

# R256-RO

## SINGLE AXIS CONTROLLER/DRIVER

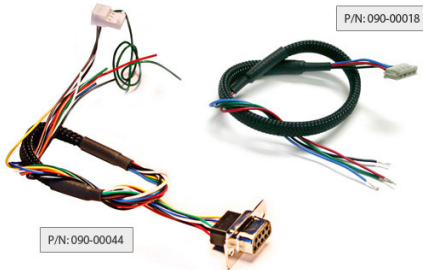


### MAIN FEATURES:

- Voltage: +12 to 40VDC
- Current: 0.2 to 2.0 Amps Peak, programmable in terms of percentage of max possible current
- Hold current: 0.2 to 1.0 Amps, programmable up to 50% of max possible run current
- Step resolution: Full step, 1/2, 1/4, 1/8, 1/16, 1/32, 1/64, 1/128, 1/256
- Speed: (max step frequency: 16.8MHz)
- Inputs: 2 I/O's, 1 input for homing to an opto sensor, 1 input for a switch closure to ground (Total of 2 I/O's and 2 inputs)
- RS485 communication
- Stand alone operation, can store programs on EEPROM and run upon power up
- NEW: Able to use inputs 1 & 2 as limit switches
- Operating temperature: -20 to 50°C

### INCLUDED ACCESSORIES:

- 090-00044 cable for DB-9 cable comes with each unit (with a red 4-pin connector for the RS232-485 converter card)
- 090-00018 cable for motor comes with each unit (the other side is 4 flying lead wires)



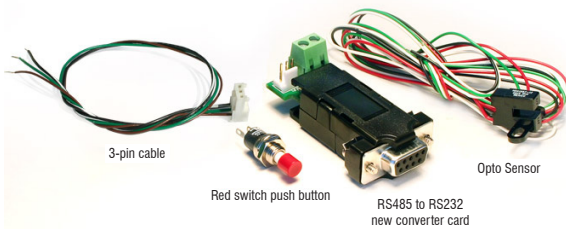
### CONNECTION SPECIFICATIONS:

Pin #	Color	Function	Input
1	Red	+V (Main power in)	
2	Black	I/O	1
3	Brown	RS485B (-)	
4	Black/White	RS485A (+)	
5	Orange	Switch Closure to GND (IN)	4
6	Green	GND (-V of main power in)	
7	White	Opto Sensor Phototransistor (IN)	3
8	Blue	I/O	2
9	Yellow	Opto Sensor LED (Power Out)	

### OPTIONAL ACCESSORIES:

(Available for an additional cost)

- RS485 Designer's Kit (Lin part number: RS232KIT) RS232 to 485 with push button, opto sensor, CD-ROM, cables (2)



- Designer's kit with USB485 converter card (USB485, push button, switch, CD, cables)



### PROGRAMMING:

- Programming the R256-RO is simple and intuitive with Lin Command. Programs always begin with a forward slash "/", and address number, then one alpha character and then the value:

/1A5000R

This stands for Absolute position 5000, and will rotate 5000 steps

/1A5000A0R

This will rotate to position 5000, then back to position 0

/1gA5000A0G5R

This will rotate to position 5000, then back to 0, looping 5 times (commands between the 'g' and 'G' will be repeated, or in a loop)

/1s0gA5000A0G5R

By typing 's0', this means to store the following commands in the EEPROM and run this program upon power up.

<b>PRICING:</b>	Qty: 1 - 9
<b>R256-RO</b>	<b>\$219.30</b>

### KEY SELLING FEATURES:

- Can run a program stand alone (no PC connection needed)
- Simple programming
- Two designer's kits available for the RS232 or USB user

KITS:		CARD ONLY (no-kit)	
<b>083-00004</b> Designer's Kit for RS232	<b>\$99</b>	RS485 converter, push button, opto sensor, cables	<b>017-00004</b> RS232-485 converter card <b>\$89</b>
<b>083-00026</b> Designer's Kit for USB	<b>\$99</b>	USB485 converter, push button, opto sensor, cables	<b>USB485</b> converter card <b>\$89</b>

### COMMON TECH SUPPORT QUESTIONS:

#### • Motors are hot

Check holding current (h *command*) or running current (m *command*). It could be too high.

#### • Power supply is drawing excessive current

Ensure polarity is not switched on the main power supply, or on the converter card if using the RS232 to RS485 converter.

#### • Motor rotates, but erratically, not smoothly

If one of the two drivers are blown, then only half of the driver works. If this is the case, turning on and off the pulses to move and stop the motor might cause the motor to rotate CW and CCW at random times, when it should only rotate in one direction. Also, only half the torque is available.

Acceleration or speed is too fast for the motor. Lower the speed until it steps smoothly.

You could be hitting a resonant spot, microstep the unit to see smoother results

#### • Communication problem between computer and controller

Is the correct COM Port selected? Use an operating system of Windows 98 or higher. Are you working on a Laptop? Sometimes there is a shift in Ground on Laptop Serial Ports. Pin 5 on the Serial Port is Ground. Make sure that this is connected to a true ground.

Is the LED flashing on the R256-RO Controller? A flashing light indicates it is waiting for Commands and power is OK. Motor shaft should be difficult to rotate.

#### • USB485 communication problem

Reinstall driver with these instructions [http://www.linengineering.com/Drivers-Controllers/PDF/USB485\\_Reinstalling\\_Driver.pdf](http://www.linengineering.com/Drivers-Controllers/PDF/USB485_Reinstalling_Driver.pdf)

#### • RS232-RS485 communication problem

Check the RS232 to RS485 Converter Card. Use a voltmeter to verify Power is coming into the card correctly and if power is being supplied to the Controller properly.

#### • Can communicate with lincommand, but no motor movement

Check that power is being supplied to the system. Motor shaft should be holding in one place.

Is the R256-RO set to the correct Address? Check the Dial on the end of the unit. The white arrow should be pointing to the corresponding Address. Make sure that the arrow is not between two addresses. Use a small screw to verify that it clicks in place.

Note the description of the following response strings

/O' indicates that the command is terminated

/O@ indicates good command and that it was received correctly

/OC indicates that the command is out of range

/Ob indicates bad command

#### Motor stalls in middle of command

This means there is not enough current being supplied to the Motor. Use the m *command* to change the current, or run the motor at a Lower Speed (V *command*). Or, have the motor accelerate slower, using the L *command*.

### Lin Engineering Technical Support

For additional technical support please contact us at:

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