RELIANCE ELECTRIC

Quick Reference Guide

Wiring/
Power Up /
Parameter Setting

Reliance Electric
GV6000 AC Drive
1/2 to 200 HP

Quick Reference Instructions:
A quick reference to some basic configurations and drive features.

Volts/Hertz Regulation

Sensorless Vector Regulation

Flux Vector Regulation

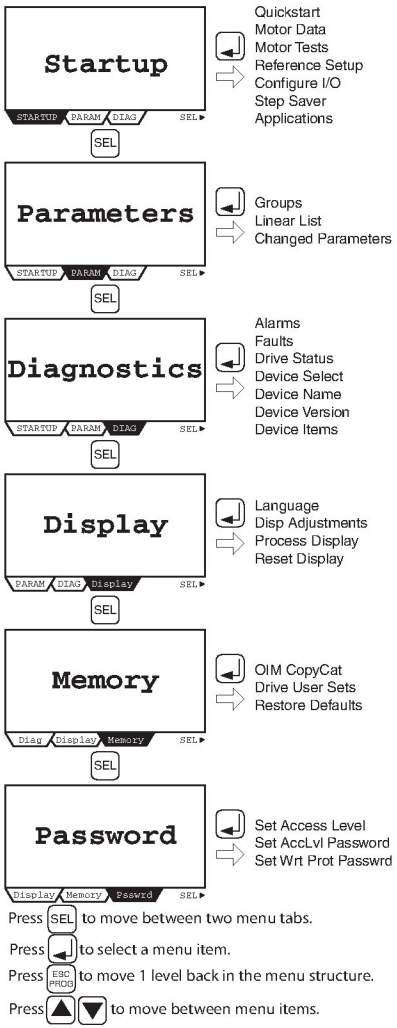
D2-3544

Rockwell Automation

OIM Keypad and Display

The supplied keypad and display allow for setup, parameter adjustment, monitoring and diagnostics.

Operator Interface Module (OIM)



NOTE: This material is not intended to provide operational instructions. Appropriate Reliance Electric Drives instruction manual information and precautions should be studied prior to installation, operation, or maintenance of equipment.

Startup Menu

OIM Startup Menu

The Startup Menu parameters can be accessed via the keypad tab menu. Once into the selection list the following parameters can be set to configure the drive to the installed motor.

1. Quick Start

- Regulation Type
- Encoder PPR
- Speed Units
- Stop Type
- Motor NP FLA
- Maximum Speed
- Minimum Speed
- Accel Time
- Decel Time
- Speed Ref Select
- Current Limit

The default configuration is defined as:

Drive Voltage Rating = Motor Voltage
Start/Stop control = OIM
Speed Reference = OIM
Control Mode = Sensorless Vector

If the drive default configuration is to be used for initial startup then the above parameters are the only settings required.

If the user needs to customize the drive configuration different than the default setting, then the user should verify parameter settings accessible throughout start-up menu.

2. Input Voltages

- 200/240, 400/480, and 600 VAC, based on model number

3. Motor Nameplate Data

- Motor NP Power
- Motor NP FLA
- Motor NP Volts
- Motor NP Hertz
- Motor NP RPM

Startup Menu

4. Motor Tests

- Direction Test
- Autotune
- Inertia Test

ATTENTION: Rotation of the motor in an undesired direction can occur during these procedures. Failure to observe this precaution could result in damage to equipment or bodily injury.

5. Reference Setup

- OIM Keypad, Analog Input, Network, MOP, Frequency, Encoder, Presets

6. Configure I/O

- Digital Inputs/Outputs
- Analog Outputs

7. Step Saver, Applications

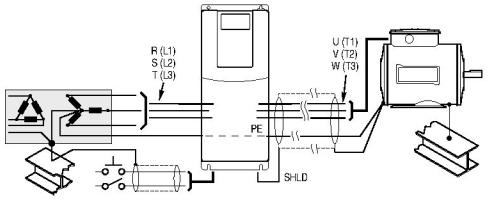
Control Mode

Motor Cntl Sel (53) performance can be selected from:

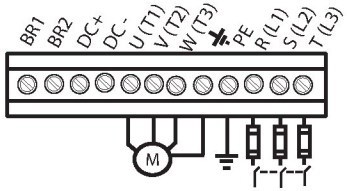
- Sensorless Vector (default)
  High performance control without encoder feedback
- SV Economize
  Sensorless vector with energy saving
- Custom V/Hz
  Basic open loop control. Multi-motor application
- Fan/Pump: V/Hz
  Provides for a Fan load V/Hz curve
- FVC Vector
  Highest performance mode of control acheived with encoder feedback

Power Wiring

Input Voltage: Determined by model number. Voltage Class configures the drive for International voltage supplies.

