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## **INTRODUCTION**

This section contains worksheets to help with designing and programming the physical inputs and outputs of the GS30 (digital, analog, and frequency interfaces). These worksheets provide the GS30 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.

# GS30 DIGITAL INPUTS

| GS30 Digital Inputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                |                          |                                  |             |             |             |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|--------------------------|----------------------------------|-------------|-------------|-------------|
| GS30 Terminals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       | FWD/DI1                        | REV/DI2                  | DI3                              | DI4         | DI5         | DI6         |
| PLC Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | X0                             | X1                       | X2                               | X3          | X4          | X5          |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | P02.00 if ≠ 0, else:<br>P02.01 | P02.02                   | (P02.00 if = 3 or 6) else P02.03 | P02.04      | P02.05      | P02.06      |
| Default Setting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | P2.00=1,<br>P02.01=0           | P02.00=1,<br>P02.02=0    | 1                                | 2           | 3           | 4           |
| Default Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2 wire mode:<br>FWD/STOP       | 2 wire mode:<br>REV/STOP | Multi Spd 1                      | Multi Spd 2 | Multi Spd 3 | Multi Spd 4 |
| User Defined Selection / Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |                          |                                  |             |             |             |
| DI - N.C. / N.O. Select<br>P02.12 - Bit #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0                              | 1                        | 2                                | 3           | 4           | 5           |
| Default Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0 = Normally Open              |                          |                                  |             |             |             |
| User Defined Selection / Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |                          |                                  |             |             |             |
| DI - Response Time                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | P02.11                         |                          |                                  |             |             |             |
| Default Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 0.005 seconds                  |                          |                                  |             |             |             |
| User Defined Selection / Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |                                |                          |                                  |             |             |             |
| DI - Active Status Monitor<br>P02.50 - Bit #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 0                              | 1                        | 2                                | 3           | 4           | 5           |
| DI - PLC Status Monitor<br>P02.52 - Bit #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 0                              | 1                        | 2                                | 3           | 4           | 5           |
| * 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 P02.00~P02.07 is void. To read the status of an input into the PLC while maintaining the multifunction input setting use the RPR command on the DI Status Register (P02.50). 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 51 and 52. |                                |                          |                                  |             |             |             |

| Digital Input Configurations – Parameters P02.01~P02.07   |                                                                     |                                          |                                                                   |  |  |  |
|-----------------------------------------------------------|---------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------|--|--|--|
| 0: No function                                            | 11: Base Block (B.B.) input from external source                    | 28: Emergency stop (EF1)                 | 56: Local / Remote selection                                      |  |  |  |
| 1: Multi-step speed command 1                             | 12: Output stop                                                     | 29: Signal confirmation for Y-connection | 58: Enable fire mode (with RUN command)                           |  |  |  |
| 2: Multi-step speed command 2                             | 13: Cancel the setting of autoacceleration / auto-deceleration time | 30: Signal confirmation for δ-connection | 59: Enable fire mode (without RUN command)                        |  |  |  |
| 3: Multi-step speed command 3                             | 15: Frequency command from AI1                                      | 31: High torque bias (P11.30)            | 70: Force auxiliary frequency return to 0                         |  |  |  |
| 4: Multi-step speed command 4                             | 16: Frequency command from AI2                                      | 32: Middle torque bias (P11.31)          | 71: Disable PID function, force PID output return to 0            |  |  |  |
| 5: Reset                                                  | 18: Force to stop (P07.20)                                          | 33: Low torque bias (P11.32)             | 72: Disable PID function, retain the output value before disabled |  |  |  |
| 6: JOG [by external control or GS4-KPD (optional)]        | 19: Digital up command                                              | 38: Disable writing EEPROM function      | 73: Force PID integral gain return to 0, disable integral         |  |  |  |
| 7: Acceleration / deceleration speed inhibit selection    | 20: Digital down command                                            | 39: Torque command direction             | 74: Reverse PID feedback                                          |  |  |  |
| 8: 1st and 2nd acceleration / deceleration time selection | 21: PID function disabled                                           | 40: Force coasting to stop               | 81: Simple positioning zero point position signal input           |  |  |  |
| 9: 3rd and 4th acceleration / deceleration time selection | 22: Clear the counter                                               | 41: HAND switch                          | 82: OOB loading balance detection                                 |  |  |  |
| 10: External Fault (EF) Input (P07.20)                    | 23: Input the counter value (DI6)                                   | 42: AUTO switch                          | 83: Multi-motor (IM) selection bit 0                              |  |  |  |
|                                                           | 24: FWD JOG command                                                 | 48: Mechanical gear ratio switch         | 84: Multi-motor (IM) selection bit 1                              |  |  |  |
|                                                           | 25: REV JOG command                                                 | 49: Enable drive                         |                                                                   |  |  |  |
|                                                           | 26: TQC / FOC mode selection                                        | 50: Slave dEb action to execute          |                                                                   |  |  |  |
|                                                           | 27: ASR1 / ASR2 selection                                           | 51: Selection for PLC mode bit 0         |                                                                   |  |  |  |

