

Part Number: DI-08.

Applicability: F7, G7, GPD515/G5, G5HHP.

Note: If used in a GPD 503/G3, refer to Instruction Sheet 02Y00025-0294.

Introduction: The DI-08 digital input option card is mounted on the drive's control board and allows the user to interface an 8-bit digital speed reference to the drive. This reference can be binary, binary coded decimal (BCD) in hertz, or BCD in percent. Sign (polarity) and Set (load) inputs are also included.

Receiving: All equipment is tested against defect at the factory. Report any damages or 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 in the "OFF" position.

Caution: This option card uses CMOS IC chips. Use proper electrostatic discharge (ESD) protective procedures when handling the card to prevent I.C. damage or erratic drive operation.

Important:

1. If this option card is being installed in a drive with an encoder (PG) feedback option card, that card will need to be temporarily removed to allow access to connector 2CN on the drive's control board and TC1-TC11 on the DI-08 option card.
2. Before installing this option, a technically qualified individual, who is familiar with this type of equipment and the hazards involved, should read this entire installation guide.

Installation and Wiring:

1. Disconnect all electrical power to the drive.
2. Remove the drive's front cover.
3. Check that the "CHARGE" indicator lamp inside the drive is off.
4. Use a voltmeter to verify that the voltage at the incoming power terminals (L1, L2, L3) has been disconnected.
5. **Option Card Installation:** See Figure 1. Position the option card above the control board's 2CN connector and gently press the card into place.
6. **Wiring:** Refer to Figure 2 and Table 2. Make wire connections between the DI-08 card and drive as well as all peripheral devices. Observe the following:
 - a) Keep DI-08 (i.e. control circuit) wiring separate from main circuit input/output wiring. A separate metallic grounded conduit with only the option card's wiring running through it is preferred.
 - b) To prevent erroneous operation caused by noise interference, use shielded cable for control signal wiring. Limit the distance to 10m (33 feet) or less.
 - c) Route wires from the drive and connect to the peripheral device. Refer to the drive technical manual for further information on use of shielded cable.

Important: The DI-08 input circuits can receive the output of relay contacts and transistors (open collector).

- a) Use relays with highly reliable contacts (for very small current) with a rated voltage of 30VDC or more and a rated current of 100mA or higher.
- b) Use transistors (open collector) with a rated voltage of 35VDC or more and a rated current of 30mA or higher.

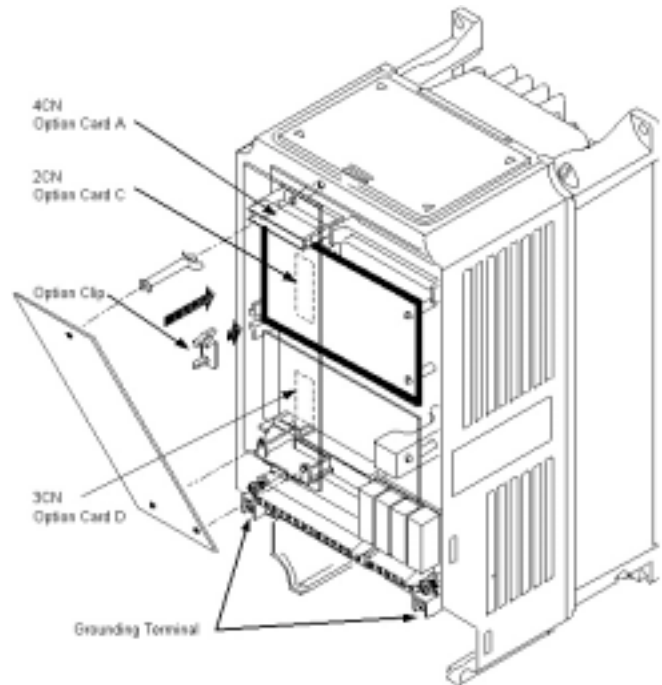


Figure 1. DI-08 Option Card Installation

7. **Adjustment:** There are no adjustments that need to be made to the DI-08 option; however, the drive will have to be programmed for the input requirements of the peripheral device. See Table 4.
Important: For the digital reference to function properly, the drive needs to be programmed to use the digital reference. This can be done in one of two ways:
 - a) **If drive always uses the DI-08 speed reference:**
 Program b1-01 = "3" (Option PCB)
 - b) **If the drive is using multi-function digital inputs to select multiple speed references:**
 1. Program b1-01 = "0", "1", or "2" (depends on required speed reference source).
 2. H1-03 (or other input) = "2" (Option / Inverter Select).
 3. Close terminal S5 (5 on the G5) on the drive's control board to select the DI-08 digital reference.
8. Reinstall and secure the drive's cover.
9. Place this instruction sheet with the drive's technical manual.

Table 1. DI-08 Specifications						
Parameter	Symbol	Minimum	Typical	Maximum	Units	Test Conditions
High Level Voltage Input	V_{IH}	12.5		24.0	VDC	$R_L > 8.9K$ ohms
Low Level Voltage Input	V_{IL}	0		12.0	VDC	$R_L < 8.8K$ ohms
Logic Low Current			6.4	10	mA	

Table 2. Terminal Functions of the DI-08				
Terminal	Function			Notes
	Binary Input	BCD Input		
TC1	2^0	1	X 10^0	--- "On" when closed (shorted to 0VDC at TC11) "Off" when open.
TC2	2^1	2		
TC3	2^2	4		
TC4	2^3	8		
TC5	2^4	1	X 10^1	--- Binary / BCD selection and input unit is set by drive parameter F3-01; see Table 4.
TC6	2^5	2		
TC7	2^6	4		
TC8	2^7	8		
TC9	SIGN (polarity) signal			--- SIGN signal: "Off" = Forward Direction Command : "On" = Reverse Direction Command
TC10	SET (load) *			
TC11	Signal Common (0V)			

* SET (load) signal is used to tell the drive to read the data. To set, close between TC-10 and TC-11 by the timing shown in Figure 3.

