

xS microstepping drives series range

Series	18-60Vdc 0.3-1.4Arms	20-60Vdc 1-4Arms	20-60Vdc 3-8Arms	24-90Vdc 0.8-3Arms	24-90Vdc 2-6Arms	24-90Vdc 4-10Arms	45-160Vdc 2-4Arms	46-160Vdc 4-8.5Arms	46-240Vdc 4-10Arms	
xS0	DIN rail	DS1041*	DS1044*	DS1048*	DS1073*	DS1076*	DS1078*	DS1084	DS1087	DS1098
	open	OS1041*	OS1044*	OS1048	OS1073	OS1076	OS1078	OS1084	OS1087	OS1098
	"L" stirrup	LS1041*	LS1044*	LS1048	LS1073	LS1076	LS1078	LS1084		
DS30	DIN rail	DS3041*	DS3044*	DS3048*	DS3073*	DS3076*	DS3078*	DS3084	DS3087	DS3098
DS5x	RS485	DS5041*	DS5044*	DS5048	DS5073	DS5076	DS5078	DS5084	DS5087	DS5098
	RS232	DS5241*	DS5244*	DS5248	DS5273	DS5276	DS5278	DS5284	DS5287	DS5298
	USB	DS5441*	DS5444*	DS5448	DS5473	DS5476	DS5478	DS5484	DS5487	DS5498

* - Available version with integrated power supply and AC input (identified by the suffix A, for ex. DS1076A)

High torque stepper motors

NEMA frame	code Nm Arms								
17	M1173021 0,28 1,3	M1173031 0,40 1,7	M1173041 0,50 1,7						
23	M1233012 0,55 2,0	M1233022 0,80 2,5	M1233032 1,1 2,5	M1233041 1,1 4,2	M1233062 1,8 4,2	M1233064 1,8 6,0	M1233070 3,0 4,2	M1233071 3,0 6,0	
34	M1343011 3,1 5,6	M1343020 4,4 5,6	M1343021 4,4 7,1	M1343031 6,8 7,1	M1343041 8,1 7,1	M1343050 9,2 7,1	M1343051 9,2 10	M1343060 12,1 10	
42	M1433010 14,4 10	M1433020 21 10							

- The current is expressed in Arms and calculated on the parallel bipolar connection where applicable. The NEMA34 and NEMA43 motors also allow the bipolar serie connection with consequent half phase current (the static torque remains unchanged).
- The table resumes the most handled codes, the series includes many other standard products, for volumes the motors can be both electrically and mechanically customized.

LAM Technologies is an Italian manufacturer of industrial automation components who has developed its own products thanks to the experience achieved in more than 15 years of activity and to the constant attention to the customer's needs.

Mainly oriented towards the industrial automation, today are available drives for electric motors, signal conditioner modules, power supplies, data acquisition modules, stepper motors, etc.

Our products are used in a wide variety of industrial applications such as packaging, paper and wood machines, CNC machines (as engraving and cutting), scientific applications, labeling, dispensing and many other types of automatic machines.

The most important national and international manufacturers chose LAM Technologies products not only for their reliability and innovative technical characteristics, but also for the support, the stock availability and their particularly competitive price.



Since 1991 components and solutions for industrial automation



Microstepping Drives and Motors



AC or DC power input

Exceptionally wide supply range from 18Vdc to 240Vdc and from 16Vac to 120Vac (for the AC power input models)

Wide current range

All the drives are characterized in effective current (Arms). The range covers values between 0.3Arms and 10Arms equivalent to 0.42Apk and 14.1Apk

Wide torque range

The high torque square stator motors are available with torque from 0.28Nm up to 21Nm

Standard NEMA frame

The motors are produced following the standard NEMA in the size NEMA 17, 23, 34 and 42

Step & Direction drives series

DS10



High reliability and performance, compact size and low cost are the guide lines followed to develop the drives of xS series suitable for DIN rail mounting.

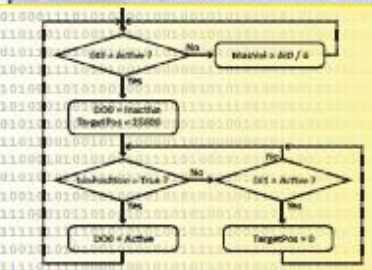
Using the last electronic components generation and extensive SMT technology it has been possible to realize an high power compact driver, easy and quick to install on DIN rail mounting (DS series) or on panel (OS and LS series).

All the models are able to drive the motor in microstepping mode with a decimal or binary resolution up to 1/128 step/rev. The incredible availability of models ready from stock includes drives with phase current from 0.3Arms to 10Arms (14.1Apk) and supply voltage from 18Vdc to 240Vdc. Many models are also available with AC power supply input.

