

# DIGITAL AND ANALOG I/O PARAMETER MAPS

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## APPENDIX

# C

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**INTRODUCTION**

This section contains worksheets to help with designing and programming the physical inputs and outputs of the GS4 (digital, analog, and frequency interfaces). These worksheets provide the GS4 parameters and addresses associated with each input and output. For detailed parameter descriptions, please see Chapter 4 “AC Drive Parameters”. For more detailed wiring information, please see Chapter 2 “Installation and Wiring”.

Digital and analog I/O parameter maps begin on the following page.

**GS4 DIGITAL INPUTS – MAIN CONTROL BOARD**

GS4 Digital Inputs - Main Circuit Board											
GS4 Terminals	FWD	REV	DI1	DI2	DI3	DI4	DI5	DI6	DI7	DI8	Comments
PLC Address	X0	X1	X2	X3	X4	X5	X6	X7	X10	X11	
Parameter	P3.02 2/3 Wire Operation Mode		(P3.02 if = 3) else P3.03	P3.04	P3.05	P3.06	P3.07	P3.08	P3.09	P3.10	See Digital Input Configurations Below
Default Setting	0		1	2	3	4	0	0	0	0	
Default Configuration	2 Wire		(Stop) Multi Spd 1	Multi Spd 2	Multi Spd 3	Multi Spd 4		No Function			
User Defined Selection / Value											
DI - N.C. / N.O. Select	0 = Normally Open										
P3.42 - Bit #	0	1	2	3	4	5	6	7	8	9	0 = N.O. 1 = N.C.
Default Configuration											
User Defined Selection / Value											
DI - Response Time	P3.41										
Default Configuration	0.005 seconds										
User Defined Selection / Value											
DI - Active Status Monitor	0	1	2	3	4	5	6	7	8	9	Read Only!
P3.46 - Bit #	0	1	2	3	4	5	6	7	8	9	
DI - PLC Mask	P3.48 - Bit #										

\* Note for PLC Address: When an external input is used in the PLC and the PLC is in Run or Stop mode, the PLC then controls that input and any Multi-Function Input setting assigned via P3.03~P3.16 is void. To read the status of an input into the PLC while maintaining the MFI setting use the RPR command on the DI Status Register (P3.46). The control of the IO can be given back to the drive by disabling the PLC either through the Keypad or Digital Inputs when they are assigned values 36 and 37.

Digital Input Configurations – Parameters P3.03~P3.10	
0: No function	27: Signal Confirmation for Y-connection
1: Multi-Speed/PID Multi-Setpoint bit 1	28: Signal Confirmation for Delta connection
2: Multi-Speed/PID Multi-Setpoint bit 2	29: Disable EEPROM Write
3: Multi-Speed/PID Multi-Setpoint bit 3	30: Forced Coast Stop
4: Multi-Speed bit 4	31: Hand Contact for HOA Control
5: Reset	32: Auto Contact for HOA Control
6: JOG	33: LOCAL/REMOTE Selection
7: Accel/Decel speed inhibit (Speed Hold)	34: Drive Enable
8: 1st~4th Accel/Decel time selection, bit 0	35: Decel Energy Backup (DEB) Enable
9: 1st~4th Accel/Decel time selection, bit 1	36: PLC Mode select bit0
10: Emergency Stop EF Input by P3.56 (EF error)	37: PLC Mode select bit1
11: Base Block Input	38: Output MCR Auxiliary Confirmation
12: reserved	39: reserved
	40: Fire mode and force drive run
	41: Fire mode and maintain operation
	42: Disable all motors
	43: Disable Motor #1
	44: Disable Motor #2
	45: Disable Motor #3
	46: Disable Motor #4
	47: Disable Motor #5
	48: Disable Motor #6
	49: Disable Motor #7
	50: Disable Motor #8

