



# SOLID STATE VANE RELAY

## Modern Upgrade to a Proven Design

The Solid State Vane Relay applies advanced electronic technology as a direct upgrade to KB Signaling's mechanical AC Vane Relay, delivering enhanced reliability while also leading to a reduction in maintenance requirements.



**KB SIGNALING™**

# Solid State Vane Relay

## Key Benefits

### Easy Installation

- Plugboard mounted for installation and testing.
- Can be removed from or installed in an energized plugboard without the risk of damage or degradation.

**Automatically resets if unplugged from local power longer than 500 milliseconds**

### 5-second Loss-Of-Shunt Timer

- Once the SSVR detects a valid voltage and phase relationship between the track and local signals, the B-relay picks up after a 5-second delay.
- The delay is implemented in software, utilizing safety techniques that ensure the delay will never run short.

**Available in 60 Hz and 100 Hz**

## General Description

The Solid State Vane Relay (SSVR) is a critical component of AC track circuits and can operate in both double-rail and single-rail applications. It is designed with local and track winding inputs that match the impedance of KB Signaling's mechanical AC vane relays, allowing it to perform like the mechanical relays currently in use in the field. The SSVR is a hybrid relay, which combines both digital and B relay functions in a single B2 housing.

## Customer Benefits

### Highly-Reliable with Lower Lifecycle Costs

The SSVR exhibits superior reliability – with greater than 300,000 hours Mean Time Between Failures (MTBF). These relays meet AREMA Class C equipment environmental parameters. These highly-reliable SSVR relays require less frequent maintenance and testing than AC Vane Relays, leading to lower overall life-cycle costs.

### Shock Indication

All SSVR 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 nonreversible.

### Diagnostic LED Indicators

LED indicators confirm relay operation, as well as support troubleshooting. LEDs indicate track unoccupied, track signal strength, and SSVR health status.



# Solid State Vane Relay

## Ordering Information

Relay Contact Configuration	Winding Voltages (Vrms)			Freq (Hz)	Application Notes	Relay Part Number
	Local	Track Coils in Series	Track Coils in Parallel			
4F-4B	110	1.0	0.5	60		56005-102-01
4F-4B	110	2.0	1.0	100		56005-102-20
4F-4B	110	2.0	1.0	100	5-second loss of shunt	65005-101-25

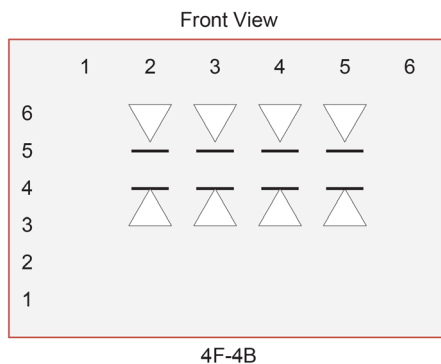
## Specifications

Data	Value
Operating Temperature Range	-40 °F to +160 °F - Meets the environmental parameters in AREMA Manual Part 11.5.1 for Class C equipment
Humidity	0% to 95% - Meets the environmental parameters in AREMA Manual Part 11.5.1 for Class C equipment
Vibration	0.1" p-p, 5–20 Hz; 2.0 gp 20–200 Hz – Meets the environmental parameters in AREMA Manual Part 11.5.1 for Class B equipment
Shock	10 gp - Meets the environmental parameters in AREMA Manual Part 11.5.1 for Class C equipment
EMI	Exceeds the environmental parameters in AREMA Manual Part 11.5.1 for Class C equipment when equipped with filters or surge protection. 110

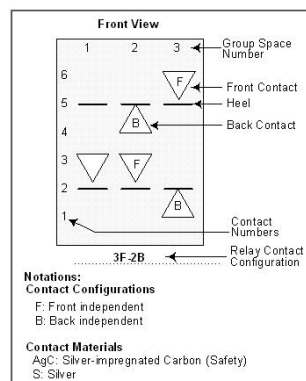
## Relay Reference

B2 Plugboard Kit Description	Relay Catalog Number	Kit Part Number
With insulators only		59686-001-03
With mounting hardware, no terminals*		59686-007-16
With mounting hardware solder terminals*	A62-0509	59686-007-02
ShocWith mounting hardware, 10-14 AWG crimp terminals*		59686-007-05
With mounting hardware, 16-20 AWG crimp terminals*		59686-007-07

## Relay Contact Arrangement



## Relay Reference



Contact your KB Signaling Business Development Manager

Call 1-800-825-7090, or Email us at [aso.techsupport-kb@alstomgroup.com](mailto:aso.techsupport-kb@alstomgroup.com) for more information today

## **KB Signaling**

2712 S. Dillingham Rd  
Grain Valley, MO 64029  
Phone: +1 800-825-7090  
[www.kb-signaling.com](http://www.kb-signaling.com)

