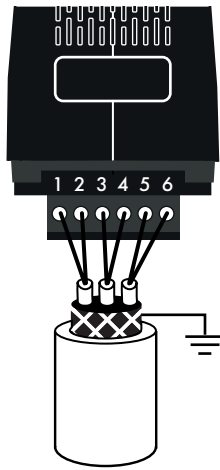




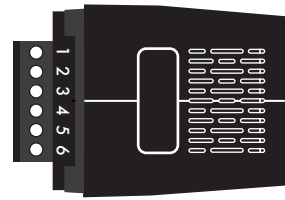
## Electrical Installation

- Overall Shielded twisted paired cable to be used
- Shield should be connected to Ground (PE) both Ends



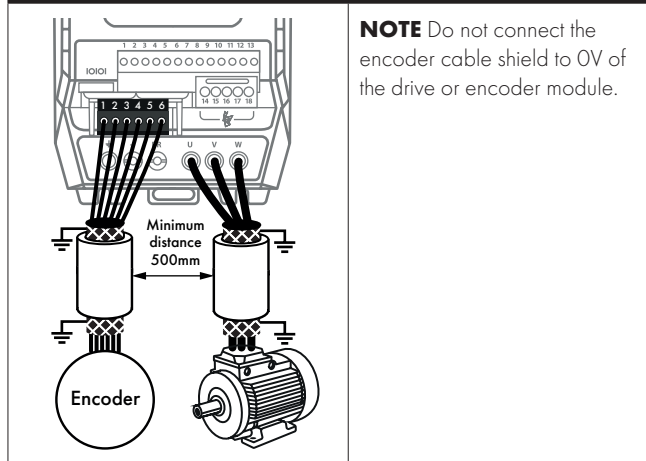
## Option Module Connections

Pin	Function
1	A Channel (A)
2	A Channel Inverse (/A)
3	B Channel (B)
4	B Channel Inverse (/B)
5	+5V DC Output
6	0 Volt



## Connection Examples

### 5V TTL Encoder – T2-ENCOD-IN



## Operation

### Parameter Settings

When operating with an encoder, the following parameter settings are required as a minimum:

- P1-09: Motor rated frequency (found on the motor nameplate).
- P1-10: Motor rated speed (found on the motor nameplate).
- P6-06: Encoder PPR value (enter value for the connected encoder).

Closed Loop Vector speed provides full torque holding capability at zero speed and enhanced operation at frequencies below 1Hz. The drive, encoder module and encoder should be connected according to the voltage rating of the encoder as shown in the wiring diagrams. The encoder cable should be an overall shielded type, with the shield bonded to earth at both ends.

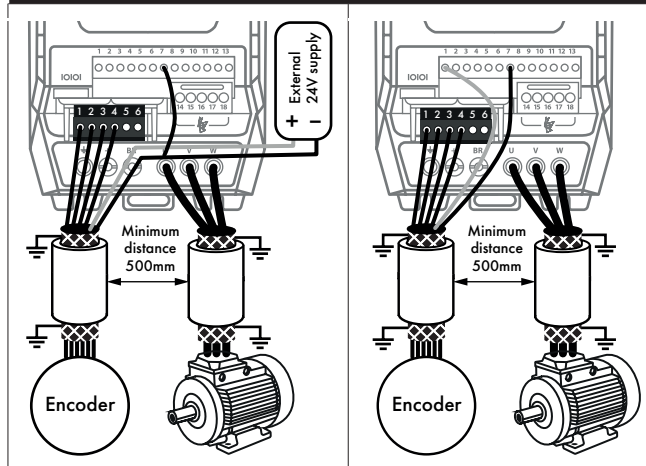
### Commissioning

When commissioning, the drive should firstly be commissioned in Encoder less Vector Speed Control (P6-05 = 0), and a speed / polarity check should then be made to ensure that the sign of the feedback signal matches that of the speed reference in the drive.

The steps below show the suggested commissioning sequence, assuming the encoder is correctly connected to the drive.

- Enter the following parameters from the motor nameplate:
  - P1-07 – Motor Rated Voltage
  - P1-08 – Motor Rated Current
  - P1-09 – Motor Rated Frequency
  - P1-10 – Motor Rated Speed
- To enable access to the advanced parameters required, set P1-14 = 201
- Select Vector Speed Control Mode by setting P4-01 = 0
- Carry out an Auto-tune by setting P4-02 = 1
- Once the Auto-tune is completed, the drive should be run in the forward direction with a low speed reference (e.g. 2 – 5Hz). Ensure the motor operates correctly and smoothly.
- Check the Encoder Feedback value in P0-58. With the drive running in the forward direction, the value should be positive, and stable with variation of + / - 5% maximum. If the value in this parameter is positive, the encoder wiring is correct. If the value is negative, the speed feedback is inverted. To correct this, reverse the A and B signal channels from the encoder.
- Varying the drive output speed should then result in the value of P0-58 changing to reflect the change of the actual motor speed. If this is not the case, check the wiring of the whole system.
- If the above check is passed, the feedback control function can be enabled by setting P6-05 to 1.

### 24V HTL Encoder – T2-ENCHT



Alternatively (to External supply) the drives on-board 24V supply can be used (T1 (24V) and T7 (0V)) – Ensure total current consumption from T1 does not exceed 100mA.

**NOTE** 0V of encoder must also be connected to drive 0V (T7).

**NOTE** Do not connect the encoder cable shield to 0V of the drive or encoder module.