MC4U

Linear Drives - LDM3U

- **Optimal solution for demanding position jitter, high accuracy, smooth velocity and low noise**
- **Up to 55V, 25A peak**
- **Digital control for easy setup and diagnostics**
- **Space Vector technology for higher motor voltage**
- **Built in dynamic brake relays**
- **Applications: Semiconductor inspection positioning stages, noise sensitive systems, low inductance motors**

The MC4U line of digitally controlled universal linear drives is specifically designed for applications with demanding needs for position jitter, velocity smoothness and low electrical noise.

The LDMs (Linear Drive Module) fit into MC4U mount, up to 4 drives in 19" rack and 5 drives in 22" rack.

The line covers a wide range of power with 28V to 55V and 8A to 25A peak current.

The linear drive is ideal for noise - sensitive environments where PWM switching cannot be tolerated and EMI has to be completely eliminated.

The S version uses Space Vector technology (SVT) providing additional 15% output voltage when compared to the D version (ocuppies 2 axes).

The drive can be programmed to control any type of single or three phase motor. With full digital control, no need for potentiometers adjustment or capacitors.

In-Position Technologies
www.iptech1.com

CE

Drive Characteristics

Part Number	LDM3U-28V-8A-D	LDM3U-28V-16A-D	LDM3U-55V-8A-D	LDM3U-55V-16A-D	LDM3U-55V-16A-S	LDM3U-55V-25A-S
Control & Logic supply (Vl) [Vdc]	Received from motor supply					
Motor supply* (Vm) min. / max. [Vdc]	24-32	24-32	45-60	45-55	45-55	45-55
Motor phase current cont./peak sine amplitude [A]	4 / 8	4 / 16	4 / 8	4 / 16	4 / 16	6.25 / 25
Phase current cont./peak RMS [A]	2.83 / 5.66	2.83 / 11.31	2.83 / 5.66	2.83 / 11.31	2.83 / 11.31	4.42 / 17.68
Peak current time [sec]	2	1.5	2	1.5	1.5	1
Max. drive output voltage [Vpeak]	22	22	43	43	49	49
Input power @ max. Vm & cont. / peak current [W]	136 / 272	136 / 543	257 / 513	233 / 933	233 / 933	365 / 1458
Max. output power at maximum Vm & cont. / peak current [W]	81 / 162	81 / 324	166 / 333	150 / 600	173 / 693	271 / 1083
Min. load Inductance [mH]	0	0	0	0	0	0
Min. load resistance per phase [Ω]	0	0.075	0.45	0.73	0.73	0.78
Max. heat dissipation, cont / peak [W]	130 / 248	130 / 447	238 / 442	212 / 588	212 / 588	312 / 615
Dimensions: Height, Width, Length [mm]	128 X 46 X 246					
Weight [gr.]	830					

* Motor supply is provided in the MC4U enclosure by PSM3U drive supply module

Common Characteristics

Digital current control
Current loop sampling rate: 20 kHz
Programmable Current Loop bandwidth: Adjustable up to 5 kHz
Sinusoidal commutation: Initialization with and without Hall sensors.
Space Vector technology for additional 15% output voltage (S type only)
Dynamic brake information
Mating motherboard (when used standalone)

Motor Types

Single phase motors: DC Brush, Voice coil
3 phase AC synchronous motor (AC Servo, DC Brushless)
Upon request: 2 phase motors and steppers (S models only)

Drive Protection

- Over voltage
- Supply missing
- Phase-to-phase short circuit
- Short to ground
- Over current
- Over temperature

Drive faults reported

- Power supply too high
- Power supply missing
- Short circuit
- Over current
- Over temperature

Standards

CE (EMC, Safety) certified
RoHS compliant

Environment Specification

Operating range: 0 to + 40°C
Storage and transportation range: -25 to +60°C
Humidity (operating range): 5% to 90% non-condensing

Ordering Options

Ordering options	Field	Example	Values
Bus Voltage [Vdc]	1	55V	[28V] - 28Vdc, [55V] - 55Vdc
Peak current: [A]	2	8A	[8A] - 8 Amps, [16A] – 16 Amps, [25A] - 25 Amps
Current loop control	3	D	[D] - Digital current loop, [S]- Space Vectoer technology

Example: LDM3U-55V-8A-D

Field		1	2	3
PN	LDM3U	55V	8A	D

ACS MOTION CONTROL