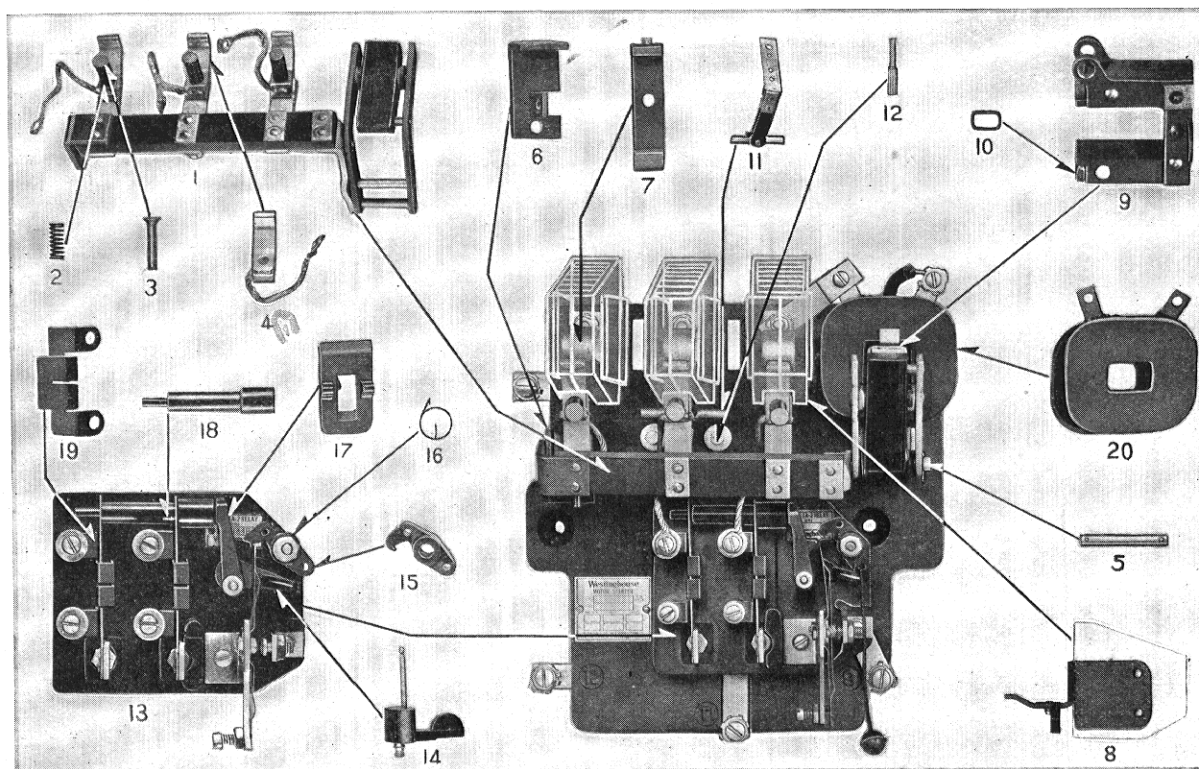




## CLASS 11-200-A4 "DE-ION" LINESTARTER

For Use in Explosive Atmospheres—Class 1 Group D Hazardous Locations  
RENEWAL PARTS DATA

## RECOMMENDED STOCK OF RENEWAL PARTS

For Linestarters in use up to and including .....			1	5	Style	OPERATING COIL TABLE				
Ref. No.	Name of Part	No. Per Unit	Recommended for Stock		No. of Part	Complete Starter Style No.		Volts	Cycles	Operating Coil Style No.
			With Push Button	Without Push Button						
1	Armature Complete.....	1	0	0	575164	808194	808210	220	60	585571
2	Moving Contact Spring.....	3	0	2	478769	808195	808211	440	60	585572
3	Moving Contact Spring Retainer.....	3	0	0	486757	808196	808212	220	50	585575
4	Moving Contact with Shunt ...	3	3	6	575167	808197	808213	440	50	585576
5	Armature Shaft.....	1	0	0	662212					
6	Bearing Bracket.....	1	0	0	514331					
7	Stationary Contact.....	3	3	6	575168					
8	De-ion Arc Quencher.....	3	0	2	667533					
9	Stationary Core.....	1	0	0	512795					
10	Shading Coil.....	2	0	1	204950					
11	Interlock Contact—Moving.....	1	1	1	478761					
12	Interlock Spring.....	1	0	0	472204					
13	Interlock Contact—Stationary.....	2	1	1	516544					
14	†Type TA-2 Overload Relay.....	1	0	0	576184					
15	Calibrating Lever.....	1	0	0	597584					
16	Latch.....	1	0	0	597585					
17	Latch Spring.....	1	0	0	597590					
18	Operating Lever.....	1	0	0	597586					
19	Push Rod.....	1	0	0	597587					
20	*Moving Contact.....	1	0	2	541356					
	*Stationary Contact and Holder..	1	0	2	548397					
	†Heater for Relay.....	2	2	4	† .....					
	*Push Button Complete.....	1	0	0	568383					
	*Button Return Spring.....	2	0	1	534625					
	*Break Contact—Stationary.....	2	1	2	534626					
	*Make Contact—Stationary.....	2	1	2	534627					
	*Moving Contact Pin.....	2	1	2	534628					
	Operating Coil.....	1	1	1	See Table					