## GS30 DIGITAL OUTPUTS

| GS30 Digital Outputs                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |                        |             |         |                                         |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|-------------|---------|-----------------------------------------|
| GS30 Terminals                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | R1-R1C-R1O             | DO1-DOC     | DO2-DOC | Comments                                |
| PLC Address                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | Y0                     | Y3          | Y4      |                                         |
| Parameter                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | P02.13                 | P02.16      | P02.17  | See Digital Output Configurations Below |
| Default Setting                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | 11                     | 0           | 0       |                                         |
| Default Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | Malfunction Indication | No Function |         |                                         |
| User Defined Selection / Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |             |         |                                         |
| DO - N.C. / N.O. Select<br>P02.18 - Bit #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0                      | 3           | 4       | 0 = N.O.<br>1 = N.C.                    |
| Default Configuration                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0                      | 0           | 0       |                                         |
| User Defined Selection / Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                        |             |         |                                         |
| DO - Active Status Monitor<br>P02.51 - Bit #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              | 0                      | 3           | 4       | Read Only!                              |
| DO - PLC Status Monitor<br>P03.53 - Bit #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | 0                      | 3           | 4       |                                         |
| * 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 P02.13, P02.16, and P02.17 is void. To read the status of an output from the PLC while maintaining the multifunction output setting, use the RPR command on the DO Status Register (P02.51). 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 51 and 52. |                        |             |         |                                         |

| Digital Output Configurations – Parameters P02.13, P02.16, and P02.17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0: No function<br>1: Indication during RUN<br>2: Operation speed reached<br>3: Desired frequency reached 1 (P02.22)<br>4: Desired frequency reached 2 (P02.24)<br>5: Zero speed (Frequency command)<br>6: Zero speed including STOP (Frequency command)<br>7: Over-torque 1 (P06.06–06.08)<br>8: Over-torque 2 (P06.09–06.11)<br>9: Drive is ready<br>10: Low voltage warning (Lv) (P06.00)<br>11: Malfunction indication<br>13: Overheat warning (P06.15)<br>14: Software brake signal indicator (P07.00)<br>15: PID feedback error (P08.13, P08.14)<br>16: Slip error (oSL)<br>17: Count value reached, does not return to 0 (P02.20) | 18: Count value reached, return to 0 (P02.19)<br>19: External interrupt B.B. input (Base Block)<br>20: Warning output<br>21: Over-voltage<br>22: Over-current stall prevention<br>23: Over-voltage stall prevention<br>24: Operation mode<br>25: Forward command<br>26: Reverse command<br>29: Output when frequency ≥ P02.34<br>30: Output when frequency < P02.34<br>31: Y-connection for the motor coil<br>32: δ-connection for the motor coil<br>33: Zero speed (actual output frequency)<br>34: Zero speed including STOP (actual output frequency)<br>35: Error output selection 1 (P06.23)<br>36: Error output selection 2 (P06.24) | 37: Error output selection 3 (P06.25)<br>38: Error output selection 4 (P06.26)<br>40: Speed reached (including STOP)<br>42: Crane function<br>43: Motor speed detection<br>44: Low current output (use with P06.71–06.73)<br>45: UVW output electromagnetic valve switch<br>46: Master dEb output<br>51: Analog output control for RS-485 interface<br>52: Output control for communication cards<br>53: Fire mode indication<br>66: SO output logic A<br>67: Analog input level reached<br>68: SO output logic B<br>73: Over-torque 3<br>74: Over-torque 4<br>75: Forward RUN status<br>76: Reverse RUN status |

