DESCRIPTION • OPERATION • MAINTENANCE

INSTRUCTIONS

DESIGN N

CAT. NO. STYLE — **Life-Line® STARTER** — **COIL V CY**

SIZE 1, 2-3 or 4 POLE **STYLE**

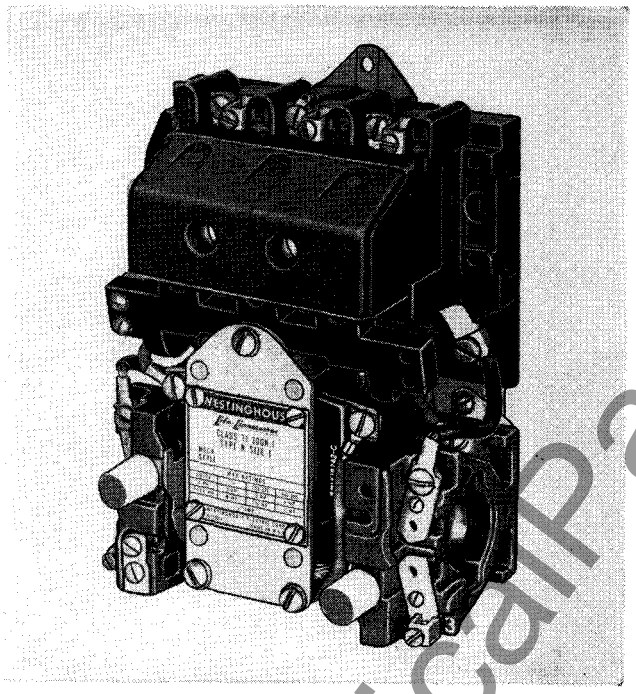

FIG. 1. Size 1, Design N Starter

DESIGN N LIFE-LINE STARTER will give protection against overloads (but not against short circuit currents) when wired in accordance with Fig. 3 and provided with overload heaters selected from the Heater Application Tables.

The starter should be protected against short circuits by fuses not exceeding four times the rated motor current, or a time limit circuit breaker set at not more than four times the full load motor current.

STARTER IDENTIFICATION

The LIFE-LINE Starter complete is identified by CAT. NO. (shown on leaflet, carton and in catalog) or by style no. (shown on leaflet and carton) and consists of two basic parts: (1) The starter unit without coil, and (2) the coil.

The CAT. NO. and style no. of the starter unit (without coil) appear on the metal nameplate attached to the magnet.

The coil style no. is marked on the coil itself along with its voltage and frequency rating.

OVERLOAD RELAY

The overload relay is furnished set for Hand reset operation. The relay may be set for Automatic reset, Hand reset, or Hand reset with no manual means of opening the contacts. The type of operation is determined by the position of the control spring in the notched pushrod; the respective positions (as illustrated in Fig. 2) are indicated by "Auto", "Hand" and "No Stop". The positions are indicated as follows: "Hand", "No Stop" by alignment of spring arm with the ribs on the base, the "Auto" by the spring arm against the upper shoulder of the base. Automatic reset should not be used with 2-wire master switch.

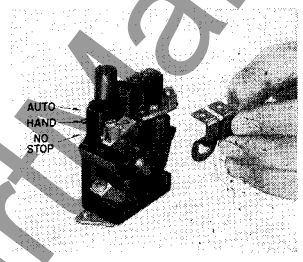

FIG. 2. Thermal Overload Relay, Showing Heater and Installation Method.

The overload heaters are shipped in a separate carton. First check the heater code marking (adjacent to mounting holes) against the Heater Application Table. If the room temperature surrounding the motor is the same as that at the starter, the full load current marking of the motor nameplate should come within the current range of the heater. If the room temperature surrounding the motor exceeds that at the starter, assume a decreased motor current of 1% for each degree C difference in temperature and select heaters accordingly. If the room temperature at the starter exceeds that at the motor, assume an increased motor current of 1% for each degree C difference in temperature and select heaters accordingly. Install heater as shown in Fig. 2, making sure that heater mounting screws are tight.

ELECTRICAL INTERLCOKS

This starter comes equipped with one normally open interlock mounted on the lefthand side. A second interlock may be obtained by ordering either style 453D976G05 normally open, or style 453D976G06 normally closed. A third or fourth interlock may be obtained by ordering either style 453D976G07 normally open, or style 453D976G08 normally closed. The normally open interlocks may be readily converted to normally closed interlocks per Instruction Leaflet I.L. 11956.