Parts indented are included in the part under which they are indented.  
 †When ordering Heaters, specify the full load ampere rating stamped on the motor name plate.  
 ‡See I. L. 1778, Class RP-23310 for instructions for type TA-2 Relay.  
 \*Not listed on illustration.

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 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 stock should be carried, considering the severity of service and the time required to secure replacements.

## ORDERING INSTRUCTIONS

Name the part and give its style number. Give the complete name plate 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 one dollar, as order-handling and shipping expenses prevent us from billing a smaller amount.

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

Westinghouse Electric &amp; Manufacturing Company

East Pittsburgh Works

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East Pittsburgh, Pa.



## CLASS 11-200-A4 "DE-ION" LINESTARTER

For Use in Explosive Atmospheres—Class 1 Group D Hazardous Locations

### INSTRUCTIONS

#### MAXIMUM HORSEPOWER RATINGS

Standard Motor Types		3-Phase or 2-Phase 4-Wire				2-Phase 3-Wire				1-Phase			
		11	22	44	550	110	220	440	550	110	220	440	550
All	Volts												
General Service	Hp.	5	10	20	20	3	7½	15	15	2	3	5	5

#### CAUTION

Before removing the enclosing cover, **BE SURE THE POWER IS OFF.** Before reapplying the power, **BE SURE THE COVER IS IN PLACE,** and that **ALL COVER BOLTS ARE PROVIDED WITH A LOCK WASHER AND ARE PROPERLY TIGHTENED.**

#### GENERAL

The Class 11-200-A4 LINESTARTER is for non-reversing service with single or polyphase motors. The numeral "4" designates that the starter is for use in Explosive Atmospheres—Class 1 Group D Hazardous Locations.

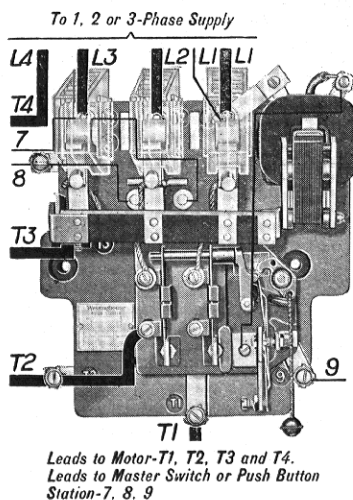


FIG. 1—VIEW OF CLASS 11-200-A4 "DE-ION" LINESTARTER SHOWING WIRING CONNECTIONS.

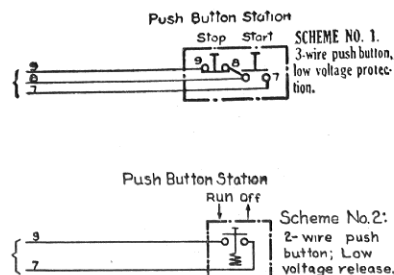


FIG. 2—WIRING DIAGRAM OF CONNECTIONS TO MASTER SWITCHES.

#### HEATERS FOR THERMAL RELAYS

Full Load Current of Motor	Amp. Rating of Heaters	Style No. of Heater	Full Load Current of Motor	Amp. Rating of Heaters	Style No. of Heater
.70-.90	1.0	511342	6.8-7.3	8.4	551940
.91-1.20	1.4	511341	7.4-7.8	9.0	511343
1.21-1.45	1.7	511263	7.9-9.5	11.0	474419
1.46-1.65	1.9	511264	9.6-11.0	13.0	474420
1.66-1.80	2.1	511265	11.1-13.0	15.0	474421
1.81-2.00	2.3	511261	13.1-14.5	17.0	474422
2.01-2.25	2.6	511262	14.6-17.5	20.0	502915
2.26-2.70	3.1	551944	17.6-20.0	23.0	474425
2.71-3.10	3.6	551941	20.1-22.0	28.0	474426
3.2-3.6	4.2	551942	22.1-25.0	29.0	474427
3.7-4.1	4.7	551943	25.1-27.0	32.0	501695
4.2-4.9	5.7	551937	27.1-31.0	36.0	474429
5.0-5.8	6.7	551938	31.1-35.0	40.0	474431
5.9-6.7	7.7	551939			

