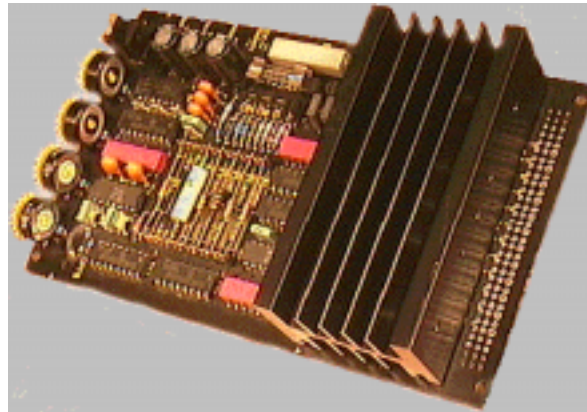# Motor Speed Controller

2A 24V 50W Linear 4Q

Basic Model
MDL 2 DB

Features

- **Linear four quadrant drive**
- **No chopper sound in the motor**
- **No interference to adjacent circuits**
- **Tacho or armature feedback**
- **Differential Set Speed input**
- **Fast and precise**

Quick reference data

- **Supply voltage**   **10-30V=**
- **Max output voltage** **4V below supply**
- **Imax motor cont.**   **2A**
- **Imax motor dyn**   **4A, optional**
- **Reference inputs**   **Potentiometer 10kΩ**
- **Ambient temp.**   **0-40°C**

MDL is a linear four quadrant motor speed controller designed for use with PM-servomotors in qualified applications.

MDL is linear in contradiction to switchmode controllers. This gives the motor a low noise level and avoids problems at other interference sensitive equipment as microcomputers.

The MDL is designed for use with most types of PM-DC-motors with maximum voltage of 24V and continuos current to 2A.

To obtain dynamic properties the drive can be trimmed to each application through changing some resistors and capacitors on the PC. board.

The MDL has, in the standard version, solderlugs where adjustment components are fitted. Through a suitable selection of components, the following functions can be achived or adjusted: tacho interfacing, armature feedback, RxI compensation, variable control of motor current/torque, current limit etc.
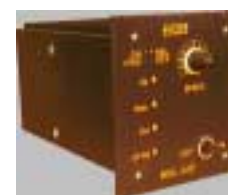
Here are some related examples from our product line.

MDL 2DE   **MDL 2 DG**   **MDL 2 AE**

www.punos.se   **info@punos.se**

As an option these adjustment components can be fitted on a plug-in "personality module" called MDM 1 DZ to make inter-changeability and service easier.
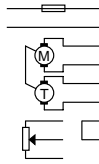
The set speed input (Z_{in} 10 kohm) is designed as a differential input, wich gives less wiring interference problems.

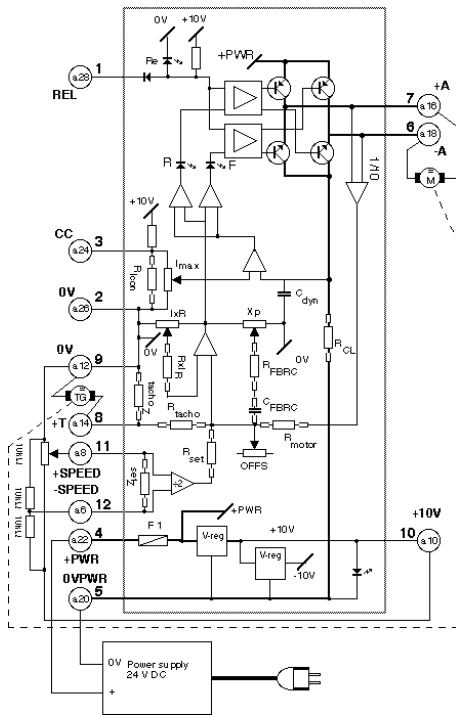The current limit can be set localy on the board or externaly. Accordingly it is possible not only to control the speed with a set current limit but also to control the motor torque with a set speed limit.

The current limit makes the MDL protected against short circuits across the motor terminals and either one of the motor terminals to the + supply line. Shortcircuits between the - supply line and any motor terminal are not allowed.
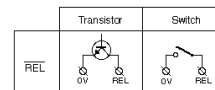
List of connections:

TB	Euro.	Abbr.	Function	Comment
	a28	Rel.	Release	
	a26	0Vref		0V reference
	a24	CC	Current Control	
4	a22	+PWR	+Power supply input	
5	a20	0VPWR	-Power supply input	
6	a18	A+	+Motor output	
7	a16	A-	-Motor output	
8	a14	T+	Tacho feedback input	Use of tacho is optional.
9	a12	T-	Tacho feedback input	0V reference
10	a10	+10V	+10V output	for external potentiometer
11	a8	+CMD	+Speed input	
12	a6	-CMD	-Speed input	

Note that 0VPWR and the 0V reference are separate and may not be linked.

Type	MDL 2 DB	MDL 2 DG	MDL 2 DE
Supply voltage U_i	10-30V	10-30V	10-30V
Max output voltage U_o	$4V<U_i$	$4V<U_i$	$4V<U_i$
Output adj current lim	0,1-2A	0,1-2A	0,1-2A
Max starting current opt.	4A	4A	4A
Fuse	2AT	2AT	2AT
Outline	board	board	plug in unit IP22
Dimensions	100x160x40	100x160x40	128x205x70
Weight	0,2 kg	0,2 kg	0,6 kg
Connections	plated edge	Europlug	terminal block
Optional	terminal block, Europlug		Europlug

Options
Plug in "personality module" with dynamic current limit, adaptations for special applications, 110 V version.