

Programmable Drives

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



The DS30 series drives have a built-in flexible motion controller able to perform accurate motor control in speed and position.

The programming is quick and simple through the development software tool. The program is built using functional blocks as variable assignment blocks, timing block, conditional jump blocks, etc. Particularly powerful is the mathematical block able to execute additions, subtractions, multiplications and divisions and which allows to realize even complex applications.

The connection with the external devices is through 4 inputs and 2 digital outputs each one optocoupled, independently PNP or NPN or line driver usable. Two +/-10V analog inputs and one 0-10Vdc analog output complete the available interface signals.

To assure the maximum flexibility, the I/O are not specialized and through the programming it is possible to use them as per application requirements. For example, it is possible to use the digital inputs to command the start and the stop of a cycle, the execution of the homing procedure, the selection of the target position, of the speed, etc. The digital outputs can be used to indicate the reaching of a position, the intervention of a protection, etc. The analog inputs, for example, can be used to change dynamically the speed, to execute a position adjustment, to change the timing, etc. The analog output can be used instead to command proportional actuators, to supply a speed reference to an inverter, to command an analog instrument, proportional valve, etc.

- ✓ Up to 3000rpm at 1/128 step/rev
- ✓ Mathematical functions at 32bit
- ✓ Speed or position control
- ✓ Independent acceleration and deceleration ramps
- ✓ Absolute and relative positioning
- ✓ 4 digital and two +/-10V analog inputs
- ✓ 2 digital and one 0-10V analog outputs
- ✓ 100KHz high speed counter
- ✓ AC power supply models available
- ✓ Optocoupled and differential I/O, independently NPN or PNP usable
- ✓ Inputs from 3Vdc up to 28Vdc
- ✓ Line driving supported
- ✓ 11 bit analog inputs resolution
- ✓ 32bit quote registers from -2,147,483,638 to +2,147,483,647
- ✓ Resonance damping
- ✓ Automatic current reduction
- ✓ High efficiency power mosfet stage
- ✓ 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
- ✓ Compact size
- ✓ Easy DIN rail installation
- ✓ Removable terminal block connector
- ✓ IP20-compliant construction
- ✓ Cost-effective

The drive is designed to be quickly and easily installed on DIN rail. The connection to the motor, with the control signal and the power supply is through colored and removable terminal blocks.

The connection to the programming and diagnostic port of the drive is 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
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
Vai	Analog input voltage range	-10		10	Vdc
Rai	Analog input impedance		47		KΩ
Vao	Analog output voltage range	0		10	Vdc
Iao	Analog output current range			10	mA
Prt	Protections / Diagnostics / alarms	Over/Under voltage, Short circuit, Overheating, Break phase			
Mpr	Quote range (1/128 step)	-2,147,483,638 / +2,147,483,647			1/128s
Psp	User program memory (functional blocks)	250			
Cip	Mathematical calculation resolution	32			bit
Mechanical Specifications					
FDh	Height	100.4			mm
FDI	Depth	119.0			mm
FDw	Width	DS3041(A), DS3044, DS3073	17.5 (22.7)		mm
		DS3044A, DS3073A, DS3048(A), DS3076(A), DS3078(A), DS3084(A), DS3087(A), DS3098	35.0		
FDnw	Weight	DS3041(A), DS3044(A), DS3073(A)	185 (220)		g
		DS3048(A), DS3076(A), DS3078(A), DS3084(A), DS3087(A), DS3098	295 (350)		

Note: The A suffix (ex. DS3076A) identifies the AC power supply versions



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