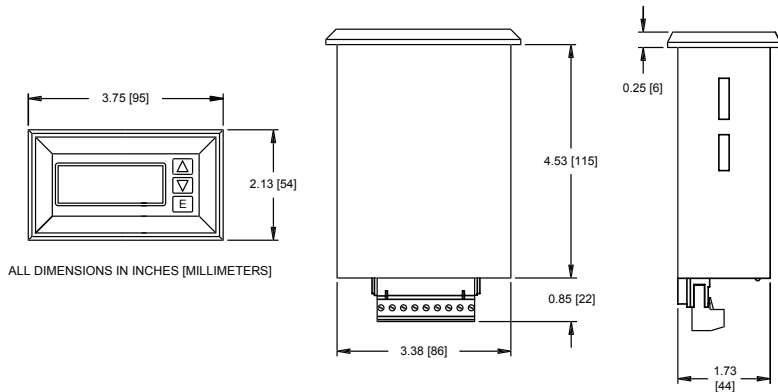


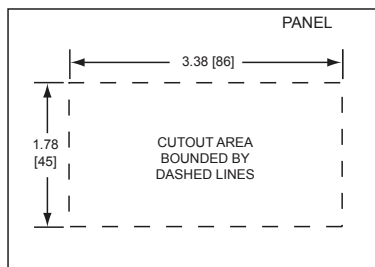


D I M E N S I O N S

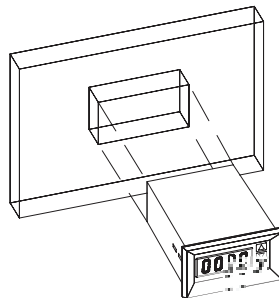


P A N E L I N S T A L L A T I O N

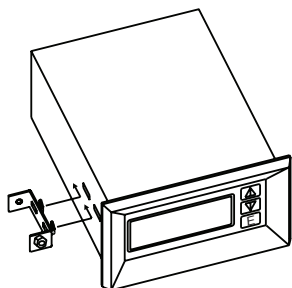
Step 1: Cut a rectangular hole in the panel 1.78 inches (45 mm) high and 3.38 inches (86 mm) wide



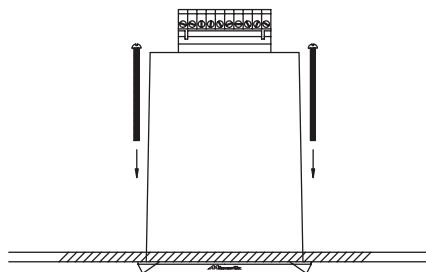
Step 2: Slide the GS600 into the panel opening.



Step 3: Insert the two mounting brackets into each side of the GS600 case.



Step 4: Secure the GS600 to the panel using the brackets screws.



Q U I C K S T A R T G U I D E

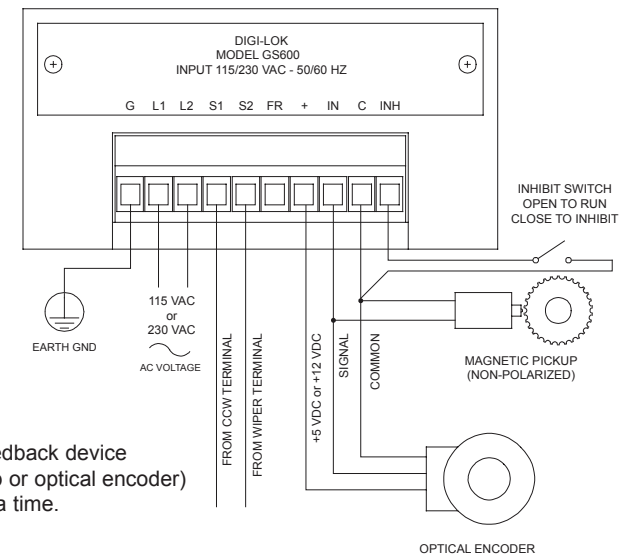
S P E C I F I C A T I O N S

AC Line Voltage	115 VAC or 230 VAC, ±10%, 50/60 Hz, single phase
AC Line Power	5.5 watts nominally
Acceptable Feedback Sources	5 VDC or 12 VDC NPN-type encoder 5 VDC or 12 VDC NPN-type proximity switch Hall Effect Sensor Magnetic Pickup
Feedback Frequency Range	10 - 3000 Hz
External Reference Frequency*	0 Hz - 500 kHz
External Input Frequency Range**	+10 VDC
Maximum Analog Output Voltage	1 second
Standard Gate Time	+ 5 VDC or + 12 VDC
Power Supply Voltage for Feedback Devices (10 mA max)	0.05% of set speed
Speed Regulation	0 - 3000 Hz
Feedback Frequency Range	10°C - 40°C
Ambient Operating Temperature Range	approximately 1 lb
Weight	

* +5 VDC CMOS logic level signal or open-collector NPN transistor; applied to IN and C terminals

** Signal applied to Fin and C terminals. The product of the leader frequency and speed setting may not exceed 500 kHz

W I R I N G



Note: Only one feedback device (magnetic pickup or optical encoder) may be used at a time.