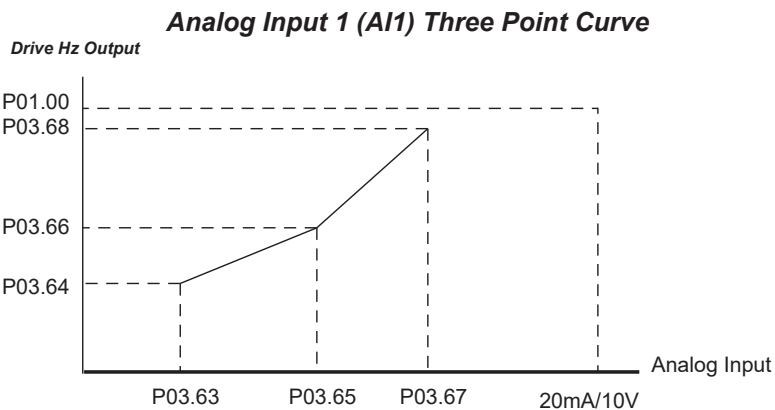
## GS30 ANALOG COMMON PARAMETERS

| GS30 – AI1 and AI2 – Common Parameters |                                                |                                                                                                                                                                                                                                                                                            |         |                |
|----------------------------------------|------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------|
| Parameter                              |                                                | Selection / Value                                                                                                                                                                                                                                                                          | Default | User Selection |
| <b>P00.20</b>                          | Master frequency command source (AUTO, REMOTE) | 0: Digital keypad<br>1: RS-485 communication input<br>2: External analog input (Refer to P03.00)<br>3: External UP / DOWN terminal (digital input terminals)<br>4: Pulse input (DI7) without direction command<br>6: Not used<br>7: Reserved<br>8: Communication card<br>9: PID controller | 0       |                |
| <b>P00.30</b>                          | Master frequency command source (HAND, LOCAL)  |                                                                                                                                                                                                                                                                                            | 0       |                |

