



**Part Number:** 144-25077 (G+M 120VAC IF CARD)

**Applicability:** G+ Mini

**Introduction:** The G+M 120VAC Interface option card mounts directly to the control board terminals (S1 – S7 and SC) on the drive. This card allows 120 VAC control logic circuits to interface with the seven digital inputs (S1 – S7) with the G+ Mini control circuitry.

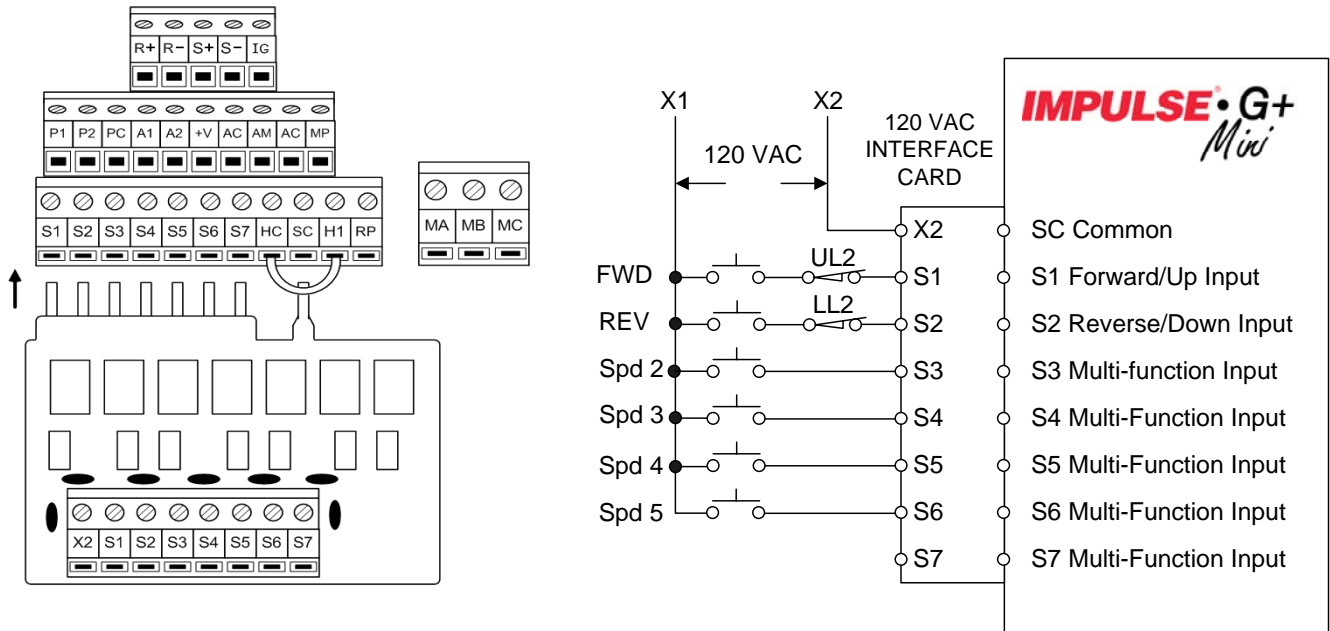
**Receiving:** All equipment is tested against defect at the factory. Report any damages, shortages evident when the equipment is received to the commercial carrier who transported the equipment.

**Warning:** Hazardous voltage can cause severe injury or death. Lock all power sources feeding the drive and the option card’s wiring in the “OFF” position.

**Important:** When handling boards always use electrostatic discharge (ESD) protection. Keep the boards in the ESD bag as long as you can. Do not lay the board on any surfaces without ESD protection. When handling, always hold the board from the edges and do not touch the components. Before installing this option card, a technically qualified individual, who is familiar with this type of equipment and the hazards involved, should read this entire installation guide.

**Control Circuit Terminals:**

The G+ M 120V IF CARD has seven optically isolated input terminals which can be used to connect with the user 120 VAC devices. The interface card connects to drive terminals S1-S7 and SC. The users 120 VAC input devices will then connect to terminals S1-S7 and X2 on the interface card. Terminals S1 and S2 are factory set for the forward (up) and reverse (down) run commands; however, they can be programmed for speed control and other functions like the remaining terminals. Figure 1 shows the control terminal arrangement for the IMPULSE•G+ Mini with the 120V interface card along with a simplified wiring diagram.



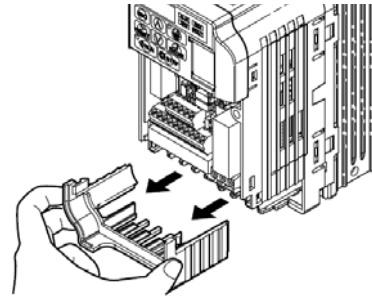
**Figure 1.** Typical 120 VAC Interface Card Wiring



**Installation and Wiring:**

Use the following steps, along with Tables 1 and 2 to in install the G+M 120V IF.

1. Disconnect all electrical power to the drive.
2. Remove the front cover for the drive. (Depending on model, you may need to remove the protective cover and discard – See Figure 2).
3. Verify that the “CHARGE” indicator lamp inside the drive is off (***It may take as long as 10 minutes for the charge on the DC bus capacitors to drop to a safe level***).
4. Use a voltmeter to verify that the voltage at the incoming power terminals (R/L1, S/L2, and T/L3) has been disconnected.
5. Loosen the terminals S1 – S7 and SC on the drive controller board.
6. Remove the G+ M 120V IF CARD from the ESD bag.
7. Connect your 120 VAC interface devices to terminals S1-S7, X2 on the G+M 120V IF CARD. (See Figure 1 and Table 2).
8. Insert the G+M 120 VAC IF CARD into terminals S1-S7 and SC.
9. Tighten the terminals.
10. Reinstall the front cover.



**Figure 2.** Protective Cover

| Table 1. Terminal and Wire Specifications<br>(G+ Mini 120 VAC Interface Card and Control Board) |                |                            |                      |                   |
|---|----------------|----------------------------|----------------------|-------------------|
| Terminals Symbol  | Terminal Screw | Tightening Torque (in-lbs) | Control Wiring (AWG) | Recommended (AWG) |
| S1-S7, SC   | M2             | 1.1 to 2.2                 | 24 to 16             | 18/16             |

**Important:** Wires to the option card should be stripped 0.2” ±20% for maximum system safety. Ferrules are also recommended.

| Table 2. Terminal Functions |          |                       |   |               |
|-----------------------------|----------|-----------------------|---|---------------|
| Classification              | Terminal | Signal Function       | Description                                       | Signal Level  |
| Sequence Input Signal       | S1       | Forward run/stop*     | Forward run when closed, stop when open. (H01.01) | 120 VAC ± 10% |
|                             | S2       | Reverse run/stop*     | Reverse run when closed, stop when open. (H01.02) |               |
|                             | S3       | Multi-function Input* | Multi-function contact inputs (H01.03 to H01.07)  |               |
|                             | S4       | Multi-function Input* |   |               |
|                             | S5       | Multi-function Input* |   |               |
|                             | S6       | Multi-function Input* |   |               |
|                             | S7       | Multi-function Input* |   |               |
| X2                          | Common   | Control Input Common  |   |               |

\*Parameter functions and defaults change based on X-Press programming.