MAGNETEK
MATERIAL HANDLING

Impulse G+/VG+ Series 3, 24 VDC Interface Card Terminal Designations

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.

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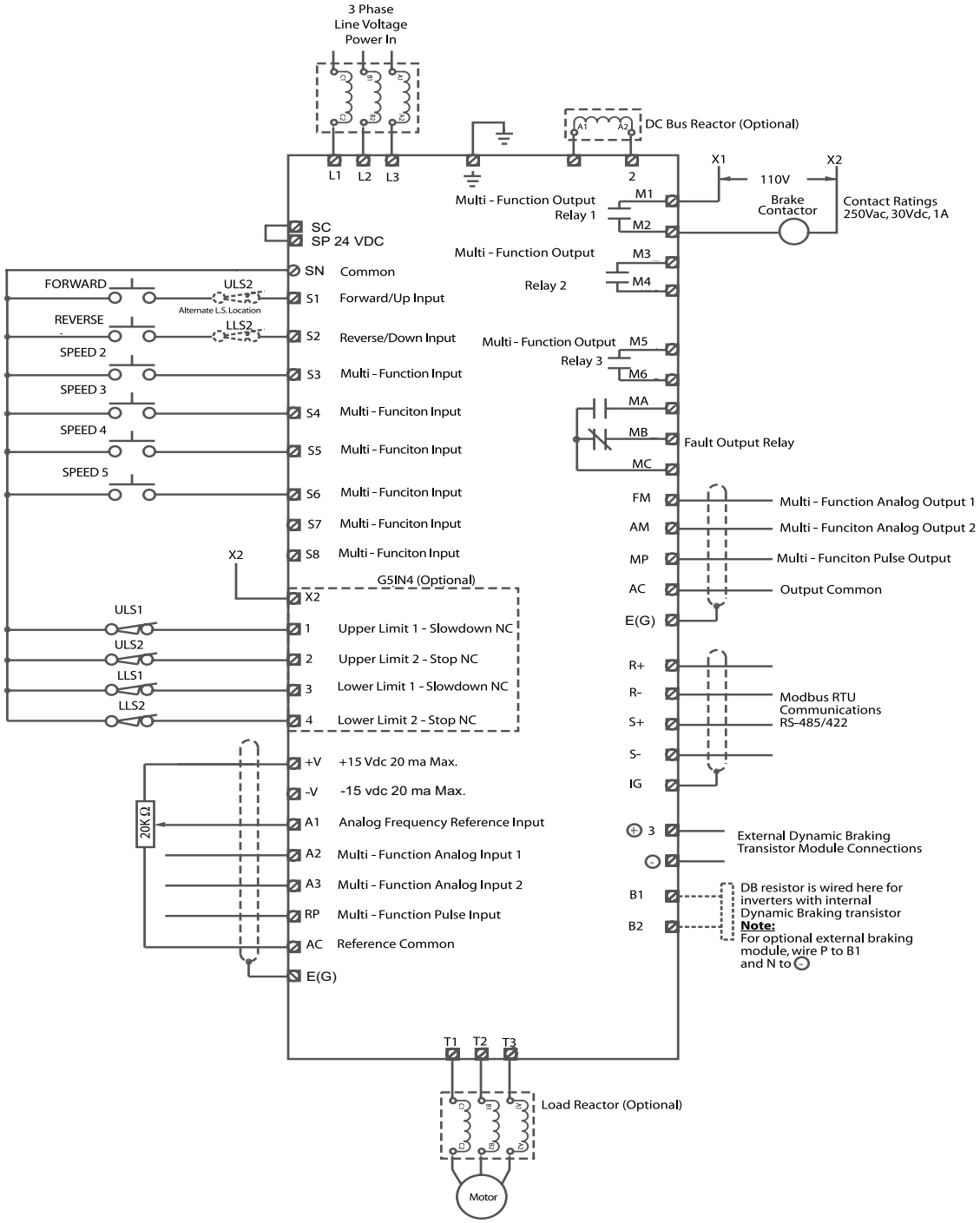
Impulse G+/VG+ Series 3 Connection Diagram for 24 VDC Interface



