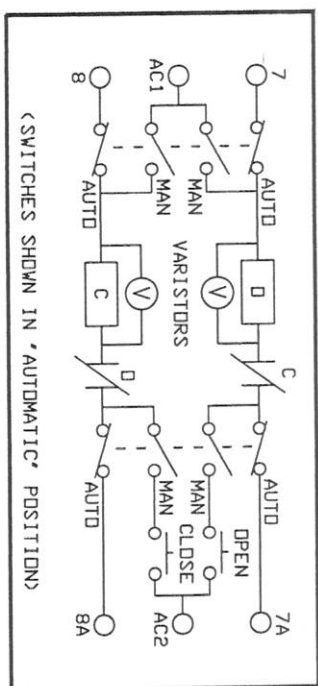


WIRING TABLE

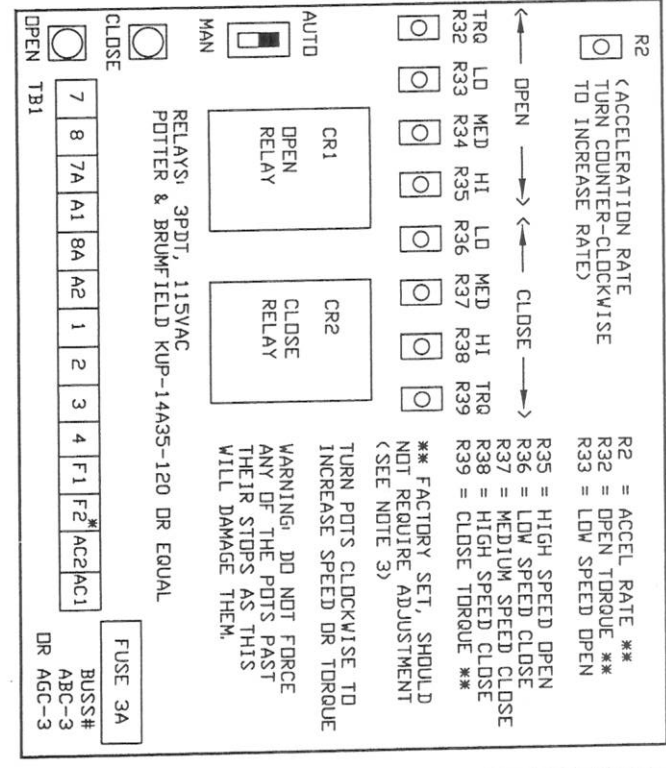
STANDARD	7	7A	8	8A	9	10	11	AC1	AC2
FRONT DDDR	7	7A	8	8A	9	10	11	AC1	AC2
REAR DDDR	7R	7AR	8R	8AR	9R	10R	11R	AC1R	AC2R

THIS DRAWING SHOWS THE STANDARD WIRING FOR ONE FRONT DDDR. SEE THE TABLE ABOVE FOR OTHER STANDARD ARRANGEMENTS. CHECK THE SCHEMATIC FOR THE EXACT WIRING USED. WIRES 9, 10, 11 ARE OPTIONAL, FOR SLOW SPEED CLOSING.

MODSS MANUAL & AUTOMATIC OPERATION (SEE NOTE 8 BELOW)