F E E D B A C K D E V I C E S E L E C T I O N

Acceptable feedback frequency at any set speed in an application must lie within the 0 Hz - 3000 Hz range. Feedback frequency is directly proportional to the number of feedback pulses per revolution (PPR) and to the speed of the shaft (RPM) that the feedback transducer monitors.

$$PPR_{\text{Minimum}} = \frac{600}{RPM_{\text{Minimum}}}$$

$$PPR_{\text{Maximum}} = \frac{120,000}{RPM_{\text{Maximum}}}$$

PROGRAMMING THE PARAMETERS

To enter the programming mode, disconnect power from both the GS600 and the drive. Press and hold the ENTER button (labeled E) while applying power to the GS600 **ONLY**. Do not apply power to the drive. Release the ENTER button after power has been applied. You should see a decimal in the lower right hand corner. If no decimal appears, or any number is flashing, remove AC power and try again.

The programming screens are identified by the position of the decimal; one decimal indicates speed scaling factor, two decimals indicates load response number, three decimals indicates display scaling factor, and four decimals indicates decimal point location.

1. Setting the SSF: When you first enter programming mode, you should see one decimal in the lower right hand corner (ie 0 0 5 0.). This is the SSF programming mode. Press the UP or DOWN buttons until you reach the calculated SSF number (found to the right under the SSF & DSF section). Then press ENTER.
2. Setting the Load Response Number: The load response number determines how fast the GS600 responds to load changes. The higher the load response number, the faster the GS600 will respond. The range is 0 through 99 with a factory setting of 25. You should see two decimals (lower right hand corner and between the farthest right and second digit from the right) when you are in the load response number programming mode (ie 0 0 2 5.). Press the UP or DOWN buttons until you reach the desired load response number. Press ENTER.
3. Setting the DSF: You should now see three decimals on the screen (ie 0 0 5.0.) This is the DSF programming mode. Press the UP or DOWN buttons until you reach the calculated DSF number (found to the right under the SSF & DSF section). Then press ENTER.
4. Setting the Decimal Point Location: Press the UP or DOWN buttons until the desired decimal location is displayed

0.0.0.1. = No Decimal (ie 1 2 3 4)
0.0.0.2. = Tenths (ie 1 2 3.4)

0.0.0.3. = Hundredths (ie 1 2.3 4)
0.0.0.4. = Thousandths (ie 1.2 3 4)

ENTERING THE SPEED

1. Press ENTER once. The most significant digit will blink.
2. Use the UP and DOWN buttons to set the desired value for this digit.
3. Press ENTER once. The second digit from the left will blink.
4. Use the UP and DOWN buttons to set the desired value for this digit.
5. Press ENTER once. The third digit from the left will blink.
6. Use the UP and DOWN buttons to set the desired value for this digit.
7. Press ENTER once. The least significant digit will blink.
8. Use the UP and DOWN buttons to set the desired value for this digit.
9. Press ENTER once to return to the operating mode.
10. Remove power from the GS600.
11. Reconnect power to the drive and apply power to the GS600 and drive simultaneously. The motor will accelerate to speed.
12. To change the set speed, repeat steps 1 through 9.

CALIBRATION

1. Set the trimpots on the drive as follows

Minimum Speed: CCW (motor stopped)
Maximum Speed: CW (maximum voltage setting)
Acceleration: CCW (fastest acceleration)
Deceleration: CCW (fastest deceleration)
IR COMP: CCW (minimum regulation)
Current Limit: 150% of motor current rating

2. On the GS600, set the MIN and MAX trimpots full CCW.
3. Set the motor speed to zero (following steps 1-9 in the ENTERING SPEED section).
4. Adjust the MIN trimpot CW until motor shaft starts to rotate. Slowly adjust the MIN trimpot CCW until the motor just stops.
5. Set the GS600 speed to 200% of the maximum desired motor speed
6. Adjust the MAX trimpot until the motor is running at 120% of desired motor speed.
7. Check that the MIN trimpot does not need to be readjusted after completing this procedure by repeating steps 3 and 4 as necessary.

SSF & DSF

The speed scaling factor (SSF) correlates the digital speed set at the GS600 with the speed (in RPM) desired at the feedback shaft.

$$SSF = \frac{(\text{speed entry})(3000)}{(\text{shaft RPM})(PPR)}$$

Speed Entry = Speed programmed at the GS600.
This speed entry may be numerically different than the actual shaft RPM (for example, feet per minute, gallon per minute, inches per second, etc.)

Shaft RPM = The speed (in RPM) of the shaft where the encoder is mounted

PPR = The pulses per revolution generated by the encoder

The display scaling factor (DSF) correlates the speed displayed by the GS600 with the speed at the feedback shaft.

$$DSF = \frac{(\text{speed display})(3000)}{(\text{shaft RPM})(PPR)}$$

Speed Display = Speed displayed at the GS600.
This speed entry may be numerically different than the actual shaft RPM (for example, feet per minute, gallon per minute, inches per second, etc.)

Shaft RPM = The speed (in RPM) of the shaft where the encoder is mounted

PPR = The pulses per revolution generated by the encoder

The SSF and DSF ranges are 3 through 9999, and the factory setting is 50.