**GS4 DIGITAL OUTPUTS – MAIN CONTROL BOARD**

GS4 Digital Outputs – Main Control Board						
GS4 Terminals	R1-R1C-R1O	R2-R2C-R2O	N/A	DO1-DOC	DO2-DOC	Comments
PLC Address	Y0	Y1	N/A	Y3	Y4	
Parameter	<b>P3.17</b>	<b>P3.18</b>	N/A	<b>P3.19</b>	<b>P3.20</b>	
Default Setting	11	1	N/A	0	0	
Default Configuration	Error/Fault	Drv Run	N/A	No Function		See Digital Output Configurations Below
User Defined Selection / Value	0	0	N/A	0	0	
DO - N.C./ N.O. Select <b>P3.43 - Bit #</b>	0	1	2 Reserved	3	4	0 = N.O. 1 = N.C.
Default Configuration			N/A			
User Defined Selection / Value			N/A			
DO - Active Status Monitor <b>P3.47 - Bit #</b>	0	1	2 Reserved	3	4	
<b>P3.49 - Bit #</b>	0	1	2 Reserved	3	4	Read Only!

*\* Note for PLC Address: When an external output is used in the PLC and the PLC is in Run or Stop mode, the PLC then controls that output and any Multi-Function Output setting assigned via P3.17~P3.31 is void. To read the status of an output from the PLC while maintaining the MFO setting, use the RPR command on the DO Status Register (P3.47). The ownership of the IO can be given back to the drive by disabling the PLC either through the Keypad or Digital Inputs when they are assigned values 36 and 37.*

**Digital Output Configurations – Parameters P3.17~P3.20**

0: no function	15: PID deviation error	30: Delta Connected Command	45: Fire Mode Indication
1: AC Drive Running	16: Over Slip (oSL)	31: Zero Speed at Drive Running	46: Fire Bypass Indication
2: At Frequency Setpoint	17: Middle Count Value Attained (P3.45)	32: Zero Speed including Drive Stop	47: Motor #1 Selected
3: At Speed 1 (P3.32)	18: Final Count Value Attained (P3.44)	33: Fault Option 1 (P11.00)	48: Motor #2 Selected
4: At Speed 2 (P3.34)	19: Base Block Indication	34: Fault Option 2 (P11.01)	49: Motor #3 Selected
5: At Zero Speed Including Drive Running	20: Warning Output	35: Fault Option 3 (P11.02)	50: Motor #4 Selected
6: At Zero Speed Drive not Running	21: Overvoltage Alarm	36: Fault Option 4 (P11.03)	51: Motor #5 Selected
7: Over Torque Level 1	22: Oc Stall Alarm	37: At Speed (Setpoint include 0Hz)	52: Motor #6 Selected
8: Over Torque Level 2	23: Ov Stall Alarm	38: reserved	53: Motor #7 Selected
9: Drive Ready	24: External Control Mode	39: Under Ampere (Low Current)	54: Motor #8 Selected
10: Low Voltage warning (Lv)	25: Forward Command	40: UVW Motor Contactor Enable	55: Mtr1/Mtr2 Nameplate Parameters Select
11: Error indication (All faults, Except for Lv Stop)	26: Reverse Command	41: DEB active	56: Safety N.O. STO A
12: Brake Release Function (P3.51)	27: Above Current Output (≥ P3.52)	42: Brake Released at Stop	57: Safety N.C. STO B
13: Over-temp Warning	28: Below Current Output (< P3.52)	43: RS485 Digital Output	58: Above Frequency Output (≥ P3.53)
14: Dynamic Braking Output	29: Wye Connected Command	44: Comm Card Digital Output	59: Below Frequency Output (< P3.53)

GS4 DIGITAL INPUTS – OPTION CARDS

GS4 Digital Inputs - Option Cards						
GS4-06NA Terminals	DI10	DI11	DI12	DI13	DI14	DI15
GS4-06CDD Terminals	DI10	DI11	DI12	DI13	N/A	N/A
PLC Address *	X12	X13	X14	X15	X16	X17
Parameter	<b>P3.11</b>	<b>P3.12</b>	<b>P3.13</b>	<b>P3.14</b>	<b>P3.15</b>	<b>P3.16</b>
Default Setting	0	0	0	0	0	0
Default Configuration	No Function					
User Defined Selection / Value						
DI - N.C. / N.O. Select <b>P3.42 - Bit #</b>	A	B	C	D	E	F
Default Configuration	0 = Normally Open					
User Defined Selection / Value						
DI - Active Status Monitor <b>P3.46 - Bit #</b>	A	B	C	D	E	F
DI - PLC Mask <b>P3.48 - Bit #</b>	A	B	C	D	E	F
<p>* Note for PLC Address: When an external input is used in the PLC and the PLC is in Run or Stop mode, the PLC then controls that input and any Multi-Function input setting assigned via P3.03~P3.16 is void. To read the status of an input into the PLC while maintaining the MFI setting use the RPR command on the DI Status Register (P3.46). The control of the IO can be given back to the drive by disabling the PLC either through the Keypad or Digital Inputs when they are assigned values 36 and 37.</p>						

