

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



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<sup>2</sup> 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.

- ✓ 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

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.



Symbol	Description	Value			Unit
		Min	Typ	Max	
Vp	Power supply voltage (for DC models)	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)	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)	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)	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)	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)	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)	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)	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	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
<b>Mechanical Specifications</b>					
FDh	Height		100.4		mm
FDI	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)		

