



TYPE B SERIES VITAL RELAYS

Proven Standard in Relay Technology

For nearly a century, KB Signaling's family of plug-in relays has set the benchmark for performance and reliability. Offering a broad range of types and configurations, these relays carry forward the heritage of GRS excellence while advancing with KB Signaling innovation – delivering trusted solutions that continue to define the industry standard.



KB SIGNALING™

Type B Series Vital Relays

Type B Series

- B1 & B2 Neutral: DC track and line relays, normal release
- B1 & B2 Biased-Neutral: picks up only with proper polarity voltage
- B1 & B2 Neutral Slow Acting: DC slow-acting relays
- B1 Magnetic-Stick: remains in its last operating position when energy is removed
- B1 Code Response: typically driven by iVPI CRG Board to control cab rate codes
- B1 Light Out Relay: neutral relay used to check lamp filament continuity
- B1 Flasher: DC relays used with flasher module for highway crossings
- B1 Lamp Control: DC relays used for highway crossing flasher lamp control
- B1 Power Transfer: neutral relay, using rectified AC module
- B1 Switch Machine Control: DC relays available as neutral and biased-neutral
- B1 Switch Machine Overload: neutral thermal slow-pickup relay
- B2 Vane: two position mechanical, 50/60/100 Hz, AC Track Relay
- B2 Solid State Vane: picks coded track energy at 50, 75, 120, 180, 270, or 420 PPM
- B2 Solid State Code Transmitter: solid state circuits simulate contacts
- B2 AC & DC Microchron™ II Vital Timers: replace mechanical timer relays

General Description

The Type B Series Vital Relays ensure fail-safe operation, while improving train control system reliability, leading to a reduction in maintenance, and maximizing operating life. These relays are compliant with AREMA Guidelines Part 6.2 covering plug-in type relays and plugboards. Type B Series Vital Relays are available in two sizes – B1 and B2. Two B1 relays occupy the same space as a single B2 relay. There are more than a dozen types of Type B relays which are available in about 200 configurations.

Customer Benefits

Quick Installation Without Wiring Changes

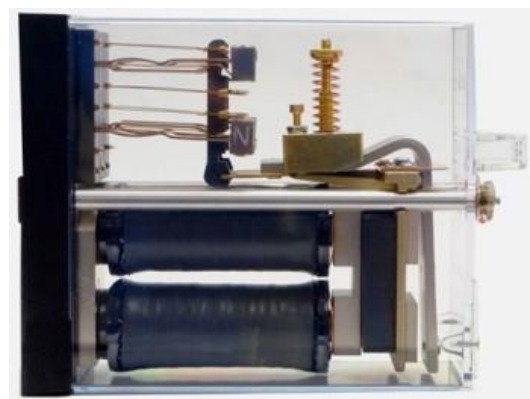
The Type B Series Vital Relay plug-in design supports quick and easy installation and replacement without wiring changes. Rods installed on the plugboard guide the relays to ensure easy installation and reliable mechanical and electrical connections to plugboard terminals, which are directly connected to cable wires.

Proper Installation Alignment Ensured

The Type B Series Vital Relay registration feature prevents issues resulting when relays are plugged into the wrong plugboard. Improperly inserted relays are prevented from making electrical contacts. These relays are shipped with both male and female registration plates.

Convenient Current and Voltage Testing

An optional voltage and current test terminal is provided, on the plugboard, to allow checking of coil voltage and current. These test terminals are generally located below the relay on the plugboard.



Type B Series Vital Relays

Solid State Vane Relay (SSVR)

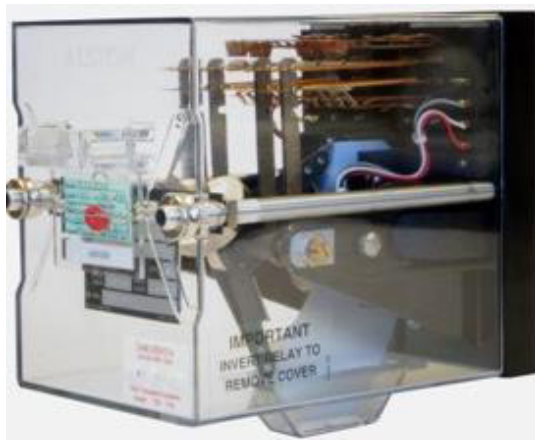
The SSVR is a direct replacement for KB Signaling's Mechanical Vane Relay. It uses digital logic to determine whether there is an in-phase/out-of phase relationship between track and local voltages and verifying track signal frequencies. The SSVR will only pick up when the phase relationship, frequency, and threshold voltage are satisfied. When these thresholds are not simultaneously satisfied, even increased voltage will not result in relay pickup.

The SSVR is immune to overdrive conditions resulting from imbalanced traction return current, preventing relay pick-up. The SSVR will pick on coded track energy at 50, 75, 120, 180, 270, or 420 PPM and does not require code-reset. SSVR are available with an integrated 5-second Loss-Of-Shunt (LOS) vital timer.

For additional information on Solid State Vane Relays, refer to manual P2537.

Electronic Relays

KB Signaling's line of Electronic Relays is the most versatile available on the market today. These relays are direct replacements for mechanical relays. KB Signaling continues to lead the industry for form, fit and functional replacement of mechanical relays with the new electronic versions.



Relays Microchron® II Vital Timer DC Relay And AC Microchron II Timer Relay

The Microchron® II relays are vital timing relay mechanisms consisting of a timing package and a relay assembly housed within a B2 relay enclosure.

The Microchron II Timer is a drop-in replacement for various mechanical timer relays. Timing accuracy is greatly increased and will not vary over the life of the product. Time duration settings are accomplished more easily than with mechanical counterparts. Mechanical adjustments and periodic inspections are simplified by the use of standard B relay structure.

For more information on Microchron II relays, refer to manual P2519.



**Contact your KB Signaling Business Development Manager
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