Digital Input Configurations	
Parameters P3.11 ~ P3.16	
0: No function	34: Drive Enable
1: Multi-Speed/PID Multi-Setpoint bit 1	35: Decel Energy Backup (DEB) Enable
2: Multi-Speed/PID Multi-Setpoint bit 2	36: PLC Mode select bit0
3: Multi-Speed/PID Multi-Setpoint bit 3	37: PLC Mode select bit1
4: Multi-Speed bit 4	38: Output MCR Auxiliary Confirmation
5: Reset	39: reserved
6: JOG	40: Fire mode and force drive run
7: Accel/Decel speed inhibit (Speed Hold)	41: Fire mode and maintain operation
8: 1st~4th Accel/Decel time selection, bit 0	42: Disable all motors
9: 1st~4th Accel/Decel time selection, bit 1	43: Disable Motor #1
10: Emergency Stop EF Input by P3.56 (EF error)	44: Disable Motor #2
11: Base Block Input	45: Disable Motor #3
12: reserved	46: Disable Motor #4
13: Disable Auto Accel/Decel Time	47: Disable Motor #5
14: Switch between drive settings 1 and 2	48: Disable Motor #6
15: Operation speed command from AI1	49: Disable Motor #7
16: Operation speed command from AI2	50: Disable Motor #8

GS4 DIGITAL OUTPUTS – OPTION CARDS

GS4 Digital Outputs – Option Cards						
GS4-06TR Terminals	R10-RO10	R11-RO11	R12-RO12	R13-RO13	R14-RO14	R15-RO15
GS4-06CDD Terminals	DO10-DOC	DO11-DOC	N/A			
PLC Address *	Y5	Y6	Y7	Y10	Y11	Y12
Parameter	<b>P3.21</b>	<b>P3.22</b>	<b>P3.23</b>	<b>P3.24</b>	<b>P3.25</b>	<b>P3.26</b>
Default Setting	0	0	0	0	0	0
Default Configuration		No Function				
User Defined Selection / Value						
DO - N.C. / N.O. Select <b>P3.43 - Bit #</b>	5	6	7	8	9	10
Default Configuration		0 = Normally Open				
User Defined Selection / Value						
DO- Active Status Monitor <b>P3.47 - Bit #</b>	5	6	7	8	9	10
DO - PLC Mask <b>P3.49 - Bit #</b>	5	6	7	8	9	10

\* Note for PLC Address: When an external output is used in the PLC and the PLC is in Run or Stop mode, the PLC then controls that output and any Multi-Function Output setting assigned via P3.17~P3.31 is void. To read the status of an output from the PLC while maintaining the MFO setting, use the RPR command on the DO Status Register (P3.47). The ownership of the IO can be given back to the drive by disabling the PLC either through the Keypad or Digital Inputs when they are assigned values 36 and 37.

Digital Output Configurations – Parameters P3.21~P3.26	
0: no function	30: Delta Connected Command
1: AC Drive Running	31: Zero Speed at Drive Running
2: At Frequency Setpoint	32: Zero Speed including Drive Stop
3: At Speed 1 (P3.32)	33: Fault Option 1 (P11.00)
4: At Speed 2 (P3.34)	34: Fault Option 2 (P11.01)
5: At Zero Speed Including Drive Running	35: Fault Option 3 (P11.02)
6: At Zero Speed Drive not Running	36: Fault Option 4 (P11.03)
7: Over Torque Level 1	37: At Speed (Setpoint include 0Hz)
8: Over Torque Level 2	38: reserved
9: Drive Ready	39: Under Ampere (Low Current)
10: Low Voltage warning (Lv)	40: UVW Motor Contactor Enable
11: Error indication (All faults, Except for Lv Stop)	41: DEB active
12: Brake Release Function (P3.51)	42: Brake Released at Stop
13: Over-temp Warning	43: RS485 Digital Output
14: Dynamic Braking Output	44: Comm Card Digital Output
	45: Fire Mode Indication
	46: Fire Bypass Indication
	47: Motor #1 Selected
	48: Motor #2 Selected
	49: Motor #3 Selected
	50: Motor #4 Selected
	51: Motor #5 Selected
	52: Motor #6 Selected
	53: Motor #7 Selected
	54: Motor #8 Selected
	55: Mtr1/Mtr2 Nameplate Parameters Select
	56: Safety N.O. STO A
	57: Safety N.C. STO B
	58: Above Frequency Output (≥ P3.53)
	59: Below Frequency Output (< P3.53)

