

OBJECTIVE

The multi-channel Linear Amplifier LA24 is designed as a low noise, high bandwidth linear amplifier for finely driving magnetic actuators, such as Voice Coil, Moving Iron Controllable Actuators or Limited Angle Torque Actuators from CEDRAT TECHNOLOGIES.

DESCRIPTION

The Linear Amplifier LA24 is designed as a low noise linear amplifier which displays a signal to noise ratio of 90 dB and requires a standard bipolar stabilized DC source (+/- 48V). The Switching Converter SC24 provides the stabilized bipolar DC source from the main and is inserted in the rack.

Both boards are implemented on a printed circuit board compatible with the standard CEDRAT TECHNOLOGIES rack system. Therefore, the standard configuration is a RK42F+SC24+LA24-1. The multichannel Linear Amplifier LA24 is compatible with controllers from CEDRAT TECHNOLOGIES:

- The UC45 real time controller, as a mezzanine board into the LA24 board
- The UC75 real time controller, as an additional board in the rack, with extended functions.

Several mechatronics functions can be built, ranging from positioning, scanning, stabilization applications.

PERFORMANCES OF THE LA24 AMPLIFIER

PROPERTIES OF SC24	UNIT	NOMINAL VALUES
> Notes		
Function	Bipolar AC/DC switching converter	
Cooling	Forced air	
Protection	Thermal / Overcurrent	
Main voltage	230/115 auto adaptative	
Main frequency	VAC	50/60
Negative output voltage	HzVDC	-48
Positive output voltage	VDC	48
Current limitation	A	5
Mass	g	1180
Dimensions	mm	12F wide, 3H high

Table 2: properties of SC24



Fig. 1: View of rack including a Switching converter SC24, a Linear Amplifier LA24-2, a UC75 real time controller and a Eddy Current Sensor ECS75-2

PROPERTIES OF SC24	UNIT	NOMINAL VALUES
> Notes		
x: number of channels		
Function	Linear current amplifier	
Max. number of channels	3	
Cooling	Forced air	
Protection	Thermal / Overcurrent	
Negative supply voltage	V	-48
Positive supply voltage	V	48
Min. input voltage	V	-10
Max. input voltage	V	10
Min. output current	A	-1.5
Max. output current	A	1.5
Gain	A/V	0.15
Min. output voltage	V	-36
Max. output voltage	V	36
Min. output inductance	µV	600
Max. output inductance	H	0.8
Signal to noise ratio	dB	90
Loaded output bandwidth (Load of 4mH and 660ohms)	KHz	35
Input impedance	KOhms	10
Mass	g	720
Dimensions	mm	12F wide, 3H high

Table 1: Properties of LA24x