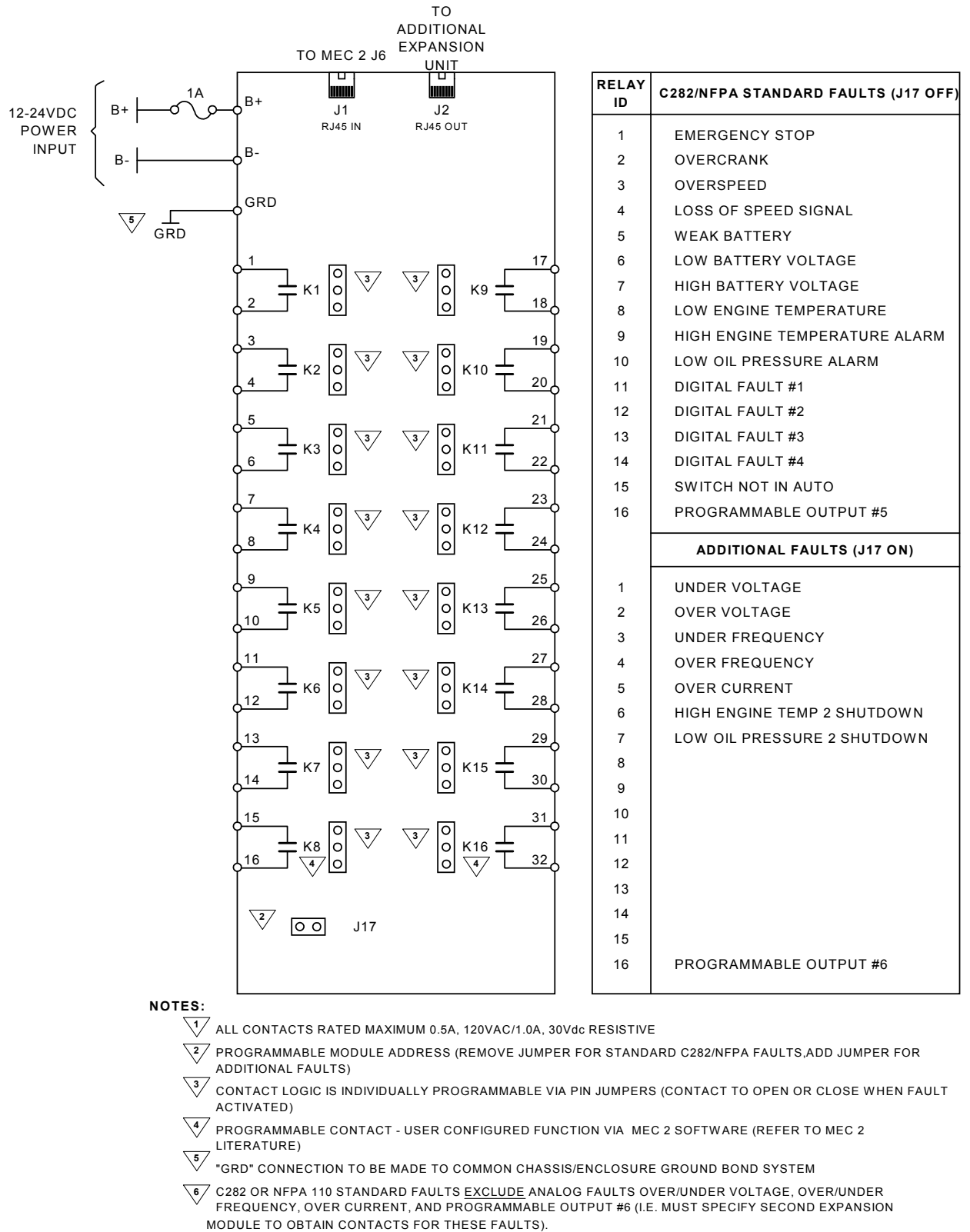


## **6. EXPANSION OUTPUT MODULE OPTION**

Optional expansion output modules are available for the MEC 2 engine generator controller. Each module can provide 16 individual fault output contacts for remote alarming or control purposes. The expansion modules are interconnected to the MEC 2 controller via RS422 communication link utilizing 8 conductor shielded cable with plug-in RJ45 connectors. Refer to FIGURE #13 for the expansion output module connection diagram.



