



Addendum to:

IMPULSE•G+ Series 3 Manual (140-10258)
IMPULSE•VG+ Series 3 Manual (140-10257)

This addendum should be used when a 24VDC interface card (140-10269) is required, rather than the standard 120VAC input.

Introduction:

When using a 24VDC interface, the control terminal designations are different than on the standard GIF7 board for 120VAC input. This addendum is a cross-reference to avoid wiring errors due to the change in terminal designations.

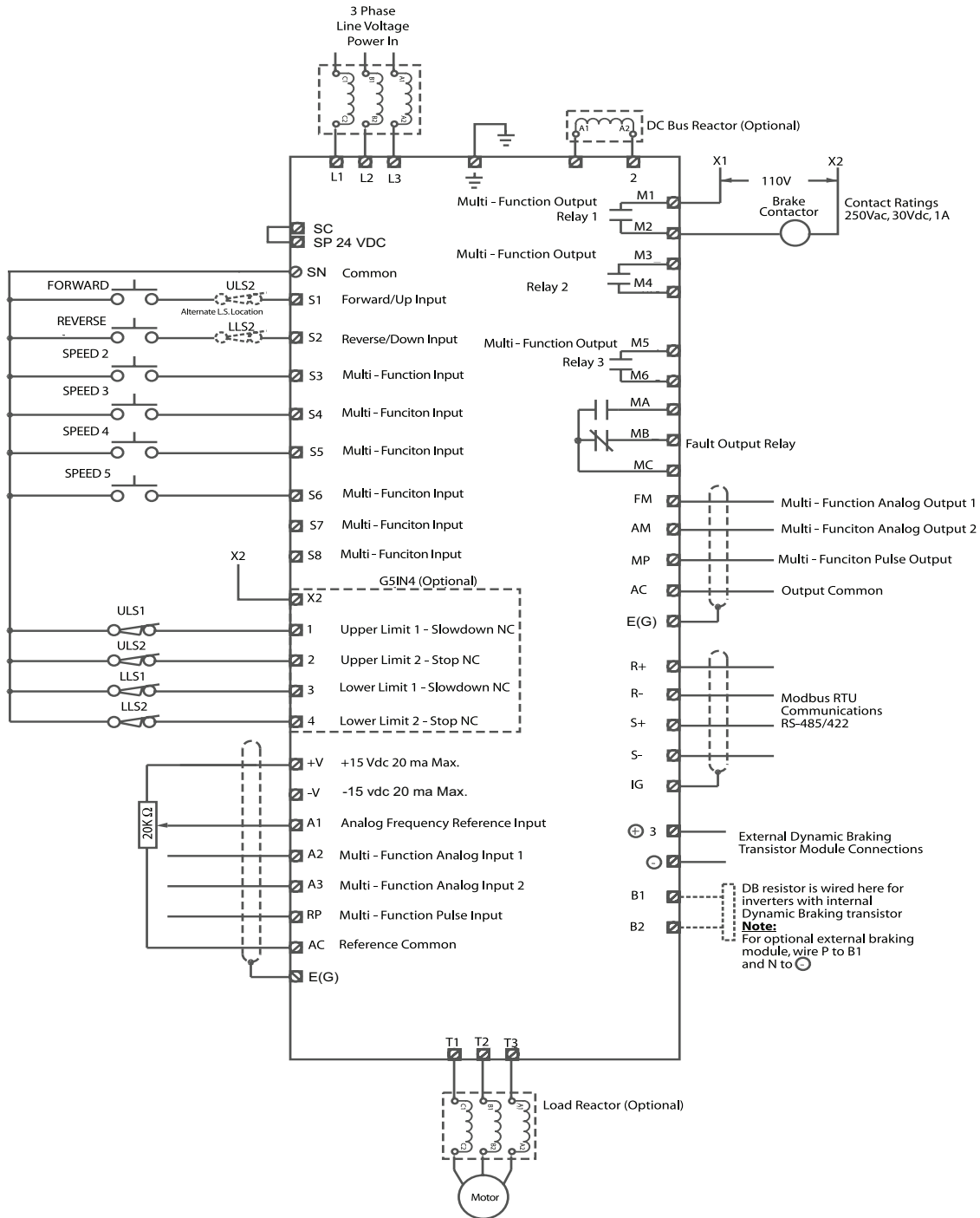
Warning:

