

IMPULSE[®]G+
Series 2



ELECTROMOTIVE SYSTEMS
a  Magnetek Company







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




Quick Reference Guide



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Manual No. G+S2REF-01A
Part Number: 005-1093

This guide is intended to assist you in quickly programming the IMPULSE®G+ Series 2 Adjustable Frequency Motor Control, enabling you to get up and running quickly. It will guide you in obtaining basic starting characteristics for your application. For advanced programming features, please refer to the complete IMPULSE®G+ Series 2 Adjustable Frequency Motor Control instruction manual.

The basic programming of the drive centers on the initialize parameters. The initialize parameters control the X-Press Programming™ of the drive.











1. After applying power to the inverter, the display will show the output frequency.
2. Pressing  will place you at the top of the main menu loop. The drive will read ELECTROMOTIVE OPERATION.
3. Press , the drive will read ELECTROMOTIVE INITIALIZE.
4. Press , access level will be shown on the 1st line of the display and the present programmed access level will be displayed on the 2nd line. The drive is shipped from the factory at the advanced level. If the advanced level is not shown, press  and then  until advanced level is shown, then press .








To change the definition of a terminal, select that terminal using the  or  and press . Pressing  or  at this point will cause the display to scroll through all of the available selections. When the function you wish to use is displayed, Press  and the display will briefly show ENTRY RECEIVED and then verify the new terminal function.

17. Press  the display will read ELECTROMOTIVE OPERATION. Press  and the drive will now be in the normal mode of operation. The display will show the Frequency Reference and the drive can now be run.
18. Issue a run command to the drive and check for acceptable operation. If the operation is not acceptable, repeat the above to further adjust the drive.
19. For further assistance, please refer to the IMPULSE®G+ Series 2 instruction manual or call Electromotive Systems at 800/288-8178.





13. To change another speed reference at this point, press the ▲ or ▼ until the next speed reference that you wish to change is displayed. Follow the procedure described in step 12 above.





14. After all the speed references have been set, refer to step 10 to return to normal operation.


15. If you wish to change the acceleration or deceleration, press . The display will show ELECTROMOTIVE, OPERATE. Press  until ELECTROMOTIVE PROGRAMMING is displayed. Press , the display will now read GROUP B, APPLICATION. Press  and the display will read B1, APPLICATION. Press  until the display reads B5, ACCELERATION/DECELERATION. Press  and the display will read B5-01 ACCEL TIME 1. Press  and use  to select the digit you wish to change and the ▲ or ▼ to select the values of the digit. Once the value is selected press  and the display will briefly show ENTRY ACCEPTED and then verify the acceleration time. To change the deceleration rate, use the same procedure except select B5-02 instead of B5-01 by pressing .

16. If you wish to redefine the functions assigned to the input terminals, Press  and then  until ELECTROMOTIVE PROGRAMMING is displayed. Press  then  until H, TERMINAL is displayed. Press  H1, DIGITAL INPUTS is displayed. Press  and the display will read TERMINAL 3 and the function the terminal is presently defined for. Pressing  will display TERMINAL 4 through 8 and their defined functions in ascending order.











The display will respond briefly with ENTRY ACCEPTED. Verify that the access level is now programmed to the advanced level. If the access level cannot be changed, please refer to the password section of the IMPULSE•G+ Series 2 Adjustable Frequency Motor Control instruction manual.






5. With the access level programmed to the advanced level, press . The display will now show the control method. V/F control is used for general and multiple motor applications and is the factory default setting. Open loop vector is selected for applications requiring precise speed control, quick response and higher torque at low speeds (150% torque below 1 Hz.) An Auto-Tune must be performed for open loop vector applications. Please refer to the Auto-Tuning section of the IMPULSE•G+ Series 2 instruction manual. To change the control method, press  and then  until the desired control method is displayed. Press  and the display will briefly show ENTRY ACCEPTED and then verify the new control method.














6. Press , the display will read MOTION. The choices are traverse (e.g. bridge or trolley) or standard hoist. Standard hoist is the factory default. If traverse is desired, press  and then  until TRAVERSE is displayed. Press  and the display will briefly show ENTRY ACCEPTED and verify the new motion.

7. Press , the display will read SPEED REFERENCE. The factory default is 3-SPD Multi-Step. The Possible selections are shown in the following table:

Data Value	Speed Reference Function
0	5-SPD Multi-Step—Defines Terminals 3-6 as speeds 2-5.
1	2-Step Infinitely-Variable—Terminals 1 & 2 = b1-01 (Reference 1) and speed hold. Terminal 3 = Accelerate.
2	3-Step Infinitely-Variable—Terminals 1 & 2 = b1-01 (Reference 1). Terminal 3 = Speed Hold. Terminal 4 = Accelerate.
3	Uni-polar analog—Terminals 1 & 2 = Directional input. Terminal 13 = 0-10VDC input. Terminal 14 = 4-20mA input.
4	Bi-polar analog—Terminal 13 = -10 to +10 VDC. A run input is required on Terminal 1, direction is determined by the reference given on Terminal 13.
5	2-SPD Multi-Step—Terminal 3 = 2 nd Speed (Speed 2 = b1-02).
6	3 SPD Multi-step—Terminal 3 = 2 nd Speed (Speed 2 = b1-02). Terminal 4= 3 rd speed (Speed 3 = b1-03).
7	Not Used—Defines Terminals 3-8 as not used. Used when the speed references are being input using the G5IN4 option card.

8. If a Speed Reference other than 3 SPD Multi-step is desired, press  and then  until the desired speed reference is displayed. Press  and the display will briefly show ENTRY ACCEPTED and then verify the new speed reference selected.
9. If the control method selected is V/F control, you will need to program in the full load amps of the motor, or the sum of the motors, if more than one motor is being controlled by the drive, to allow the drive to provide proper motor overload protection. Press  then  until ELECTROMOTIVE PROGRAMMING is displayed. Press  then  until GROUP E, MOTOR is displayed. Press  and then the  key until E2, MOTOR SET-UP is displayed. Press  and the drive will display E2-01, MOTOR RATED FLA.

Press  and  to select the digit you wish to change and  or  to set a value for the selected digit. Apply this for all applicable digits. After the FLA of the motor(s) has been selected, press  and the display will briefly show ENTRY ACCEPTED and then verify the new full load Amp rating of the motor(s).

10. This completes the basic programming of the drive. For a complete listing of all the parameters affected by programming of the initialize parameters, please refer to the complete IMPULSE•G+ Series 2 Instruction Manual.
11. Press  the display will read ELECTROMOTIVE OPERATION. Press  and the drive will now be in the normal mode of operation. The display will show the Frequency Reference and the drive can now be run.
12. To change the speed settings, press . The display will read ELECTROMOTIVE OPERATION. Press the  until ELECTROMOTIVE PROGRAMMING is displayed. Press  the display will now read GROUP B, APPLICATION. Press  and the display reads B1, PRESET REFERENCES. Press  and the display reads B1-01 REFERENCE 1. Press  to get to the speed reference that you wish to change (reference 1 to reference 8 = speed 1 to speed 8). Press  and  to select the digit you wish to change and  or  to set a value for the selected digit. Apply this for all applicable digits. After the value has been selected press  and the display will briefly show ENTRY ACCEPTED, then verify the new speed reference.