#### INSTALLATION

Quoting from the 1931 National Electrical Code Sections 3203—"Rigid conduit with Vapor-tite joints and fittings shall be employed as the type of wiring. At points where conduit terminates, such as at motor terminal boxes, switch boxes and similar places, provision shall be made for sealing off the conduit by the use of a suitable insulating compound to prevent the passage of gases or vapor through the conduit system."

Remove starter panel proper. Mount case on wall, make conduit connections, and draw in leads. Leads should be reasonably long to facilitate connecting. Replace starter panel and connect leads according to instructions given below, making connections to power leads last.

For a **THREE-PHASE SYSTEM**, connect according to Fig. 1.

For a **SINGLE-PHASE SYSTEM**, place jumper across L-2 to L-3 (See Fig. 1); connect power leads to L-1 and L-2; connect motor leads to T-1 and T-2.

For a **TWO-PHASE 3-WIRE SYSTEM**, L-3 is the common lead. Connect T-4 to T-3 on panel.

For a **TWO-PHASE, 4-WIRE SYSTEM**, connect L-4 according to Fig. 1; phase 1=L-1, L-3; phase 2=L-2, L-4.

**BEFORE MAKING ANY CONNECTIONS BE CERTAIN THAT ALL THE LINES TO BE HANDLED ARE DEAD.**

**CHECK ALL CONNECTIONS BEFORE POWER IS TURNED ON.**

**ARC BOXES** should always be in place before operating starter. If motor operates in wrong direction reverse any two leads of a phase, preferably at the motor terminals. (If the power system is two-phase, three-wire, do not change the common lead.)

**INSPECT STARTER UNIT** to see that parts work freely, that nuts are tightly fastened, that terminals and current-carrying parts are clean and make good contact, and that arc boxes are mounted properly.

**OVERLOAD RELAY HEATERS** are supplied separately. Before installing them, check rating against above table. Ampere rating is stamped on heater adjacent to mounting hole. Install heaters as shown in Fig. 3. Starter is shipped for use with two-wire master switch providing **HAND RESET**.

When used with 3-wire Master Switch for **AUTOMATIC RESET**, remove latch and spring as indicated in Fig. 3. Trip overload relay by hand to insure that relay functions properly.

Before starting motor see that **CALIBRATION LEVER** on overload relay is at proper setting; current stamped on heater will just trip the relay at the 100 per cent setting.

To decrease tripping current, move relay adjusting lever toward 90; to increase, move toward 120. Adjustment gives approximately 10 per cent below and 20 per cent above normal value. Tripping value should be changed only by means of calibration lever.

Quoting the Underwriters' Standard for Industrial Control Equipment, Paragraph 61, "Overload relays shall function successfully without injury under all current conditions that may maintain when protected by fuses of four times, or instantaneous circuit-breakers set at seven times the motor name plate current rating."

#### INSPECTION AND MAINTENANCE

Before opening cover to inspect or adjust starter, **BE SURE THE POWER IS OFF.** Inspect the starter monthly or often enough to see that parts are in good operating condition. When dressing contacts, use a fine file or sandpaper; never use emery cloth for this purpose. When renewing contacts and shunts, care should be taken to see that shunts are installed with proper freedom, and that contacts are adjusted to touch simultaneously. Shunts should not be broken or touch other parts. To prevent noise, clean the armature sealing surfaces occasionally with an oil moistened rag. Do not oil the **LINE-STARTER**.

#### IMPORTANT RENEWAL PARTS

The parts most likely to need renewal are: **STATIONARY CONTACT**, S # 575168; **MOVING CONTACT WITH SHUNT**, S # 575167; **OPERATING COIL** (for Style No. see tag attached to coil); **RELAY COMPLETE ON ITS BASE WITHOUT HEATERS**, S # 576184. Keep these on hand if starter is in heavy service. Order parts from nearest Sales Office; describe the parts required and give the starter name plate reading.

To install Heaters, remove screws and washers from binding posts; set Heater in place and replace washers and screws.

When tightening in place adjust Heater to obtain 1/4 to 1/4 clearance between Bimetal Strip and Heater.



**CALIBRATION LEVER** MOVE this to vary Tripping Value of Current

FIG. 3—THERMAL RELAY, SHOWING HOW HEATERS ARE INSTALLED.