Hazardous voltage can cause severe injury or death. Lock all power sources feeding the drive and option card's wiring in the 'OFF' position.

Installation and wiring:

The attached pages indicate the control terminals and wiring when using a 24VDC interface.

Impulse G+/VG+ Series 3 Connection Diagram for 24 VDC Interface



Control Circuit board 2PCB

DIP Switch S1 and Jumper CN15

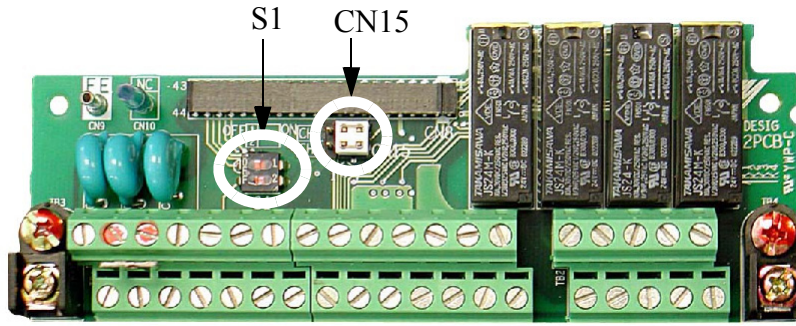


Figure 3-4: DIP Switch S1 and Jumper CN15 Location

Dip Switch S1

DIP Switch S1 is described in this section. The functions of DIP switch S1 are shown in the table below.

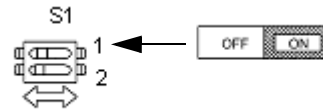
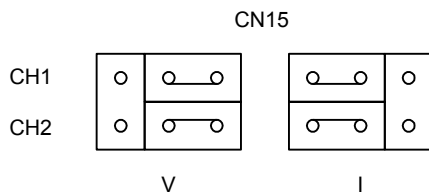


Figure 3-5: DIP Switch S1 Function

| DIP Switch S1 | | |
|---------------|------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------|
| Name | Function | Setting |
| S1-1 | RS-485 and RS-422 terminating resistance | OFF: No terminating resistance ON: Terminating resistance of 110 Ohm Factory Default = OFF |
| S1-2 | Input method for analog input A2 | OFF: 0 to 10Vdc or -10 to 10Vdc (internal resistance: 20K) ON: 4-20mA (internal resistance: 250 Ohm) Factory Default = OFF |

