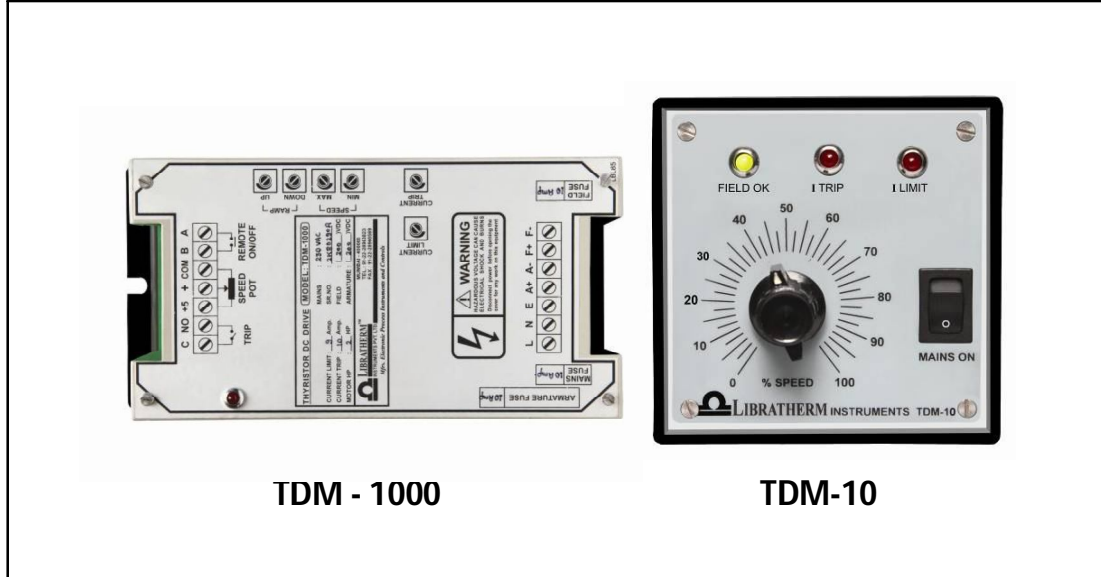


Thyristorized DC Motor Controllers

TDM-1000 (¼ HP to 5 HP) & TDM-10 (¼ HP to 3 HP)

(Product code 22.1 to 22.2)



Model Wise Description:

Sr.No	Model	Product Description	Size (mm.)
22.1	TDM-1000	D.C. Drive (Modular Design-Single Phase) ¼ HP to 1 HP, 2 HP, 3 HP, 5HP with isolated speed control signal	230 x 180 x 80
22.2	TDM-10	D.C. Drive (Panel mounting type) (1/4 HP to 2 HP)	96 x 96 x 160

Description:

Libratherm offers variable speed DC drive Model **TDM-1000 & TDM-10**, which is rugged, compact and fully solid-state controller designed to drive either permanent magnet DC motors or excited field DC motors with the facility to vary the speed through a single turn potentiometer or through the external analog control signal of (0-5) VDC, (0-10) VDC or (4-20) mA. Two different models are available, one is TDM-1000, which is a modular design with optically isolated control input and other is TDM-10 which is ¼ DIN panel mounting type with speed control using front panel potentiometer.

The control signal and the potentiometer are optically isolated from the armature and field voltage. This feature is useful to directly control the motor speed through PLC, PID or similar other process controllers in a closed loop control system without the need of external signal isolator.

The drive is designed using the solid-state components and is available in the modular form to suit OEM's applications. The drive is also available in the stand-alone control panel along with accessories like RPM / voltmeter, current meter, start / stop and forward / reverse RELAY logic, indicating lamps, speed potentiometer etc.

The drive operates on 230 VAC. The speed regulation is achieved by armature voltage feed back. Several other control and standard protection features are soft start, maximum speed set, minimum speed set, field failure, overload protection, remote on / off etc.

