

iS7 Encoder Setup

Purpose

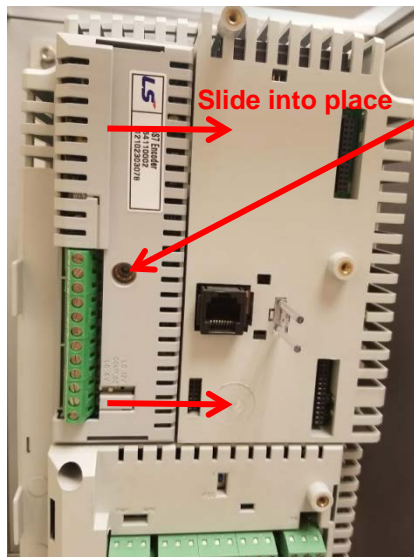
This document serves as a supplement to the complete iS7 User Manual. It shows how to install and setup the iS7 VFD to utilize an encoder option board (P/N: 64110002). This option card supports line driver and open collector type encoders.

Card Installation

1. Remove the front cover of the iS7 to expose the option slot highlighted below.



2. The encoder option card is installed by lining the card up with the option connector and sliding to the right. Ensure that the pins are lined up properly; the card should slide in easily and fit flush with the plastic cover.



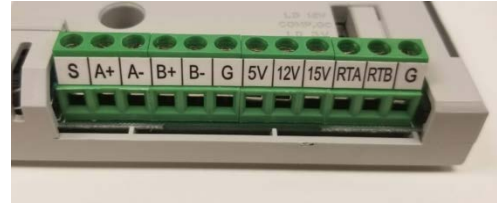
3. Tighten the included screw to hold the card in place.

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Wiring

Wire the motors encoder wires to the encoder card using the below reference table.

Terminal	Function
S	Shield connection
A+	Positive A channel pulse (A)
A-	Negative A channel pulse (/A)
B+	Positive B channel pulse (B)
B-	Negative B channel pulse (/B)
G	Ground connection, common for DC supplies below.
5V	5VDC supply to encoder
12V	12VDC supply to encoder
15V	15VDC supply to encoder
RTA/RTB	Return Pulse for channel A and B (open collector output)



The encoder card supports line driver type and open collector type encoders. Be sure to set the switch pictured below to the correct setting depending on the applied encoder.



LD 12V = Line Driver 12VDC
 COMP, OC = Complementary/ Open collector
 LD 5V = Line Driver 5VDC

Parameter Setup

It is imperative to setup the below parameters and conduct and autotune to ensure proper operation of the iS7 with encoder feedback.

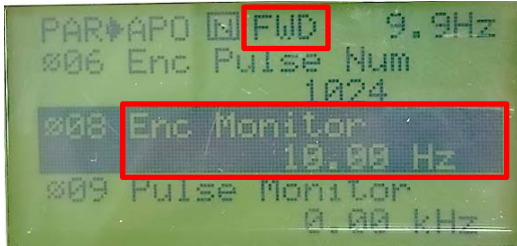
Parameter Code	Parameter Name	Recommended Setting
APO-01	Encoder Option Mode	1 – Feedback
APO-04	Encoder Type Selection	Set to line driver or open collector based on installed encoder
APO-05	Encoder Pulse Selection	Leave at A+B if using both channels
APO-06	Encoder Pulse #	Set to PPR of encoder
DRV-09	Control Mode	5 - Vector
DRV-14	Motor Capacity	Set to motor kW
BAS-11	Motor Poles	Set to # of motor poles
BAS-12	Rated Slip	Set to rated motor slip
BAS-13	Rated Current	Set to motor FLA
BAS-15	Rated Voltage	Set to rated motor voltage
BAS-20	Auto Tuning	1-All **This will rotate the motor, ensure motor is uncoupled from the load**

Troubleshooting

Encoder direction error

If during the auto tuning process an encoder direction message is received.

- Is motor direction correct? Verify the motor direction is correct; FWD on keypad should match forward running for the application. If it is incorrect, swap the U and W motor wires and run the tune again. If the motor direction is correct set APO-05= (A + B) and run the tune again.
- Parameter APO-08 will display the encoder's frequency. While running FWD this should display a positive frequency close to the commanded reference. While running REV it will go negative. You can also turn the motor by hand while stopped and view the feedback.



Motor is not getting up to speed or is pulling high amperage

If the VFDs output speed is not matching the command reference or the motor is pulling high amps.

- Check the encoder wiring. If B+ and B- are swapped, for example, this symptom can occur.
- Confirm that encoder PPR set in APO-06 matches the encoder's nameplate.