The xS10 drives are controllable by the standard STEP and DIRECTION signals or by the internal oscillator which allows to control the motor rotation through a start/stop input. The exclusive gate function allows also to connect multiple drives to one only STEP pulses generator. The ENABLE and BOOST inputs and the FAULT outputs complete the I/O set. Each I/O is optoisolated, independently PNP or NPN and line driver usable. The inputs working voltage is exceptionally wide (from 3 to 30Vdc) making possible the connection with any control without the need of external adapter. The driver is fully protected to preserve its integrity from the most common problems (short circuit, over temperature, etc). Particularly appreciated is the exclusive break motor phase diagnostics, able to prevent positioning errors by signaling wiring problems or motor anomalies. The firmware of the product can be also upgraded, with the last available functionalities, directly in the field.



OS series



User programmable drives

DS30

The DS30 stepper motor drives have a built-in powerful indexer able to perform accurate motor control both in speed and position. The quick and simple programming is made putting in sequence the various instruction blocks, through the development software tool *UDP Commander* which can be freely downloaded from the www.lamtechnologies.com website.

In addition to the typical functions of assignment and conditional jump, there are also mathematical blocks able to execute additions, subtractions, multiplications and even divisions with 32 bits of resolution. It is also possible to declare variables of dimensions between 8 and 32 bits. The variables, the motion control registers and the registers associated to the I/O can be freely used both as source and as destination of an operation, giving to the product an exceptional flexibility. The connection with the external devices is through 4 inputs and 2 digital outputs, each one optocoupled and with working voltage from 3Vdc up to 30Vdc (independently PNP or NPN usable), through two +/-10V analog inputs and one 0-10Vdc analog output. In the driver there is also a 1ms resolution timer, a fast counter with 100KHz input bandwidth which can, if necessary, be connected to an encoder or to a phonic wheel to build a closed loop system, or an electric axis or again a motor ramp positioning starting from a fixed frequency impulse train.

The complete set of I/O and the extraordinary programming capability allow to place the DS30 drives in any application making superfluous, in many cases, the presence of an external PLC.



DS5x

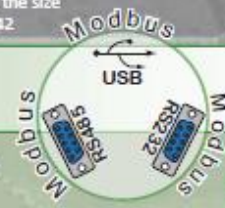
Modbus field bus drives



The DS5x drives have the same wide set of I/O and the same extraordinary programming capability as the DS30 series, but they integrate the connectivity to the fieldbus in standard Modbus.

Through the bus it is possible to read and to modify any register or user variable and this allows to the master (PC or PLC) to have both the direct control of the motor movement and I/O and the interaction with the application program running inside the driver. In this way it is possible, for example, to optimize the application using the internal programming for strict real time tasks and the field bus for the supervision and parametrization of the system.

The connection to the bus is optocoupled and it is available in standard RS485, RS232 or USB. The USB interface is particularly suitable for all the PC based applications, as it allows a direct connection of the driver to the PC without the use of external interfaces. When the USB is used, the driver supplied with (available both for Windows and for Linux) creates in the operating system a virtual serial port which can be handled by the most common programming languages (Visual C, Visual Basic, LabView, etc.).



High torque stepper motors M1



The M1 stepper motor series, with torques between 0.28Nm and 21Nm and flanges in standard NEMA 17, 23, 34 and 43, is a good choice for many motion requirements.

The constructive care and the materials quality have allowed to appreciably increase the torque maintaining a compact size. The M1233070 code, for example, is able to supply 3Nm maintaining a standard NEMA23 flange (just 56x56mm).

For volumes the motors can be both electrically and mechanically customized.

UDP30 Interface



Setting and diagnostic interface for the whole xS products family range. It is connected on one side to the USB port of the PC, from which it also gets the power supply, and on the other one to the DUP port of the driver.

UDP30 interface allows not only the setting of the driver but also the reading in real time of the status of the motor, of the I/O, of the registers and also of the user program variables.

DP1 Power supply



The DP1 unregulated power supplies series has been designed as natural complement to the DS drives in multi-axis applications.

The DP1 power supplies are usually placed between the main transformer (which can be mono-phase and three-phase type) and the drives.

For each of the 4 different voltage/current sizes, it is also available a version with a built-in electronic braking resistor control.

1991 **Reliable**
Severe automated test procedures and more than 15 years of experience in the production of motor drives assure quality and reliability

FLEXIBLE
The many available functions and the extraordinary setting flexibility allow the optimal use of the product in any application

Upgradable
The firmware is upgradable directly by the user, also on the already installed products, which thus evolve their functionalities

Cost effective
The best use of the most modern production technologies let us offer high performing and cost-effective solution