Features:

- ❖ Fully solid-state design.
- ❖ Linear variation of speed.
- ❖ Suitable for 1/4 HP to 5 HP / single phase (4-wire or PMDC motors).
- ❖ Adjustable maximum and minimum Speed.
- ❖ Built in Current Limit / over Load Trip and Field Failure Protection.
- ❖ Control signal is optically isolated in modular design.
- ❖ Accepts speed control signal of (0-5) VDC, (0-10) VDC or (4-20) mA, hence suitable for machine automation.
- ❖ 1/4 DIN Size (TDM-10)
- ❖ Operates on 230VAC

Applications:

- ◆ Suitable for small machines in Plastic, Packaging and Pharmaceutical industries
- ◆ Areas where smooth steady and fine DC motor speed control is required

Technical Specifications:

ELECTRICAL:	
Operating Supply Voltage	230 VAC / 110 VAC, 50 Hz, +/- 10%.
DC Output Voltage	1) Armature: 0 to 200VDC Field: 200 VDC fixed @ 230VAC. 2) Armature : 0 to 100VDC Field : 100 VDC fixed @ 115VDC
Motor Load in HP	0.25 to 3 HP (TDM-10) With Armature / Field or PMDC 0.25 to 5 HP (TDM-1000) With Armature / Field or PMDC
Speed Control Signal	(0-5) VDC, (0-10) VDC, (4-20) mA optically isolated or through 10K single turn potentiometer.
Operating Temperature	0 °C to 70 °C.
Maximum Current Rating	25% of the rated value (continuous).
Front Panel LED Indication	For Power ON, Current Limit and Trip Relay
Isolation	DC control signal are optically isolated from Field/Armature voltage (hence safe to interface with PLC PID controller, etc.)
Over Load / Over Voltage Protection	Using Current Limit and Trip features and individual Fuse protection for Armature and Field winding. Potential free TRIP contact is available on the terminals.

SPEED REGULATION:	
By Armature Feedback	+/- 10% of set speed.
Current Limit	50 to 150% of the rated value (adjustable in TDM-1000).
Maximum Speed	50 to 100% of the rated value (adjustable in TDM-1000).
Acceleration / Retardation	0 to 15 seconds (adjustable soft start/stop in TDM-1000) and fixed in TDM-10.
Remote Start/Stop	Provision for external potential free input contact for starting and stopping the motor.
MECHANICAL:	
Size	230 x 180 x 80 mm (TDM-1000) 96 x 96 x 160 mm (TDM-10)
Mounting	TDM-1000 can be mounted on the flat surface inside the control panel using 4 screws. TDM-10 can be mounted on the front panel.
Weight	Approx. 2.5 Kg (TDM-1000) Approx. 1.0 Kg (TDM-10)

Ordering Information:

MODEL	A- CONTROL INPUT SIGNAL	B- HORSE POWER or KW of Motor	C - Motor Type	D- SUPPLY
TDM-1000	A1- (0-5 VDC) A2- (0-10 VDC) A3- (4-20 mA) A4- (10K pot)	B1- (1 HP / 750W) B2- (2 HP / 1.5KW) B3- (3 HP / 2.25KW) B4- (5 HP / 3.75KW)	C1 - 4 wire (Armature + Field) C2- PMDC	D1- (230 VAC) D2- (110 VAC)
TDM-10*				

* TDM-10 is applicable for option A4, B1/ B2, and C1/ C2, D1/D2

Examples:

MODEL	A- CONTROL INPUT SIGNAL	B- HORSE POWER or KW of Motor	C - Motor Type	D- SUPPLY
TDM-1000	A3	B3	C1	D1
TDM-1000	A2	B2	C2	D1
TDM-10	A4	B1	C1	D2

Example	Ordering Code	Description
1	TDM-1000 -A3-B3-C1-D1	This is DC motor controller, suitable for 3 HP, 4 wire DC motor with speed control using 4-20mA signal and operating on 230VAC supply.

2	TDM-1000 -A2-B2-C2-D1	This is DC motor controller, suitable for 2 HP, PMDC motor with speed control using 0-10V signal and operating on 230VAC supply.
3	TDM-10-A4-B1-C1-D2	This is DC motor controller, suitable for 1 HP 4 wire DC motor with speed control using front panel potentiometer and operating on 110VAC supply.

REMARK :