

# LSC 4-Q-DC Servoamplifier



The LSC 30/2 (Linear Servo Controller) is a linear 4-quadrant Servo-amplifier used to control permanent magnet activated DC motors up to approx. 50 watts.

### 4-Q operation

Controlled operation for acceleration and braking in both directions.

### Linear power stage

Ideally suited for small outputs power, low electromagnetic emission, no motor choke required.

### Operating modes

IxR compensation, voltage control, encoder speed control, DC tacho speed control or current control selectable with a switch from outside.

### Design

Robust metal housing with variable installation options on assembly plate or 19" rack.

### Set value input

Via external potentiometer, external set value voltage or using internal potentiometer.

### Easy start-up procedure

Pluggable screw type terminal block, simple set-up with potentiometer, robust designed PI controller.

### Excellent price / performance ratio

Good value 4-Q-DC servoamplifier matched with small permanent magnet activated DC motors.

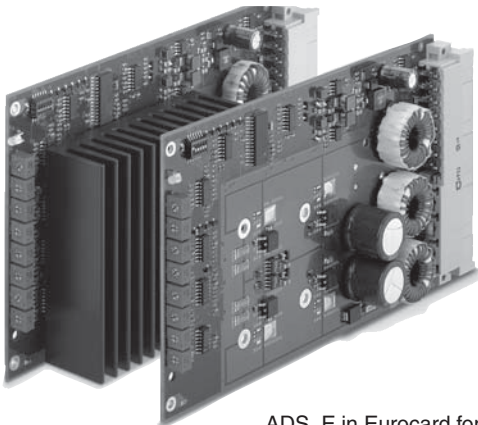
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# ADS 4-Q-DC Servoamplifier



ADS in module housing



ADS\_E in Eurocard format

The ADS (Analog DC Servoamplifier) is a powerful pulse-width modulated (PWM) servoamplifier for controlling permanent magnet activated DC motors. Standard Version from 10 - 250 watts and Power Version from 80 - 500 watts output power. Available in robust metallic housing and as Eurocard version for installation into a 19" rack.

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### Pulsed power stage

Suitable for controlling low and high output power. 95% efficiency thanks to state-of-the-art MOSFET technology.

### Operating modes

IxR compensation, encoder speed control, DC tacho speed control or current control selectable with a switch from outside.

### Design versions

Robust metal housing in module form offers several mounting options. Standardized Eurocard version (with accessories) for the installation in a 19"-Rack or in a plug-in card system.

### Excellent control characteristics

Stable speed behaviour when set value and disturbance variable change, fast current controller.

### Protection circuit

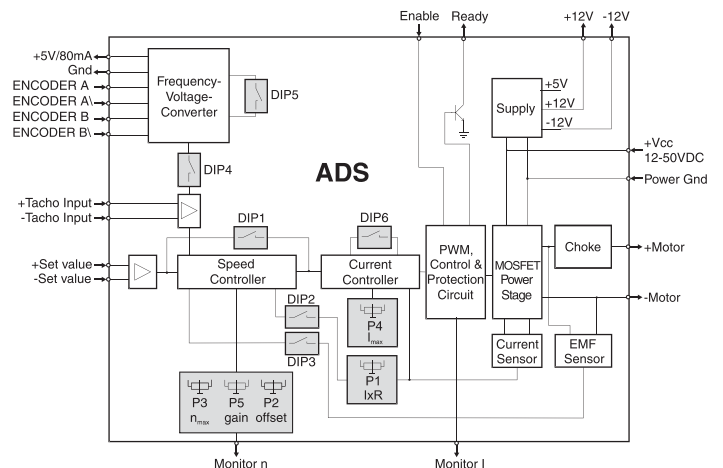
Protected against overcurrent, thermal overload and short-circuit of motor cable.

### Set value input

External potentiometer or external set value voltage.

### Excellent price / performance ratio

Modern servoamplifier with many technical features, suitable for permanent magnet activated DC motors up to 500 watts.



# 4-Q-DC Servoamplifier Data



**LSC 30/2** 4-Q-DC Servoamplifier  
Linear 4-quadrant servoamplifier for permanent magnet activated DC motors up to approx. 50 watts.



**ADS 50/5** 4-Q-DC Servoamplifier  
Powerful PWM servoamplifier for permanent magnet activated DC motors from 10 to approx. 250 watts output power. Available as Standard Version in module housing.

Operating modes	IxR compensation, voltage control, encoder speed control, DC tachometer speed control, current control	IxR compensation, encoder speed control, DC tachometer speed control, current control
<b>Electrical Data</b>		
Operating voltage $V_{CC}$	12 - 30 VDC	12 - 50 VDC
Max. output voltage	$V_{CC} - 5\text{ V}$	$0.9 \times V_{CC}$
Max. output current $I_{max}$	2 A	10 A
Continuous output current $I_{cont}$	2 A	5 A
Switching frequency of power stage		50 kHz
Max. efficiency		95 %
Built-in motor choke		150 $\mu\text{H}$ / 5 A
<b>Input</b>		
Set value	Configurable, -10 ... +10 V, -3.9 ... +3.9 V	-10 ... +10 V
Enable	«Disable» Disable min. $V_{CC} - 1\text{ V}$ , Enable max. GND + 1 V	«Enable» +4 ... 50 V
DC tachometer	min. 2 VDC, max. 50 VDC	min. 2 VDC, max. 50 VDC
Encoder signals	Channel A and channel B, max. 100 kHz, TTL	Channel A, A', B, B', max. 100 kHz, TTL
<b>Output</b>		
Status reading «Ready»	Open Collector, max. 30 VDC ( $I_L < 20\text{ mA}$ )	Open Collector max. 30 VDC ( $I_L < 20\text{ mA}$ )
Monitor current «Monitor I»		-10 ... +10 VDC (short circuit protected)
Monitor speed «Monitor n»		-10 ... +10 VDC (short circuit protected)
<b>Voltage outputs</b>		
Auxiliary voltages	+3.9 VDC, -3.9 VDC, max. 2 mA	+/-12 VDC, max. 12 mA (short circuit protected)
Encoder supply voltage	+5 VDC, max. 80 mA	+5 VDC, max. 80 mA
<b>Trim potentiometer</b>	IxR compensation, Offset, $n_{max}$ , $I_{max}$ , gain	IxR compensation, Offset, $n_{max}$ , $I_{max}$ , gain
<b>Protective functions</b>	Protected against thermal overload	Protected against thermal overload, overcurrent and short-circuit of motor cables
<b>Indicator</b>	Green LED = READY, red LED = ERROR	Bi-colour LED, green = READY, red = ERROR
<b>Ambient temperature and humidity range</b>		
Operation	0 ... +45°C	-10 ... +45°C
Storage	-40 ... +85°C	-40 ... +85°C
No condensation	20 ... 80 %	20 ... 80 %
<b>Mechanical Data</b>		
Weight	Approx. 330 g	Approx. 400 g
Dimensions (L x W x H)	103 x 100 x 34 mm (see page 284)	180 x 103 x 26 mm (see page 284)
Mounting threads	Flange for M4-screws	Flange for M4-screws
Connections	See page 284	See page 284
<b>Order Number</b>	<b>250521</b> LSC 30/2, 4-Q-DC Servoamplifier in module housing	<b>145391</b> ADS 50/5, 4-Q-DC Servoamplifier Standard Version in module housing
<b>Accessories</b>		<b>235811</b> DSR 70/30 Shunt regulator

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