INSTALLATION

- Read this manual before installing the system
- Connect the fuse in series to the power supply
- Put the additional choke, (required if the motor inductance is less than 1mH), as close as possible to the drive
- Guarantee a good power dissipation
- Switching the power supply is not recommended for START/STOP operations

PRECAUTIONS FOR ELECTROMAGNETIC COMPATIBILITY

- Separate the phases and the power supply wires from the signal cables
- Keep the connections as short as possible and use shielded cables for control signals
- Do not insert capacitors, inductors or any electronic component on the motor wiring
- Connect only one side of the cable shields
- Connect the motor case to an efficient ground point

SAFETY

It is the responsibility of the user to be sure this unit is used in compliance with the safety requirements. For further information, please call our technical depart

DCM24B

ONE QUADRANT 24V 8A PERMANENT MAGNET DC MOTOR DRIVER

DCM24 is a compact permanent magnet DC motor driver.
This one quadrant PWM speed control board can operate with nominal voltage of 24V and nominal current of 8A. DCM24, compact and reliable, is simply installable, userfriendly, silent and offers high regulation capability.

Fig.1

TECHNICAL DATA

- One quadrant 24V 8A PWM driver for permanent magnet DC motors
- PWM power stage
- Overcurrent and undervoltage protection
- Tacho or BEMF feedback
- IR compensation
- DC or AC power supply
- Silent operation; compact and reliable board
- Maximum current, maximum speed/voltage and R x I on-board potentiometer adjustment
- Diagnostic leds: power supply, protections
- Potentiometer or analog speed control
- Configurable FAULT/OK relay output and ENABLE input

DC power supply	22Vdc-36Vdc
AC power supply	24Vac 10%
Nominal current	8A
Peak current	16A (2s max non-repetitive)
Motor voltage	30V max
PWM freq.	30kHz
Speed RxI range (BEMF)	1:100
Speed tacho range	1:20
Tacho voltage	30V max
Analog speed ref. range	0-5V
Temperature range	From 0° to 50°C
Weight	0.4Kg
Size	70 x 70 x 60 mm

