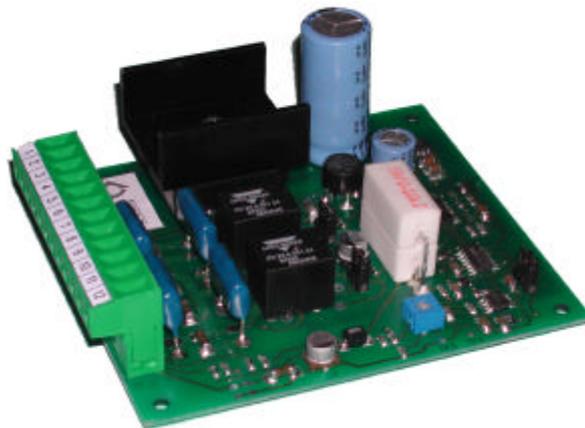




**DRIVER FOR 1 LINEAR ACTUATOR
WITH 12Vdc MOTOR**

PF0027

MODEL: MDC1-12V-10A



↪ GENERAL SPECIFICATIONS

MDC1-12V-10A

allows the bidirectional control of **one linear actuator** with a total current maximum absorption of **12A**.

Two inputs control the motion and the direction of the actuator.

Two limit-switches allow stopping the actuator in both directions.

The Current Limitation Circuit, adjustable from **0,5A to 12A** by means of a trimmer placed on the board, allow stopping the movement according to current absorption.

It's possible to cut out the Limit switch function and use only the Current Limitation.

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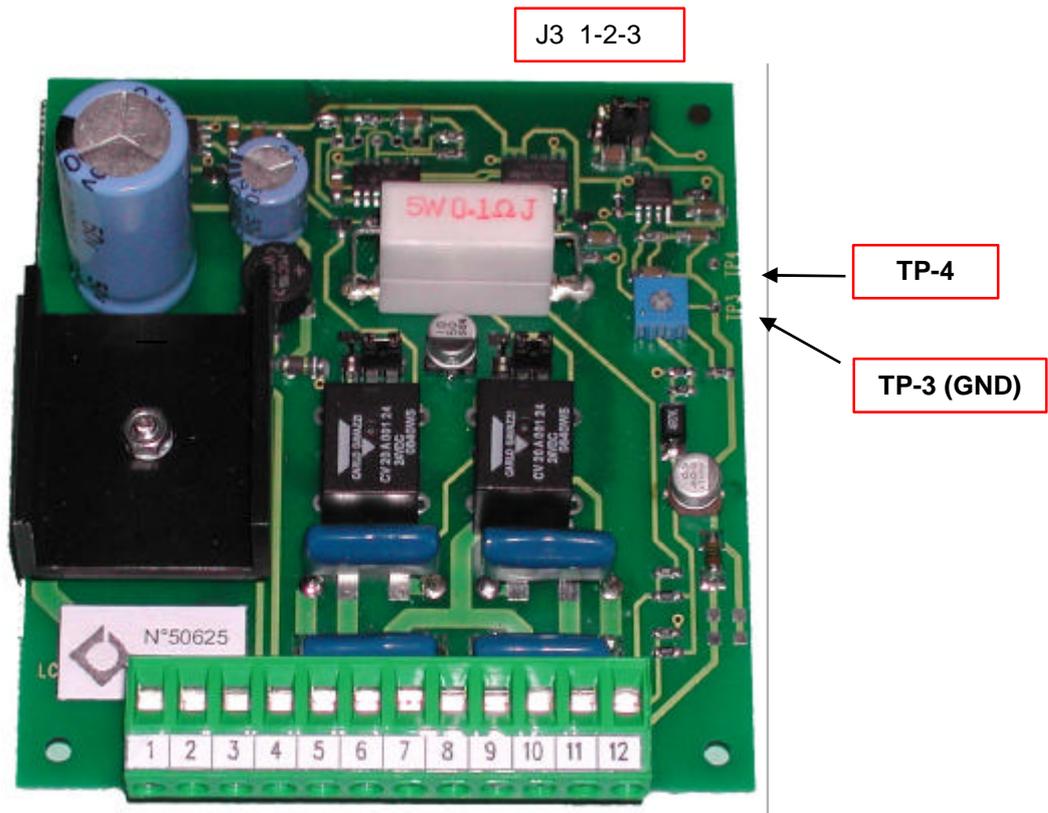
- ❑ **The exclusion of the Limit Switch and Current Limitation functions is programmable by means of 3 jumpers placed on the board**
- ❑ **Currents adjustment is programmable by means of 1 trimmer placed on the board**
- ❑ **The Limit Switch and Current Limitation functions can be activated simultaneously or 1 at a time**

↪ TECHNICAL DATA AND AVAILABLE FUNCTIONS

- Power supply voltage for Actuator **12 Vdc +/-10%**
Maximum admitted current absorption by the actuator **12 A Max**
- Power supply voltage for electronic board **12 Vdc +/-10%**
- Input for Actuator OPENING Control
- Input for Actuator CLOSING Control
- Output for Actuator driving **ON-OFF** type (inversion of polarity)
- Inputs for OPENING/CLOSING Actuator Limit switches
- Jumper cutting off limit switches OPENING/CLOSING Actuator (use of Current Limitation only)
- Trimmer for current limitation adjustment on Actuator (**Trimming range 0,5...12A**)
- Jumper cutting off current limitation on Actuator (use of limit switches only)
- Combined use of limit switches and current limitation.
- Delay on every input control (**500 msec**) in order to prevent fast accidental direction reversals of Actuator
- Delay circuit for Current Limitation in order to avoid its intervention at Actuator's starting peak current
- Anti jamming system with RC filter on the contacts of the Actuator driving relays

