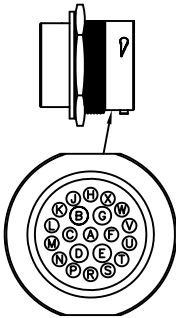


ML1000 TYPICAL APPLICATION DRAWING (FOR REFERENCE ONLY)

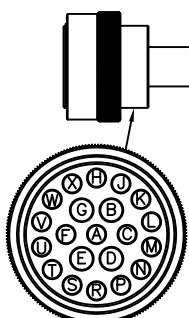
DRAWING SHOWN BELOW IS TYPICAL USAGE ONLY, INPUTS AND OUTPUTS CAN BE CONFIGURED BY THE USER FOR MULTIPLE APPLICATIONS. SEE MPC-10 OPERATIONS MANUAL FOR DETAILS.

ENGINE CONNECTOR

[V] CAN HI	CAN HI	} ENGINE ECU REFER TO ENGINE MANUFACTURER DOCUMENTATION
[U] CAN LO	CAN LO	
[E] BATT (-) 14 GA.		
[B] BATT (+) 14 GA.		
[D] RLY1 (START SOL) 14 GA.		
[G] RLY2 (FUEL/EQU) 14 GA.		
[J] (ALT EXCITE)		
[Y] FREQ INPUT		
[S] DO2 (THROTTLE INC)		
[R] DO1 (THROTTLE DEC)		
[W] AI2 (COOLANT TEMP. SENDER)		
[X] AI1 (OIL PRESSURE, SENDER)		



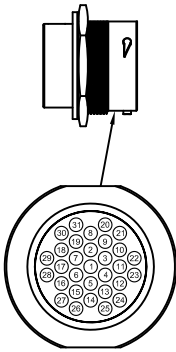
21 POSITION CONNECTOR
DEUTSCH: HDP24-24-21PF
FW MURPHY: 00-00-7681



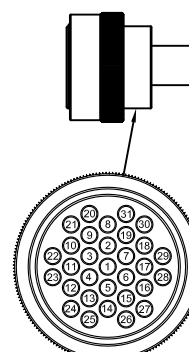
21 POSITION CONNECTOR
DEUTSCH: HDP26-24-21SE
FW MURPHY: 00-00-8788

