

3.7 Control Circuit Wiring

NOTICE: Do not solder the ends of wire connections to the drive. Soldered wire connections can loosen over time. Improper wiring practices could result in drive malfunction due to loose terminal connections.

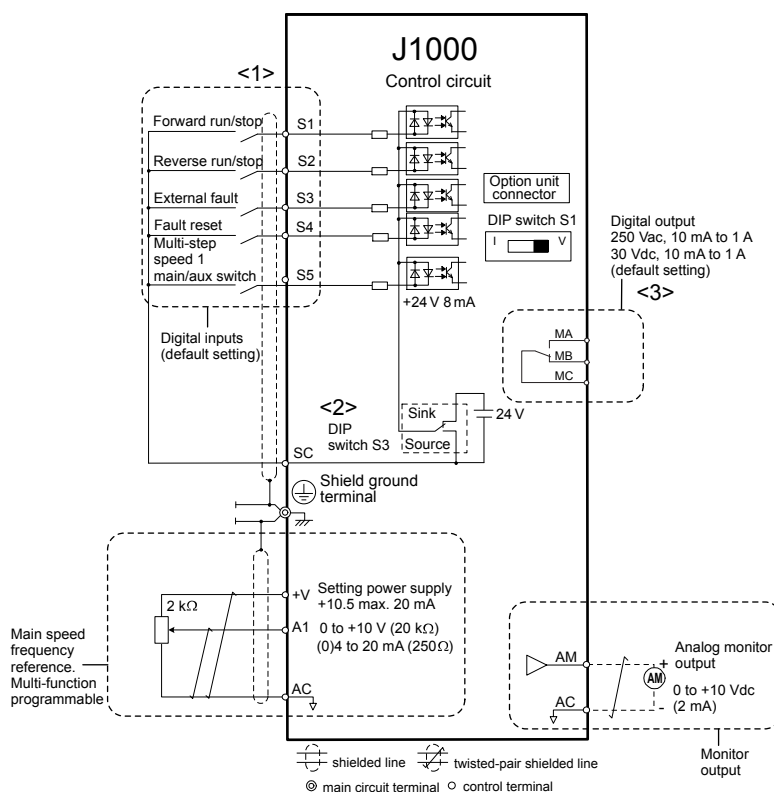


Figure 3.10 Control Circuit Connection Diagram

<1> Connected using sequence input signal (S1 to S5) from NPN transistor; Default: sink mode (0 V com)

<2> Use only the +24 V internal power supply in sinking mode; the source mode requires an external power supply. [Refer to I/O Connections on page 48.](#)

<3> Minimum load: 5 Vdc, 10 mA (reference value).

◆ Control Circuit Terminal Block Functions

Drive parameters determine which functions apply to the multi-function digital inputs (S1 to S5), multi-function digital outputs (MA, MB, MC), and multi-function analog output (AM). The default is called out next to each terminal in [Figure 3.10](#).

WARNING! Sudden Movement Hazard. Always check the operation and wiring of control circuits after being wired. Operating a drive with untested control circuits could result in death or serious injury.

WARNING! Confirm the drive I/O signals and external sequence before starting test run. Failure to comply may result in death or serious injury.

■ Input Terminals

Table 3.6 Control Circuit Input Terminals

Type	No.	Terminal Name (Function)	Function (Signal Level) Default Setting
Multi-Function Digital Inputs	S1	Multi-function input 1 (Closed: Forward run, Open: Stop)	24 Vdc, 8 mA Note: Drive preset to sinking mode. When using source mode, set DIP switch S3 to allow for a 24 Vdc ($\pm 10\%$) external power supply. Refer to Sinking/Sourcing Mode Switch on page 48.
	S2	Multi-function input 2 (Closed: Reverse run, Open: Stop)	
	S3	Multi-function input 3 (External fault (N.O.))	
	S4	Multi-function input 4 (Fault reset)	
	S5	Multi-function input 5 (Multi-step speed reference 1)	
	SC	Multi-function input common (Control common)	Sequence common

3.8 I/O Connections

◆ Sinking/Sourcing Mode Switch

Set the DIP switch S3 on the front of the drive to switch the digital input terminal logic between sinking mode and sourcing mode; the drive is preset to sinking mode.

Table 3.10 Sinking/Sourcing Mode Setting

Set Value	Details
SINK	Sinking Mode (0 V common): default setting
SOURCE	Sourcing Mode (+24 V common)

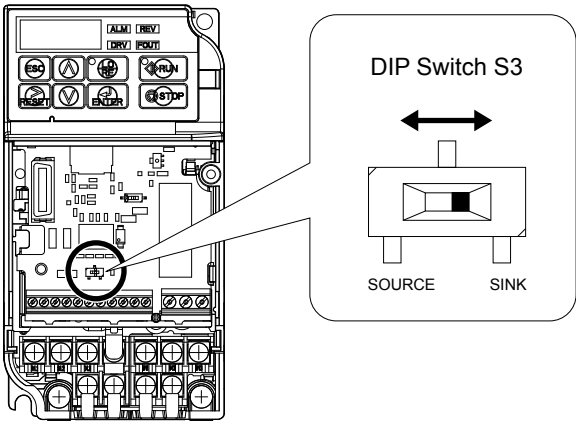


Figure 3.16 DIP Switch S3

■ Transistor Input Signal Using 0 V Common/Sink Mode

When controlling the digital inputs by NPN transistors (0 V common/sinking mode), set the DIP switch S3 to SINK and use the internal 24 V power supply.

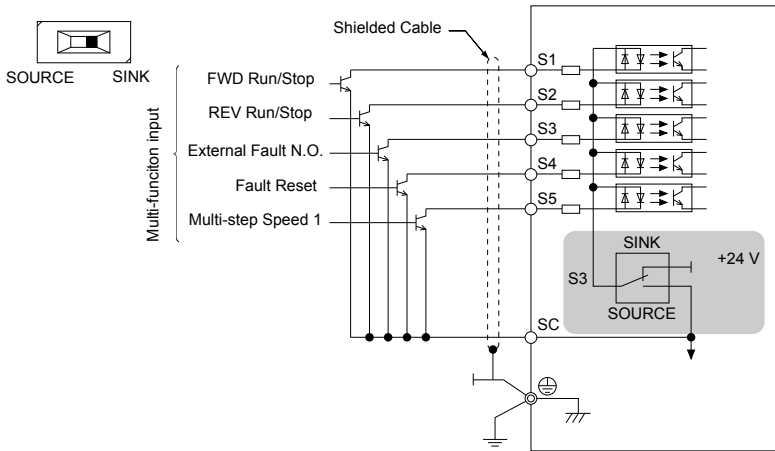


Figure 3.17 Sinking Mode: Sequence from NPN Transistor (0 V Common)