

TYPE F MAGNETIC CONTACTOR, FRAME No. 65-F RENEWAL PARTS DATA



RECOMMENDED STOCK OF RENEWAL PARTS

Style Number of Contactor	With Blowout	Without Blowout	1	5	Style Number of Part
468081, A, B, C					
468082, A, B					
Contactors in use up to and including					
Name of Parts	No. Per Contactor	Recommended For Stock			
Armature Complete.....	1	0	0		501 460
Armature and Tail Piece.....	1	0	0		496 534
†Stop.....	1	0	0		489 252
†Cushion.....	1	0	0		489 251
†Shoulder Screw.....	1	0	0		489 241
Moving Core.....	1	0	0		489 234
Armature Hinge Pin.....	1	0	0		496 622
Armature Insulating Tube.....	1	0	0		496 621
†Armature Insulating Washer.....	1	0	0		453 484
Armature Shaft.....	1	0	0		489 237
Moving Contact Element.....	3	0	1		501 457
Moving Contact Support.....	3	1	1		301 433
Moving Contact.....	3	3	6		94 401
Contact Spring.....	3	3	6		780 767
Contact Screw.....	3	1	1		204 143
Contact Spring.....	3	1	1		501 458
Shunt.....	3	2	4		281 054
Shunt Screw.....	6	0	1		662 248
Moving Contact Hinge Pin.....	3	0	0		501 459
†Stationary Contact Support with Stud.....	3	0	0		489 243
xStationary Contact Support.....	3	3	6		94 401
Stationary Contact.....	3	3	6		780 767
Contact Screw.....	3	0	0		489 238
xBlowout Coil with Stud.....	3	0	0		489 247
†xBlowout Coil Stud Spacer.....	3	0	0		334 812
xBlowout Coil Screw.....	3	1	2		368 330
xArc Shield with Core.....	3	0	1		302 860
xBlowout Coil Insulating Tube.....	3	0	0		379 677
Shunt Terminal with Stud.....	3	0	0		281 054
Shunt Screw.....	6	2	4		496 535
Armature Bearing Bracket.....	1	0	0		496 536
Stationary Core Frame and Bearing Bracket.....	1	0	0		489 233
Stationary Core.....	2	0	0		761 411
†Shading Coil.....	1	0	0		489 253
Operating Coil Support.....	1	0	0		489 240
Operating Coil Support Insulating Tube.....	4	0	0		
Operating Coil.....	1	1	1		†

Parts indented are included in the part under which they are indented. †Not illustrated.
*Used only on Contactor without Blowout. xUsed only on Contactor with Blowout.

‡When ordering, specify Identification Number stamped on Coil.

*To be filed as Renewal Parts Data and as an Instruction Leaflet; for Instructions, see reverse side of this sheet.

Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.

This is a list of the Renewal Parts and the quantities of each that we recommend should be stocked by the user of this apparatus to minimize interrupted operation caused by breakdowns. The parts recommended are those most subject to wear in normal operation or those subject to damage or breakage due to possible abnormal conditions.

This list of Renewal Parts is given only as a guide. When continuous operation is a primary consideration, additional insurance against shutdowns is desirable. Under such conditions more renewal parts should be carried, the amount depending upon the severity of the service and the time required to secure renewals.

ORDERING INSTRUCTIONS

Name the part and give the complete nameplate reading. State whether shipment is desired by express, freight or by parcel post. Send all orders or correspondence to nearest Sales Office of the Company. Small orders should be combined so as to amount to a value of at least \$1.00 net; where the total of the sale is less than this, the material will be invoiced at \$1.00.

TYPE F MAGNETIC CONTACTOR, Frame No. 65-F INSTRUCTIONS

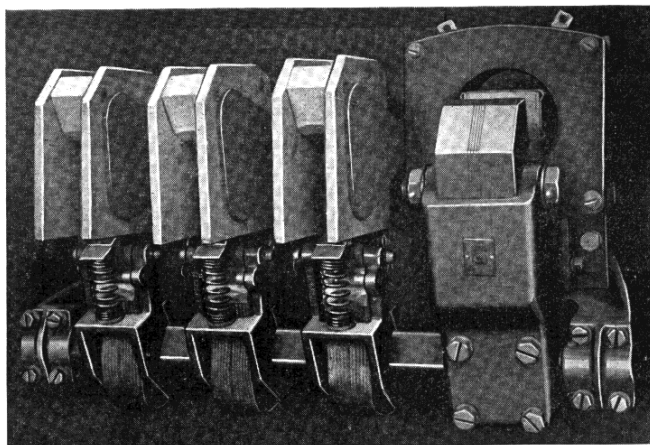


Fig. 1

Description

The type 65-F is a 3 pole, alternating current contactor, and can be supplied either with or without magnetic blow-out. The contactor is designed for mounting on slate or ebony asbestos panel up to and including panel 2 inches thick.

