12M04-00085 DP SCR Treadmill Drive
INSTALLATION AND ADJUSTMENT INSTRUCTIONS

INTRODUCTION

The 12M04-00085 is designed for operation with up to 3/4 HP DC brush-type permanent magnet motors with ac tachometer feedback. This compact model is available in an economic chassis mount. Treadmill drives feature Gemini's exclusive zero-speed lockout™ circuit. This feature eliminates unattended starts in the event that there is a speed reference signal present upon connection to the ac lines.

Specifications:

Speed Range: 100:1
Maximum Speed Adjustment: 50-110% of rated speed

Model	Input Voltage	Output V. Range	Continuous Horsepower	Continuous Output Amps	Peak Treadmill Duty Amps	Peak HP
12M04-00085	115	0-90	3/4	7.5	20	2

GENERAL

These instructions provide basic information for installation and adjustment. Please contact Gemini Corp. if further information is necessary. It is possible to damage the drive through misuse or misapplication. Please read this material thoroughly before proceeding with installation.

Unpack the equipment noting any shortages or damaged equipment. Immediately notify the carrier of any damage. Store in clean, dry location if the product is not used immediately. The relative humidity should not exceed 95%, non-condensing.

INSTALLATION

Carefully mount the chassis allowing clearances for access and air flow. The environment should be free of vibration and contaminants. The operating temperature range for the Gemini drive is 32 to 104 degrees Fahrenheit (0-40C). Since the drive produces heat, utilize a source of cooling, such as a fan, if the ambient temperature in the area of the control approaches 104 degrees.

WIRING

1. Input Wiring - Connect the AC line to terminals "L" and "N" (note wiring diagram). If required, the chassis may be grounded at one of the unused holes. Input wire size must be in compliance with the National Electrical Code and all local codes and restrictions.

WARNING: Do not connect line power to the motor terminal connections.

2. Output Wiring
   a. Connect the negative and positive of the motor to the "M2" and "M1" terminals of the drive. Reverse the leads if the motor operates in the wrong direction. Do not operate the control without connection to the motor.
   b. If a choke is required for quiet operation or for good commutation, wire the choke between the "M1" terminal and the motor armature.

1. Turn the "IRC" and "M.S." (maximum speed) potentiometers, located on the board, and speed adjustment potentiometer to their full counterclockwise position. Set the "C.L." (current limit) pot. to mid-range.

2. Apply power and rotate the speed potentiometer slightly clockwise. Observe the direction of rotation. If incorrect, turn off the power and reverse the motor armature connections.

3. Control Wiring - The speed adjustment is by use of a 10K potentiometer. Connect the potentiometer to the "P1", "P2", and "P3" terminals, with the wiper connected to the "P2" terminal, and the CCW end to the "P3" terminal. If an external 0-10VDC speed reference signal is used, first set-up and adjust the system with a 10K potentiometer as a speed reference. Connect the isolated, external source only after satisfactory operation with a potentiometer, as any problem may then be directed toward interfacing. The frequency of a pulse width modulated, isolated, input signal must exceed 50Hz, otherwise damage may result. Wire the common to the "P3" terminal and the positive voltage to the "P2" terminal.

4. Tachometer Feedback Wiring - The tachometer connection is required to provide speed regulation and the control cannot operate without a tachometer. Tachometer must be an 8-pole or equivalent ac type. This connection is not polarity sensitive. Connect the two tachometer leads to "T1" and "T2".

Consult the factory if additional information is needed.

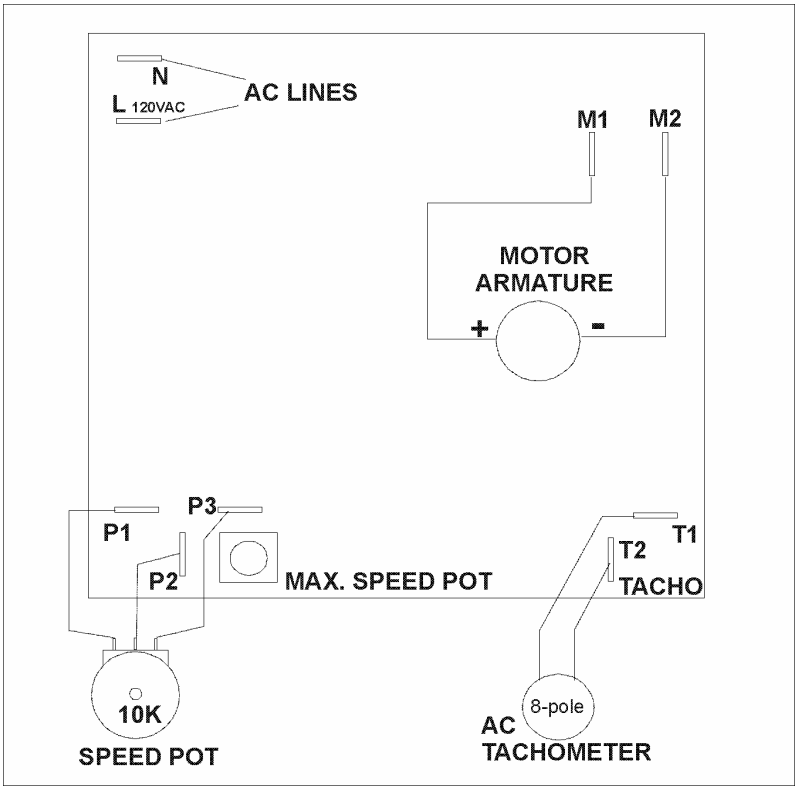
ADJUSTMENTS AND START-UP

1. Turn the MAX. SPEED POT potentiometer, located on the board, and speed adjustment potentiometer to their full counterclockwise position.

2. Apply power and rotate the speed potentiometer slightly clockwise. Observe the direction of rotation. If incorrect, turn off the power and reverse the motor armature connections. If zero speed lockout circuit has not been disabled, the motor won't rotate when power is applied with the speed pot turned partially or fully clockwise. Returning speed pot to the full counterclockwise position (zero speed signal) will reset the circuit and allow motor rotation when speed pot is turned clockwise.

3. Rotate the speed potentiometer to the extreme clockwise position, and adjust the "M.S." potentiometer for the desired maximum speed, or for rated motor voltage as measured with a DC meter at the armature connection.

The system is now ready for operation.



GEMINI Controls LLC
P.O. Box 380 W61 N14280 Taunton Ave.
Cedarburg, WI 53012
www.geminicontrols.com

Phone (262) 377-8585
FAX (262) 377-4920
E-mail: sales@geminicontrols.com