↶ **LAY-OUT OF BOARD PROGRAMMING ELEMENTS**

➤ Dimensions: 90 x 110 x 40 mm



J1-J2	Actuator Limit switches jumpers	Position 1-2 OFF - Position 2-3 ON
J3	Actuator Current Limitation jumper	Position 1-2 ON - Position 2-3 OFF
P1	Trimmer for Actuator current limitation adjustment	(0,5...12A)
TP-4	Current adjustment Test-Point for Actuator Current Limitation	
TP-3 (GND)	Ground Test-Point (GND)	

↪ CURRENT LIMITATION ADJUSTMENT

It's possible to verify / adjust the value of Current Limitation for the Actuator.

To adjust the value of Current Limitation a **Digital Multimeter** is needed and must be set on **2Vdc bottom scale or on automatic range**.

↪ ADJUSTMENT OF ACTUATOR CURRENT LIMITATION

- 1) Power-on the board without operating the Actuator
- 2) Connect the Negative ending of the digital Multimeter to Test-Point **TP-3 (GND)**.
- 3) Connect the Positive ending of the digital Multimeter to Test-Point **TP-4 (Actuator Current Limitation)**
- 4) Adjust the Trimmer **PT1** so to obtain the voltage corresponding to the desired current limitation value

N. B.

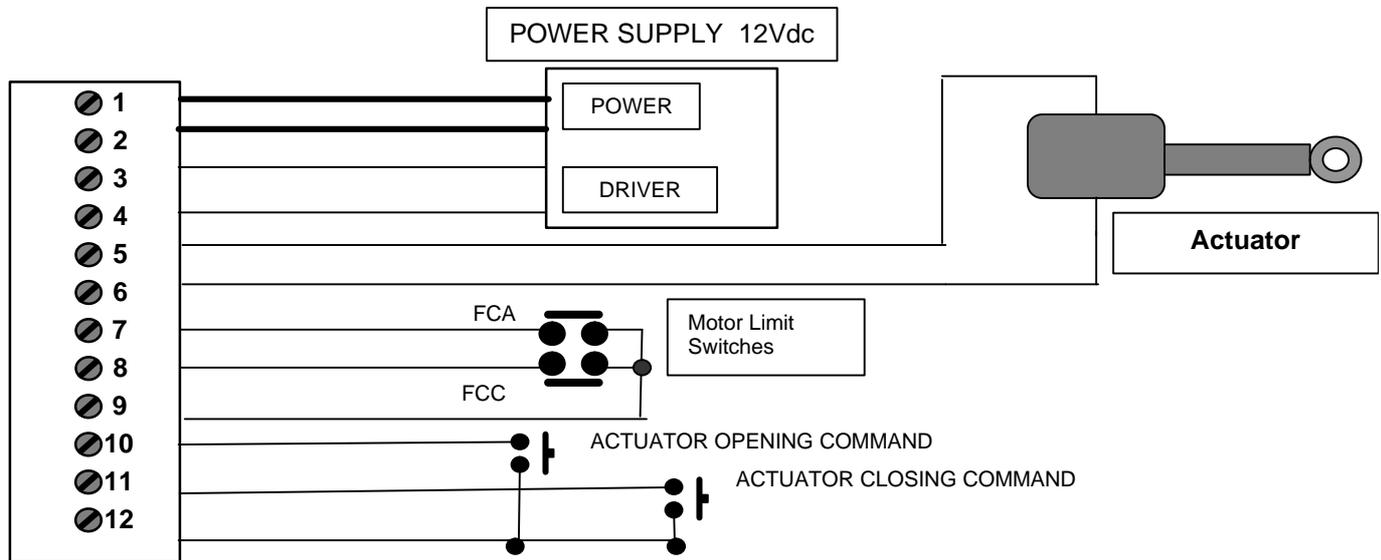
The value of tension, shown by the digital Multimeter, has a conversion ratio Voltage/Current of 1/20:
100mV = 2A

Below an example of **matching values between Voltage, measured in mV on TP3, and Current Limitation measured in Amps:**

SHOWN VOLTAGE	LIMITATION CURRENT
50 mV	1.0 A
100 mV	2.0 A
150 mV	3.0 A
200 mV	4.0 A
300 mV	6.0 A
400 mV	8.0 A
500 mV	10.0 A
600 mV	12.0 A

Adjusting the trimmer you can get any value of current limitation between 0,5A and 12A

↪ BOARD WIRING DIAGRAM



FCA = OPEN POSITION Limit switch
FCC = CLOSE POSITION Limit switch

↪ POWER SUPPLY WIRING

Terminals 1 and 2 Power Supply for Actuator feeding

12 Vdc +/-10%
12 A Max

Terminals 3 and 4 Power Supply for electronic board

12 Vdc +/-10%

↪ ACTUATOR WIRING

Terminal 5 for actuator motor connection

Terminal 6 for actuator motor connection

↪ LIMIT SWITCHES WIRING

Terminal 7 Input for Actuator OPENING Limit switch

Terminal 8 Input for Actuator CLOSING Limit switch

Terminal 9 Common terminal for Actuator Limit switches

Important!!! The only limit switches that work with this electronic board are the **Normally Closed** ones

↪ CONTROL INPUTS WIRING

Terminal 10 Input for Actuator OPENING Control

Terminal 11 Input for Actuator CLOSING Control

Terminal 12 Common Control inputs