REGENT'S

AccuMax™

AccuMax90/24-120 **for 120 VAC Logic**
AccuMax90/24-32 **for DC Logic**
AccuMax90/24-V12 **for external switch**

Features

• Maximizes clutch/brake performance with fast, repeatable response.

• 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 output pole.

• Regent's 2 Year Warranty.

Ideal for:

► Auger control

► Cut-to-length

► Conveyor control

► Packaging machinery

► Film feed

► Label feed

► Textile machinery

The *AccuMax* is an all-solid-state control for 90 or 24 VDC clutches and brakes. Built-in over-energization ensures fast response time and excellent repeatability.

Logic level input permits direct interface with PLC output modules, photoelectric controls, proximity sensors, contacts, transistors, etc. The *AccuMax* also comes with a 12 VDC power supply ideal for powering photoelectric and 3-wire DC proximity sensors.

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

PART NUMBER BUILDER
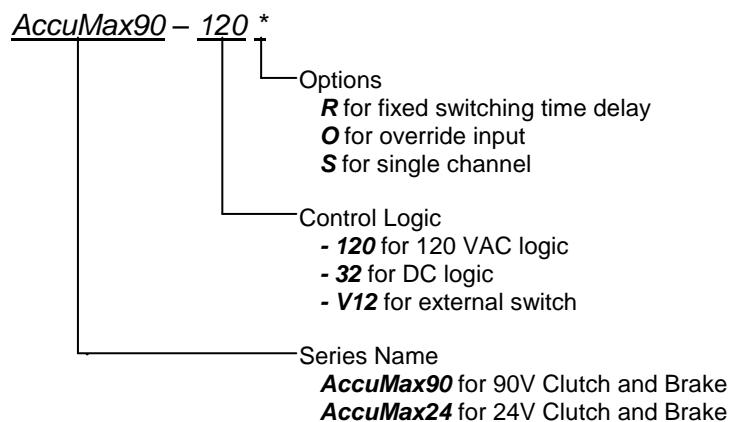
AccuMax90 – 120 *

Options
  R for fixed switching time delay
  O for override input
  S for single channel

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

Series Name
  AccuMax90 for 90V Clutch and Brake
  AccuMax24 for 24V Clutch and Brake

FOR MORE INFORMATION CALL 203-732-6200

e-mail: sales@regentcontrols.com

OR VISIT US ONLINE AT www.regentcontrols.com

Regent's *AccuMax*™
Clutch/Brake Control with Over-Energization

DIMENSIONS
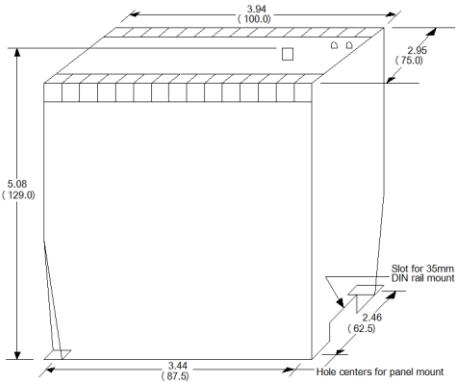
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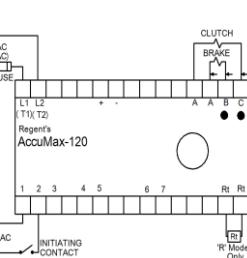
AccuMax90/24-120 *AccuMax90/24-32* *AccuMax90/24-V12*
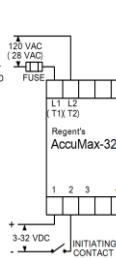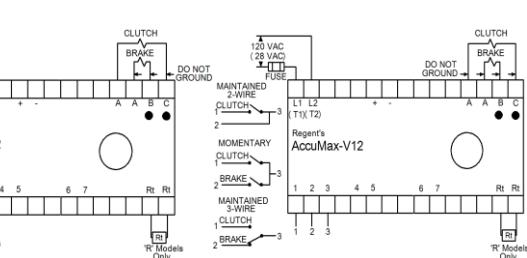
NOTES
1. Logic terminals 1,2 on the *AccuMax-120* and *AccuMax-32* are isolated. Terminal L2 or T2 and/or 2 may be grounded.
2. Logic voltage on the *AccuMax-V12* is 12 VDC from internal power supply. Initiating contact may be any contact, transistor, reed switch, etc. capable of switching 12 VDC, 1mA.
3. Load terminals A,B,C and terminal 3 are not isolated from line terminals L1,L2 or T1,T2 and must not be connected to ground.
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.