Rating—The contactor is designed for 300 amperes, 8 hour rating, 360 amperes one hour rating, 900 amperes peak load, and 3000 amperes arc rupturing capacity. Insulation is for 600 volts maximum.

Operating Coil is designed for continuous service, and will successfully operate the contactor at from 85 to 110% of rated voltage.

Armature Lever is made of cast iron. The moving core is supported on the armature lever by means of a hinge pin. This arrangement permits the moving core to be self aligning when the operating coil is energized and the contactor is closed. All parts subject to corrosion, except the magnet face, are treated to prevent oxidation.

Arc Shields are moulded from a very durable heat resisting compound and are securely fastened to the iron pole piece of the blowout coil. The arc shield is hinged so that it may be easily raised by hand to make inspection and renewal of the contacts.

Contacts are made from hard drawn copper of sufficient cross section to insure long contact life. They are designed to open with a rolling action so that the burn occurs only at the extreme tip of the contact, and does not affect the current carrying surfaces. The contactor has been designed so that a slight wiping action is given to the tips on opening and closing. This action insures a clean low resistance contact area. A steel compression spring gives a positive and sufficient contact pressure up to the maximum life of the contact and produces a quick opening on the tips.

Shunts are made from a flexible braided copper cable which gives complete freedom to the moving armature,

and has ample capacity to withstand the maximum current for which the contactor is rated.

Maintenance

Bearings of the armature shaft require no lubrication. Oil quickly collects dust, and unless the parts are frequently cleaned, will make the contactor sluggish in opening, thus causing the arc to hang on longer.

Arc Shields should always be down so that the arc is broken within the field of the blowout coil, otherwise the shield will not give satisfactory results. The arc shield should always be renewed before the moulded material is burned away sufficiently to expose the steel pole pieces.

Operating Coil may be removed by taking off the main bearing and lowering the armature, then disconnecting the terminal leads and removing the screws in the back of the coil, which holds it in place.

Contacts and Spring Pressure—Use no oil or other lubricant on the copper contacts. The contacts normally wear to give the best contact surfaces without any attention. The roughened appearance of the contacts is no indication that good contact is not being obtained. The contacts should be replaced when the maximum usefulness has been reached in order that the contact pressure will not fall below the minimum value for which it is designed. The contact pressure for this unit, measured at the heel of the contact, should be between 18 and 22 pounds. To measure the final spring pressure, close the contactor mechanically, place a thin piece of paper between the contacts, then measure the pounds pull necessary to separate the contacts by means of a hook spring balance attached to the head of the screw which holds the moving contacts in place. Read the pounds pull required at the instant the paper can be moved. In case the contact pressure is below the minimum value, after the contacts have been replaced, additional insulating washers

should be added under the spring. Low spring pressure should be guarded against to avoid excess heating of the contacts. Excess heating increases the resistance which may cause arcing and welding the contacts together.

Magnet Noise (humming) on the a-c. contactor may develop. Should it become excessive, check to see if any of the following conditions exist.

1. The pole face of the magnet may be corroded, which will not permit the magnet to seat properly.
2. The armature lever may be distorted through rough use, which will not allow the moving core to find a square seat. Check this by placing a sheet of paper between the two pole faces and close the magnet electrically, which will leave an impression on the high points. Full contact is not actually necessary but should be over a large portion.
3. The voltage may be below the minimum rating of the operating coil.
4. The shading coil on the stationary core may be broken.
5. The spring pressure may be too high.

Contact Gap for this contactor should be approximately $\frac{1}{8}$ inch when the magnet is in the full open position, measured at the heel of the contacts when they are new. A greater gap may prevent the magnet from picking up on the minimum voltage for which the operating coil has been designed.

Failure to Close—A magnet may fail to close for any of the following reasons:

1. The lead wire to the operating coil may be disconnected.
2. The operating coil may be open circuited.
3. There may be mechanical friction.
4. The voltage may be below normal.

Failure to Open may be caused by mechanical interference or friction. The contacts may be welded together. Residual magnetism may be holding magnet closed due to low spring pressure.

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