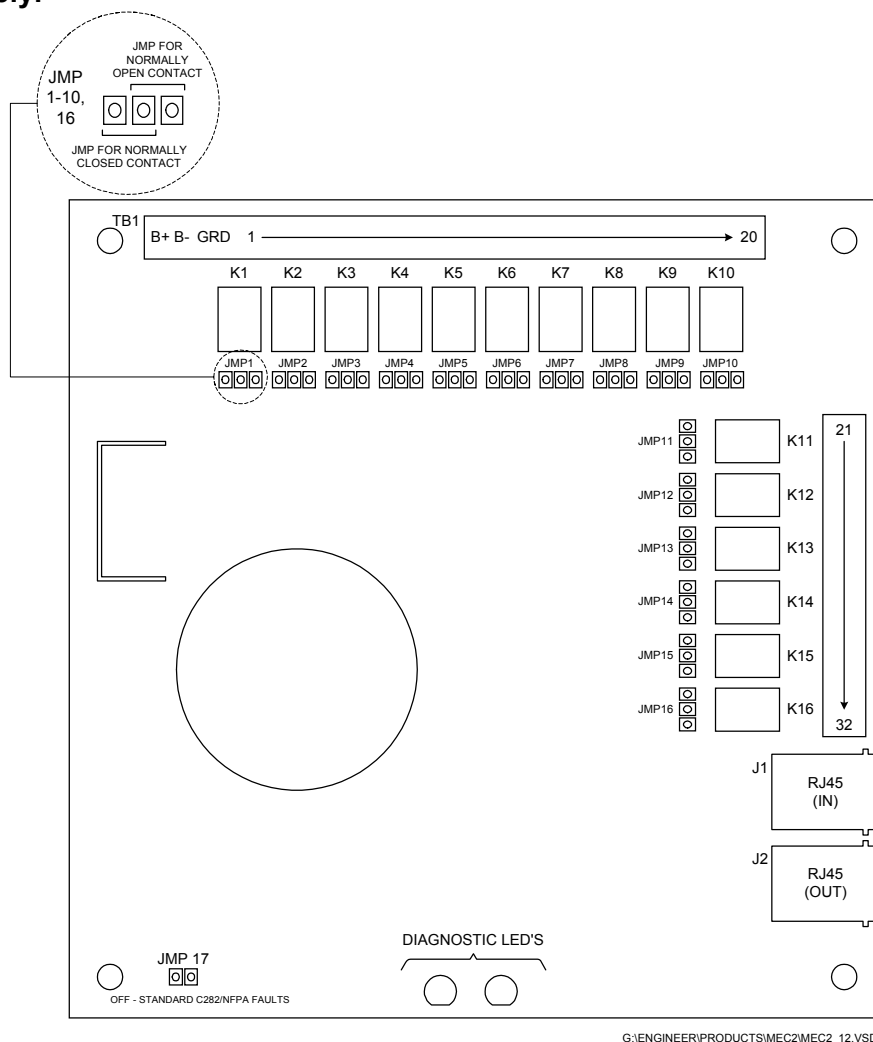
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**FIGURE #13:** EXPANSION OUTPUT MODULE CONNECTION DIAGRAM

The expansion module outputs are relay contacts that may be individually configured for normally open or normally closed contact position. Contact configuration is via circuit board mounted jumper pins and clips. Refer to FIGURE #18 for jumper pin location and configuration settings. Each output contact is rated maximum 0.5A 120VAC, 1.0A 30Vdc resistive.

Each expansion module also provides one programmable contact for desired control function. Refer to [Section 9.2](#) of this manual for programming functions and procedures for the programmable contact feature.

**Note: The communication cable between the MEC 2 and the expansion module must be ordered separately.**



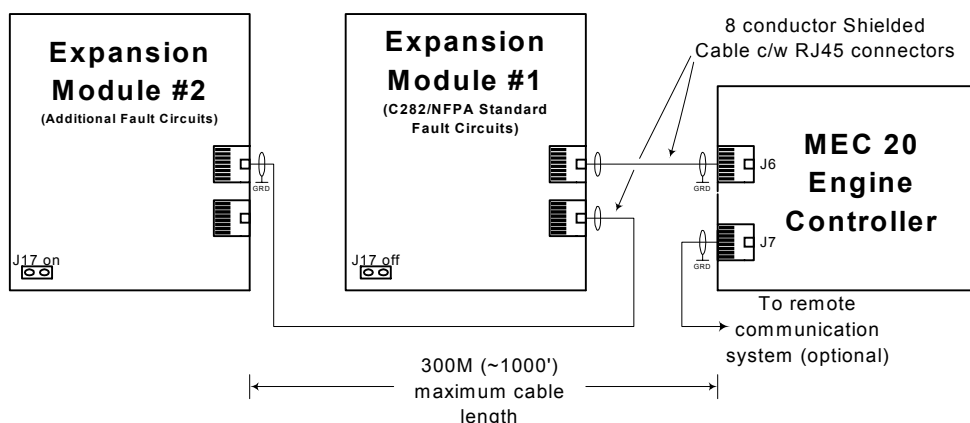
**FIGURE #14: MEC 2 EXPANSION OUTPUT MODULE  
PRINTED CIRCUIT BOARD LAYOUT**

Diagnostic LED's are provided on each expansion module as shown in FIGURE #13. Their functions are described as follows:

**WATCHDOG** - This LED flashes on and off at a very high rate which indicates that the expansion module microprocessor is functioning normally.

**MESSAGE** - This LED flashes on and off at irregular intervals which indicates that the expansion module is correctly receiving all data messages from the MEC 2.

Two expansion modules may be connected to a single MEC 2 controller to provide additional output contacts. Two modules are interconnected together using a single communication cable to the MEC 2 controller. Refer to FIGURE #15 for interconnection details. The first expansion module addresses standard C282/NFPA110 MEC 2 fault circuits<sup>1</sup> and the second expansion module addresses all additional fault circuits. To select which faults are addressed by each expansion module, jumper pins and clips are provided on the circuit boards. Refer to FIGURE #16 for jumper pin location and configuration settings.



<sup>1</sup> C282 or NFPA 110 standard faults exclude analog faults Over/Under voltage, Over/Under Frequency, Overcurrent, spare digital inputs #5-#12 and programmable output #6 (i.e. must specify second expansion module to obtain contacts for these faults).

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**FIGURE #15** MEC 2 EXPANSION MODULE INTERCONNECTION DIAGRAM