



HSG 120

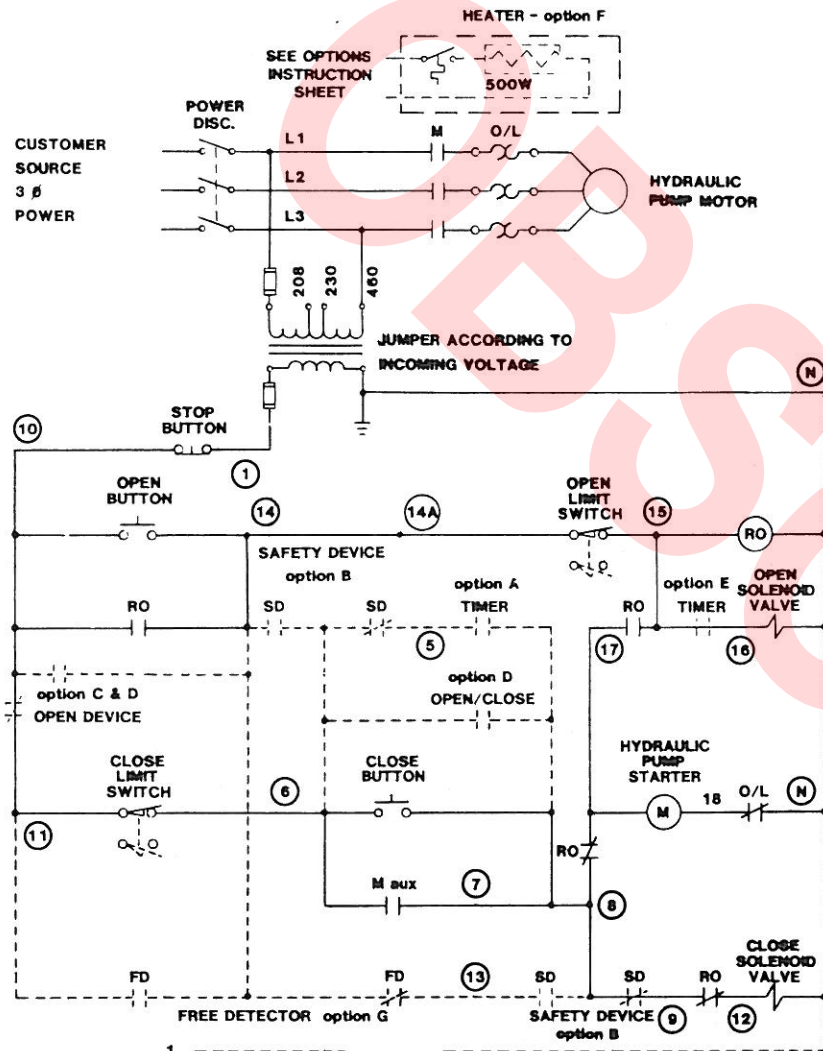
Wiring

DISCLAIMER

HySecurity relay-controlled hydraulic gate operators do not meet current UL 325 Safety Standards and that HySecurity recommends decommission and replacement of all manufacturers' relay-controlled operators with modern Smart Touch™ based operators, which fully comply with UL 325 safety standards. By downloading and using this document you acknowledge that HySecurity no longer provides parts or technical support for those older operators.

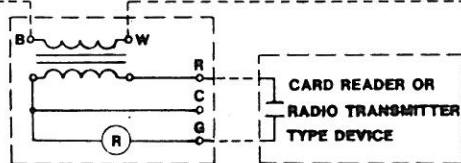
Note

HySecurity accepts no responsibility, implied or express, for claims arising from continued use of pre-2001 relay-controlled operators.



option C
OPEN ONLY DEVICE

option D
OPEN/CLOSE DEVICE
typically 24 VAC



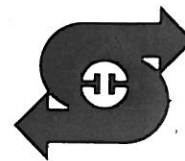
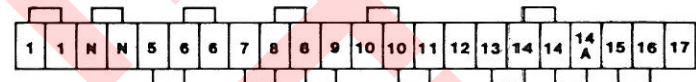
NOTES:

