

## ELECTROMEN - EM-239

Parallel drive for 2 x DC motors 12-24 V dc, 2x10A

### EM-239

Parallel drive for 2 x DC motors 12-24 V dc, 2x10A, pulse FB



- 12-24Vdc, 2x10A continuous, 2x20A 25% duty
- Synchronized parallel driving
- Operates with pulse feedback from motors
- Programmable with wide range of motor control functions
- \*\* New projects see EM-339-PLI \*\*

### PRODUCT DESCRIPTION

EM-239 is designed for driving two actuators in parallel. The drive is done as synchronized according actuators pulse feedback signal. The synchronization is achieved by adjusting actuator speed during drive. If the adjustment cannot compensate the unbalance between actuators, the motors will be stopped. This way the mechanical stress and breakage can be avoided. Additively the driver includes current limit and power stage temperature limit. Driver works with actuators that can offer pulse feedback signal. Pulses can be derived from Hall-sensors, reed or other kind of switches. Driver can be set to read negative or positive pulses and also there can be selected two or one pulse line/motor mode. Driver power stage operates with PWM (pulse width modulation), that enables the high efficiency and low losses

of power stage. The basic control is done with FORWARD-, BACKWARD- and STOP-commands. FORWARD and BACKWARD can be done in continuous or in impulse control mode. In continuous mode the drive is done as long the command is on. In impulse mode the command impulses start and stop the driving. For help in assembly and in other special situations, driver has TRIM-inputs for controlling both actuators individually. With these control inputs the user can override most of the limits of normal use and balance the actuators or restore the normal driving position after some unexpected occurrences like equipment failure or user in danger situation. HOME-command input is for driving the system in to its initial position. This driving is done with low speed and in to the end (in to the initial position). The counters are reset to zero. Wide range of parameters can be set to suit to different demands and different applications. In most cases the driver is ready to work with default parameters but some special features and behaviour can be accomplished with further parameter setting. One new feature is SAFETY REVERSE function, which automatically reversing when motors meet obstacle and will be overloaded. The parameters are set with a handy interface unit EM-236. There is also possibility to use EmenTool Lite PC-software with EM-268 and EmenTool App with smartphones for parameter setting.

### FEATURES ( program version 1.4 or later )

- synchronized parallel driving
- operates with pulse feedback
- input for negative or positive pulses
- current and temperature limit
- settable drive speed
- acceleration and deceleration ramps
- different control modes
- wide range of parameters
- easy setting with serial interface
- good repeatability of settings
- autobalance feature
- one or double pulse mode
- safety reverse function ( only prog. v2.4 )

## TECHNICAL DATA

2421_Peak current (A)	2 x 20A ( at 25% duty)
5646_Dimensions length x width x height (mm)	78x73x25mm
CanOpen	No

<b>Change direction of rotation (CW/CCW)</b>	Yes
<b>Control type</b>	Speed, Direction, Torque, Soft start / stop
<b>Current limit adjustable</b>	Yes
<b>Current setting range</b>	1-25 A
<b>Currenttrip autoreveice</b>	Yes
<b>Ethercat</b>	No
<b>Functions</b>	Currenttrip autoreversing, Speed settings, Impulse/continuous mode, Softstart/stop, Parallel driver two motors, Positioning, Speedregulator, Change direction of rotation (CW/CCW)
<b>Impulse/continuous mode</b>	Yes
<b>Joystick analog input</b>	No
<b>Logic input high</b>	>4V = ON
<b>Logic input low</b>	<1V = OFF
<b>Max continuous current</b>	2x10 A
<b>Mounting</b>	DIN rail
<b>Operating temperature</b>	-20°C...+60°C
<b>Parallel driver four motors</b>	No
<b>Parallel driver two motors</b>	Yes
<b>Position with potentiometer</b>	No
<b>Positioning</b>	Yes
<b>Potentiometer adjustable speed</b>	No
<b>PWM frequency</b>	2kHz
<b>RS232</b>	No
<b>RS485/Modbus</b>	No
<b>Softstart/stop</b>	Yes
<b>Speed settings</b>	Yes
<b>Speedregulator</b>	Yes
<b>Stop at limit position</b>	No
<b>Suitable engine</b>	DC
<b>Supplier</b>	Electromen
<b>Supply voltage</b>	12 V DC, 24 V DC
<b>Weight</b>	110 g

