Press Information

smdx66, smdx98

for 2- and 3-Phase Stepping Motors

up to 130V, 8A, 10000 Micro Steps

The smdx98 and smdx66 are a series of entirely new power drives for 2 phase and 3 phase stepping motors. The high power/volume factor was significantly increased by using state-of-the-art electronic components. A smaller design foot print was possible as a result of the reduced heat dissipation. Heat sinks as shown in the picture are optional and usually not required. The operating range spans from 60V and 6A (smdx66) up to 130V and 8A (smdx98). This nearly covers the entire NEMA23 ("size60") and NEMA34 ("size90") stepping motor market. With a high 10000 micro-step/rev resolution it is possible to reach up to a 1 micro meter resolution with commonly used ball screws. New control methods were applied by using DSPs (digital signal processors) and fully digital motor current control algorithms. A strict design goal was the compliancy with drive performance such as low resonance run, high step angle accuracy and high micro step resolution with high step to step constant torque. All this was made possible by a very precise and fully digital phase current controller with direct current measurement in the motor windings.

A special feature of the new power drive series is the fully automatic drive tuning to adjust the drive to the connected motor. A newly developed measurement process requires only a couple of milliseconds at power up to fully analyze the motor type and to set the phase current controller for optimal performance. This means that always the best possible performance such as high drive dynamic and smooth run etc. is achieved. Manual parameter setting or even worse drive variants belong to the past.

The identical hard ware platform is able to operate 2 phase as well as 3 phase stepping motors. The power drives were designed with reserve in mind for rough industrial application environments. All signal interfaces are noise protected and electrically isolated with optical isolators. The internal power supply is robust and can handle power surges as well as short supply power brown outs. All electrical connections are realized with removable screw terminals.

For an even higher cost efficiency the drive series is optionally available as a plain PCB (e.g. implementation into a OEM application) or as an open frame version with mounting bracket for already existing housings (e.g. control cabinets). Mounting is preferably directly to the control cabinet back panel. For simple snap-on-mounting a DIN rail mounting clip is available.

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