1. CIRCUIT PROTECTION AND SWITCHING BY OTHERS.
2. LIMIT SWITCHES SHOWN WITH GATE IN TRANSIT.
3. NUMBERS IN CIRCLES INDICATE TERMINAL NUMBERS.
4. DASHED LINES INDICATE OPTIONAL WIRING.
5. WHEN USING A THREE BUTTON STATION AND CONSTANT HOLD CLOSE IS DESIRED, REMOVE TERMINAL JUMPER 7-8.
6. IF THE THREE BUTTON STATION IS NOT USED, JUMPER 1 TO 10 TO REPLACE STOP BUTTON.
7. ON HSG AND HTG OPERATORS, THE OPEN AND CLOSE LIMIT SWITCH NORMALLY OPEN CONTACTS ARE AVAILABLE FOR CUSTOMER USE. CONNECT TO THE UNUSED ORANGE/WHITE PAIRS ON THE LEFT SIDE OF THE CONTROL PANEL.
8. ON HRG OPERATORS, THE CLOSE LIMIT SWITCH NORMALLY OPEN CONTACTS ARE AVAILABLE ONLY. CONNECT TO THE UNUSED ORANGE AND WHITE WIRES OF THE OPERATORS SIX WIRE LIMIT BUNDLE.

OPTIONS:

- A. TIME DELAY TO CLOSE — THIS OPTION WILL CLOSE YOUR GATE FROM THE FULL OPEN POSITION.
- B. SAFETY DEVICE — A SAFETY DEVICE, SUCH AS A PHOTO EYE OR LOOP DETECTOR, WILL REVERSE YOUR GATE TO THE FULLY OPEN POSITION OR PREVENT CLOSING IF THE GATE IS FULLY OPEN. TWO CONNECTIONS ARE POSSIBLE; USE CONNECTIONS 5, 6 AND 14, IF TIMER RESET IS DESIRED, USE CONNECTIONS 13, 17 and 9 TO PERMIT CLOSURE IMMEDIATELY AFTER SAFETY DEVICE IS CLEARED.
- C. OPEN DEVICE — A LOW VOLTAGE INTERFACE FROM A SINGLE BUTTON 2 WAY CONTROL (TYPICALLY A RADIO TRANSMITTER OR CARD READER) WILL OPEN THE GATE. THIS OPTION IS COMMONLY USED IN CONJUNCTION WITH OPTION A, TIME DELAY TO CLOSE THE GATE.
- D. OPEN CLOSE DEVICE — A LOW VOLTAGE INTERFACE FROM A SINGLE BUTTON 2 WAY CONTROL (TYPICALLY A RADIO TRANSMITTER) WILL OPEN, CLOSE OR REVERSE THE GATE IF IT IS CLOSING.
- E. 'E' TYPE — A TIMER IS ADDED BY THE FACTORY AS PART OF THE MODIFICATION TO CONVERT AN OPERATOR TO THIS TYPE.
- F. HEATER — A HEATER MAY BE ADDED FOR COLDER CLIMATES TO MAINTAIN THE HYDRAULIC OIL OPERATING TEMPERATURE.
- G. FREE DETECTOR — A LOOP DETECTOR MAY BE USED TO OPEN THE GATE.
- H. ELECTRICAL INTERLOCK — TWO HY-SECURITY OPERATORS MAY BE INTERLOCKED, SEE OPTIONS SHEET.

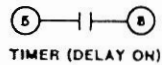
TERMINAL BLOCK:



Hy-Security Gate Operators

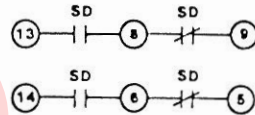
Manufacturers and Designers of Hydraulic Systems
P.O. Box 31532 408 N. 35th, Seattle, WA 98103 Phone: (206) 632-0538

A TIME DELAY TO CLOSE



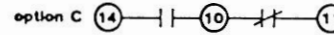
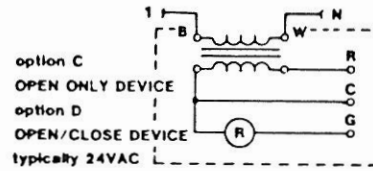
TO CLOSE GATE FROM ANY POSITION, TIMER BEGINS COUNT WHEN GATE STOPS MOVING OPEN. MOUNT MODULE ON THE LEFT SIDE OF RELAY RO AND CONNECT THE UNUSED WIRES LABELED #5 AND #8 TO THE TIMER. BE CERTAIN THAT THE JUMPER BETWEEN #5 AND #6 IS INSTALLED UNLESS IT IS REPLACED BY A SAFETY DEVICE, WHICH WE RECOMMEND FOR SAFE OPERATION. THE JUMPER BETWEEN #7 AND #8 MUST ALSO BE PRESENT FOR PROPER OPERATION.

