



AC Vane Relay

Available in 50, 60, and 100 hz

KB Signaling AC Vane Relays are AREMA-compliant, two-element relays designed for use in AC Track Circuits with AC and DC electric propulsion with or without Cab Signal. These relays are designed to reliably ensure track occupancy detection and immunity to DC propulsion. The high efficient design requires low wattage from the track element to operate.

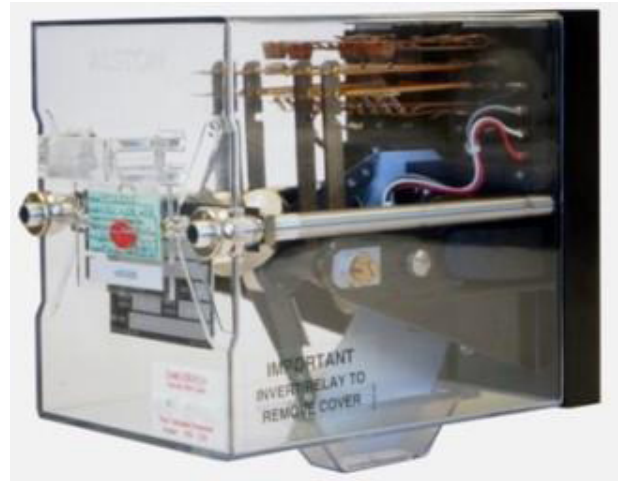


KB SIGNALING™

AC Vane Relay

General Description

The AC Vane Relay produces an effect similar to a moving permanent magnet, using one fixed electromagnetic structure on either side of the vertically mounted vane. These two electromagnetic structures include a local coil and a track coil. The local coil is permanently energized via the local filter components and can have either one or two high-resistance windings. The track coil is connected to the rails via relay-end components and can also have either one or two low-resistance windings. The local coil current 'leads' the track current by up to 90-degree, ensuring the appropriate phase relationship. When sufficient voltage applied to the track winding and the proper phase relationship occurs between the local and track windings, the relay vane rotates and the front contacts close. Relay filters act as a partial phase shifter to help establish a 90-degree phase shift between the AC Vane Relay's track and local windings. This is especially important at minimum ballast conditions.



The B2 vane relay is plugboard mounted for easy installation and testing. KB Signaling's B-Series relays have the same wiring terminal connectors, mounting hardware and installation tools. For additional information on KB Signaling Vital B2 Vane Relays, refer to publication P1457.

Customer Benefits

Versatile

The AC Vane relay is available in a range of different configurations:

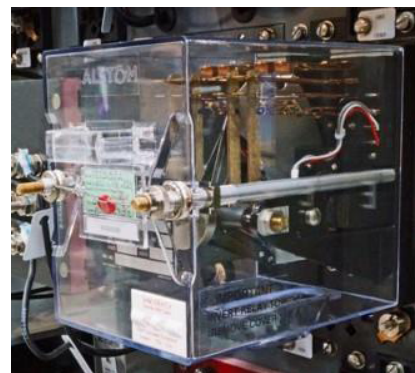
- Track circuit frequencies of 50, 60, 100 Hz
- Local voltages of 110 and 55 VAC
- Track voltage options of 0.5, 1.0, 2.0, and 5.0 VAC
- Contact configurations: 2 front with 2 back contacts or 4 front with 4 back contacts

Shock Indication

All AC Vane relay models are equipped with a shock indicator attached to the relay cover. This shock indicator provides a visual indication when a relay has been subjected to a shock or vibration in excess of its rating during shipping and handling. This indication is non-reversible.

Two-Element High-Efficiency Design

This two-element vane relay has high efficiency, permitting relatively long track circuits of up to 6,000 feet. A laminated magnetic structure minimizes hysteresis and eddy current losses. An aluminum vane, which rotates through a limited arc in a vertical plane, operates the contacts through a crank linkage. The vane assembly includes a counterweight which provides gravity actuated return to the contact-open position when either relay element is de-energized.