## GS30 ANALOG INPUT 1 PARAMETERS

| GS30 – 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>P03.00</b>                                                                                                                                                                                                      | Analog input selection (AI1)             | 1: Frequency command<br>2: Torque command (torque limit under speed mode)<br>3: Torque compensation command<br>4: PID target value<br>5: PID feedback signal<br>6: Thermistor (PTC) input value<br>7: Positive torque limit<br>8: Negative torque limit<br>9: Regenerative torque limit<br>10: Positive / negative torque limit<br>11: PT100 RTD input value<br>12: Auxiliary frequency input<br>13: PID compensation value | 1          |                |
| <b>P03.28</b>                                                                                                                                                                                                      | AI1 terminal input selection             | 0: 0–10 V (P03.63–P03.68 is valid)<br>3: -10–10 V (P03.63–P03.74 are valid)                                                                                                                                                                                                                                                                                                                                                 | 0          |                |
| <b>P03.03</b>                                                                                                                                                                                                      | Analog input bias (AI1)                  | -100.0% to +100.0%                                                                                                                                                                                                                                                                                                                                                                                                          | 0          |                |
| <b>P03.07</b>                                                                                                                                                                                                      | Positive / negative bias mode (AI1)      | 0: No bias<br>1: Lower than or equal to bias<br>2: Greater than or equal to bias<br>3: The absolute value of the bias voltage while serving as the center<br>4: Bias serves as the center                                                                                                                                                                                                                                   | 0          |                |
| <b>P03.11</b>                                                                                                                                                                                                      | Analog input gain (AI1)                  | -500.0% to +500.0%                                                                                                                                                                                                                                                                                                                                                                                                          | 100.0      |                |
| <b>P03.15</b>                                                                                                                                                                                                      | Analog input filter (LPF) time (AI1)     | 0.00~20.00 sec                                                                                                                                                                                                                                                                                                                                                                                                              | 0.01       |                |
| <b>P03.47</b>                                                                                                                                                                                                      | AI1%                                     | -100 to 100%                                                                                                                                                                                                                                                                                                                                                                                                                | 0          |                |
| <b>P03.50</b>                                                                                                                                                                                                      | Analog input curve calculation selection | 0: Normal curve<br>1: Three-point curve of AI1<br>2: Three-point curve of AI2<br>3: Three-point curve of AI1 & AI2                                                                                                                                                                                                                                                                                                          | 0          |                |
| <b>Parameters below are used to characterize the GS30 drive output frequency with three point curve parameters if using AI1 for speed reference (bias and gain parameters above are not used when P03.50 ≠ 0).</b> |                                          |                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                |
| <b>P03.63</b>                                                                                                                                                                                                      | AI1 voltage lowest point                 | 0.00~10.00V                                                                                                                                                                                                                                                                                                                                                                                                                 | 0          |                |
| <b>P03.64</b>                                                                                                                                                                                                      | AI1 proportional lowest point            | -100.00~100.00%                                                                                                                                                                                                                                                                                                                                                                                                             | 0          |                |
| <b>P03.65</b>                                                                                                                                                                                                      | AI1 voltage mid-point                    | 0.00~10.00V                                                                                                                                                                                                                                                                                                                                                                                                                 | 5          |                |
| <b>P03.66</b>                                                                                                                                                                                                      | AI1 proportional mid-point               | -100.00~100.00%                                                                                                                                                                                                                                                                                                                                                                                                             | 50.00      |                |
| <b>P03.67</b>                                                                                                                                                                                                      | AI1 voltage highest point                | 0.00~10.00V                                                                                                                                                                                                                                                                                                                                                                                                                 | 10         |                |

| GS30 – AI1 Specific Parameters (continued) |                                         |                                                         |         |                |
|--------------------------------------------|-----------------------------------------|---------------------------------------------------------|---------|----------------|
| Parameter                                  |                                         | Selection / Value                                       | Default | User Selection |
| <b>P03.68</b>                              | AI1 proportional highest point          | -100.00~100.00%                                         | 100.00  |                |
| <b>P03.69</b>                              | Negative AI1 voltage highest point      | -10.00~0.00 V<br>(valid when P03.28 sets as -10~10 V)   | 0.00    |                |
| <b>P03.70</b>                              | Negative AI1 proportional highest point | -100.00~100.00%<br>(valid when P03.28 sets as -10~10 V) | 0.00    |                |
| <b>P03.71</b>                              | Negative AI1 voltage mid-point          | -10.00~0.00 V<br>(valid when P03.28 sets as -10~10 V)   | -5.00   |                |
| <b>P03.72</b>                              | Negative AI1 proportional mid-point     | -100.00~100.00%<br>(valid when P03.28 sets as -10~10 V) | -50.00  |                |
| <b>P03.73</b>                              | Negative AI1 voltage lowest point       | -10.00~0.00 V<br>(valid when P03.28 sets as -10~10 V)   | -10.00  |                |
| <b>P03.74</b>                              | Negative AI1 proportional lowest point  | -100.00~100.00%<br>(valid when P03.28 sets as -10~10 V) | -100.00 |                |