B SAFETY DEVICE

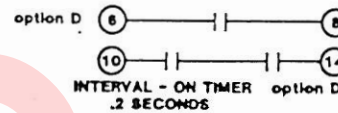


A SAFETY DEVICE SUCH AS A LOOP DETECTOR OR PHOTO EYE MAY BE USED TO CREATE SAFE GATE OPERATION. TWO CONNECTIONS ARE POSSIBLE. USE TERMINALS #8, #9 AND #13 FOR MAXIMUM SECURITY. TRIPPING SAFETY DEVICE WILL PREVENT CLOSURE OF GATE OR REVERSAL IF GATE IS CLOSING, BUT WILL NOT RENEW A TIMER COUNT WHILE GATE IS OPEN. USE TERMINALS #5, #6 AND #14 IF SAFEST OPERATION IS DESIRED. THE GATE WILL REVERSE DURING CLOSURE AND ADDITIONALLY THIS CONNECTION WILL ALLOW THE TIMER COUNT TO BE RESET EACH TIME SAFETY IS TRIPPED. BE CERTAIN THE JUMPER #5 TO #6 OR #8 TO #9 IS REMOVED ACCORDING TO WHICH CONNECTION IS USED.

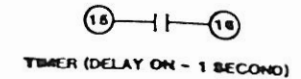
C/D OPEN & OPEN/CLOSE DEVICE



A LOW VOLTAGE INTERFACE FOR USE WITH A RADIO RECEIVER OR A CARD READER. AS OPTION C, CONTROL IS ONE BUTTON OPEN ONLY. AS OPTION D, CONTROL IS ONE BUTTON OPEN AND CLOSE, ONLY WHEN GATE IS FULLY OPEN. IF WIRING IS OPTION C, REMOVE JUMPER #10 TO #11. OPTION D MUST BE ORDERED FROM THE FACTORY.

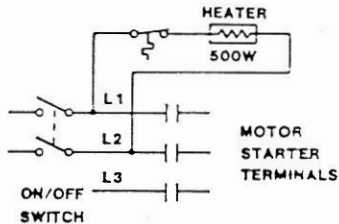


E 'E' TYPE OPERATOR



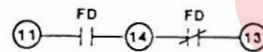
A TIMER MAY BE CONNECTED IN SERIES WITH THE OPEN VALVE AS PART OF SEVERAL FACTORY MODIFICATIONS NECESSARY TO CONVERT OPERATORS TO SUFFIX 'E' TYPE. THE JUMPER BETWEEN #15 AND #16 IS REMOVED FOR THIS PURPOSE.

F HEATER



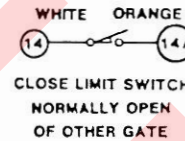
IN COLDER CLIMATES, WE RECOMMEND A HEATER BE INSTALLED TO KEEP THE HYDRAULIC COMPONENTS AT LEAST 0° F. USE A HEATER RATED FOR THE SUPPLIED VOLTAGE. CONNECT TO TERMINALS L1 AND L2 OF THE MOTOR STARTER. ON 480 VAC SYSTEMS, USE L1 AND A NEUTRAL WITH A 277 VAC HEATER OR A SEPARATE POWER SOURCE.

G FREE DETECTOR



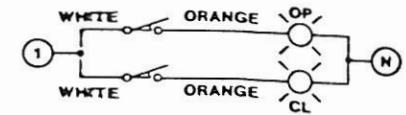
A DEVICE SUCH AS A LOOP DETECTOR MAY BE ADDED FOR FREE GATE OPENING, USUALLY FOR EXITING. WIRE AS SHOWN AND BE CERTAIN THAT THE JUMPER BETWEEN #14 AND #13 IS REMOVED FOR CORRECT OPERATION.

H ELECTRICAL INTERLOCK



IF TWO HY-SECURITY MACHINES ARE TO BE INTERLOCKED, REMOVE THE JUMPER BETWEEN #14 AND #14A AND CONNECT THE CLOSE LIMIT SWITCH NORMALLY OPEN PAIR OF WIRES (ORANGE AND WHITE) IN SECOND OPERATOR TO THESE TERMINALS. SEE NOTE #7 ON ELECTRICAL CIRCUIT. ON HVG GATES, THE NORMALLY OPEN CONTACT IS NOT AVAILABLE AND WILL REQUIRE A SECOND STACKED LIMIT SWITCH TO ACHIEVE THIS FUNCTION.

