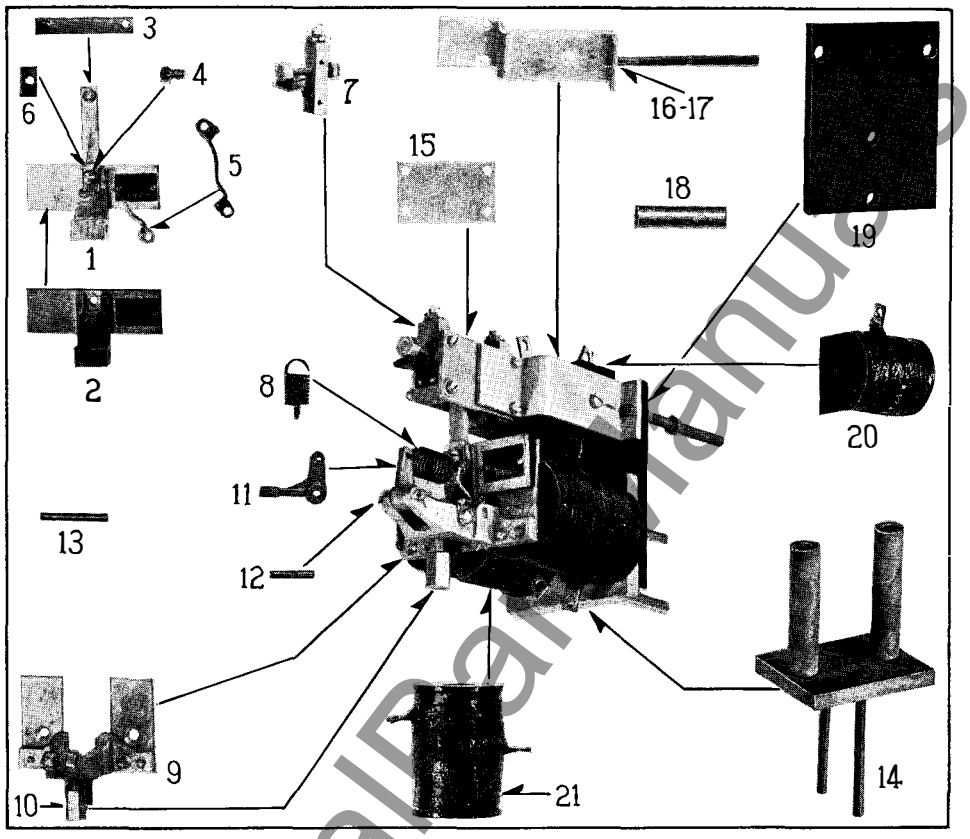
TYPE HI RELAY
RENEWAL PARTS DATA



RECOMMENDED STOCK OF RENEWAL PARTS

Ref. No.	Description of Part	Style Number of Part			No. Per Relay	Relays in Use: Recommended For Stock 1	Relays in Use: Recommended For Stock 5
Style Number of Relay		974 339	1 014 535	1 032 157			
1	Armature Complete	1 021 949	1 021 949	1 043 255	1	0	0
2	Bare Armature	1 021 948	1 021 948	1 021 948	1	0	0
3	Contact Finger—Moving	849 732	849 732	1 032 177	1	1	2
4	Contact Screw, .190-32x3/8" Fil. Hd. I.M. Sc.	Std. Hdw.	Std. Hdw.	Std. Hdw.	1	1	2
5	Shunt	276 960	276 960	276 960	1	1	1
6	Spring Clip	560 113	560 113	560 113	1	0	0
7	Stationary Contact Support with Contact	1 021 951	1 021 956	1 021 956	2	1	2
8	Armature Spring	1 032 141	1 032 141	1 032 141	1	0	1
9	Bearing Bracket with Pole Piece	1 021 950	1 021 950	1 021 950	1	0	0
10	Adjusting Screw	1 020 942	1 020 942	1 020 942	1	0	0
11	Adjusting Lever	1 020 931	1 020 931	1 020 931	1	0	0
12	Adjusting Lever Shaft	63 587	63 587	63 587	1	0	1
13	Armature Shaft	885 426	885 426	885 426	1	0	1
14	Core Complete with Studs	1 021 071	1 021 071	1 021 071	1	0	0
15	Arc Box Side	849 733	849 733	849 733	2	1	2
16	Bracket—L.H. for Stationary Contact Support	849 770	849 770	849 770	1	0	0
17	Bracket—R.H. for Stationary Contact Support	849 771	849 771	849 771	1	0	0
18	Core for Upper Coil	1 020 939	1 020 939	1 020 939	1	0	0
19	Micarta Mounting Base	1 020 938	1 020 938	1 020 938	1	0	0
20	Coil—Upper (wire wound)	*	*	*	0 or 1	1	1
21	Coil—Lower (wire wound)	*	*	*	+	1	1
△	Coil—Lower (strap wound)	*	*	*	+	0	0

Parts indented are included in the part under which they are indented.