## GS30 ANALOG INPUT 2 PARAMETERS

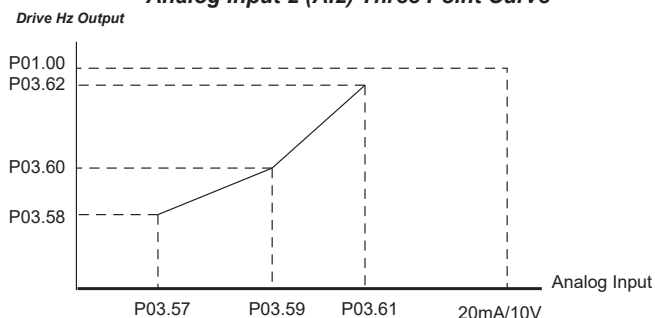
| GS30 – AI2 Specific Parameters |                              |                                                                                                                                                                                                                                                                                                                                                                                                                             |            |                |
|--------------------------------|------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|----------------|
| 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>P03.01</b>                  | Analog input selection (AI2) | 1: Frequency command<br>2: Torque command (torque limit under speed mode)<br>3: Torque compensation command<br>4: PID target value<br>5: PID feedback signal<br>6: Thermistor (PTC) input value<br>7: Positive torque limit<br>8: Negative torque limit<br>9: Regenerative torque limit<br>10: Positive / negative torque limit<br>11: PT100 RTD input value<br>12: Auxiliary frequency input<br>13: PID compensation value | 0          |                |
| <b>P03.29</b>                  | AI2 terminal input selection | 0: 4~20 mA<br>1: 0~10 V<br>2: 0~20 mA                                                                                                                                                                                                                                                                                                                                                                                       | 0          |                |
| <b>P03.04</b>                  | Analog input bias (AI2)      | -100.0% to +100.0%                                                                                                                                                                                                                                                                                                                                                                                                          | 0          |                |

| GS30 – AI2 Specific Parameters (continued)                                                                                                                                                                         |                                          |                                                                                                                                                                                           |                                                            |                |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|----------------|
| Parameter                                                                                                                                                                                                          |                                          | Selection / Value                                                                                                                                                                         | Default                                                    | User Selection |
| <b>P03.08</b>                                                                                                                                                                                                      | Positive/negative bias mode (AI2)        | 0: No bias<br>1: Lower than or equal to bias<br>2: Greater than or equal to bias<br>3: The absolute value of the bias voltage while serving as the center<br>4: Bias serves as the center | 0                                                          |                |
| <b>P03.12</b>                                                                                                                                                                                                      | Analog input gain (AI2)                  | -500.0% to +500.0%                                                                                                                                                                        | 100.0                                                      |                |
| <b>P03.16</b>                                                                                                                                                                                                      | Analog input filter (LPF) time (AI2)     | 0.00~20.00 sec                                                                                                                                                                            | 0.01                                                       |                |
| <b>P03.48</b>                                                                                                                                                                                                      | AI2%                                     | -100 to 100%                                                                                                                                                                              | 0                                                          |                |
| <b>P03.50</b>                                                                                                                                                                                                      | Analog input curve calculation selection | 0: Normal curve<br>1: Three-point curve of AI1<br>2: Three-point curve of AI2<br>3: Three-point curve of AI1 & AI2                                                                        | 0                                                          |                |
| <b>Parameters below are used to characterize the GS30 drive output frequency with three point curve parameters if using AI2 for speed reference (bias and gain parameters above are not used when P03.50 ≠ 0).</b> |                                          |                                                                                                                                                                                           |                                                            |                |
| <b>P03.57</b>                                                                                                                                                                                                      | AI2 lowest point                         | P03.29=0: 4.00~20.00mA<br>P03.29=1: 0.00~10.00V<br>P03.29=2: 0.00~20.00mA                                                                                                                 | P03.29=0: 4.00mA<br>P03.29=1: 0.00V<br>P03.29=2: 0.00mA    |                |
| <b>P03.58</b>                                                                                                                                                                                                      | AI2 proportional lowest point            | 0.00~100.00%                                                                                                                                                                              | 0                                                          |                |
| <b>P03.59</b>                                                                                                                                                                                                      | AI2 voltage mid-point                    | P03.29=0: 4.00~20.00mA<br>P03.29=1: 0.00~10.00V<br>P03.29=2: 0.00~20.00mA                                                                                                                 | P03.29=0: 12.00mA<br>P03.29=1: 5.00V<br>P03.29=2: 10.00mA  |                |
| <b>P03.60</b>                                                                                                                                                                                                      | AI2 proportional mid-point               | 0.00~100.00%                                                                                                                                                                              | 50.00                                                      |                |
| <b>P03.61</b>                                                                                                                                                                                                      | AI2 voltage highest point                | P03.29=0: 4.00~20.00mA<br>P03.29=1: 0.00~10.00V<br>P03.29=2: 0.00~20.00mA                                                                                                                 | P03.29=0: 20.00mA<br>P03.29=1: 10.00V<br>P03.29=2: 20.00mA |                |
| <b>P03.62</b>                                                                                                                                                                                                      | AI2 proportional highest point           | 0.00~100.00%                                                                                                                                                                              | 100.00                                                     |                |