POSITION INDICATOR LIGHT



SWITCHING FOR FULL OPEN OR CLOSE INDICATION LIGHTS IS AVAILABLE BY USING THE NORMALLY OPEN CONTACTS OF THE OPEN AND CLOSE LIMIT SWITCHES. SEE NOTE #7 ON THE ELECTRICAL CIRCUIT. FOR 120VAC INDICATOR LIGHTS CONNECT THE WHITE WIRES TO TERMINAL #1. CONNECT THE ORANGE WIRE FROM EACH LIMIT SWITCH TO THE CORRESPONDING INDICATOR LIGHT. WIRE THE NEUTRAL TO POSITION 'N' ON THE TERMINAL STRIP.

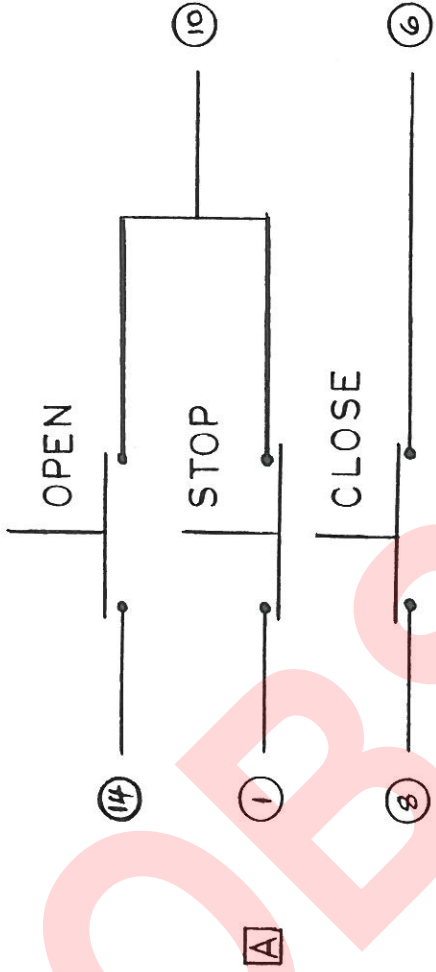
ELECTRICAL CIRCUIT OPTIONS

(NOTED AS DASHED WIRING ON THE ELECTRICAL CIRCUIT SCHEMATIC)

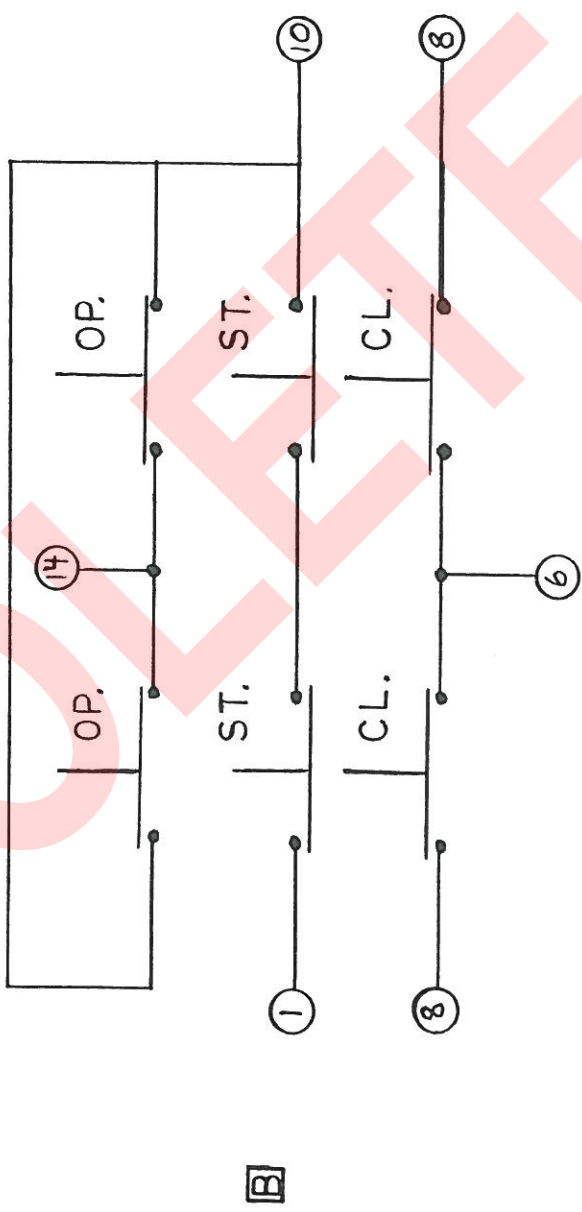


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BUTTON STATION SCHEMATICS



HYS PB17/19

- A 1 BUTTON STATION
- B 2 BUTTON STATIONS