DESCRIPTION

The XLV range of DC servo controllers are designed for use with permanent magnet brushed DC servo motors rated from 4 to 12 amps, offered in a compact easy to use din rail mounting package.

The controllers can be used in either current (torque) or speed control modes. For highly dynamic applications, a shaft-mounted DC tacho-generator is recommended for speed feedback but in less demanding applications, armature voltage feedback (Avf) can be used.

The reference signal for both current and speed control can be either bipolar (10V) or unipolar (0 – 10V). Motor speed can be controlled in both forward and reverse directions. An adjustable current limit and fast-acting current control loop protect the controller and motor from sustained overloads.

PRODUCT NAME

400XLV
800XLV
1200XLV

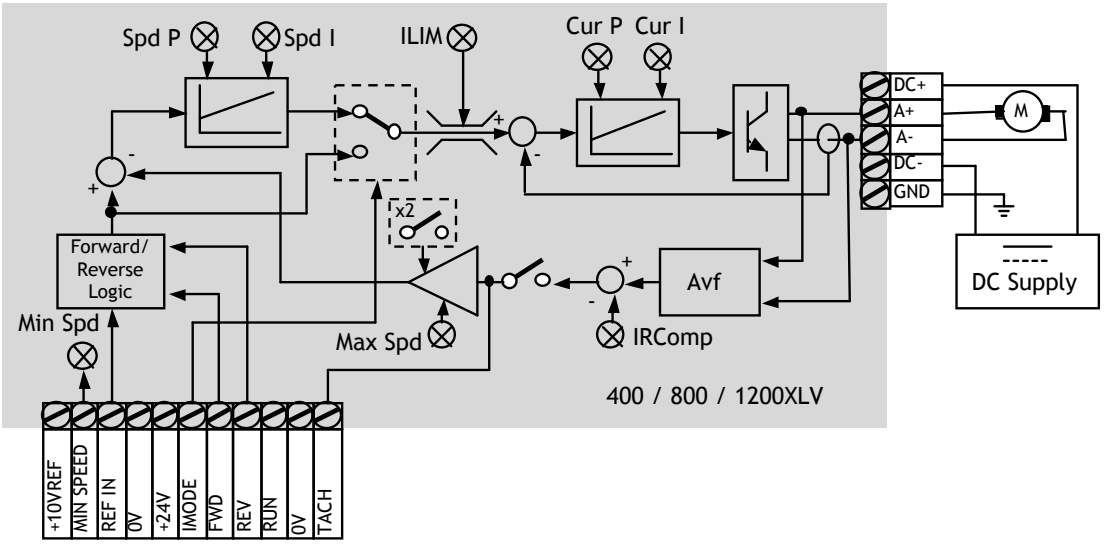
DC SERVO CONTROLLER



Ratings

Model:	Motor Current	Overload	Supply Voltage	Operating Temp	Dimensions W x H x D (mm)
400 XLV	4 amps	200% for one sec. (inverse time reduction to 100% in 30 seconds.)	24 - 48VDC (Tolerance = ± 10%)	0 to 40ºC	60 x 105 x 120
800 XLV	8 amps				
1200 XLV	12 amps				69 x 105 x 120

Block Diagram



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Terminal Descriptions

Power Terminals		
1	DC +	DC supply to controller
2	A +	Positive connection to motor armature
3	A -	Negative connection to motor armature
4	DC -	Common for DC supply to controller
5	GND	Earth

Control Terminals		
1	+10VREF	10V reference (±0.1%) for terminal 3 (10mA current limit)
2	MIN SPD	Connection for speed demand pot to set minimum speed (input impedance = 5k)
3	REF IN	Reference for speed/current (input impedance = 47k)
4	0V	Common for reference input
5	+24V	Output for driving digital inputs (50mA current limit)
6	IMODE	Select current (torque) mode – active high (input impedance = 110k)
7	FWD	Forward direction select for unipolar reference – active high (input impedance = 110k)
8	REV	Reverse direction select for unipolar reference – active high (input impedance = 110k)
9	RUN	Electronic enable for controller – active high (input impedance = 110k)
10	0V	Common for tacho
11	TACH	DC tachogenerator input (±60VDC max) (input impedance = 150k)

Presets and Diagnostics

Control Terminals	
Max Spd	Sets maximum motor speed (in conjunction with speed scaling selection switch)
Min Spd	Sets minimum motor speed (0 to 30% of Max Spd setting)
Spd P	Speed loop proportional gain
Spd I	Speed loop integral time constant
ILim	Current limit
Cur P	Current loop proportional gain
Cur I	Current loop integral time constant
IRcomp	Compensation for IR drop in motor when running with Avf (0 to 25% of max armature voltage)

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