

Chapter 1

PRODUCT OVERVIEW

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PRODUCT OVERVIEW

Description

The 506/507/508 series controllers are compact, non-isolated motor speed controllers specifically designed for dc shunt wound and permanent magnet motors. The controllers are intended to operate from a single phase AC mains supply in the ranges 110/120V AC or 220/240V AC 50/60Hz.

The controllers are intended to be mounted on a length of DIN rail in an enclosure.

Control of the associated DC motor is achieved by using a linear closed loop feedback signal based on the motor's own DC armature voltage. This enables constant motor speed to be maintained throughout variable motor loads. Improved speed measurement can be obtained by using a tacho-generator, connected to the motor's shaft, to provide the feedback signal.

A current loop within the speed feedback path ensures that safe current levels are always provided to the armature of the motor up to the level set by the maximum current potentiometer (Imax). This adjustment is linear and switchable to a lower range of half the controller current.

If the controlled motor is stalled (e.g. due to either a faulty field circuit or an excessive load), then a stall timer will remove current from the motor after approximately 15 seconds. Severe armature current overloads, are protected against by an instantaneous over-current trip.

The controllers may also be used in a linear motor torque mode by using an adjustable setpoint. In this mode of operation over-speed limiting is a standard feature.

Product Range

Product	Rating	Adjustment Standard	Switched
506	3A DC Full Load Current	0.5 to 3A	0.25 to 1.5A
507	6A DC Full Load Current	1 to 6A	0.5 to 3A
508	12A DC Full Load Current	2 to 12A	1 to 6A

