

INSTRUCTION MANUAL

Code 287S.C/3W(24Vdc)

Working principles

The code 287S.C/3W board is a MOSFET mono-directional voltage switching regulator. Its main use is found in control of small DC motors or proportional electro-valves with a maximum working voltage of 24VDC.

TECHNICAL CHARACTERISTICS:

Power supply 24VAC \pm 10% 50-60Hz; 24VDC (21VDC minimum - 30VDC maximum): in this case the maximum output voltage is the 90% of the input supply voltage.

Maximum power 800W for DC Motors (Motor In 40A); different loads 960W (24VDC/40A).

Maximum current in continuous service 40A. Switching frequency 5KHz.

Feedback regulation of the voltage and the output current by 10K Ohm potentiometer or 0+10Vdc Analog signal.

Working environment air limits temperature -5°C $+40^{\circ}\text{C}$ and variable non condensated humidity from 5% to 95%.

Storage temperature air limits temperature -25°C $+70^{\circ}\text{C}$

Maximum output voltage variation 5VDC from unloaded to nominal loaded.

Possibility of slipping compensation in case of DC motor control.

Europe board formation in standard version on a plate support IP20 protection

CONFORMITY TO ELECTROMAGNETIC COMPATIBILITY REQUIREMENTS

The code 287S.C/3W board conforms to the EMC 89/336/EEC (electromagnetic compatibility) with reference to the limits and to the test conditions and product regulations CEI EN 61800-3 for electric drivers; such conformity is guaranteed if the following precautions are observed:

- screened cables must be used for the potentiometer and motor connection;
- must be avoided passing signal cables in channels together with power cables ;
- one end of the screened cable shield must be connected to earth;

The code 287S.C/3W is supplied with an internal electromagnetic disturbance suppression system, **therefore no external filter system is necessary.**

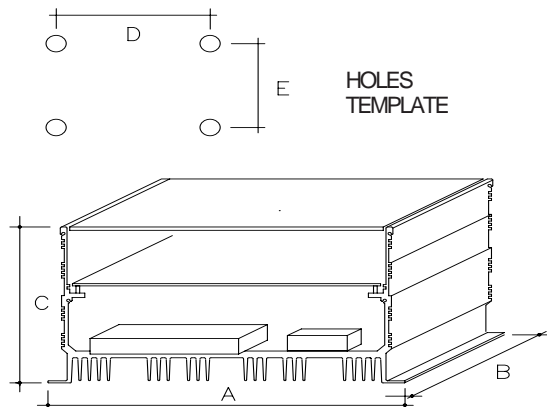
CONNECTION AND SET-UP INSTRUCTIONS

1) The code 287S.C/3W board works correctly with room air temperature between -5°C and $+40^{\circ}\text{C}$; above these limits abnormalities may occur as thermal drift or breakage; it is advisable to position the board away from heat sources and ventilate the cabinet if high environment temperatures are reached.

2) When many boards are used into the same cabinet it is possible to use a single transformer with a 24Vac secondary to supply all boards, **but only if they don't have the common negative connected (connector 1); in the opposite case any board must be singularly supplied by its own transformer.**

3) **It is not possible to connect to ground, at the same time, one end of the alternate 24Vac and the NEGATIVE connector 1 from the board, or a drive failure will occur; it is possible to connect to ground only one of the two terminals.**

CONNECTION DIAGRAM OVERALL DIMENSIONS AND FITTINGS



A = 265 B = 195 C = 160
E = 160 D = 255
misure are in mm

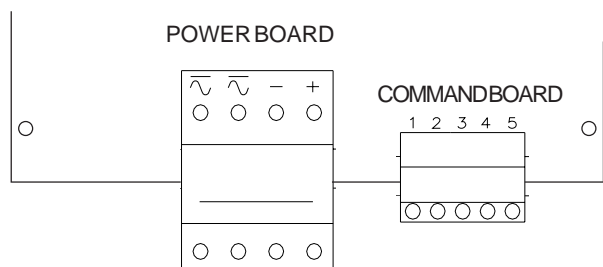
TRIMMERS DESCRIPTION

- P1 = output maximum voltage
 - P2 = output maximum current
 - P3 = output current
 - P4 = slipping compensation of the DC motor since unloaded until full loaded
 - P5 = acceleration ramp 0 ÷ 3 sec.
 - P6 = deceleration ramp 0 ÷ 3 sec.
- (all trimmers clockwise regulated raise the relative value)

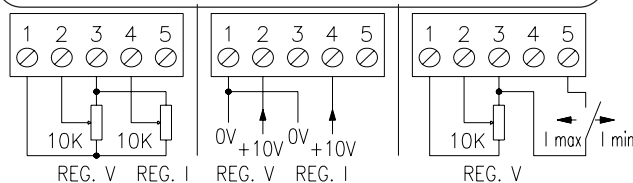
COMMAND BOARD DESCRIPTION

- 1 = 0V common negative
- 2 = signal input 0 ÷ +10Vdc to regulate the output voltage
- 3 = +10Vdc pot. supply max 10mA
- 4 = signal input 0 ÷ +10Vdc to regulate the output voltage: in this case the trimmer P3 works as the minimum
- 5 = limitation on output voltage selection:
 - non connected clip = minimum current (adjustable by P3)
 - 10÷24Vdc connected clip = max current (adjustable by P2)

FUSE = 16A Fuse on the transformer secondary (low voltage)



HOW TO CONNECT THE COMMAND BOARD



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