For 90 VDC Clutch/Brakes (*AccuMax90*):

SPECIFICATIONS	AccuMax90-120	AccuMax90-32	AccuMax90-V12
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)
  Initial over-energization
  Steady-state output
  Current rating
	340 V (peak)
	105 VDC at 120 VAC line input
	1 A maximum
		340 V (peak)
		105 VDC at 120 VAC line input
		1 A maximum
			340 V (peak)
			105 VDC at 120 VAC line input
			1 A maximum

Switching Time Delay	Adj. from approx. 1 to 100 msec	Adj. from approx. 1 to 100 msec	Adj. from approx. 1 to 100 msec
Sensor Power Supply (+,-)	12 VDC, 100mA (not isolated)	12 VDC, 100mA (not isolated)	12 VDC, 100mA (not isolated)
Recommended Line Fuse	Littelfuse 322005	Littelfuse 322005	Littelfuse 322005
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)

For 24 VDC Clutch/Brakes (*AccuMax24*):

SPECIFICATIONS	AccuMax24-120	AccuMax24-32	AccuMax24-V12
Line Input (T1,T2)	28 VAC +/- 20%, 50/60 Hz 35 mA burden (excluding load)	28 VAC +/- 20%, 50/60 Hz 35 mA burden (excluding load)	28 VAC +/- 20%, 50/60 Hz 35 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)
  Initial over-energization
  Steady-state output
  Current rating
	75 V (peak)
	24 VDC at 28 VAC line input
	1.5 A maximum
		75 V (peak)
		24 VDC at 28 VAC line input
		1.5 A maximum
			75 V (peak)
			24 VDC at 28 VAC line input
			1.5 A maximum

Switching Time Delay	Adj. from approx. 1 to 100 msec	Adj. from approx. 1 to 100 msec	Adj. from approx. 1 to 100 msec
Sensor Power Supply (+,-)	12 VDC, 100mA (not isolated)	12 VDC, 100mA (not isolated)	12 VDC, 100mA (not isolated)
Recommended Line Fuse	Littelfuse 322005	Littelfuse 322005	Littelfuse 322005
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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Regent's *AccuMax*™
Clutch/Brake Control with Over-Energization

OPERATION (refer to TIMING DIAGRAM)

AccuMax-120 and *AccuMax32*
a. When power is applied to L1,L2 or T1,T2 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.

AccuMax-V12
Maintained 2-wire (1 SPST switch)
a. When power is applied to L1,L2 or T1,T2 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 or T1,T2 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 or T1,T2 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.
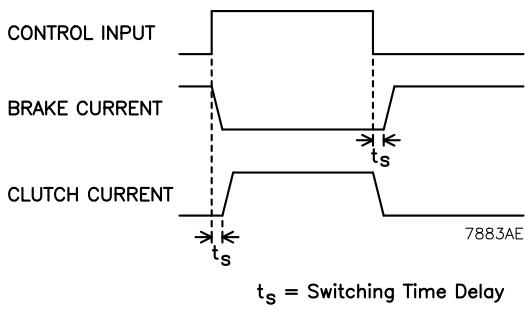
SWITCHING TIME DELAY
Switching Time Delay is a delay between clutch turn-off and brake turn-on, and vice versa, to reduce overlap. By adjusting this delay, you can obtain the fastest cycle time and the least wear on your mechanical system. With the Switching Time Delay control fully clockwise ('10'), switching time delay is at its maximum (approx. 100 msec). Fully counter-clockwise ('0') provides the minimum delay. Correct setting depends upon clutch/brake size, response time, and load inertia. Flux rise time in clutch or brake coil is independent of 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 *AccuMax* must be removed and reapplied to reset the overload protection circuit.

6,7 JUMPER
For fastest flux rise time, install 6,7 Jumper. Remove 6,7 jumper for coil resistance greater than 500 ohms (for *AccuMax90*) or 250 ohms (for *AccuMax24*). If 6,7 jumper is installed and coil resistance is too high, over-energization may not occur each cycle.

TIMING DIAGRAM

t_S = Switching Time Delay

Regent's *AccuMax*™
Clutch/Brake Control with Over-Energization

OPTIONS (R,O,S)

The following options are available for Regent's *AccuMax90* and *AccuMax24* Clutch/Brake Controls.

FIXED SWITCHING TIME DELAY (R)

Description: Instead of a knob to adjust switching time delay, the *AccuMax* can be supplied with a fixed resistor installed on the two terminals labeled RT. The resistor normally supplied has a value of 82K, which provides a nominal 82 msec switching time delay. At your request, Regent will supply any standard value resistor up to 100K. Time to resistance ration is 1msec/1K (+/-20%). Note: If 'R' option is specified, a resistor must be installed on RT terminals to ensure proper operation.

Application: Use this option when the switching time delay should not be changed. This allows the design engineer or plant manager to set timing, but prevents adjustment by operators.

Ordering: Add the suffix letter 'R', for example *AccuMax90-32R*.

OVERRIDE INPUT (O)

Description: This option adds flexibility to the control of the *AccuMax*. An override signal causes both outputs (brake and clutch) to de-energize. The override input can be any voltage from 3 to 32 VDC. Apply the signal to terminals 4,5 (positive to 4) and both loads will de-energize regardless of logic signal on terminals 1,2.

Application: Order this option if both loads must be off for machine setup or manual positioning.

Ordering: Add the suffix letter 'O', for example *AccuMax90-32O*.

SINGLE CHANNEL (S)

Description: One output (terminals A,C) with no switching time delay.

Application: Use this option when only one load needs to be controlled. With no switching time delay, response to logic input is quicker.

Ordering: Add the suffix letter 'S', for example *AccuMax90-32S*.