

## 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



## DCM48B

### ONE QUADRANT 48V 8A PERMANENT MAGNET DC MOTOR DRIVER

DCM48B is a compact permanent magnet DC motor driver. This one quadrant PWM speed control board can operate with nominal voltage of 48V and nominal current of 8A. DCM48B, compact and reliable, is simply installable, userfriendly, silent and offers high regulation capability.



Fig.1

## TECHNICAL DATA

- One quadrant 48V 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	42Vdc-60Vdc
AC power supply	48Vac 10%
Nominal current	8A
Peak current	12A (2s max non-repetitive)
Motor voltage	55V max
PWM freq.	30kHz
Speed RxI range (BEMF)	1:100
Speed tacho range	1:20
Tacho voltage	55V 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:

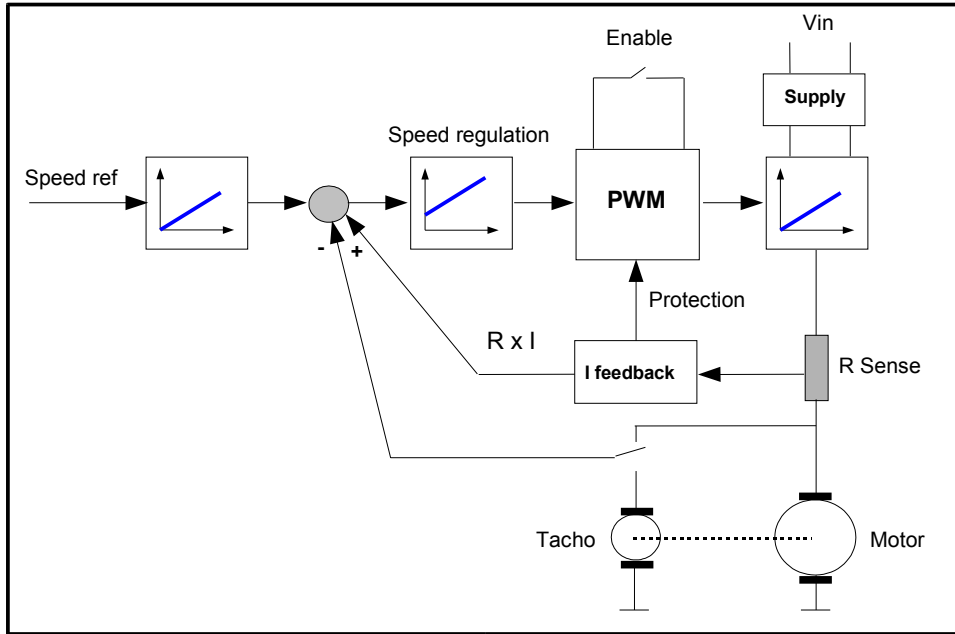
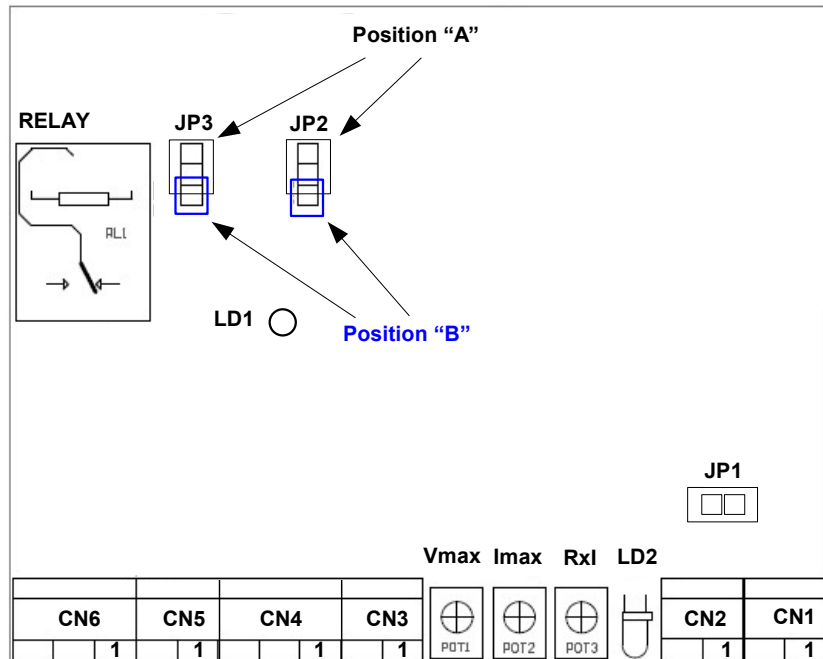


Fig.2

### LAYOUT:



### CONNECTIONS AND SETTINGS:

#### CN1 POWER SUPPLY CONNECTOR

PIN	SIGNAL	DESCRIPTION
1	Vin1	AC/DC power supply (42-60Vdc, 48Vac 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
Rxl	It adjusts Rxl (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	Rxl (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 LEDES

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