Jumper CN15

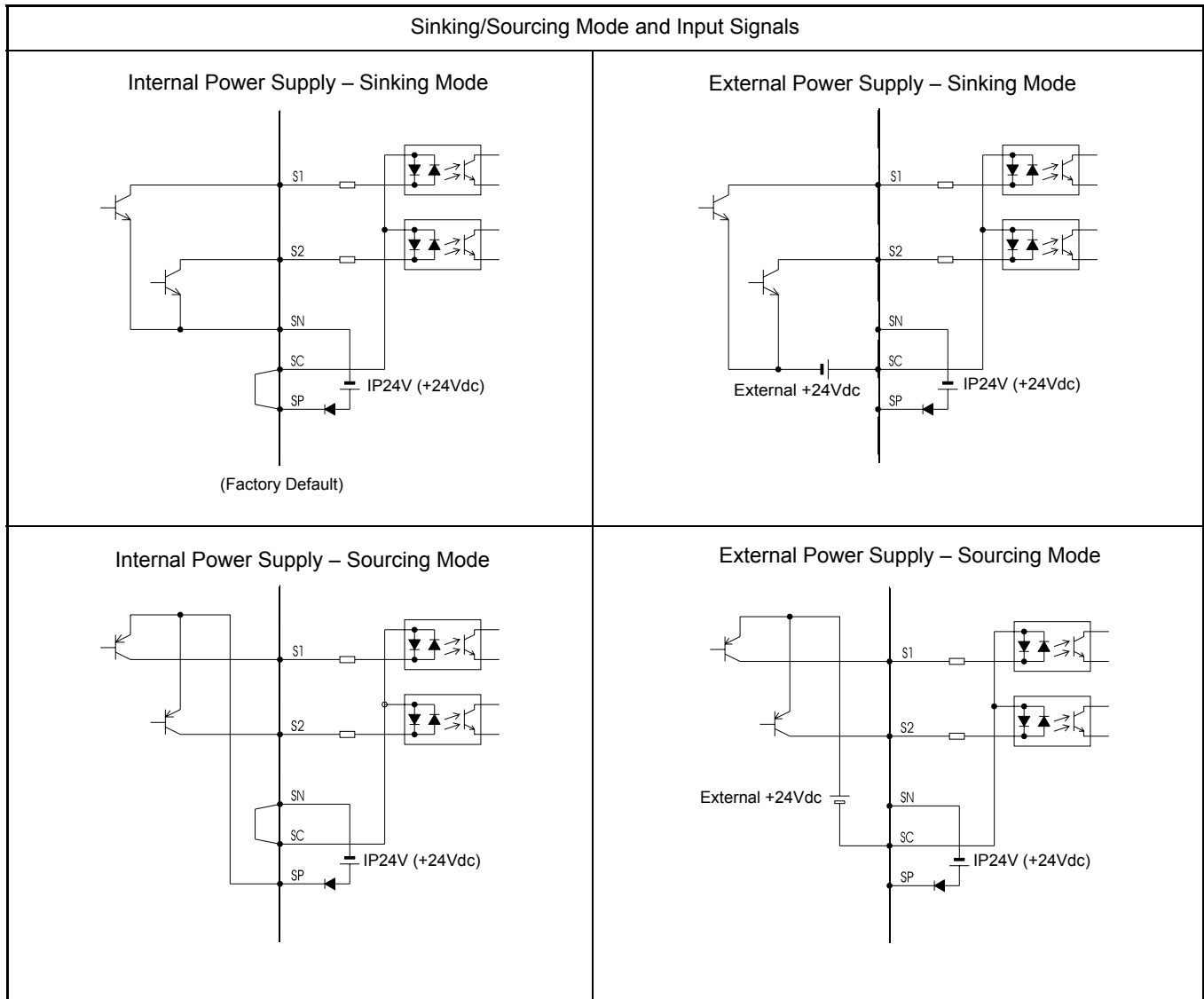


Jumper CN15 is described in this section. The jumper position of CH1 and CH2 determines the signal level of the multi-function analog output FM and AM, respectively. The functions and positions of CN15 are shown in the table below.

| Jumper CN15 | | |
|-------------|------------------------------|----------------------------------------------------|
| Name | Multi-function Analog Output | Output Range |
| CH1 | FM | V: 0 to 10V or -10V to +10V (default) I: 4 to 20mA |
| CH2 | AM | V: 0 to 10V or -10V to +10V (default) I: 4 to 20mA |

Sinking/Sourcing Mode

The multi-function digital input terminal logic can be switched between sinking mode (0Vdc common) and sourcing mode (+24Vdc common) by using the terminals SN, SC, and SP. An external power supply can also be connected, providing more freedom in signal input methods.