ML1000
CONNECTORS
PANEL SIDE

ML1000
CONNECTORS
HARNES SIDE



31 POSITION CONNECTOR
DEUTSCH: HDP24-24-31PE
FW MURPHY: 00-00-9286



31 POSITION CONNECTOR
DEUTSCH: HDP26-24-31SE
FW MURPHY: 00-00-9287

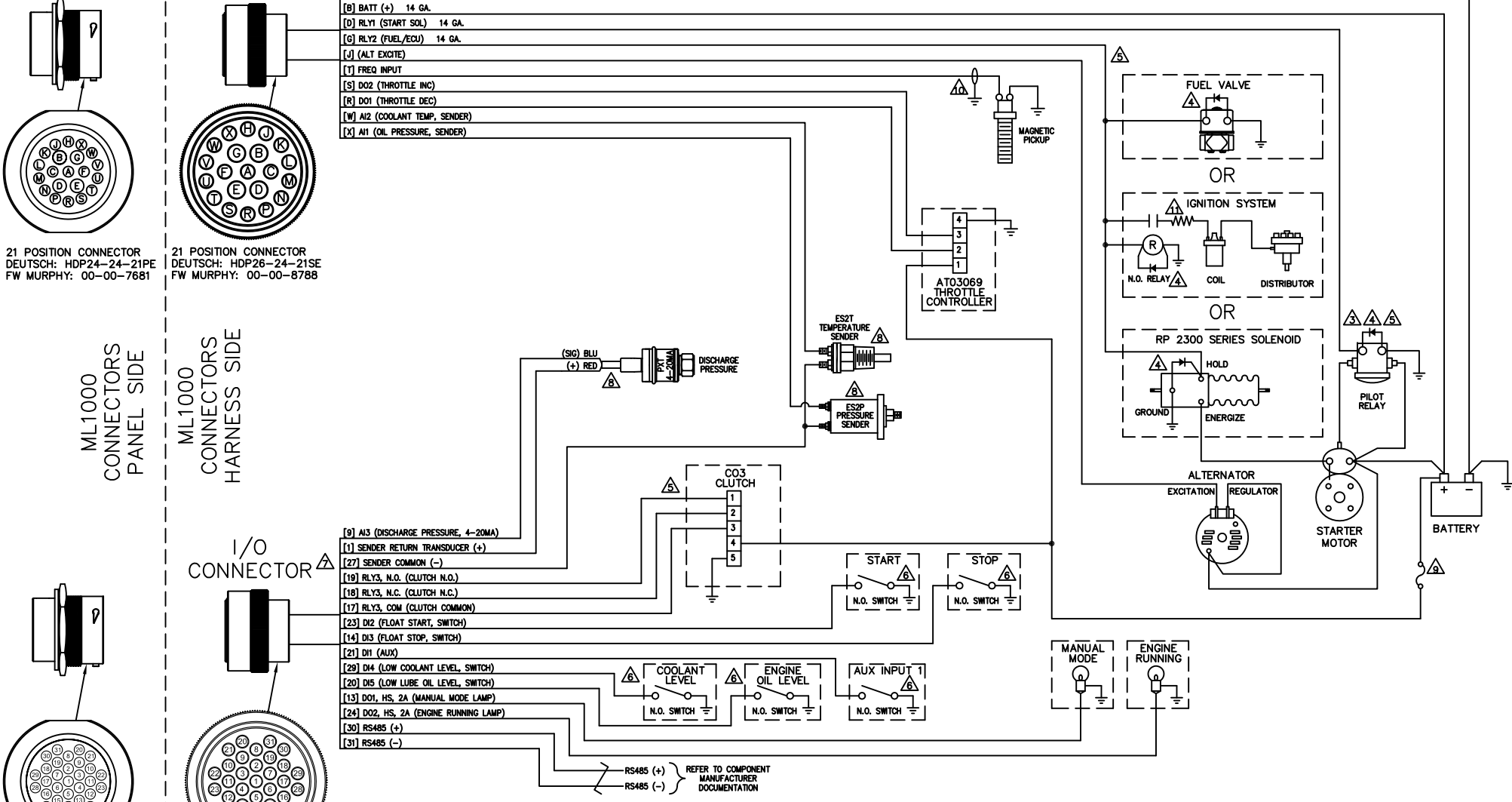
I/O CONNECTOR

[9] AI3 (DISCHARGE PRESSURE, 4-20MA)	
[1] SENDER RETURN TRANSDUCER (+)	
[27] SENDER COMMON (-)	
[19] RLY3, N.O. (CLUTCH N.O.)	
[18] RLY3, N.C. (CLUTCH N.C.)	
[17] RLY3, COM (CLUTCH COMMON)	
[23] DI2 (FLOAT START, SWITCH)	
[14] DI3 (FLOAT STOP, SWITCH)	
[21] DI1 (AUX)	
[29] DI4 (LOW COOLANT LEVEL, SWITCH)	
[20] DI5 (LOW LUBE OIL LEVEL, SWITCH)	
[13] DO1, HS, 2A (MANUAL MODE LAMP)	
[24] DO2, HS, 2A (ENGINE RUNNING LAMP)	
[30] RS485 (+)	
[31] RS485 (-)	

NOTES:

- ALL WIRE 18 GA WHITE UNLESS OTHERWISE NOTED.
- TWISTED WIRES OR SHIELDED, TWISTED WIRES. APPROXIMATELY ONE TWIST PER INCH.
- A PILOT RELAY MUST BE USED TO ENGAGE STARTER. RELAY COIL MUST DRAW LESS THAN 10 AMPS.
- INSTALL FLY BACK DIODES AS SHOWN TO REDUCE THE POTENTIAL OF VOLTAGE SPIKES DAMAGING SOLID STATE COMPONENTS.
- MAXIMUM CURRENT 10AMP FOR EACH RELAY RLY1 TO RLY1 AND RLY2 COMBINED CURRENT NOT TO EXCEED 15AMP.
- ALTERNATIVELY, FOR DIGITAL INPUTS 1, 2, 3, 4, 5 (DI1, DI2, DI3, DI4, DI5), THE GROUND (-) CONTACT ON THE SWITCH CAN BE REPLACED WITH BATTERY POSITIVE.

- NUMBERS & LETTERS IN [] REFER TO CONNECTOR POSITION.
- RECOMMENDED FW MURPHY TRANSDUCERS.
- INSTALL APPROPRIATELY SIZED FUSE OR CIRCUIT BREAKER.
- CONNECT SHIELD OF MAGNETIC PICKUP WIRE TO GROUND.
- USE BALLAST RESISTOR OF 0.85 - 1.82 OHMS.
- DO NOT RUN AC AND DC WIRES TOGETHER IN SAME BUNDLE.
- N.O. = "NORMALLY OPEN".
- N.C. = "NORMALLY CLOSED".



REV.	CHANGES MADE		
MURPHY <small>by an Emerson Controls</small>			
DRAWN BY:	BD	E.R.NO.	IPD
DATE:	10/20/15	CHKD. BY:	MR
MODEL:	APPLICATION DRAWING ML1000		
DRAWING NO.	00-02-0971	SIZE	REV.
		C	A