

# DS10 series

## 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 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 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.



# DS10 series

Symbol	Description	Value			Unit		
		Min	Typical	Max			
Vp	Power supply voltage	DS1044		20	50	Vdc	
If	Phase current (RMS)	DS1044		1	4	Arms	
Vp	Power supply voltage	DS1048		20	50	Vdc	
If	Phase current (RMS)	DS1048		3	8	Arms	
Vp	Power supply voltage	DS1073		24	90	Vdc	
If	Phase current (RMS)	DS1073		0.8	3	Arms	
Vp	Power supply voltage	DS1076		24	90	Vdc	
If	Phase current (RMS)	DS1076		2	6	Arms	
Vp	Power supply voltage	DS1078		24	90	Vdc	
If	Phase current (RMS)	DS1078		4	10	Arms	
Vp	Power supply voltage	DS1084		45	160	Vdc	
If	Phase current (RMS)	DS1084		2	4	Arms	
Vp	Power supply voltage	DS1087		45	160	Vdc	
If	Phase current (RMS)	DS1087		4	8.5	Arms	
Vp	Power supply voltage	DS1098		45	240	Vdc	
If	Phase current (RMS)	DS1098		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			

