REGENT'S

TorqCommander™

ADJUSTABLE TORQUE CONTROL FOR 90 VDC CLUTCHES AND BRAKES

***TorqCommander120* for 120 VAC Logic**
***TorqCommander32* for DC Logic**
***TorqCommanderV12* for external switch**

Features

- Soft starting and stopping with independently adjustable torque and ramp time.
- Flexible, versatile control interface. PLC compatible.
- Increases clutch/brake life with adjustable switching time delay.
- Built-in overload protection for solid-state output switches.
- Compact size. DIN rail or panel mount.
- LED status indicator for each load.
- Regent's 2 Year Warranty.

The *TorqCommander* is an all-solid-state power supply for 90 VDC clutches and brakes. Its advanced features let you take full control of your clutch and brake—torque level and ramp time are fully adjustable.

With the *TorqCommander*, you can independently adjust the clutch and brake response: from snap action to smooth ramping, from full torque to reduced torque.

Logic level input permits direct interface with PLC output modules, photoelectric controls, proximity sensors, contacts, transistors, etc.

Adjustable switching time delay lets you minimize overlap between the clutch and brake, which means longer mechanical life.

Typical applications include material handling and packaging machines where soft start and/or soft stop is necessary to reduce shock to empty containers. The adjustable output also means the *TorqCommander* is a good choice for control of magnetic particle clutch/brakes.

Ideal for:

- ► Material handling
- ► Indexing tables
- ► Winding machines
- ► Bakery machinery
- ► Conveyor control
- ► Packaging machinery
- ► Converting machinery
- ► Cut-to-length
- ► Metal working machinery

PART NUMBER BUILDER

TorqCommander – *120*

Control Logic
- ***120*** for 120 VAC logic
- ***32*** for DC logic
- ***V12*** for external switch

Series Name
TorqCommander

FOR MORE INFORMATION CALL 203-732-6200 **e-mail: sales@regentcontrols.com**

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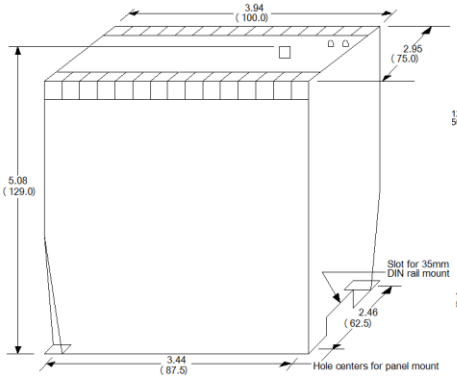
Regent's *TorqCommander*™

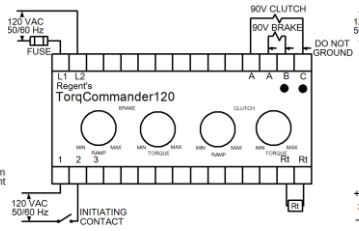
Adjustable Torque Control for 90VDC Clutches and Brakes

DIMENSIONS

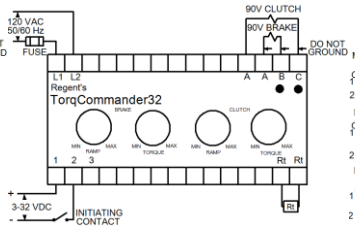


WIRING DIAGRAMS

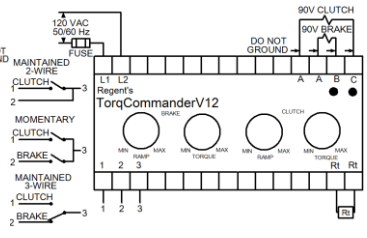
TorqCommander120



TorqCommander32



TorqCommanderV12



NOTES

1. Logic terminals 1,2 on the *TorqCommander120* and *TorqCommander32* are isolated. Terminal L2 and/or 2 may be grounded.
2. Logic terminals 1,2,3 on the *TorqCommanderV12* are not isolated and must not be grounded.
3. Load terminals A,B,C and terminal 3 are not isolated from line terminals L1,L2 and must not be connected to ground or the ground side of the line.
4. Do not place switches or mechanical contacts between clutch and brake and their terminals A,B,C. Opening these circuits while current is flowing may damage the control.

