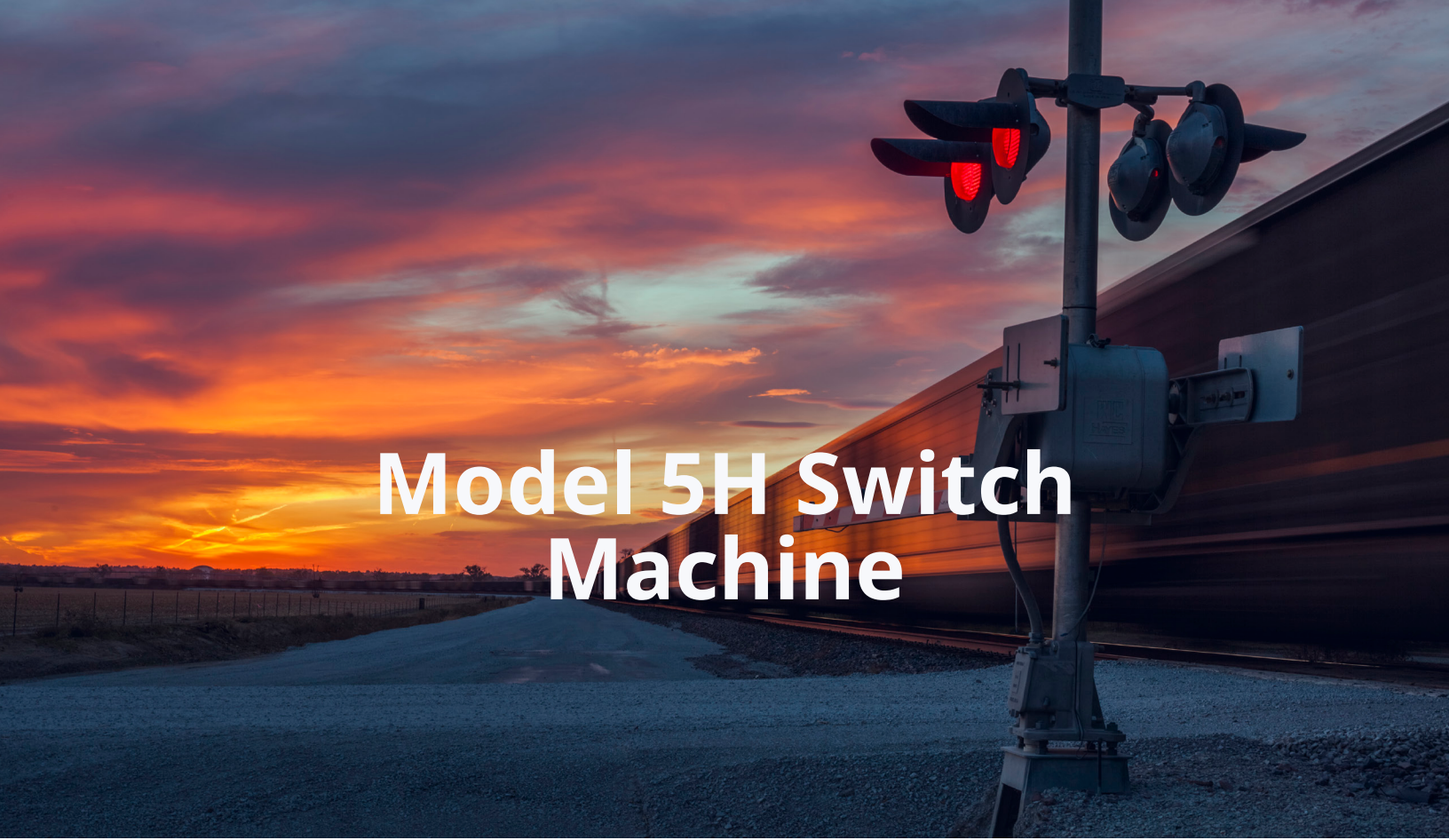




Model 5H Switch Machine

Heavy-Duty Turnout Control Solution

The Model 5H Switch Machine is an electrically-operated switch and lock movement with lock rod, point detector rod and built-in contacts that check if the machine is over-and locked in both the normal and reverse positions.



