LAM Technologies
electronic equipment

DS10 series

Microstepping drives 18Vdc(16Vac)…240Vdc(120Vac) 0.3Arms…10Arms (14.1Apk)

- ✓ Compact size
- ✓ Easy DIN rail installation
- ✓ AC power supply models available
- ✓ Built-in oscillator for start/stop mode
- ✓ Gate function
- ✓ Decimal and binary 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
- ✓ 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 terminal block
- ✓ IP20-compliant construction
- ✓ Cost-effective

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 2.5mm^2 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.
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 USB port. The interface ensures also the electrical insulation between the PC and the drive.

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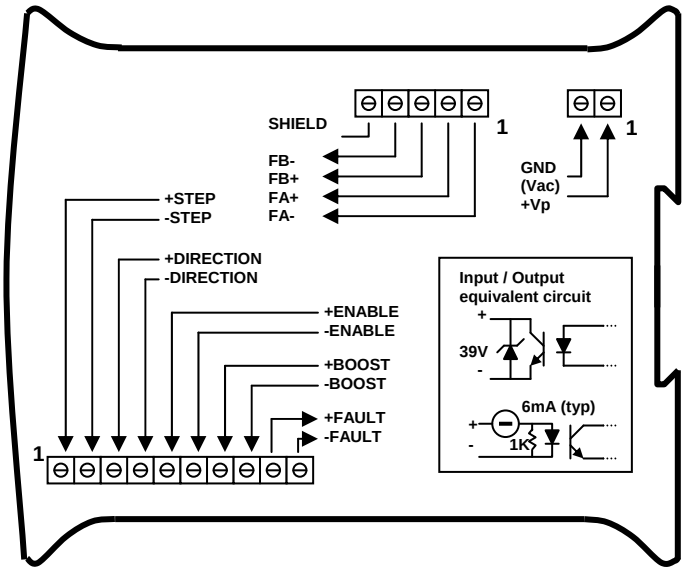
Symbol	Description		Value Min	Value Typ	Value Max	Unit
Vp	Power supply voltage (for DC models)	**DS1041(A)**	18		50	**Vdc**
Vac	Power supply voltage (for AC models)		16		36	**Vac**
If	Motor phase current (**rms**)		0.3		1.4	**Arms**
Vp	Power supply voltage (for DC models)	**DS1044(A)**	20		50	**Vdc**
Vac	Power supply voltage (for AC models)		18		36	**Vac**
If	Motor phase current (**rms**)		1		4	**Arms**
Vp	Power supply voltage (for DC models)	**DS1048(A)**	20		50	**Vdc**
Vac	Power supply voltage (for AC models)		18		36	**Vac**
If	Motor phase current (**rms**)		3		8	**Arms**
Vp	Power supply voltage (for DC models)	**DS1073(A)**	24		90	**Vdc**
Vac	Power supply voltage (for AC models)		20		65	**Vac**
If	Motor phase current (**rms**)		0.8		3	**Arms**
Vp	Power supply voltage (for DC models)	**DS1076(A)**	24		90	**Vdc**
Vac	Power supply voltage (for AC models)		20		65	**Vac**
If	Motor phase current (**rms**)		2		6	**Arms**
Vp	Power supply voltage (for DC models)	**DS1078(A)**	24		90	**Vdc**
Vac	Power supply voltage (for AC models)		20		65	**Vac**
If	Motor phase current (**rms**)		4		10	**Arms**
Vp	Power supply voltage (for DC models)	**DS1084(A)**	45		160	**Vdc**
Vac	Power supply voltage (for AC models)		35		115	**Vac**
If	Motor phase current (**rms**)		2		4	**Arms**
Vp	Power supply voltage (for DC models)	**DS1087(A)**	45		160	**Vdc**
Vac	Power supply voltage (for AC models)		35		115	**Vac**
If	Motor phase current (**rms**)		4		8.5	**Arms**
Vp	Power supply voltage	**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, 10000, 12800, 25000, 25600			**Step / 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		119.0			**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	35.0			
FDnw	Weight	**DS1041(A), DS1044(A), DS1073(A)**	160 (190)			**g**
		DS1048(A), DS1076(A), DS1078(A), DS1084(A), DS1087(A), DS1098	270 (330)			

*Note: The A suffix (ex. DS1076**A**) identifies the AC power supply versions*



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