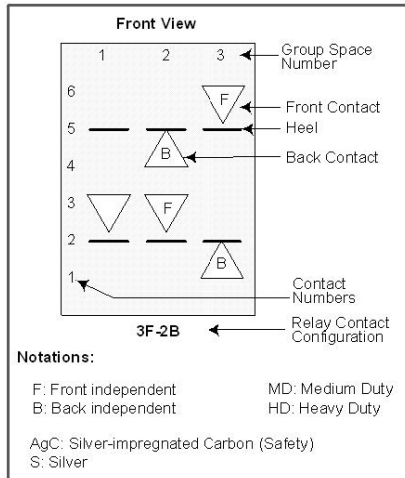
AC Vane Relay

Relay Ordering Information

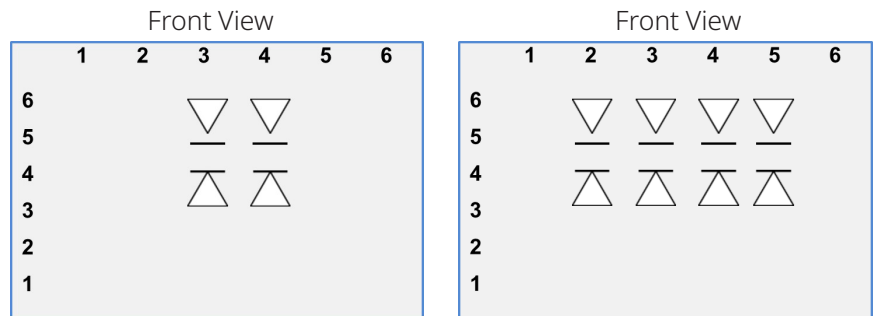
Relay Contact Config.	Freq (Hz)	Winding Voltage		Ordering Information		Replacement Ordering Information			
		Local (Vrms)	Track (Vrms)	Relay Catalog No.	Relay Part No.	Contact Gr 2 P/N*	Contact Gr 3 P/N*	Contact Gr 4 P/N	Contact Gr 5 P/N*
2F-2B	50	110 Serial	5.0 Serial	A62-0644	56005-100-21		6012-108-11 1F-1B AgC-S(MD), S-S(HD)	6012-108-11 1F-1B AgC-S(MD), S-S(HD)	
		110 Serial 55 Parallel	2.0 Serial 1.0 Parallel	A62-0694	56005-100-19				
		110 Serial 55 Parallel	1.0 Serial 0.5 Parallel	A62-0485	56005-100-08				
2F-2B	60	110 Serial 55 Parallel	1.0 Serial 0.5 Parallel	A62-0486	56005-100-09		6012-108-11 1F-1B AgC-S(MD), S-S(HD)	56012-108-11 1F-1B AgC-S(MD), S-S(HD)	
		110 Serial	5.0 Serial	A62-0724	56005-100-23***				
		110 Serial	5.0 Serial	A62-0548	56005-100-18				
4F-4B	60	110 Serial 55 Parallel	1.0 Serial 0.5 Parallel	A62-0723	56005-100-22***	6012-108-11 1F-1B AgC-S(MD), S-S(HD)	6012-108-11 1F-1B AgC-S(MD), S-S(HD)	6012-108-11 1F-1B AgC-S(MD), S-S(HD)	6012-108-11 1F-1B AgC-S(MD), S-S(HD)
		110 Serial 55 Parallel	1.0 Serial 0.5 Parallel	A62-0547	56005-100-01				
4F-4B	100	110 Serial 55 Parallel	2.0 Serial 1.0 Parallel	A62-0762	56005-100-24**	6012-108-11 1F-1B AgC-S(MD), S-S(HD)	6012-108-11 1F-1B AgC-S(MD), S-S(HD)	6012-108-11 1F-1B AgC-S(MD), S-S(HD)	6012-108-11 1F-1B AgC-S(MD), S-S(HD)
				A62-0597	56005-100-20				

Note: Shaded Cat. No. and P/N indicates relay is discontinued.

Relay Reference



Relay Contact Arrangement



Notations:

** LIRR relay designed for 50% contact

*** Approved for use by NYCT and MN Hiawatha Line

Plugboard Kit Ordering Information

B2 Plugboard Kit Description	Relay Catalog No.	Kit Part No.
With Insulators		59686-001-03
With mounting hardware, no terminals*		59686-007-16
With mounting hardware solder terminals*	A62-0509	59686-007-02
With mounting hardware, 10-14 AWG crimp terminals*	A62-0636	59686-007-05
With mounting hardware, 16-20 AWG crimp terminals*	A62-0588	59686-007-07

Notations:

* Includes E Current Test Post; does not include registration plate, and voltage post

Contact your KB Signaling Business Development Manager

Call 1-800-825-7090, or Email us at kbsignaling.techsupport@knorr-bremse.com for more information today.

KB Signaling

2712 S. Dillingham Rd.
Grain Valley, MO 64029
Phone: +1 800-825-7090
www.kb-signaling.com

