



# RF CONTACTOR

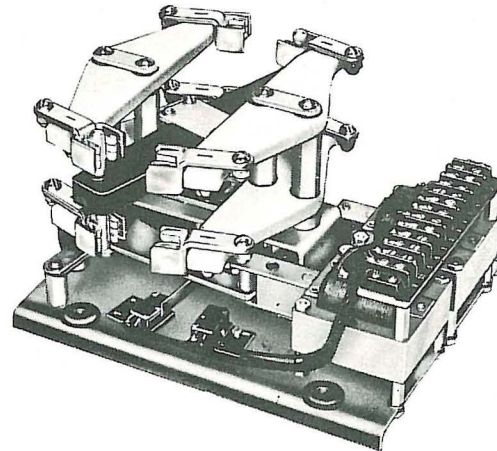
© E. F. JOHNSON COMPANY/WASECA, MINNESOTA 56093

## CATALOG NUMBERS

Series 145-0100

Series 145-0200

The Johnson series 145-100 and 145-200 RF Contactors are the result of years of experience in the manufacture and installation of special RF energy transfer devices and are especially designed for high voltage radio frequency switching. They are also ideally suited to DC voltage switching in high voltage rectifier circuits. The contactors require no "holding" power and are designed to operate with a momentary application of control voltage.



## MODELS

The contactors are available in two models of different voltage rating in either SPDT or DPDT construction. All stock contactors are supplied with four auxiliary switches; two "normally closed" for control of the solenoid voltage and two "normally open" for operation of signal lamps or to perform other related functions. Stock contactors have solenoids wired for 220 volt 50 - 60 cycle operation but may be wired for 110 volt 50 - 60 cycle operation on special order or may be re-wired in the field.

## DESCRIPTION

An outstanding feature of the contactor is its small size and compactness wherein width and length have been reduced to a minimum with no excess space occupied beyond adequate insulation requirements. The heavy channel shaped steel base and rugged construction assure alignment of working parts and operation with a minimum of maintenance. The use of a balanced rotary armature permits mounting the contactor in any position and permits its use under conditions of vibration and shock. Rubber mounting grommets serve to minimize transmission of sound during the switching operation.

Positive contact is insured through the mechanical advantage gained in the use of a toggle action linkage. The solenoids have ample power to assure positive snappy action with a momentary application of voltage.

In normal use and service the applied solenoid voltage is automatically disconnected by the "normally closed" micro-switch at the time the rotating contact arm completes its movement. This automatic disconnect feature assures momentary application of voltage regardless of "on" time of the external control switch.

A convenient terminal board with barriers is provided for connection to solenoids and auxiliary switches. Careful design consideration has been given to the shape, location and material of insulating members and metal parts to avoid heating, corona effects and flashovers.

## INSTALLATION

The contactor may be mounted in any position by means of four 5/16" bolts through the rubber grommets. Spacers should be placed between the rubber grommets and the mounting surface so that the contactor base is elevated slightly. When attaching heavy leads to the contactor terminals, precaution should be taken against applying too much force so as to twist the contact holders out of alignment.

The control wiring diagram of the contactor is shown in Figure 1. Solenoid control microswitches (numbers 1 and 4) are located adjacent to the solenoids they control and are wired in the "normally closed" position. Microswitches number 2 and 3 may be used for indicator lights or other related circuits.

**CAUTION:** Earlier models of 145-100 and 145-200 series may have different control wiring, therefore, where replacement or adjustment is required carefully check original wiring diagrams supplied with contactors.

## MAINTENANCE

The maintenance requirements of the contactors are those normally required by exposed relays or contactors. The contact rod and spring fingers should be periodically wiped clean with a soft cloth and any accumulation of dust on the contactor should be blown off.

If the microswitches become misaligned, they may be realigned by loosening the two bracket screws and moving the bracket. With the contact rod well seated in the spring contacts but not touching the rear of the spring contact holder, the microswitch spring actuating arm should be parallel to and 1/64" from the face of the microswitch body.

## Parts List

The following list of parts are those that may be used as maintenance spares or as field replacements:

DESCRIPTION	PART NUMBER		Net Price	PART NUMBER		Net Price
	145-0100 SERIES	Net Price		145-0200 SERIES	Net Price	
Spring Finger Contacts	016-0980-001	.60 ea.	016-0980-001	.60 ea.		
Spring Contact Bracket	016-0979-001	1.00 ea.	016-0979-001	1.00 ea.		
Contact Rod	014-0448-001	1.20 ea.	014-0448-002	1.20 ea.		
Contact Rod Buffer Sleeve (between contact rod and movable insulator bar)	018-0760-001	.10 ea.	018-0760-001	.10 ea.		
Solenoid	022-0671-001	13.00 ea.	022-0672-001	27.00 ea.		
Microswitch and Bracket Assembly	See part numbers on figure 1			2.75 ea.		
Stationary Insulator Bar, glass bonded mica	018-0446-001	6.30 ea.	018-0444-001	6.70 ea.		
Movable Insulator Bar, glass bonded mica	018-0576-002	5.65 ea.	018-0575-001	6.30 ea.		
Terminal Board, 12 contact	022-0789-003	2.10 ea.	022-0789-003	2.10 ea.		

## Overall Dimensions

145-100 Series : 7-7/8" long 6-1/2" wide 5-1/2" high  
 145-200 Series : 10-1/2" long 8-1/4" wide 6-3/16" high

## Maximum Contact Ratings

145-100 Series : 17 kilovolts peak at 2 mc; 25 amps  
 (90° F. temperature rise over ambient)  
 145-200 Series : 22 kilovolts peak at 2 mc; 25 amps  
 (90° F. temperature rise over ambient)  
 Auxiliary contacts: 10 amps at 125 or 250 volts 50-60 cycle

## Solenoid Ratings

MAXIMUM CURRENT (withdrawn solenoid plunger)

145-100 Series : 4 amperes 220 volts AC  
 145-200 Series : 8 amperes 220 volts AC

DUTY CYCLE

145-100 Series : momentary "on" and 3 seconds "off"  
 145-200 Series : momentary "on" and 1 second "off"

## Stock Contactors (220 Vac Solenoids)

CATALOG NO.	CONTACTS	AUX. SWITCHES	NET PRICE
145-0101-013	SPDT	4	\$130.00 ea.
145-0102-013	DPDT	4	145.00 ea.
145-0201-013	SPDT	4	160.00 ea.
145-0202-013	DPDT	4	180.00 ea.

Contactors with 110 VAC solenoids and/or only two microswitches may be secured on special order.