BOARD LAYOUT



MODSS INSTALLATION NOTES

- MODIFY GAL OPERATOR WIRING AS SHOWN IN THE DIAGRAM AND AS FOLLOWS. NOTE: IF THE MODSS IS SUPPLIED BY GAL, SOME OF THESE CHANGES MAY HAVE BEEN MADE ALREADY. RESISTOR 'RA' AND DIODE 'DA' ARE SUPPLIED WITH THE MODSS.
 - MOD OPERATOR (SEE GAL DWG 'L-5836-C' AND DIAGRAM) REMOVE SDC-1, 2 AND SDC-3, 4 FROM 'R5', 'R6' RESISTORS AND RECONNECT TO MODSS TERMINALS 1, 2, 3, 4. (HSD AND HSC SWITCHES ARE NOT USED.) RECONNECT THE BOTTOM OF 'R5' RESISTOR FROM 'F1' TO 'A2'. ADD RESISTOR 'RA' AND DIODE 'DA' IN PLACE OF 'R6' RESISTOR. WIRE RESISTOR 'RA' AND DIODE 'DA' IN SERIES WITH 'A1'. * CONNECT 'F1', 'F2', 'A1', 'A2' FROM THE OPERATOR TO THE MODSS. (GAL TERMINALS 'S', '6' AND RESISTOR 'R6' ARE NOT USED.)
 - MOD OR MOH OPERATOR (SEE GAL DWG 'L-6587' AND DIAGRAM) REMOVE THE WIRE FROM BOTTOM OF 'R5' RESISTOR TO TOP OF 'R5' RESISTOR. REMOVE SDC-1, 2, 3, 4 FROM 'S', 'SP' RESISTOR, AND RECONNECT SDC-1, 3 SDC-1, 3 TO MODSS TERMINALS 1, 2, 3, 4. (FSD, FSC, SDC-2, 4 SLOWDOWN SWITCHES ARE NOT USED.) RECONNECT THE DN/OFF SWITCH OUTPUT FROM 'F1', 'ST' TO 'AC1', 'AC2' ON THE MODSS. (115VAC FROM CONTROLLER IS CONNECTED TO 'F1', 'F2', 'F1', 'F2' AND 'DP' TO 'F1'. ARMATURE VOLTAGE (A1-A2) 120VDC (HIGH), 60VDC (MEDIUM), 30VDC (LDW) ARMATURE RESISTANCE (A1-A2) WITH MODSS DISCONNECTED = 40 OHMS. * CONNECT 'F1', 'F2', 'A1', 'A2' FROM THE OPERATOR TO THE MODSS. (GAL TERMINALS 'ST', 'RN', 'LC', 'LD', 'SDR', 'ATC', 'SDA', 'FSA' AND RESISTORS 'FS', 'BS', 'L', 'DMF' ARE NOT USED.)
- MODSS WIRING AND INTERCONNECTIONS:
 - STANDARD INTERCONNECTIONS WITH GAL MOD OPERATOR: MODSS TO CONTROLLER: 7, 7A, 8, 8A, (9, 10, 11), AC1, AC2 MODSS TO GAL MOD: 1, 2, 3, 4, A1, A2, F1, F2
 - STANDARD INTERCONNECTIONS WITH GAL MDM/MOH OPERATOR: MODSS TO CONTROLLER: 7, 7A, 8, 8A, (9, 10, 11) MODSS TO GAL MDM/MOH: 1, 2, 3, 4, A1, A2, F1, F2, AC1X, AC2X GAL MDM/MOH TO CONTROLLER: AC1, AC2

