• Prevents a defective LTC tapchanger control from running the voltage outside the upper or lower limits

• Prevents the line drop compensator from raising the voltage too high under full or overload conditions

• Fully transient protected and operates within ±1% voltage accuracy over a temperature range of –40° to +80° C

• Includes First Customer Protection
The M-0329B LTC Backup Control provides the extra protection that can save your customers from the hazards and inconvenience of excessively high or low voltage. Defective LTC tapchanger controls can cause either too high or too low a voltage along the line, possibly damaging customers’ motors, computers or televisions. Even when the control is operating properly, customers close to the transformer may receive dangerously high voltage as the line drop compensator attempts to maintain a constant voltage under heavy load at a central point on the distribution line. The Beckwith Electric M-0329B LTC Backup Control can be installed as a solution to both of these problems.

The LTC Backup Control will prevent a defective LTC tapchanger control from running the voltage outside the upper and lower voltage limits and, in addition, will prevent the line drop compensator from raising the voltage too high under full load or overload conditions. Setting the voltage bands on the M-0329B slightly wider than the transformer control limits will assure that a failed control will not result in a runaway LTC transformer. Under full or overload conditions, the control automatically takes over as an upper voltage limit control, not affected by load current, to prevent damage to equipment close to the transformer. While the Block Raise contact prevents a raise operation, a Lower contact forces the tapchanger down if the primary voltage should subsequently rise.

**Features**

Block Raise and Block Lower voltage levels are set by accurately calibrated **BANDCENTER** and **BANDWITH** controls, similar to those found on LTC transformer controls.

**BLOCK RAISE/LOWER** and **LOWER** LEDs indicate backup control status.

Block Raise, Block Lower, Lower and Alarm contacts provide outputs to drive external components.

**Inputs**

- **Power**: 90 to 140 V ac, 50/60 Hz, 2 W at 120 V ac
- **Voltage**: Less than 0.2 VA burden at 120 V ac input

**Front Panel Controls**

- **BANDWITH VOLTS**: An accurately calibrated dial adjusts the bandwidth between Block Raise and Block Lower from 6 V to 24 V for 120 V ac.
- **BANDCENTER VOLTS**: An accurately calibrated dial adjusts the Bandcenter from 100 V rms to 140 V rms which allows the M-0329B to operate with most transformer controls.
- **TIME DELAY SECONDS**: Adjustable from 1 to 30 seconds. If voltage remains above the maximum (Block Raise) voltage by the selected amount for longer than the time set on the timer delay control, the M-0329B will initiate a tapchanger operation to lower the voltage.
- **Selectable Deadband**: The deadband is the voltage range above the Block Raise Level where no tapchanger operation takes place. In the M-0329B, it is selectable as 1, 2, 3, or 4 V rms. Measured voltages above the Block Raise Level plus the deadband will cause the control to immediately issue a Lower command.
- **Terminals**: Barrier Strip with 8 to 32 screws

**LED Indicators**

The **BLOCK RAISE/LOWER** LED will light to indicate when the voltage is outside the band.

The **LOWER** LED will light when the voltage exceeds the Block Raise level for an adjustable time period.

**Output Contacts**

- **Output Contacts**: Contacts are rated at 2 A at 120 V ac.
- **Blocking Contacts**: Contacts will operate within 0.2 seconds after a voltage excursion to prevent the transformer control from causing another tapchange.
- **Alarm Contacts**: After a fixed 3 minute time delay, if the voltage excursion is still present, the alarm is activated to indicate control failure.
Environmental
Temperature Range: Operates within ±1% voltage accuracy as per the following:
IEC 68-2-1  -40°C  96 hour duration
IEC 68-2-2  +80°C  96 hour duration
IEC 68-2-3  +40°C  93% RH  96 hour duration
Fungus Resistance: A conformal printed circuit board coating inhibits fungus growth.

Transient Protection
Input and output circuits are protected against system transients. The M-0329B will pass all the requirements of ANSI/IEEE C37.90.1-1989, which defines oscillatory and fast transient surge withstand capability. All inputs and outputs will withstand 1500 V ac to chassis or instrument ground for one minute. Voltage inputs are electrically isolated from each other, from other circuits, and from ground.

All faces of the relay, with the chassis solidly grounded, have been exposed to Radio Frequency Immunity testing and have successfully passed with a field intensity of 20 V per meter at typical utility frequencies of 144 MHz, 438 MHz, and at 450 MHz.

Physical
Size: 5–3/4” high x 8–3/4” wide x 3–1/2” deep (14.6 cm x 22.2 cm x 8.9 cm)
Approximate Weight: 3 lbs (1.4 kg)
Approximate Shipping Weight: 5 lbs (2.3 kg)

Patent & Warranty
The M-0329B LTC Backup Control is covered by a five year warranty from date of shipment.

Specification subject to change without notice.