#### Super'' Remote Meter Interface Card

Optional card expands the input/output capabilities for applications requiring hardwired speed/torque and logic control



Input | Outputs | PI Regulator | Wiring Diagram | Mounting Connections | Customer Benefits

The GV3000 AC Drive is designed with the flexibility to perform in applications that require either vector or general purpose control of motor speed and torque. This flexibility may be enhanced by the inputp/output logic and control signals provided by the "Super Remote Meter Interface (RMI) Card.

## Inputs

The "Super" RMI adds these inputs/ouputs to the GV3000:

- Four Isolated Digital Inputs (24 VDC rated) These inputs may be used to select:
  - up to eight preset speeds
  - select either analog or frequency input
  - enable the PI regulator
  - select between the GV3000 terminal strip speed reference or the RMI speed reference turn any digital output or relay output on and off with an on-delay or off-delay time
- One Isolated Analog Input (O to 10 VDC or 4 to 20 niA selectable; 12 bit resolution) this input may be used as one of the following:
  - either a speed or trim reference
  - the feedback signal for the outer loop PI regulator
  - the source for torque or current limit settings.
- One Isolated Frequency Input (O to 200 kHz; 15 VDC) This input may be used as either:

- a speed or trim reference
- the source for torque or current limit settings.

# **Outputs**

- Four Isolated Digital Outputs (24 VDC rated)
- One Output Relay (I N.O. only rated 250 VAC/24 VDC)
- Two Output Relays (I N.O. I N.C. rated 250 VAC/24 VDC) Digital and relay output signals may be used to indicate:
  - Drive running
  - Drive fault
  - Auxiliary input on or off with time delay
  - Run speed greater than or equal to speed level 1, 2, or 3
  - Low speed detected
  - Speed reached
  - Remote mode (P.000 LOCL)
  - Output current greater than or equal to current level 1, 2, or 3)
  - D-C Braking active
  - Reverse rotation
  - Torque greater than or equal to torque detection level 1, 2, or 3)
  - Speed regulation active

Each output signal can be used with an on-delay or off-delay timer of up to 999.9 seconds)

- Three Isolated Analog Outputs (O to 10 VDC; -10 VDC to +10 VDC; 0 to 10 VDC or 4 to 20 mA, 10 bit resolution) Analog output signals may be used to indicate:
  - Motor Voltage
  - Motor Current
  - Speed reference
  - Motor speed or frequency
  - Motor torque Motor power kW D-C bus voltage
  - PI regulator output

## **PI Regulator**

The RMI has a built in Outer Loop Proportional-Integral (PI) Regulator which can be used as a trim speed reference.

#### Wiring Diagram

- 🧭 41 Digital Input 1
- 🧭 42 Digital Input 2
- 🧭 43 Digital Input 3
- 🧭 44 Digital Input 4
- 45 +24 V (for digital inputs only)
- 46 External +24 V Input for Digital Outputs
- 🧭 47 Digital Output 1
- 🧭 48 Digital Output 2
- Ø 49 Digital Output 3
- 🧭 50 Digital Output 4
- 🧭 51 Digital Output Common
- 🥖 52 Relay 1 Common
- 🧭 53 Relay 1 Normally Open
- 54 Relay 2 Normally Closed
- 🧭 55 Relay 2 Common
- 🧭 56 Relay 2 Normally Open
- 🧭 57 Not Used
- 58 Relay 3 Normally Closed
- 🧭 59 Relay 3 Common
- 🧭 60 Relay 3 Normally Open
- 🏉 61 Not Used
- 🧭 62 Analog Input: 0 to 10 V
- 🏉 63 Analog Input: 0 (4) top 20 mA
- 🧭 64 Analog Input Common
- 65 Analog Output 1: 0 to 10 V
- 🏉 66 Analog Output 2: +/-10 V
- 67 Analog Output 3: 0 to 10 V/0 to 20 mA

🧭 68 🛛 Analog Output Common

69 Frequency Input (Ground = Analog Input Common)

# **Mounting/Connections**

Connection to the GV3000 regulator board is made by a flat ribbon cable connector which is standard with the "Super" RMI Card.

This card mounts inside the GV3000, so that additional panel space is not required.

Other communication cards cannot be used when the "Super" RMI Card is installed.

The standard GV3000 input/output configuration has:

- Standard Digital Inputs (24 VDC rated) for:
  - start-stop
  - reset
  - function loss
    - three programmable for: preset speeds, 2nd accel/decel, local/remote, forward/reverse
  - MOP speed select
- Standard Analog Input (O to 10 VDC or 4 to 20 mA selectable; 10 bit resolution)
- speed or torque(vector only) reference
- Standard Relay Output (I N.O. I N.C. rated 250 VAC/30 VDC at 5 A resistive or 2 A inductive)
- Programmable to indicate one of the following:
  - drive fault
  - drive running
  - network card active
- Standard Analog Output (O to 1 0 VDC or 4 to 20 mA selectable) Programmable to indicate either:
  - output speed
  - output current

#### **Customer Benefits**

Benefits of using "Super" RMI:

- Expands I/O for optimum flexibility so more application needs are met.
- Takes no additional panel space which keeps installation costs down.
- PI regulator can replace separate set point controller which reduces hardware costs.
- Can obtain more diagnostics from GV3000 which eases monitoring and troubleshooting.