**P03.19 (Loss of AI2)**  
determines the drive behavior  
if the 4~20mA signal is lost.

**Analog Input 2 (AI2) Three Point Curve**



## GS30 ANALOG OUTPUT 1 PARAMETERS

| GS30 – A01 Specific Parameters |                                      |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |         |                |
|--------------------------------|--------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------|----------------|
| Parameter                      |                                      | Selection / Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Default | User Selection |
| Terminals                      |                                      | A01 – ACM                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | N/A     | N/A            |
| PLC Address                    |                                      | D1040                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               | N/A     | N/A            |
| P03.20                         | Multi-function output (A01)          | 0: Output frequency (Hz)<br>1: Frequency command (Hz)<br>2: Motor speed (Hz)<br>3: Output current (rms)<br>4: Output voltage<br>5: DC bus voltage<br>6: Power factor<br>7: Power<br>8: Output torque<br>9: AI1<br>10: AI2<br>12: Iq current command<br>13: Iq feedback value<br>14: Id current command<br>15: Id feedback value<br>16: Vq-axis voltage command<br>17: Vd-axis voltage command<br>18: Torque command<br>19: Encoder Pulse (DI7) frequency command<br>21: RS-485 analog output<br>22: Communication card analog output<br>23: Constant voltage output | 0       |                |
| P03.21                         | Analog output gain (A01)             | 0.0~500.0%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 100.0   |                |
| P03.22                         | Analog output in REV direction (A01) | 0: Absolute Value<br>1: 0V When Negative<br>2: Offset 5V = 0 Value                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 0       |                |
| P03.27                         | A01 output bias                      | -100.00~100.00%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.00    |                |
| P03.31                         | A01 output selection                 | 0: 0~10 V output<br>1: 0~20 mA output<br>2: 4~20 mA output                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 0       |                |
| P03.32                         | A01 DC output setting level          | 0.00~100.00%                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | 0.00    |                |
| P03.35                         | A01 output filter time               | 0.00~20.00 sec.                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 0.01    |                |

## GS30 FREQUENCY OUTPUT PARAMETERS

| GS30 – Frequency Output Specific Parameters |                                                                                         |                          |         |                |
|---------------------------------------------|-----------------------------------------------------------------------------------------|--------------------------|---------|----------------|
| Parameter                                   |                                                                                         | Selection / Value        | Default | User Selection |
| Terminals                                   |                                                                                         | DO – DCM                 | N/A     | N/A            |
| PLC Address                                 |                                                                                         | N/A                      | N/A     | N/A            |
| P02.21                                      | Digital output gain (DO)<br>(Pulse per second output = actual output frequency x P3.38) | 1~55<br>(1 = no scaling) | 1       |                |