

## Microstepping drivers 20V...240V 0.8Arms...10Arms for two phase stepper motors



High reliability and performance, compact size and low cost have been the guidelines followed to develop the drivers of DS10xx 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 driver 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<sup>2</sup> wire size.

The many setting options available allow to use the drivers 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 driver 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 complete setting of the driver is immediate and simple thanks to the graphic software designed for Windows platform.

- ✓ Resolution up to 25.600 step/rev
- ✓ Decimal and binary resolution
- ✓ STEP frequency over 300KHz
- ✓ Wide range of power supply
- ✓ High current density
- ✓ Resonance damping
- ✓ Automatic current reduction
- ✓ Accurate current control
- ✓ Chopper frequency over 20KHz
- ✓ High efficiency power mosfet stage
- ✓ Optocoupled and differential I/O, independently NPN or PNP usable
- ✓ Inputs working from 3Vdc up to 30Vdc with constant current
- ✓ Line driving supported
- ✓ Digital signal conditioning for each I/O
- ✓ Complete diagnostics with univocal indication for each anomaly
- ✓ Over/under voltage protection
- ✓ Cross phase short circuit protection
- ✓ Ground short circuit protection
- ✓ Positive supply short circuit protection
- ✓ Overheating protection
- ✓ Break motor phase diagnostics
- ✓ Compact size
- ✓ Easy DIN rail installation
- ✓ Connections on removable terminal block
- ✓ IP20-compliant construction
- ✓ Low cost

The connection to the programming DUP port of the driver is possible through the UDP30 interface (see photo), which is connected to the PC by the USB port.



Symbol	Description		Value			Unit
			Min	Typical	Max	
Vp	Power supply voltage	DS1044	20		50	Vdc
If	Phase current (RMS)		1		4	Arms
Vp	Power supply voltage	DS1048	20		50	Vdc
If	Phase current (RMS)		3		8	Arms
Vp	Power supply voltage	DS1073	24		90	Vdc
If	Phase current (RMS)		0.8		3	Arms
Vp	Power supply voltage	DS1076	24		90	Vdc
If	Phase current (RMS)		2		6	Arms
Vp	Power supply voltage	DS1078	24		90	Vdc
If	Phase current (RMS)		4		10	Arms
Vp	Power supply voltage	DS1084	45		160	Vdc
If	Phase current (RMS)		2		4	Arms
Vp	Power supply voltage	DS1087	45		160	Vdc
If	Phase current (RMS)		4		8.5	Arms
Vp	Power supply voltage	DS1098	45		240	Vdc
If	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		30	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		Over/Under voltage, Short circuit, Overheating, Break phase			
Fch	Chopper frequency			20		KHz
<b>Mechanical Specifications</b>						
FDh	Height			100.4		mm
FDI	Depth			119.0		mm
FDw	Width	DS1044, DS1073		17.5		mm
		DS1048, DS1076, DS1078, DS1084, DS1087, DS1098		35.0		
FDnw	Weight	DS1044, DS1073		160		g
		DS1048, DS1076, DS1078, DS1084, DS1087, DS1098		270		

