

LAM DS10 series

Microstepping stepper motor drives

18V=(16V~)...240V=(120V~), 0,3A_{RMS}...10A_{RMS} (14,1A_{peak})



The drive setting and diagnostics is very easy with the free UDP Commander Windows software. The connection to the programming DUP port of the drive is obtained through the UDP30 interface (see below), which is connected to the PC by the SB port. The interface ensures also the electrical insulation between the PC and the drive.



High reliability and performance, compact size and low cost have been the guidelines followed to develop the drives of DS10 series suitable for DIN rail mounting.

Using the last electronic components generation and the SMT technology it has been possible to produce an high power drive in a compact and smart case easy and quick to install.

The connection to the motor, with the logical signals and to the power supply is through three different colored terminal blocks, each one of them is removable, numbered and suitable for 2.5mm² wire size.

The many setting options available allow to use the drives with any kind of motor and application. The phase motor current can be tuned fine in a wide range of value as the step resolution, the current reduction, etc.

Each logic signal can be set independently from the other to PNP or NPN logic, each input can also be driven using line-driver technology.

The drive is fully protected to preserve its integrity from the most common problems.

The diagnostics is complete and univocally signals whenever one or more protections occur. Furthermore a break motor phase diagnostics is also available, very useful to determine wiring problems or motor failures.

The drive has also a built-in oscillator that can be used for simple start/stop operations. The gate functionality allows to connect many drives to a single STEP pulse generator.

Features:

- Compact size
- Easy DIN rail installation
- AC power supply models available
- Built-in oscillator for start/stop mode
- Gate function
- Decimal and binary microstep resolution up to 25,600 step/rev
- STEP frequency over 300KHz
- Resonance damping
- Automatic current reduction
- Accurate current control with chopper frequency over 20KHz
- High efficiency power mosfet stage
- AC power supply models available
- Optocoupled and differential I/O, independently NPN or PNP usable
- Inputs from 3Vdc up to 28Vdc, PLC compatible
- Line driving supported
- Digital signal conditioning for each I/O
- Complete diagnostics with univocal indication for each anomaly
- Over/under voltage protection, short circuit protection (cross phase, ground and positive supply)
- Overheating protection
- Break motor phase diagnostics
- Connections on removable terminablock
- IP20-compliant construction
- Cost-effective

Symbol	Description	Model	Value			Unit
			Min.	Typ.	Max.	
Vp	Power supply voltage (for DC models)	DS1041	18		50	Vdc
Vac	Power supply voltage (for AC models)	DS1041A	16		36	Vac
If	Motor phase current (rms)		0,3		1,4	Arms
Vp	Power supply voltage (for DC models)	DS1044	20		50	Vdc
Vac	Power supply voltage (for AC models)	DS1044A	18		36	Vac
If	Motor phase current (rms)		1		4	Arms
Vp	Power supply voltage (for DC models)	DS1048	20		50	Vdc
Vac	Power supply voltage (for AC models)	DS1048A	18		36	Vac
If	Motor phase current (rms)		3		8	Arms
Vp	Power supply voltage (for DC models)	DS1073	24		90	Vdc
Vac	Power supply voltage (for AC models)	DS1073A	20		65	Vac
If	Motor phase current (rms)		0,8		3	Arms
Vp	Power supply voltage (for DC models)	DS1076	24		90	Vdc
Vac	Power supply voltage (for AC models)	DS1076A	20		65	Vac
If	Motor phase current (rms)		2		6	Arms
Vp	Power supply voltage (for DC models)	DS1078	24		90	Vdc
Vac	Power supply voltage (for AC models)	DS1078A	20		65	Vac
If	Motor phase current (rms)		4		10	Arms
Vp	Power supply voltage (for DC models)	DS1084	45		160	Vdc
Vac	Power supply voltage (for AC models)	DS1084A	35		115	Vac
If	Motor phase current (rms)		2		4	Arms
Vp	Power supply voltage (for DC models)	DS1087	45		160	Vdc
Vac	Power supply voltage (for AC models)	DS1087A	35		115	Vac
If	Motor phase current (rms)		4		8,5	Arms
Vp	Power supply voltage (for DC models)	DS1098	45		240	Vdc
If	Motor phase current (rms)		4		10	Arms
Res	Step resolution available		200, 400, 800, 1000, 1600, 2000, 3200, 4000, 5000, 6400, 10.000, 12.800, 25.000, 25.600			Steps/Rev.
Vdi	Digital input voltage range		3		28	Vdc
Idi	Digital input supply current		4	6	8	mA
Vdo	Digital output voltage range		1		30	Vdc
Ido	Digital output current range				50	mA
Prt	Protections/Diagnostics/Alarms		Over/Under voltage, Short circuit, Overheating, Break phase			
Fch	Chopper frequency			20		kHz
Mechanical Specifications						
FDh	Height		100,4			mm
Fdl	Depth		119			mm
FDw	Width	DS1041(A), DS1044, DS1073	17,5 (22,7)			mm
		DS1044A, DS1073A, DS1048(A), DS1076(A), DS1078(A), DS1084(A), DS1087(A), DS1098	35			
FDnw	Weight	DS1041(A), DS1044(A), DS1073(A)	160 (190)			g
		DS1048(A), DS1076(A), DS1078(A), DS1084(A), DS1087(A), DS1098	270 (330)			

Notes:

The A suffix (e.g. DS1076A) identifies the AC power supply versions

Stock types are highlighted in bold letters.