ADJUSTMENT NOTES

- MODSS ADJUSTMENTS:
 - DDOR OPEN TORQUE (CURRENT LIMIT) **
 - DDOR SPEED OPEN (CONTACTS 3 AND 4 OPEN)
 - HIGH SPEED OPEN (CONTACTS 3 CLOSED)
 - MEDIUM SPEED OPEN (CONTACTS 3 AND 4 CLOSED)
 - LOW SPEED OPEN (CONTACTS 1 AND 2 OPEN)
 - HIGH SPEED CLOSE (CONTACTS 1 AND 2 CLOSED)
 - MEDIUM SPEED CLOSE (CONTACTS 1 AND 2 CLOSED)
 - LDW SPEED CLOSE (CONTACTS 1 AND 2 CLOSED)
 - DDOR CLOSING TORQUE (CURRENT LIMIT) **
 - ACCELERATION RATE (CLOCKWISE = DECREASE RATE) **
 - THESE POTS ARE FACTORY SET, NO ADJUSTMENT SHOULD BE NECESSARY. (TURN POTS CLOCKWISE TO INCREASE TORQUE OR SPEED)
 - ADJUST BAND ON RESISTOR 'RA' THAT IS CONNECTED TO DIODE 'DA' IF OPENING SPEED IS TOO SLOW, AND R35 IS AT MAXIMUM (FULLY CLOCKWISE). ADJUST OTHER BAND ON RESISTOR 'RA' IF CLOSING SPEED IS TOO SLOW, AND R38 IS AT MAXIMUM (FULLY CLOCKWISE).
- MODSS VOLTAGES:
 - INPUT VOLTAGE (AC1-AC2) 100-125VAC (WARNING: DO NOT EXCEED 125VAC)
 - FIELD VOLTAGE (7-7A, 8-8A) 115VAC. (COIL VOLTAGE OF 'D', 'C' RELAYS)
 - FIELD VOLTAGE (F1-F2) 160VDC (FIELD RESISTANCE = 1100 OHMS)
 - ARMATURE VOLTAGE (A1-A2) 120VDC (HIGH), 60VDC (MEDIUM), 30VDC (LDW) ARMATURE RESISTANCE (A1-A2) WITH MODSS DISCONNECTED = 40 OHMS
- REDUCED SPEED CLOSING (NUDGING) CAN BE ACHIEVED BY CLOSING A CONTACT BETWEEN 'F1' AND '1', AND 'F1' AND '2' ON THE MODSS (FOR SLOW SPEED CLOSE). 'F1' AND '1', AND 'F1' AND '2' ON THE MODSS (FOR SLOW SPEED CLOSE).
- STALLED DDDR TORQUE:
 - CONNECT RESISTOR 'RA' IN SERIES WITH THE MOTOR ARMATURE TO LIMIT STALLED DDDR ARMATURE CURRENT (SEE NOTE A2). TO DECREASE CLOSING DDDR TORQUE, TURN POT R39 ON THE MODSS COUNTER-CLOCKWISE.
- MANUAL DDDR OPERATION (PER OPEN & CLOSE PUSHBUTTONS):
 - THE MODSS BOARD HAS SWITCHES WHICH ALLOW TOGGLEING BETWEEN MANUAL AND AUTOMATIC OPERATION, SEE DIAGRAM (ABOVE RIGHT). THE SWITCH IN MANUAL POSITION PREVENTS ANY AUTOMATIC DDDR OPERATION AND ALLOWS DDDR OPERATION WITH OPEN/CLOSE PUSHBUTTONS.
- TO TEST THE MODSS, DISCONNECT THE MOTOR FIELD AND ARMATURE. CONNECT A LOAD (SUCH AS A 300 OHM, 100 WATT RESISTOR) ACROSS A1-A2. NO LOAD IS REQUIRED ACROSS F1-F2. A METER ACROSS A1-A2 WILL SHOW A CONTROLLED VOLTAGE OUTPUT ON NORMAL OPERATION. THE OUTPUT WILL GRADUALLY RISE OR FALL TO THE PRESET VALUE DETERMINED BY THE SLOWDOWN CONTACTS (OR APPROPRIATE JUMPERS) AND THE SPEED POTS.
- ADJUST OPEN AND CLOSE TORQUE POTS, IF REQUIRED. TURN POTS R32 (OPEN) OR R39 (CLOSE) COUNTER-CLOCKWISE TO DECREASE TORQUE. WARNING: THE TORQUE POTS ARE CURRENT LIMIT POTS. IF THEY ARE ADJUSTED TOO HIGH THE BOARD COULD BE DAMAGED, ESPECIALLY IN A STALLED DDDR CONDITION.
- THE ACCELERATION POT, R2, SHOULD NOT REQUIRE ADJUSTMENT. TO ADJUST, TURN R2 COUNTER-CLOCKWISE FOR QUICKER ACCELERATION AND DECELERATION. TURN R2 CLOCKWISE FOR SOFTER START AND ACCELERATION, AND SLOWER DECELERATION. A MID-RANGE SETTING IS RECOMMENDED. WARNING: IF A FASTER ACCELERATION IS SET, MORE CURRENT WILL BE DRAWN FROM THE MODSS WITH GREATER POSSIBILITY OF OVERLOADING IT. SPECIAL CARE SHOULD BE EXERCISED WITH HEAVY DDDRS, WHICH USUALLY REQUIRE SLOWER ACCELERATION.

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MODSS PILOT DDDR OPERATOR INSTALLATION INSTRUCTIONS FOR USE WITH GAL'S MOD, MDM AND MOH DDDR OPERATORS