BLOCK DIAGRAM:
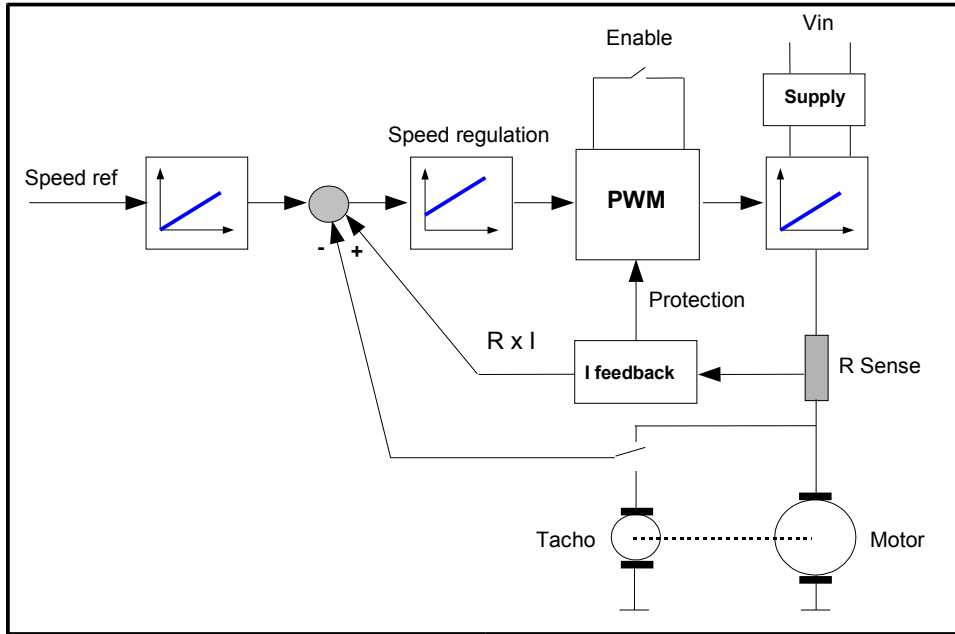
Fig.2

LAYOUT:
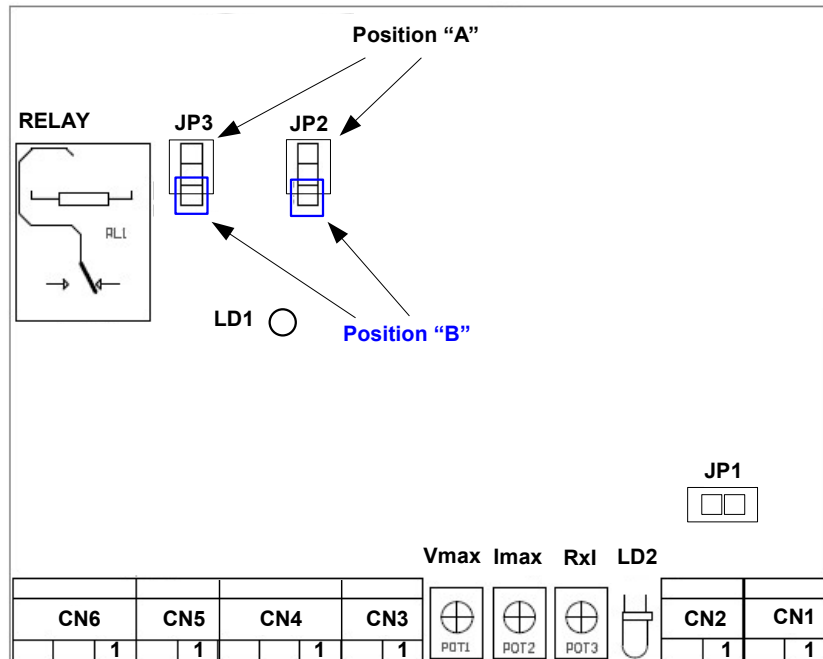
CONNECTIONS AND SETTINGS:

CN1   POWER SUPPLY CONNECTOR

PIN	SIGNAL	DESCRIPTION
1	Vin1	AC/DC power supply (22-36Vdc, 24Vac 10%)
2	Vin2	

CN2   MOTOR CONNECTOR

PIN	SIGNAL	I/O	DESCRIPTION
1	A1	O	DC motor terminal 1
2	A2	O	DC motor terminal 2

CN3   TACHO CONNECTOR

PIN	SIGNAL	I/O	DESCRIPTION
1	T1	I	TACHO terminal1 (GND)
2	T2	I	TACHO terminal2 (positive)

CN4   SPEED ADJUST CONNECTOR

PIN	SIGNAL	I/O	DESCRIPTION
1	5V	I	5V output voltage
2	CTRL	I	Speed ref. analog input (0-5V, 10KOhm)
3	GND	I	Ref

CN5   ENABLE CONNECTOR (see "JUMPER")

PIN	SIGNAL	I/O	DESCRIPTION
1	ENA	I	When this pnp input (15V, 2.2KOhm) is connected to PIN2 (GND) the enable feature is active. You must correctly configure JP3 regarding the specific application
2	GND	I	Ref

CN6   FAULT/OK RELAY CONNECTOR (see "JUMPER")

PIN	SIGNAL	I/O	DESCRIPTION
1	NC	O	Normally open (NO) contact FAULT/OK relay.
2	COM	O	COM contact FAULT/OK relay
3	NO	O	Normally open (NO) contact FAULT/OK relay. You must correctly configure JP2 regarding the specific application

TRIMMER ADJUSTEMENT

NAME	DESCRIPTION
RxI	It adjusts RxI (back emf) compensation
Vmax	It adjusts the maximum motor speed and controls the system closed-loop response
Imax	It adjusts maximum output current

JUMPERS

NAME	DESCRIPTION
JP1	RxI (back emf) compensation is used when JP1 is inserted; in this case do not connect the tachometer. Otherwise TACHO feedback is used.
JP2	Position B (fig. 3) = when the ENA input is active the system is enabled Position A (fig. 3) = when the ENA input is active the system is not enabled
JP3	Position A (fig. 3) = the relay is activated when an error occurs Position B (fig. 3) = the relay is switched off when an error occurs

Jx   DIAGNOSTIC LEDS

LED	COLOUR	DESCRIPTION
LD1	Green	Power supply
LD2	Red	Protection active. Switch off the system and remove the problem