**GS4 DIGITAL OUTPUTS – VIRTUAL**

GS4 Digital Outputs – Virtual *						
Virtual Outputs *						Comments
PLC Address **	Y13	Y14	Y15	Y16	Y17	
Parameter	<b>P3.27</b>	<b>P3.28</b>	<b>P3.29</b>	<b>P3.30</b>	<b>P3.31</b>	
Default Setting	0	0	0	0	0	
Default Configuration	No Function					
User Defined Selection / Value						
DO - N.C. / N.O. Select <b>P3.43 - Bit #</b>	B	C	D	E	F	(0 = N.O. / 1 = N.C.)
Default Configuration	0 = Normally Open					
User Defined Selection / Value						
DO - Active Status Monitor <b>P3.47 - Bit #</b>	B	C	D	E	F	Read Only!
DO - PLC Mask <b>P3.49 - Bit #</b>	B	C	D	E	F	
<p>* GS4 virtual outputs can be used in the PLC while maintaining their Multi-Function setting when reading P3.47. Parameters P3.27 thru P3.31 do not have an external termination point to wire to.</p> <p>** Note for PLC Address: When an external output is used in the PLC and the PLC is in Run or Stop mode, the PLC then controls that output and any Multi-Function Output setting assigned via P3.17~P3.31 is void. To read the status of an output from the PLC while maintaining the MFO setting, use the RPR command on the DO Status Register (P3.47). The ownership of the IO can be given back to the drive by disabling the PLC either through the Keypad or Digital Inputs when they are assigned values 36 and 37.</p>						

### GS4 ANALOG COMMON PARAMETERS

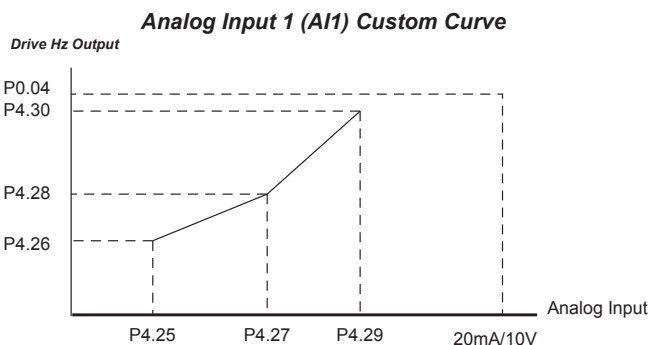
GS4 – AI1, AI2, and AI3 – Common Parameters				
Parameter	Selection / Value	Default	User Selection	
<b>P4.00</b>	1st Source of Frequency Command [Remote]	0: Digital Keypad 1: RS485 Communication (Modbus/BACnet)	2	
<b>P4.01</b>	2nd Source of Frequency Command [Local]	2: Analog Input 3: External UP/DOWN Terminal 4: Comm Card	0	