A universal electrical interlock (L54) is available as an accessory. This interlock provides either NO or NC operation, or may be employed as a SPDT device by jumpering the terminals on one end for a common line connection. The style number for the Type L54 interlock kit when used as a first or second interlock is style 453D502G03; when added as the third or fourth interlock specify style 453D502G04.

SEPARATE CONTROL CIRCUIT

If it is desired to operate the coil from a separate control circuit, disconnect control lead at "L2" and at lower right overload relay terminal (Fig. 3) and remove. Connect one side of separate control circuit to relay terminal where lead was removed and the other side to isolated terminal on top of left overload relay. To this point connect terminal "1" of PB station or master switch, in other respects connect per Fig. 3.

On starters wired for separate control at the factory, connect separate control leads to the terminals marked "1" and "X2".

® Registered Trade-Mark.

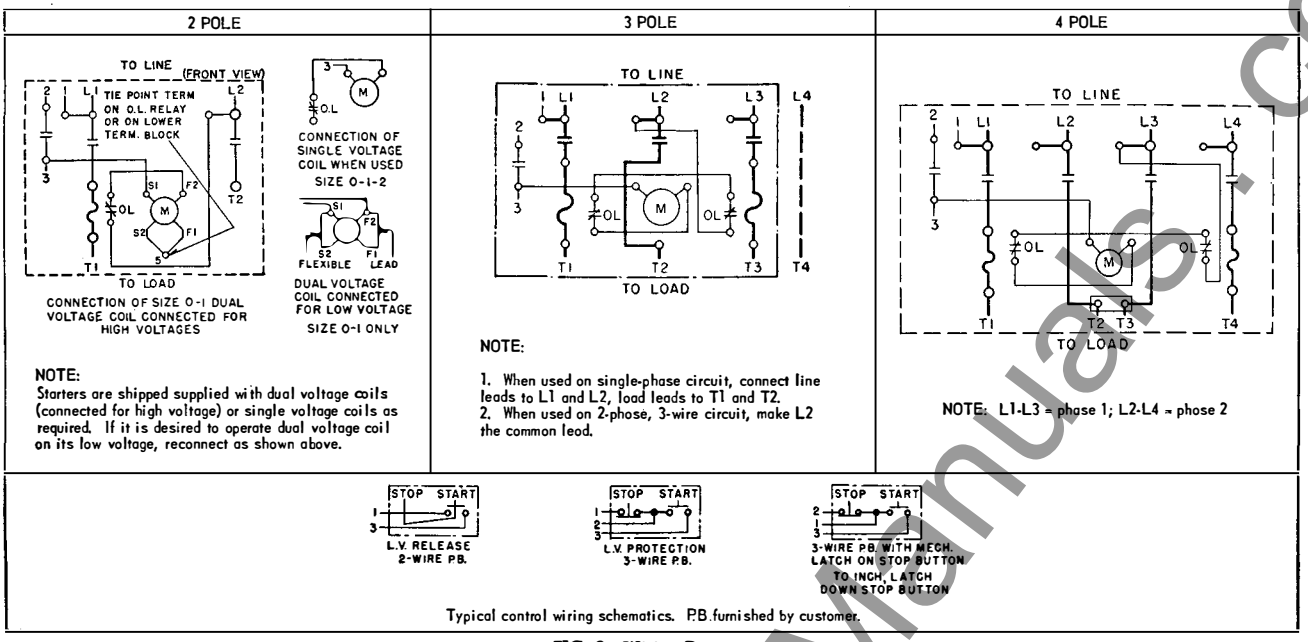

FIG. 3. Wiring Diagram

MAINTENANCE

The sealing surfaces on the magnet frame and armature should be kept clean.

Do not lubricate the contacts or bearings. Fine silver contacts need no dressing throughout their life.

To remove contactor coil, remove the three round head magnet mounting screws and withdraw the coil and magnet.

When installing contactor coil, make sure that round head magnet mounting screws are securely tightened.

The bimetallic disc trip unit of the overload relay has been carefully calibrated at the factory and should not be disturbed. In case of damage, remove complete relay unit and replace with complete unit.