KB SIGNALING™

Model 5H Switch Machine

Key Benefits

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

General Description

The Model 5H Switch Machine features a dual control mechanism permitting the machine to be used in either power or hand-throw operation. The Model 5H may be hand-cranked for making and checking adjustments or for emergency switch operation in case of a power interruption. It has a built-in biased neutral controller operated by a low voltage DC, two-wire polarized line circuit. Operating time for the machine is approximately 3 seconds for 110-volt machines and 8 to 10 seconds for 24 Volt machines. The controller applies either 24Vdc or 110Vdc to the motor. This control voltage may be easily adjusted in the field from 24 to 10-volts to suit railroad requirements. The Model 5H has a motor with a magnetic detent. The magnetic detent holds the motor armature and guards against vibration and stray electrical currents. Dynamic-snubbing brings the machine to rest without shock upon the completion of the stroke. The Model 5H features internal snubbing through contacts in the biased-neutral controller. The Model 5H features an overload friction clutch that 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. The Model 5H has optional 110-volt heaters located in the motor, controller and contact compartments to reduce condensation. The machine is shipped in either right- or left-hand configurations.

Customer Benefits

Biased-Neutral Controller

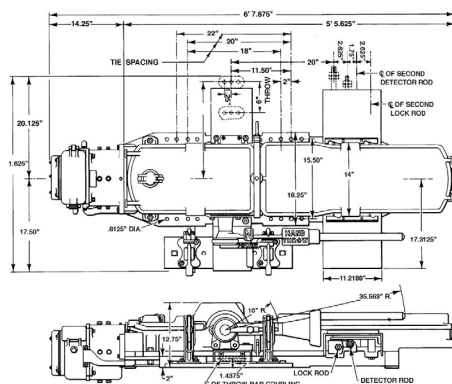
The machine has two biased neutral, mechanically interlocked contactors, a blocking rectifier and an overload relay. Each contactor has one dependent, front-back contact with a permanent magnet blowout (arc suppression). A snubbing contact provides dynamic motor braking at the end of the stroke. The magnetic structure prohibits armature operation until voltage of the proper polarity is applied across the coils.

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.

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. The motor control contacts control the motor operating circuit in conjunction with the biased-neutral controller.



Model 5H Switch Machine

Specifications

Application	Single switch, single-slip switch, double-slip switch, derail
Motor voltage	24-VDC or 110-VDC
Control scheme	4-wire control, 10 or 24Vdc control voltage
Operating temperature	-40°C to 70°C
Mounting requirements	Requires only two ties for mounting;
Thrust	2,500 lbs. (1,136.7 kg), meets requirements of AAR Load Curve 1457
Weight	1065 lbs. (484.1 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 and break 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. The point detector contacts feature a long wipe to help prevent frost buildup on the contacts.

Ordering Information

Model 5H Electric Switch Machines – Right-Hand Layouts				
Application	Lock Rod	Motor	Control	Part Number
Single Switch	RH Wide-Notch Threaded End	24 Volt	4-wire, 10 or 24Vdc	54505-011-33
Single Switch	RH Narrow-Notch Threaded End	24 Volt	4-wire, 10 or 24Vdc	54505-011-41
Moveable Point Frog	RH Wide-Notch Threaded End	24 Volt	4-wire, 10 or 24Vdc	54505-011-35
Single Switch	R/LH Wide-Notch Threaded End	110 Volt	4-wire, 10 or 24Vdc	54505-015-20
Single Switch	R/LH Narrow-Notch Spade End	110 Volt	4-wire, 10 or 24Vdc	54505-015-30
Moveable Point Frog	RH Wide-Notch Threaded End	110 Volt	4-wire, 10 or 24Vdc	54505-015-22
Model 5H Electric Switch Machine – Left-Hand Layouts				
Detector Rod	Lock Rod	Motor	Control	Part Number
Single Switch	LH Wide-Notch Threaded End	24 Volt	4-wire, 10 or 24Vdc	54505-011-34
Single Switch	LH Narrow-Notch Threaded End	24 Volt	4-wire, 10 or 24Vdc	54505-011-42
Moveable Point Frog	LH Wide-Notch Threaded End	24 Volt	4-wire, 10 or 24Vdc	54505-011-36
Single Switch	LH Narrow-Notch Threaded End	24 Volt	4-wire, 10 or 24Vdc	54505-015-21
Single Switch	LH Wide-Notch Threaded End	110 Volt	4-wire, 10 or 24Vdc	54505-015-31
Single Switch	LH Narrow-Notch Spade End	110 Volt	4-wire, 10 or 24Vdc	54505-015-48

Contact your KB Signaling Business Development Manager
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