Interlock Relay																					

*Set these Parameters based on Min/Max Hz allowable for your compressor

See wiring diagram page 5