### GS4 ANALOG INPUT 1 PARAMETERS

GS4 – AI1 Specific Parameters				
Parameter	Selection / Value	Default	User Selection	
<b>Terminals</b>	<b>AI1 – ACM</b>	<b>N/A</b>	<b>N/A</b>	
<b>PLC Address</b>	<b>D1028</b>	<b>N/A</b>	<b>N/A</b>	
<b>P4.02</b>	Analog Input 1 (AI1) Function 0: No Function 1: Frequency Command/PID Setpoint REMOTE 2: Frequency Command/PID Setpoint LOCAL 3: Frequency Command/PID Setpoint REMOTE & LOCAL 4: reserved 5: PID Feedback Signal 6: PTC Thermistor Input Value 7: PID Offset (Input) 8~10: reserved 11: PT100 Thermistor Input Value	1		
<b>P4.05</b>	AI1 – I/V Selection 0: AI1v Selection (0~10V) 1: AI1i Selection (4~20mA) 2: AI1i Selection (0~20mA)	0		
<b>P4.10</b>	AI1 Input Bias (Offset)	-100.0% to +100.0%	0	
<b>P4.11</b>	AI1 Input Bias (Offset) Polarity 0: NO Offset 1: Positive Offset 2: Negative Offset	0		
<b>P4.12</b>	AI1 Input Gain	-500.0% to +500.0%	100.0	
<b>P4.13</b>	AI1 Filter	0.00~20.00 sec	0.01	
<b>Parameters below are used to characterize the GS4 drive output frequency if using AI1 for speed reference.</b>				
<b>P4.25</b>	AI1 Low V/A P4.05=0: 0.00~10.00V P4.05=1: 4.00~20.00mA P4.05=2: 0.00~20.00mA	P4.05=0: 0.00V P4.05=1: 4.00mA P4.05=2: 0.00mA		
<b>P4.26</b>	AI1 Low Hz Percent	0.00~100.00%	0	
<b>P4.27</b>	AI1 Mid V/A P4.05=0: 0.00~10.00V P4.05=1: 4.00~20.00mA P4.05=2: 0.00~20.00mA	P4.05=0: 5.00V P4.05=1: 12.00mA P4.05=2: 10.00mA		
<b>P4.28</b>	AI1 Mid Hz Percent	0.00~100.00%	50.00	
<b>P4.29</b>	AI1 High V/A P4.05=0: 0.00~10.00V P4.05=1: 4.00~20.00mA P4.05=2: 0.00~20.00mA	P4.05=0: 10.00V P4.05=1: 20.00mA P4.05=2: 20.00mA		
<b>P4.30</b>	AI1 High Hz Percent	0.00~100.00%	100.00	



**P4.63 (Loss of AI1) determines the drive behavior if the 4~20mA signal is lost.**

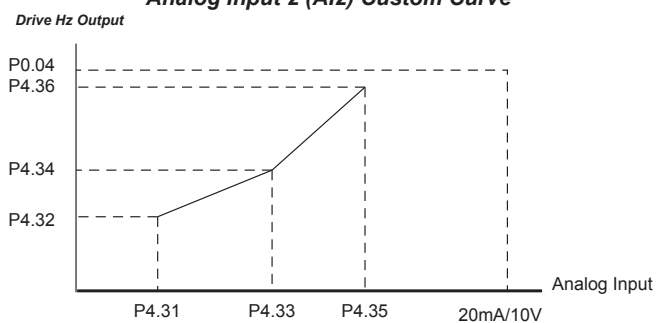




## GS4 ANALOG INPUT 2 PARAMETERS

GS4 – AI2 Specific Parameters				
Parameter	Selection / Value		Default	User Selection
<b>Terminals</b>	<b>AI2 – ACM</b>		<b>N/A</b>	<b>N/A</b>
<b>PLC Address</b>	<b>D1029</b>		<b>N/A</b>	<b>N/A</b>
<b>P4.03</b>	Analog Input 2 (AI2) Function	0: No Function 1: Frequency Command/PID Setpoint REMOTE 2: Frequency Command/PID Setpoint LOCAL 3: Frequency Command/PID Setpoint REMOTE & LOCAL 4: reserved 5: PID Feedback Signal 6: PTC Thermistor Input Value 7: PID Offset (Input) 8~10: reserved 11: PT100 Thermistor Input Value	0	
<b>P4.06</b>	AI2 – I/V Selection	0: AI2i Selection (0~10V) 1: AI2v Selection (4~20mA) 2: AI2i Selection (0~20mA)	0	
<b>P4.15</b>	AI2 Input Bias (Offset)	-100.0% to +100.0%	0	
<b>P4.16</b>	AI2 Input Bias (Offset) Polarity	0: NO Offset 1: Positive Offset 2: Negative Offset	0	
<b>P4.17</b>	AI2 Input Gain	-500.0% to +500.0%	100.0	
<b>P4.18</b>	AI2 Filter	0.00~20.00 sec	0.01	
<b>Parameters below are used to characterize the GS4 drive output frequency if using AI2 for speed reference.</b>				
<b>P4.31</b>	AI2 Low V/A	P4.06=0: 0.00~10.00V P4.06=1: 4.00~20.00mA P4.06=2: 0.00~20.00mA	P4.06=0: 0.00V P4.06=1: 4.00mA P4.06=2: 0.00mA	
<b>P4.32</b>	AI2 Low Hz Percent	0.00~100.00%	0	
<b>P4.33</b>	AI2 Mid V/A	P4.06=0: 0.00~10.00V P4.06=1: 4.00~20.00mA P4.06=2: 0.00~20.00mA	P4.06=0: 5.00V P4.06=1: 12.00mA P4.06=2: 10.00mA	
<b>P4.34</b>	AI2 Mid Hz Percent	0.00~100.00%	50.00	
<b>P4.35</b>	AI2 High V/A	P4.06=0: 0.00~10.00V P4.06=1: 4.00~20.00mA P4.06=2: 0.00~20.00mA	P4.06=0: 10.00V P4.06=1: 20.00mA P4.06=2: 20.00mA	
<b>P4.36</b>	AI2 High Hz Percent	0.00~100.00%	100.00	