Control Circuit Terminals

The table below outlines the functions of the control circuit terminals when using 24 VDC interface instead of the standard GIF 7 interface board for 120 Volt input.

| Classification | Terminal | Signal Function | Description | Signal Level |
|-----------------------|-----------------------------|--------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| Sequence Input Signal | S1 | Forward run/stop | Forward run when closed, stop when open | 24 VDC, 8mA Photocoupler Isolation |
| | S2 | Reverse run/stop | Reverse run when closed, stop when open | |
| | S3 | Speed 2 | Multi-function contact inputs (H1-01 to H1-06) | |
| | S4 | Speed 3 | | |
| | S5 | Speed 4 | | |
| | S6 | Speed 5 | | |
| | S7 | External Fault | | |
| | S8 | M-Speed Gain 1 | | |
| | SN | Digital Input Photocoupler | | |
| | SC | Digital Input Photocoupler | | |
| SP | Digital Input Supply 24 VDC | | | |
| Analog Input Signal | +V | +15V Power supply output | For analog command +15V power supply | +15V (Allowable current 20 mA max.) |
| | -V | -15V Power supply output | For analog command -15V power supply | -15V (Allowable current 20 mA max.) |
| | A1 | Master frequency reference | -10 to +10V/-100% to 100% 0 to +10V/0 to 100% | -10 to +10V (20k Ohm), 0 to +10V/(20k Ohm) |
| | A2 | Multi-function analog reference | 4 to 20 mA/0 to 100% -10 to +10V/-100% to 100% 0 to 10 V/0 to 100% | Multi-function analog reference (H3-09) 4 to 20mA (250 Ohm) -10 to +10V (20k Ohm), 0 to +10V/(20k Ohm) |
| | A3 | Multi-function analog input | -10 to +10V/-100% to +100% 0 to +10 V/0 to 100% | Auxiliary analog input (H3-05) -10 to +10V (20k Ohm), 0 to +10V/(20k Ohm) |
| | AC | Common terminal for control circuit | 0V | — |
| | E(G) | Connection to shield sheath of signal lead | — | — |

| Classification | Terminal | Signal Function | Description | | Signal Level |
|----------------------|----------|--------------------------------------|--------------------------------------------------------------------------------------------|--------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Relay Output Signal | M1 | Brake output | Multi-function output (H2-01 to H2-03) | | Dry contact Contact capacity: 250VAC, 1A or less 30VDC, 1A or less |
| | M2 | N.O. Contact | | | |
| | M3 | N.O. Contact | | | |
| | M4 | | | | |
| | M5 | | | | |
| | M6 | Fault annunciate | | | |
| | MA | Fault contact output (NO/NC contact) | Terminals MA & MC N/O; closed at major faults Terminals MB & MC N/C open at major fault | | |
| | MB | | | | |
| | MC | | | | |
| Analog Output Signal | FM | Multi-Function Analog Output 1 | 0 to ± 10V | Multi-function analog monitor (H4-01 to H4-03) | 0 to ±10V Max. ±5% 2mA or less |
| | AC | Common | | | |
| | AM | Multi-Function Analog Output 2 | 0 to ± 10V | Multi-function analog monitor 2 (H4-04 to H4-06) | 0 to ±10V Max. ±5% 2mA or less |
| Pulse I/O Signal | RP | Pulse Input | Pulse input frequency reference | Function set by H6-01 | 0 to 32kHz (3k) ±5% High level voltages 3.5 to 13.2 Low level voltages 0.0 to 0.8 Duty Cycle (on/off) 30% to 70% |
| | MP | Pulse Monitor | Pulse output frequency | Function set by H6-06 | 0 to 32kHz ±5% output (load: 1.5k) |
| RS-485/422 | R+ | Modbus communication input | For 2-wire RS-485, jumper R+ and S+ and jumper R- and S- | | Differential input, PHC isolation |
| | R- | | | | |
| | S+ | Modbus communication output | | | Differential output, PHC isolation |
| | S- | | | | |
| | IG | Signal Common | | | |

Control Circuit Terminal Diagram

