



Model 5F Switch Machine

Dual-Mode Control for Flexible Switch Operation

The Model 5F Switch Machine features a dual control mechanism, enabling seamless operation by either power or hand throw. Designed for versatility and reliability, it ensures dependable performance across a wide range of operating conditions.



KB SIGNALING™

Model 5F Switch Machine

Key Benefits

- Dual control (hand throw)
- 24 or 110 VDC
- 3-wire control
- Heater provided in the motor controller and point detector compartment

General Description

The Model 5F consists of an electrically operated switch and lock movement with lock rod, point detector rod and built-in contacts that check the machine over-and-locked in both the normal and reverse positions. The Model 5F may be hand-cranked for making and checking adjustments. The hand-throw on the Model 5F is also used for emergency switch operation in case of a power interruption. Control and overload relays for the Model 5F are housed externally. Operating time for the Model 5F is approximately 3 seconds for 110-volt machines and 8 to 10 seconds for 24-volt machines. The magnetic detent holds the motor armature and vastly reduces interference from vibration and stray electrical currents. Dynamic snubbing brings the machine to rest without shock upon the completion of the stroke. The Model 5F features internal snubbing through contacts in the point detector. The point detector has knife edge contacts which exert extra heavy pressure. The Model 5F has two normal, two reverse, two motor control and two shunt contacts. The motor control contacts carry and break the motor current directly. The Model 5F has optional 110-volt heaters located in the controller and contact compartments to reduce condensation. The Model 5F Switch Machine may be ordered in either right or left hand configuration.

Customer Benefits

Point Detector

An over-and-locked type circuit controller with two normal, two reverse, two shunt and two motor control contacts. The normal and reverse contacts check and indicate when the switch points are within the proper distance of the stock rail and are locked.

Removable Hand Crank

Available for maintenance and emergency use. An automatic cutout contact with a latch-out feature and manual reset protects the operator.

Overload Friction Clutch

Absorbs shocks encountered in switch operation. It is factory adjusted to slip when the motor operating current is from 12–14 amperes for 110 Volt machines and 18–20 amperes for 24 Volt machines.

Rugged Motor

Provides rugged, reliable service. It has series, split connected, epoxy coated, insulated field coils and an epoxy-coated armature. Dynamic snubbing limits motor overrun at the end of the stroke and a simple magnetic detent holding device then locks the motor armature. Magnetic holding is frictionless and virtually maintenance-free.



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Specifications

Application	Single switch, single-slip switch, double-slip switch, derail
Motor voltage	24-VDC or 110-VDC
Control scheme	3-wire control
Operating temperature	-40°C to 70°C
Mounting requirements	Requires on two ties for mounting
Thrust	2,500 lbs. (1,136.7 kg), meets requirements of AAR Load Curve 1457
Weight	980 lbs. (445.5 kg)
Motor type	Series-wound DC motor, magnetic detent holds motor against vibration and stray electrical currents at end of stroke. Dynamic snubbing circuit prevents motor overrun at high speeds.
Operating time	3 seconds for 110 Volt machines, 8-10 seconds for 24 Volt machines
Operating current	12-14 Amps for 110 Volt machines, 18-20 Amps for 24 Volt machines
Contacts	Provided for lock rod, point detector rod, and over and locked in normal and reverse positions through contacts in the point detector. (Point detector contacts: 2 normal, 2 reverse, 2 motor control, 2 shunt contacts. Motor control contacts carry andbreak motor current directly.)
Throw bar stroke	6.0 Inches (15.2 cm)
Hand crank	Option for maintenance and emergency use; with automatic cutout contact and cut-out feature to protect operator
Frost protection	Optional 110 Volt heaters for motor, controller and contact compartments. If heaters are not used, a frost shield and felt commutator cover should be installed in motor. The point detector contacts feature a long wipe to help prevent frost buildup on the contacts.

Ordering Information

Model 5F Electric Switch Machine - Left-Hand Layouts					
Application	Lock Rod	Motor	Clutch	Control	Part Number
Single Switch	LH Wide-Notch Threaded End	24 Volt, 110 Volt heater	24 Volt	3-wire	54529-011-22
Single Switch	LH Narrow-Notch Threaded End	24 Volt, 110 Volt heater	24 Volt	3-wire	54529-011-26
Single Switch	LH Wide-Notch Threaded End	24 Volt, 110 Volt heater	24 Volt	3-wire	54529-011-30
Single Switch	LH Wide-Notch Threaded End	110 Volt, 110 Volt heater	110 Volt High Speed	3-wire	54529-015-17
Single Switch	L/RH Narrow-Notch Spade End	110 Volt, 110 Volt heater	110 Volt High Speed	3-wire	54529-015-21
Moveable Point Frog	LH Wide-Notch Threaded End	110 Volt, 110 Volt heater	110 Volt High Speed	3-wire	54529-015-23
Single Switch	LH Narrow-Notch Threaded End	110 Volt High Speed	110 Volt High Speed	3-wire	54529-015-25
Single Switch	L/RH Wide-Notch Spade End	110 Volt, 110 Volt heater	110 Volt High Speed	3-wire	54529-015-32
Model 5F Electric Switch Machine - Right-Hand Layouts					
Detector Rod	Lock Rod	Motor	Clutch	Control	Part Number
Single Switch	RH Wide-Notch Threaded End	24 Volt, 110 Volt heater	24 Volt	3-wire	54529-011-21
Single Switch	RH Narrow-Notch Threaded End	24 Volt, 110 Volt heater	24 Volt	3-wire	54529-011-25
Single Switch	RH Wide-Notch Threaded End	24 Volt, 24 Volt heater	24 Volt	3-wire	54529-011-29
Single Switch	RH Wide-Notch Threaded End	110 Volt, 110 Volt heater	110 Volt High Speed	3-wire	54529-015-16
Single Switch	R/LH Narrow-Notch Spade End	110 Volt, 110 Volt heater	110 Volt High Speed	3-wire	54529-015-20
Moveable Point Frog	RH Narrow-Notch Threaded End	110 Volt, 110 Volt heater	110 Volt High Speed	3-wire	54529-015-22

Contact your KB Signaling Business Development Manager

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