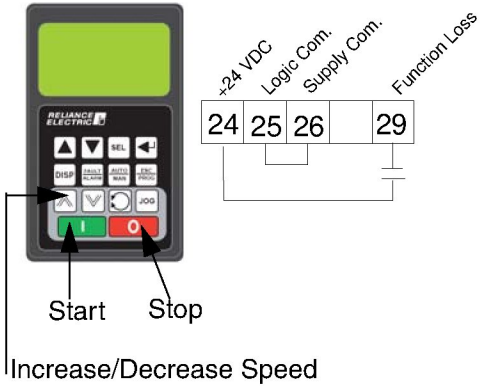


ATTENTION: The GV6000 does not provide branch circuit protection. The user must install the proper protection devices.



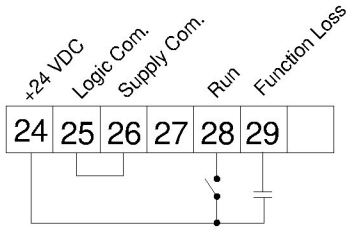
Control Wiring

Default: (Out-of-the-box) configuration is for Keypad control. The user will be able to start the controller using the built-in drive mounted operator interface module.



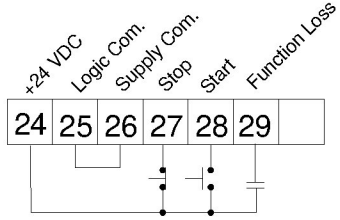
Control Wiring (cont.)

Two Wire Start/Stop Control



Logic Source Sel (89) = Terminal Block
Digital In1 Sel (361) = Not Used
Digital In2 Sel (362) = Run
Digital In3 Sel (363) = Function Loss

Three Wire Start/Stop Control

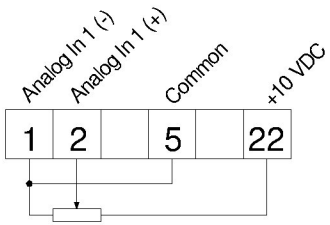


Logic Source Sel (89) = Terminal Block
Digital In1 Sel (361) = Stop
Digital In2 Sel (362) = Start
Digital In3 Sel (363) = Function Loss

See Digital Inx Sel (parameters 361 to 366) for configuration of all logic inputs.

Reference Wiring

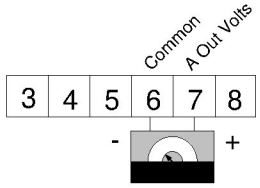
Analog Reference Wiring (0 to 10 VDC Input)



Speed Ref A Sel (90) = Analog In 1
Speed Ref Hi (91) = 60 Hz.
Speed Ref Lo (92) = 0 Hz.
Analog In Config (320) = .xx00
Analog In 1 Hi (322) = 10.0 V
Analog In 1 Lo (323) = 0.0 V

Analog Inputs can be configured for 4 - 20 mA. See instruction manual D2-3540.

Analog Output Wiring (0 to 10 VDC Output)



Analog Out Absolute (341) = 1
Analog Out1 Sel (342) = Output Freq.
Analog Out1 Hi (343) = 10.0 V
Analog Out1 Lo (344) = 0.0 V

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Terminal Assignments

#	Signal	Default
1	Analog In 1 (-)	Depends on params 320 - 327
2	Analog In 1 (+)	
3	Analog In 2 (-)	
4	Analog In 2 (+)	
5	Pot Common	-
6	Analog Out 1 (-)	Depends on params 340 - 347
7	Analog Out 1 (+)	
8	Analog Out 2 (-)	
9	Analog Out 2 (+)	
10	HW PTC Input 1	-
11	Digital Out 1 NC	Fault
12	Digital Out 1 Common	
13	Digital Out 1 NO	NOT Fault
14	Digital Out 2 NC	NOT Run
15	Digital Out 2/3 Common	
16	Digital Out 3 NO	Run
17	Analog In Jumper - Analog In 1	
18		
19	Analog In Jumper - Analog In 2	
20		
21	-10V Pot Reference	-
22	+10V Pot Reference	-
23	HW PTC Input 2	-
24	+24 VDC	-
25	Digital In Common	-
26	24V Common	-
27	Digital In 1	Stop-CF
28	Digital In 2	Start
29	Digital In 3	Function Loss
30	Digital In 4	Jog
31	Digital In 5	Auto/Man.
32	Digital In 6/Hardware Enable	Speed Sel 1

Encoder Connections

No.	Description	
8	+12 VDC Power	Internal Power source 250 mA
7	+12 VDC Common	
6	Encoder Z (NOT)	Pulse marker or registration input(1)
5	Encoder Z	
4	Encoder B (NOT)	Quadruple B input
3	Encoder B	
2	Encoder A (NOT)	Single channel or quadruple A input
1	Encoder A	

(1) Z channel can be used as a pulse input while A and B are used for encoder.

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