**Analog Input 2 (AI2) Custom Curve**

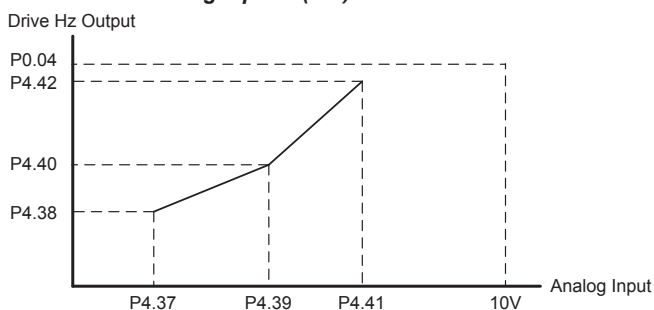


**P4.49 (Loss of AI2) determines the drive behavior if the 4~20mA signal is lost.**

### GS4 ANALOG INPUT 3 PARAMETERS

GS4 – AI3 Specific Parameters				
Parameter		Selection / Value	Default	User Selection
<b>Terminals</b>		<b>AI3 – ACM</b>	<b>N/A</b>	<b>N/A</b>
<b>PLC Address</b>		<b>D1030</b>	<b>N/A</b>	<b>N/A</b>
<b>P4.04</b>	Analog Input 3 (AI3) Function	0: No function 1: Frequency command 2: Reserved 3: Reserved 4: Reserved 5: Reserved 6: PTC thermistor input value 11: PT100 (RTD) thermistor input value	0	
<b>P4.19</b>	AI3 Input Bias (Offset)	-100.0% to +100.0%	0	
<b>P4.20</b>	AI3 Input Bias (Offset) Polarity	0: NO Offset 1: Positive Offset 2: Negative Offset	0	
<b>P4.21</b>	+AI3 Input Gain	-500.0% to +500.0%	100.0	
<b>P4.22</b>	-AI3 Input Gain	-500.0% to +500.0%	100.0	
<b>P4.23</b>	AI3 Filter	0.00~20.00 sec	0.01	
<b>Parameters below are used to characterize the GS4 drive output frequency if using AI3 for speed reference. If AI3 is unipolar (0 to 10V) – Parameters define the entire range of the signal. (0 to 10V) If AI3 is bipolar (-10 to +10V) – Parameters define the positive half of the signal (from 0 to +10V)</b>				
<b>P4.37</b>	AI3 Low Voltage Unipolar	0.00~10.00V	0	
<b>P4.38</b>	AI3 Low Hz Percent Unipolar	0.00~100.00%	0	
<b>P4.39</b>	AI3 Mid Voltage Unipolar	0.00~10.00V	5.00	
<b>P4.40</b>	AI3 Mid Hz Percent Unipolar	0.00~100.00%	50.00	
<b>P4.41</b>	AI3 High Voltage Unipolar	0.00~10.00V	10.00	
<b>P4.42</b>	AI3 High Hz Percent Unipolar	0.00~100.00%	100.00	
<b>If AI3 is unipolar (0 to 10V) – Parameters below are unused. If AI3 is bipolar (-10 to +10V) – Parameters define the negative half of the signal (from -10 to 0V)</b>				
<b>P4.43</b>	-AI3 High Voltage Bipolar	-10.00V to 0.00V	0.00	
<b>P4.44</b>	-AI3 High Hz Percent Bipolar	-100.00% to +100.00%	0.00	
<b>P4.45</b>	-AI3 Mid Voltage Bipolar	-10.00V to 0.00V	-5.00	
<b>P4.46</b>	-AI3 Mid Hz Percent Bipolar	-100.00% to +100.00%	-50.00	
<b>P4.47</b>	-AI3 Low Voltage Bipolar	-10.00V to 0.00V	-10.00	
<b>P4.48</b>	-AI3 Low Hz Percent Bipolar	-100.00% to +100.00%	-100.00	