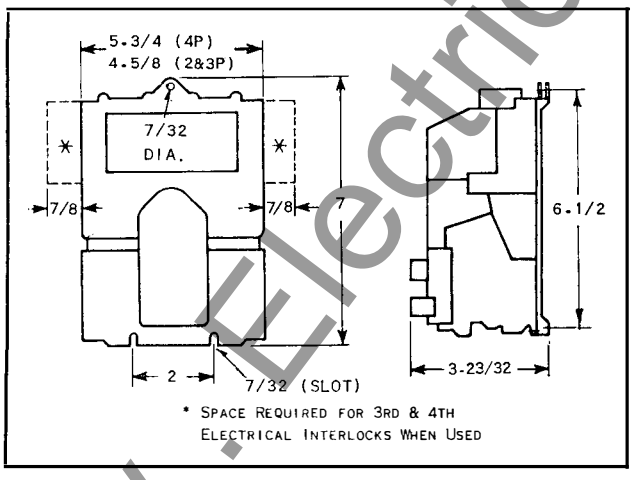

FIG. 4. Outline—Size 1

PRINCIPAL RENEWAL PARTS

2 Pole Contact Kit.....S# 1605 211
3 Pole Contact Kit.....S# 1605 212
4 Pole Contact Kit.....2 of S# 1605 211
Overload relay complete.....S# 48A3454G3

HEATER APPLICATION TABLES FOR SIZES 0, 1 AND 1½ LINESTARTERS

HEATER STYLE NUMBER	HEATER CODE MARKING	TABLE A — OPEN CLASSES 11200, 11210 — 125% Overload Protection Full Load Current of Motor (Amperes) @ 40°C	Heater Current Rating (Amperes) @ 40°C
1129 372	X .49	.48 to .51	.59
1129 373	Y .55	.52 to .58	.65
1129 374	Z .63	.59 to .66	.73
966 465	AA .71	.67 to .75	.83
966 466	AB .82	.76 to .82	.94
966 467	AC .93	.83 to .94	1.03
966 468	AD 1.0	.95 to 1.07	1.18
966 470	AF 1.2	1.08 to 1.22	1.35
966 471	AG 1.4	1.23 to 1.36	1.53
966 472	AH 1.5	1.37 to 1.51	1.71
966 473	AI 1.7	1.52 to 1.71	1.90
966 474	AK 1.9	1.72 to 1.91	2.14
966 475	AL 2.1	1.92 to 2.18	2.40
966 476	AM 2.5	2.19 to 2.40	2.73
966 477	AN 2.7	2.41 to 2.63	3.01
966 478	AO 3.0	2.64 to 2.90	3.29
966 479	AP 3.4	2.91 to 3.27	3.63
966 480	AR 3.8	3.28 to 3.71	4.10
966 481	AS 4.3	3.72 to 4.14	4.65
966 482	AT 4.8	4.15 to 4.66	5.19
966 483	AU 5.4	4.67 to 5.28	5.84
966 484	AW 6.1	5.29 to 5.98	6.61
966 485	AX 6.8	5.99 to 6.84	7.48
966 486	AY 7.7	6.85 to 7.88	8.56
966 487	AZ 8.5	7.89 to 8.63	9.85
966 488	BA 9.6	8.64 to 9.75	10.8
966 489	BB 11	9.76 to 10.7	12.2
966 490	BC 12	10.8 to 12.0	13.5
966 491	BD 13	12.1 to 13.3	15.1
966 493	BF 16	13.4 to 14.7	16.7
966 494	BG 18	14.8 to 15.9	18.4
966 495	BH 19	16.0 to 17.2	20.0
966 496	BI 21	17.3 to 18.7	21.6
966 497	BK 23	18.8 to 20.1	23.5
FOR SIZE 0 USE ABOVE HEATERS, CODE X THRU BK			
966 498	BL 25	20.2 to 21.6	25.2
966 499	BM 27	21.7 to 24.1	27.1
974 084	BO 31	24.2 to 26.7	30.2
301P138G01	BP 32	26.8 to 29.6	33.5
301P139G01	BQ 35	29.7 to 32.4	37.1
FOR SIZE 1 USE ABOVE HEATERS, CODE X THRU BQ			
1040 589	BR 36	32.5 to 35.9	40.6
1040 590	BS 40	36.0 to 40.0	45.0
FOR SIZE 1½ USE ABOVE HEATERS, CODE X THRU BS			
Note: Use Next Lower Code No. Heater for 115% Protection.			