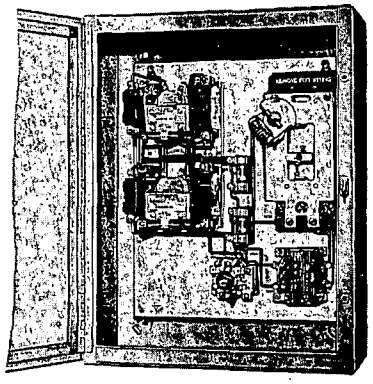
# A-C FULL VOLTAGE–MAGNETIC

## 3 Phase Reversing Combination Starters with Circuit Breaker

### WHEN ORDERING SPECIFY

- Catalog Number
- Voltage and Frequency
- Heater coil number or full load current.



NEMA Size 1 Starter with Control Transformer in NEMA 5-12 enclosure

### DESCRIPTION

Breakers are adjustable instantaneous trip-magnetic type except E frames which are non-adjustable thermal-magnetic type.

### FOR REMOTE CONTROL

| Non-Plugging Maximum HP 60-50 Cycles | | | Type of Breaker Frame | NEMA Size | General Purpose NEMA 1 | | General Purpose NEMA 1 with Gasketed Cover | | Weatherproof-Watertight NEMA 3-4 | | Dusttight—Industrial NEMA 5-12 | | | Hazardous Locations NEMA 7D & 9EFG | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | External Operating Buttons | | | | | | External Operating Buttons | Internal Operating Buttons | | External Operating Buttons | |
| 208/220 Volts | 440 Volts | 550 Volts | | | Cat. No. | Price | Cat. No. | Price | Cat. No. | Price | Cat. No. | Cat. No. | Price | Cat. No. | Price |
| 2 COIL OVERLOAD RELAY—RESET ONLY | | | | | | | | | | | | | | | |
| | | | | | 9659- | | 9659- | | 9659- | | 9659- | 9659- | | 9659- | |
| 3 | --- | --- | E | 0 | X1001 | $159. | X1003 | $177. | X1005 | $281. | X1007 | X1009 | $193. | W29 | $341. |
| 3 | 5 | 5 | F | 0 | X1002 | 182. | X1004 | 200. | X1006 | 304. | X1008 | X1010 | 216. | W30 | 341. |
| 7½ | --- | --- | E | 1 | X1101 | 171. | X1102 | 189. | X1104 | 293. | X1106 | X1107 | 205. | W31 | 353. |
| 7½ | 10 | 10 | F | 1 | H1 | 194. | X1103 | 212. | X1105 | 316. | H3 | H4 | 228. | W32 | 353. |
| 15 | --- | --- | E | 2 | X1201 | 285. | X1202 | 311. | X1203 | 471. | X1205 | X1206 | 329. | W33 | 523. |
| 15 | 25 | 25 | F | 2 | H8 | 308. | H10 | 334. | X1204 | 494. | H12 | H13 | 352. | W34 | 523. |
| 30 | 50 | 50 | F | 3 | H18 | 459. | H20 | 491. | H22 | 785. | H24 | H26 | 517. | W35 | 871. |
| --- | 60 | 75 | F | 4 | H29 | 1036. | H33 | 1096. | H37 | 1448. | H41 | H45 | 1195. | W36 | 1671. |
| 50 | 100 | 100 | JA | 4 | H30 | 1036. | H34 | 1096. | H38 | 1448. | H42 | H46 | 1195. | W37 | 1671. |
| 100 | 200 | 200 | --- | 5 | W1 | 2057. | W2 | 2155. | W3 | 3109. | W4 | W5 | 2435. | --- | --- |
| 2 COIL OVERLOAD RELAY AND CONTROL TRANSFORMER—RESET ONLY | | | | | | | | | | | | | | | |
| | | | | | 9659- | | 9659- | | 9659- | | 9659- | 9659- | | 9659- | |
| 3 | --- | --- | E | 0 | W6 | $186. | W7 | $204. | W8 | $308. | W9 | W10 | $220. | W38 | $368. |
| 3 | 5 | 5 | F | 0 | W11 | 209. | W12 | 227. | W13 | 331. | W14 | W15 | 243. | W39 | 368. |
| 7½ | --- | --- | E | 1 | W16 | 198. | W17 | 216. | W18 | 320. | W19 | W20 | 232. | W40 | 380. |
| 7½ | 10 | 10 | F | 1 | H2 | 221. | W27 | 239. | W28 | 343. | H5 | H6 | 255. | W41 | 380. |
| 15 | --- | --- | E | 2 | W21 | 323. | W22 | 349. | W23 | 509. | W24 | W25 | 367. | W42 | 561. |
| 15 | 25 | 25 | F | 2 | H9 | 346. | H11 | 372. | W26 | 532. | H14 | H15 | 390. | W43 | 561. |
| 30 | 50 | 50 | F | 3 | H19 | 515. | H21 | 547. | H23 | 841. | H25 | H27 | 573. | W44 | 927. |
| --- | 60 | 75 | F | 4 | H31 | 1104. | H35 | 1164. | H39 | 1516. | H43 | H47 | 1263. | W45 | 1739. |
| 50 | 100 | 100 | JA | 4 | H32 | 1104. | H36 | 1164. | H40 | 1516. | H44 | H48 | 1263. | W46 | 1739. |
| 3 COIL OVERLOAD RELAY—RESET ONLY | | | | | | | | | | | | | | | |

**Factory Assembled** 3 coil starter—Add suffix "T" to catalog number and through size 4 add $4.00 and for size 5 add $40.00.

**Field Conversion** from 2 coil to 3 coil, use spindle kit 10176H150—$2.50 and heater coil—$1.50.

Prices include necessary heater coils at $1.50 each.

### Plugging and Jogging Service Horsepower Ratings

Maximum Horsepower where operation is interrupted more than 5 times per minute.

| NEMA Size | 208/220 Volts | 440-550 Volts |
|---|---|---|
| 0 | 1 | 1 |
| 1 | 3 | 5 |
| 2 | 10 | 15 |
| 3 | 20 | 30 |
| 4 | 30 | 60 |
| 5 | 75 | 150 |

### HEATER COILS for starters in NEMA 1 enclosure, for average 60 cycle 1800 R.P.M. motors

| H.P. | 208/220 Volts | 440 Volts | 550 Volts | H.P | 208/220 Volts | 440 Volts | 550 Volts |
|---|---|---|---|---|---|---|---|
| | 10177- | 10177- | 10177- | | 10177- | 10177- | 10177- |
| ¼ | H1017 | H1010 | H1008 | 10 | H1045 | H1040 | H1038 |
| ⅓ | H1019 | H1012 | H1010 | 15 | H1049 | H1043 | H1041 |
| ½ | H1022 | H1016 | H1013 | 20 | H1050 | H1045 | H1043 |
| ¾ | H1025 | H1019 | H1017 | 25 | H1052 | H1047 | H1045 |
| 1 | H1027 | H102I | H1019 | 30 | H1054 | H1047 | H1045 |
| 1½ | H1030 | H1025 | H1023 | 40 | H1055 | H1049 | H1048 |
| 2 | H1033 | H1066 | H1025 | 50 | H1058 | H1052 | H1049 |
| 3 | H1036 | H1029 | H1028 | 60 | --- | H1052 | H1050 |
| 5 | H1040 | H1034 | H1032 | 75 | --- | H1055 | H1052 |
| 7½ | H1043 | H1038 | H1035 | 100 | --- | H1057 | H1055 |

For more accurate selection and for other enclosures select heater coils by full load current. See index on page 279.