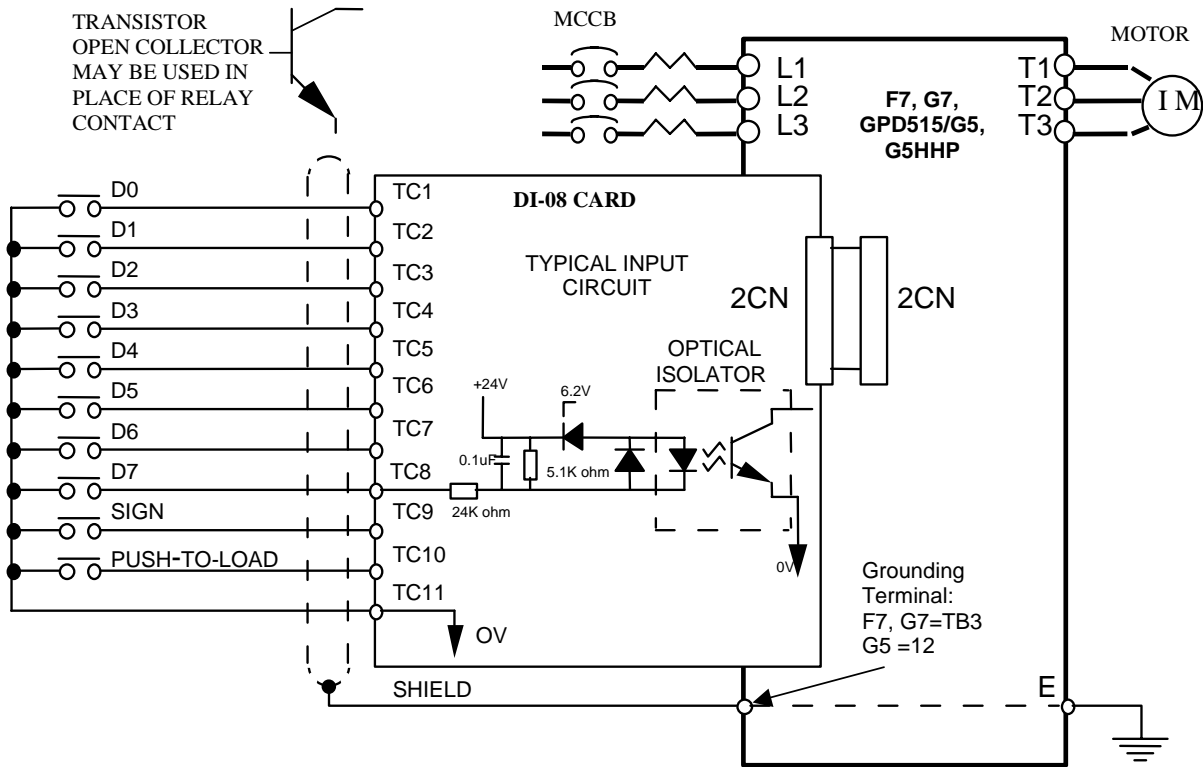


Figure 2. DI-08 Interconnection Diagram

Table 4. F3-01 Digital Reference Selection			
F3-01 Set value	Setting Unit		Setting Range
0	BCD	1%	0 – 159%
1	BCD	0.1%	0 – 15.9%
2	BCD	0.01%	0 – 1.59%
3	BCD	1Hz	0 – 159Hz
4	BCD	0.1Hz	0 – 15.9Hz
5 or 6	BCD	0.01Hz	0 – 1.59Hz
7	Binary	255 / 100%	0 – Maximum Output Frequency

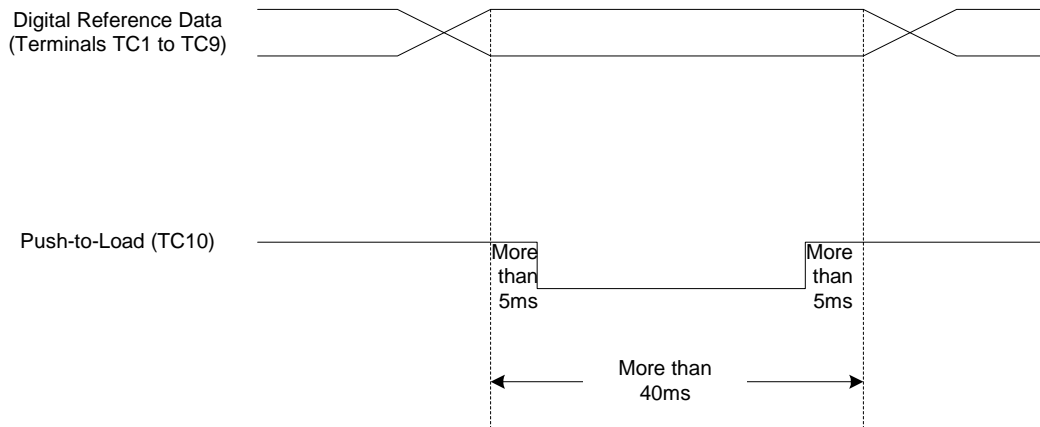


Figure 3. Timing of Push-to-Load Input