

REGENT'S

# 8129

TORQUE CONTROL FOR TENSIONING SYSTEMS

## Features

- Can be used in open or closed loop tensioning systems.
- Accepts 0-10 VDC or 4-20 mA analog input signals.
- Maintains constant load current.
- Gain and Offset are independently adjustable.
- Compact size. Snaps onto DIN rail.
- Regent's 2 Year Warranty.



## Ideal for:

- ▶ Web feed (paper, film, foil)
- ▶ Wire spooling
- ▶ Thread feed
- ▶ Wind/unwind stands

The 8129 Torque Control supplies load current to a brake or clutch proportional to an analog input signal. The control senses load current, and maintains constant current even if supply voltage and load resistance change.

Typical loads include magnetic particle and hysteresis clutches and brakes. Input signals can be from analog sensors (e.g. proximity sensors, dancer pots) or PLC output modules.

With an input signal that represents material position or tension, a closed-loop tension system can be created. With an input from a roll diameter sensor, an open-loop system can be created. Manual control is also possible using an external potentiometer.

Current tracking is excellent. The 8129 Torque Control maintains load current over a wide range of supply voltage and load resistance changes.

FOR MORE INFORMATION CALL 203-732-6200  
OR VISIT US ONLINE AT [www.regentcontrols.com](http://www.regentcontrols.com)



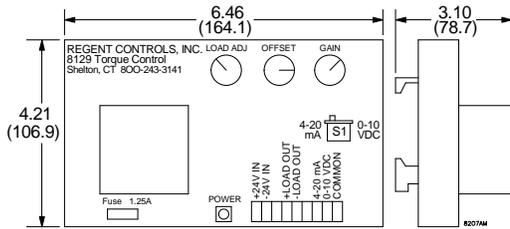
e-mail: [sales@regentcontrols.com](mailto:sales@regentcontrols.com)



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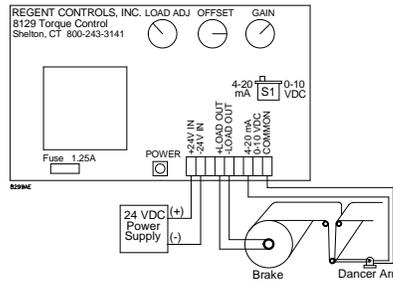
## Torque Control

### DIMENSIONS

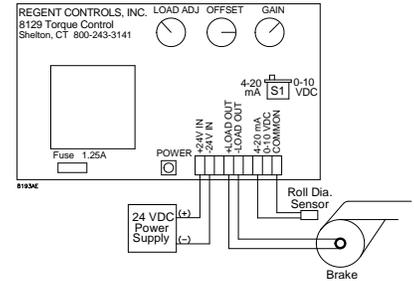


### WIRING DIAGRAMS

#### Closed Loop



#### Open Loop



### OPERATING INSTRUCTIONS

1. Connect the load (clutch or brake) to the two LOAD terminals.
2. Connect the input signal:
  - For 0-10 VDC: Connect to 0-10VDC and COMMON and switch S1 (below GAIN pot) to 0-10VDC position.
  - For 4-20 mA: Connect to 4-20mA and COMMON and switch S1 (below GAIN pot) to 4-20 mA position.
3. Connect input power to two 24V IN terminals. Note polarity.
4. Adjust OFFSET and GAIN pots fully counter-clockwise ('0').
5. Turn ON 24 VDC input power. Green POWER indicator should be ON.
6. Adjust torque control to load:
  - a. If a DC current meter is available:
    - (1) Turn OFF input power and connect a DC current meter in series with the load to monitor load current.
    - (2) Adjust LOAD ADJ pot fully clockwise ('100'). Turn ON input power.
    - (3) Apply a full-scale input signal (10 VDC or 20 mA). Let load warm up to normal operating temperature and measure current.
    - (4) Adjust input signal for 50% of full-scale (5 VDC or 12 mA).
    - (5) Adjust LOAD ADJ pot until current meter displays a load current equal to one-half the value measured in step (3).
    - (6) The 8129 is now adjusted for your load. No further adjustment of LOAD ADJ should be needed unless load is replaced.
  - b. If a DC current meter is not available (not as accurate but should be within 10-20% of the correct value):
    - (1) Check manufacturers data to determine nominal coil current rating.
    - (2) Set LOAD ADJ pot to equal coil current rating. For example, set to '40' if coil current is specified as 0.40 A.
7. Adjust GAIN and OFFSET pots as needed. They can be left fully counter-clockwise if unused (GAIN of 1, no OFFSET).

### NOTE

1. WARNING: Under some operating conditions, heat sink on output transistor can get hot.
2. CAUTION: The heat sink on the output transistor is not electrically isolated from the circuit. Do not allow grounded enclosures or other conductors to make contact with the heat sink—damage to the control could result.
3. Input power (24VDC), input signal (0-10VDC/4-20mA), and load current are not electrically isolated.
4. If control is to be used in a dusty or humid environment, install it in an enclosure.

SPECIFICATIONS	8129
<b>Input power</b>	
Voltage	24 VDC +/- 10%, 5% ripple (P-P) max.
Current	50 mA burden excluding load
<b>Input signal</b>	
Voltage mode	0-10 VDC
Current mode	4-20 mA
<b>Output Rating (LOAD terminals)</b>	
Voltage range	0-24 VDC
Current	1 A maximum
Fuse	Fast-acting fuse built in. Buss GDB-1.25A or equivalent.
<b>Linearity</b>	+/- 5% (Difference between change in load current and change in input signal)
<b>Controls and Indicators</b>	
Offset	Adjusts load current when input signal is 0 VDC or 4 mA. Maximum is 50% if input signal range, equivalent to 5 VDC or 12 mA of input.
Gain	Adjusts load current change proportional to input signal change. Adjustable from 1 to 2.
Load Adjust	Adjusts control so that 100% load current is obtained with full-scale input signal.
Power	A green LED indicates when power is ON.
<b>Field wiring terminals</b>	AWG 22 to 12 wire sizes
<b>Temperature</b>	0 to 65°C (32 to 149°F)

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