Control Circuit board 2PCB

DIP Switch S1 and Jumper CN15

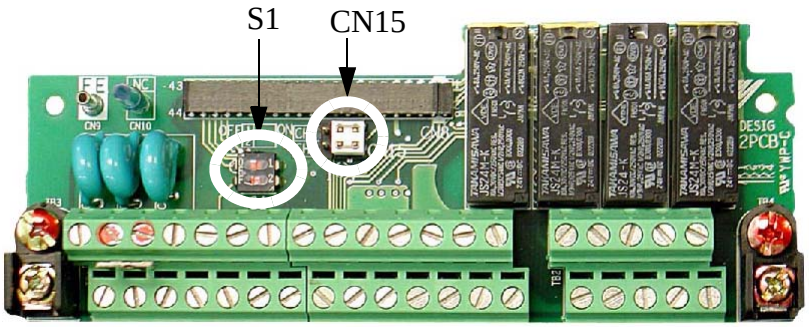


Figure 3-4: DIP Switch S1 and Jumper CN15 Location

Dip Switch S1

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

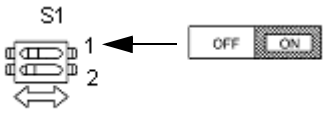
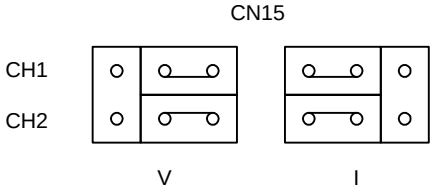


Figure 3-5: DIP Switch S1 Function

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.

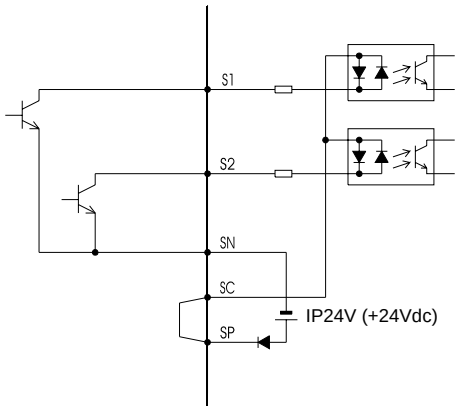
Jumper CN15		
Name	**Multi-function Analog Output**	**Output Range**
CH1	FM	V: 0 to 10V or -10V to +10V (default)I: 4 to 20mA
CH2	AM	V: 0 to 10V or -10V to +10V (default)I: 4 to 20mA

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.

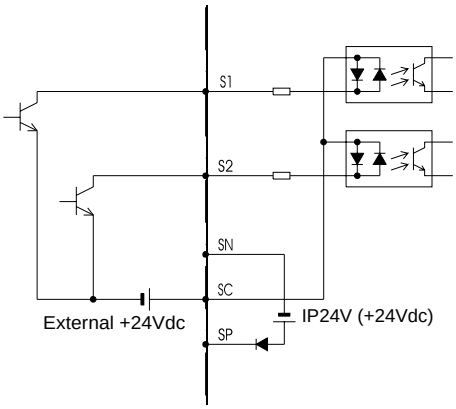
Sinking/Sourcing Mode and Input Signals

Internal Power Supply – Sinking Mode

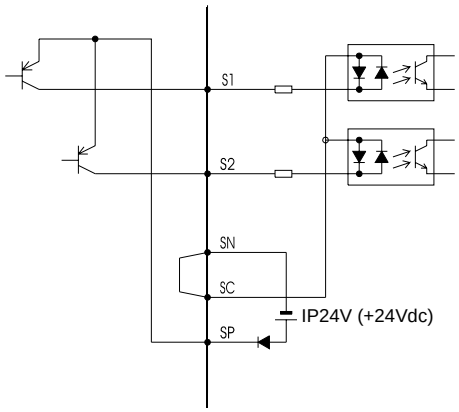


(Factory Default)

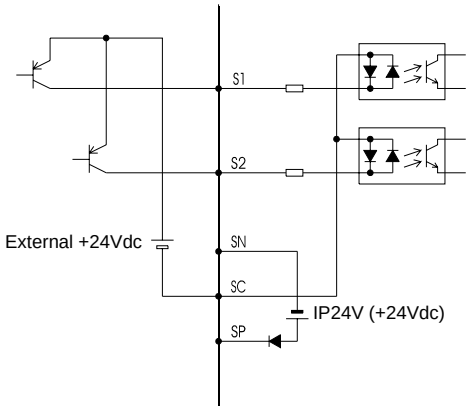
External Power Supply – Sinking Mode



Internal Power Supply – Sourcing Mode



External Power Supply – Sourcing Mode



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 N.O. Contact	Multi-function output (H2-01 to H2-03)		Dry contact Contact capacity: 250VAC, 1A or less 30VDC, 1A or less
	M2				
	M3	N.O. Contact			
	M4				
	M5	Fault annunciate			
	M6				
	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-		Differntial input, PHC isolation
	R-				
	S+	Modbus communication output			Differntial output, PHC isolation
	S-				
	IG	Signal Common			

Control Circuit Terminal Diagram