SPECIFICATIONS	*TorqCommander120*	*TorqCommander32*	*TorqCommanderV12*
Line Input (L1,L2)	120 VAC +/- 20%, 50/60 Hz 25 mA burden (excluding load)	120 VAC +/- 20%, 50/60 Hz 25 mA burden (excluding load)	120 VAC +/- 20%, 50/60 Hz 25 mA burden (excluding load)
Logic Input (1,2)	120 VAC +/- 20%, 50/60 Hz, 25 mA burden (will not operate on leakage current below 10 mA)	3-32 VDC, 1-35 mA burden	Contact closure; contacts must be able to switch 12 VDC, 1mA
Logic Response Time (exc. Switching Time Delay)	1-9 msec	<1 msec	<1 msec
Load Rating (A,B,C) **Steady-state output** **Current rating** **Output current**	 105 VDC at 120 VAC line input 1 A maximum Adjustable from 5% to 100% of load current (function coil resistance)	 105 VDC at 120 VAC line input 1 A maximum Adjustable from 5% to 100% of load current (function coil resistance)	 105 VDC at 120 VAC line input 1 A maximum Adjustable from 5% to 100% of load current (function coil resistance)
Ramp Time	Adjustable, 0 to 2 sec (+/- 20%)	Adjustable, 0 to 2 sec (+/- 20%)	Adjustable, 0 to 2 sec (+/- 20%)
Switching Time Delay	Adj. from less than 1 to 100 msec	Adj. from less than 1 to 100 msec	Adj. from less than 1 to 100 msec
Recommended Line Fuse	Littelfuse 322002	Littelfuse 322002	Littelfuse 322002
Temperature	0 to 65°C (32 to 149°F)	0 to 65°C (32 to 149°F)	0 to 65°C (32 to 149°F)

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Adjustable Torque Control for 90 VDC Clutches and Brakes

OPERATION (refer to TIMING DIAGRAM)

TorqCommander120 and *TorqCommander32*

a. When power is applied to L1,L2 with no logic voltage present, the brake energizes.
b. When logic voltage is applied to 1,2 brake immediately de-energizes. Clutch is energized following preset Switching Time Delay.
c. When logic voltage is removed, clutch de-energizes and, following Switching Time Delay, brake energizes.

TorqCommanderV12

Maintained 2-wire (1 SPST switch)

a. When power is applied to L1,L2 with 1,3 contacts open, brake energizes.
b. Maintained closure of 1,3 contacts causes brake to de-energize. Clutch is energized following Switching Time Delay.
c. When 1,3 contacts open, clutch de-energizes and, following Switching Time Delay, brake energizes

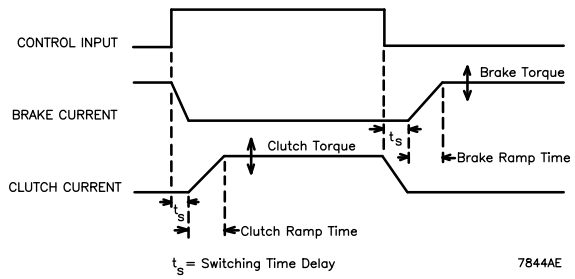
Maintained 3-wire (1SPDT switch)

a. When power is applied to L1,L2 with 2,3 contacts closed, brake energizes.
b. When 2,3 contacts open and 1,3 contacts close, brake de-energizes. Clutch is energized following Switching Time Delay.
c. When 1,3 contacts open and 2,3 contacts close, clutch de-energizes and, following Switching Time Delay, brake energizes.

Momentary (2 SPST switches)

a. When power is applied to L1,L2 with 1,3 and 2,3 contacts open, brake energizes.
b. Momentary closure of 1,3 contacts causes brake to de-energize. Clutch is energized following Switching Time Delay.
c. Momentary closure of 2,3 contacts causes clutch to de-energize. Brake is energized following Switching Time Delay.
d. With 1,3 and 2,3 contacts closed, 1,3 contacts override and clutch energizes.

TIMING DIAGRAM



SWITCHING TIME DELAY

Regent's *TorqCommander* features adjustable Switching Time Delay. Switching Time Delay is a delay between clutch turn-off and brake turn-on, and vice versa, to reduce overlap. By adjusting this delay, you can obtain the fastest cycle time and the least wear on your mechanical system.

The *TorqCommander* is ordinarily supplied with an 8.2 K ohm resistor providing 82 msec switching time delay (i.e. 1K = 10 msec). Correct setting depends upon clutch/brake size, response time, and load inertia.

TORQUE LEVEL

Steady-state torque level is adjusted using the "Torque" dial on the left for the brake coil, and on the right for the clutch coil. Steady-state torque is minimum (less than 5%) when the dial is fully counter-clockwise, and maximum (100%) when the dial is fully clockwise.

RAMP TIME

The time required to ramp up to steady-state torque level is adjusted using the "Ramp" dial on the left for the brake coil, and on the right for the clutch coil. Ramp time is minimum (no ramp) when the dial is fully counter-clockwise, and maximum (2 seconds) when the dial is fully clockwise. Ramp time begins at the end of the Switching Time Delay.

OVERLOAD PROTECTION

If clutch or brake coil current rises above a preset level, an overload circuit turns off the clutch and brake to protect the output switches. Power to the *TorqCommander* must be removed and reapplied to reset the overload protection circuit.

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