Analog Input 3 (AI3) Custom Curve



### GS4 ANALOG OUTPUT 1 PARAMETERS

GS4 – AO1 Specific Parameters				
Parameter		Selection / Value	Default	User Selection
<b>Terminals</b>		<b>AO1 – ACM</b>	<b>N/A</b>	<b>N/A</b>
<b>PLC Address</b>		<b>D1040</b>	<b>N/A</b>	<b>N/A</b>
<b>P4.50</b>	Analog Output 1 (AO1)	0: Output Frequency (Hz) 1: Frequency Command (Hz) 2: Motor Speed (Hz) 3: Output Current (rms) 4: Output Voltage 5: DC Bus Voltage 6: Power Factor 7: Power 8: AI1 9: AI2 10: AI3 11: As 485 AO 12: As COM Card AO 13: Fixed Value	0	
<b>P4.51</b>	AO1 Gain	0.0~500.0%	100.0	
<b>P4.52</b>	AO1 Negative Value Handle	0: Absolute Value 1: 0V When Negative 2: Offset 5V = 0 Value	0	
<b>P4.53</b>	AO1 0~20mA/4~20mA Selection	0: 0~20mA 1: 4~20mA	0	
<b>P4.60</b>	AO1 Output Constant Level	0.00~100.00%	0.00	
<b>P4.62 Bit 0</b>	PLC Analog Output Mask	0: Drive Controlled 1: PLC Controlled	0	

### GS4 ANALOG OUTPUT 2 PARAMETERS

GS4 – AO2 Specific Parameters				
Parameter		Selection / Value	Default	User Selection
<b>Terminals</b>		<b>AO2 – ACM</b>	<b>N/A</b>	<b>N/A</b>
<b>PLC Address</b>		<b>D1045</b>	<b>N/A</b>	<b>N/A</b>
<b>P4.54</b>	Analog Output 2 (AO2)	0: Output Frequency (Hz) 1: Frequency Command (Hz) 2: Motor Speed (Hz) 3: Output Current (Arms) 4: Output Voltage (V) 5: DC Bus Voltage (V) 6: Power Factor (%) 7: Power (% Rated) 8: AI1 (%) 9: AI2 (%) 10: AI3 (%) 11: As 485 AO 12: As COM Card AO 13: Fixed Value	0	
<b>P4.55</b>	AO2 Gain	0.0~500.0%	100.0	
<b>P4.56</b>	AO2 Negative Value Handle	0: Absolute Value 1: 0V When Negative 2: Offset 5V = 0 Value	0	
<b>P4.57</b>	AO2 0~20mA/4~20mA Selection	0: 0~20mA 1: 4~20mA	0	
<b>P4.59</b>	AO2 Offset (Bias)	-100.00% to +100.00%	0.00	
<b>P4.61</b>	AO2 Output Constant Level	0.00~100.00%	0.00	
<b>P4.62 Bit 1</b>	PLC Analog Output Mask	0: Drive Controlled 1: PLC Controlled	0	

### GS4 FREQUENCY OUTPUT PARAMETERS

GS4 – Frequency Output Specific Parameters				
Parameter		Selection / Value	Default	User Selection
<b>Terminals</b>		<b>FO – DCM</b>	<b>N/A</b>	<b>N/A</b>
<b>PLC Address</b>		<b>N/A</b>	<b>N/A</b>	<b>N/A</b>
<b>P3.38</b>	Frequency Output (FO) Scaling Factor (Pulse per second output = actual output frequency x P3.38)	1~166 (1 = no scaling)	1	

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