* When ordering, specify identification number stamped on coil.

+ The No. per Relay may be 1 or 2 wire wound coils; 1 or 2 strap wound coils; or 1 of each, depending on the application.

△ Not illustrated.

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 service interruptions 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 shuddowns 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 its style number. 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.

Westinghouse Press
Printed in U.S.A. (Rep. 4-41)

Westinghouse Electric & Manufacturing Company
East Pittsburgh, Pa.

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TYPE HI RELAY
INSTRUCTIONS

Description

General:

The Type HI Relay is a two-pole direct current relay having a frame of pressed steel and sturdy cast and extruded parts. It supersedes the Types KG2, KG2A and KG4A Relays. The Relay has both front and back stationary contacts and a common moving contact. Control of the operating characteristics is afforded by adjustment of the open and closed magnet gaps and of the armature spring tension.

The cores of the standard HI Relay are 3 inches in length. Where greater winding space is required, a special Type HI Relay having cores 4½ inches long is available. Its magnetic characteristics are similar to those of the standard relay.

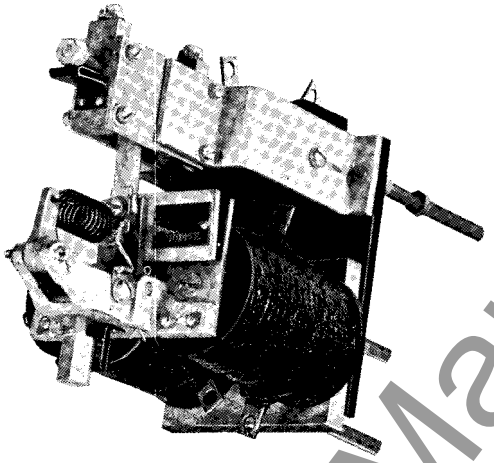
Application and Rating:

The Type HI Relay may be used in a number of ways, for example:

1. As a fluttering relay for automatic field regulation during acceleration or deceleration.
2. As an adjustable current or voltage relay for general service.
3. As a differential or reverse current relay, employing two separately connected coils.
4. As a transfer relay in case of voltage failure.

The relay is designed for field fluttering applications and will carry and break 5 amperes inductive load at 600 volts. For infrequent operation the current rating may be increased to 10 amperes at 600 volts. For motors of low speed ranges and ratings in excess of 100 horsepower at 250-550 volts, the contact load should be calculated. The load should not exceed 8 kilowatts, this figure being the product of current times voltage surge.

The operating coils are designed for continuous duty on direct current only. They may be series or shunt, depending upon the application. Insulation is for 600 volts.



Coils:

Coils of many turns are wound of insulated wire, connections to them being made by passing leads through holes in the panel. Coils of few turns are wound of heavy strap copper, connections to them being made by means of studs.

Contacts:

The two stationary contacts may be supplied with silver or copper graphalloy tips. They are adjustable to compensate for wear and to provide adjustment of the contact gaps.

The moving contact is supplied with a silver tip. The contact may be removed with ease for replacement.

The current-carrying shunt is of round flexible braided copper cable which gives complete freedom to the moving armature and has ample capacity to withstand the maximum current for which the relay is rated.

Blowout Coil:

A blowout coil may be employed where necessary to provide rapid extinction of the arc in circuit interruption. It is mounted between pole pieces which serve also to support the stationary contacts and the blowout shield.

Maintenance

Adjustments:

The relay may be adjusted by changing the spring tension or by changing the magnet gap. Increasing the spring tension will require higher voltage or current values to pull in the armature and also will cause it to drop out at higher values.

The open magnet gap, and consequently the "pick-up" setting, is controlled by turning the stud of the stationary break contact. The closed magnet gap, and consequently the "drop-out" setting, is controlled by turning the stud of the stationary make contact.

Relays on controllers are tested at the factory before shipment. They should be examined carefully before being placed in service to make certain that handling has not altered the relay settings. Adjustment may be required.

General Care:

The contactor should be inspected frequently to see that no impairment of electrical or mechanical functioning occurs in service.

1. Remove accumulations of dust with a dry cloth or a compressed air jet. Avoid oily cloths, as an oil film quickly attracts dust.
2. Examine the contacts to see that they are not burned away beyond their useful values. It may be necessary to adjust them as they wear in order to maintain the original current or voltage setting of the relay.

   Do not use oil or other lubricants on the contacts. They require little attention and make good contact even when they are very rough in appearance.
3. Examine the shunt to see that it is unbroken and making good contact.
4. Examine the bearings and hinge-pins to determine if they are free to rotate. Do not apply oil.

Operating Coils:

To remove the operating coils, it is necessary only to remove the two counter-sunk screws securing the rectangular pole faces to the cores.