

MC-4011 Data Line Interface

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Manual Part #: 180-0207A

DESIGN AND MANUFACTURE

ELECTRONIC EQUIPMENT

AMR *inc.*

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1 Introduction

AMR's MC-4000 Data Line Interface is a asynchronous RS-232 to RS485 converter and RS-485 line driver/receiver. The unit is capable of driving lines of up to 20,000 feet or more depending on cable capacitance and termination. The unit also provides approximately 27 VDC at 0.4 A to power sensors in the MC-4000 system using a 4 conductor data cable; 2 wires for communications and 2 for power.

Surge protection has been provided on the data-line and short circuit protection on the 27 VDC supply.

For safety, a communications line monitor has also been provided. A set of relay contacts are closed if line activity is not detected for an adjustable period of 1 to 10 seconds.

2 Installation

Before beginning installation, ensure that the unit is unpowered and that the RS-232 serial port is disconnected. After opening the unit, several jumper areas (Figure 1) should be configured. They are as follows:

- JP1 - for the 2-wire (half-duplex) RS-485 communications scheme that is used by the MC-4000 system, a jumper should be placed across pins 2 and 4 only. If a 4-wire (full-duplex) scheme is needed, a jumper should be placed across pins 1 and 3 only.
- JP2-2-wire scheme, install jumper. 4-wire scheme, remove jumper.
- JP3 & JP4 - To disable the data line protection, remove these jumpers.
- JP5 - To disable the data line monitor, install this jumper.

The data line monitor watches the communications ports for activity. If the lines are inactive for more than the preset delay the contacts are closed. This delay can be adjusted using RIO (Figure 1) to obtain a delay of 1 to 10 seconds.

The RS-232 connector, 27 VDC, RS-485 data line and relay contacts are available on rear panel of the unit as shown in Figure 2. The terminal blocks, J1, J2 and J3, are pre-wired. However, should the need occur, their functions are listed in Figure 1.

Provide 115 VAC power and connect your serial output to the RS-232 25-pin connector located on the back of the unit.

The power switch is located on the front panel as well as three indicator lights (Figure 3). The AC Power LED indicates that the unit is powered and switched ON. The TX and RX LED's will light when the unit is transmitting and receiving, respectively.

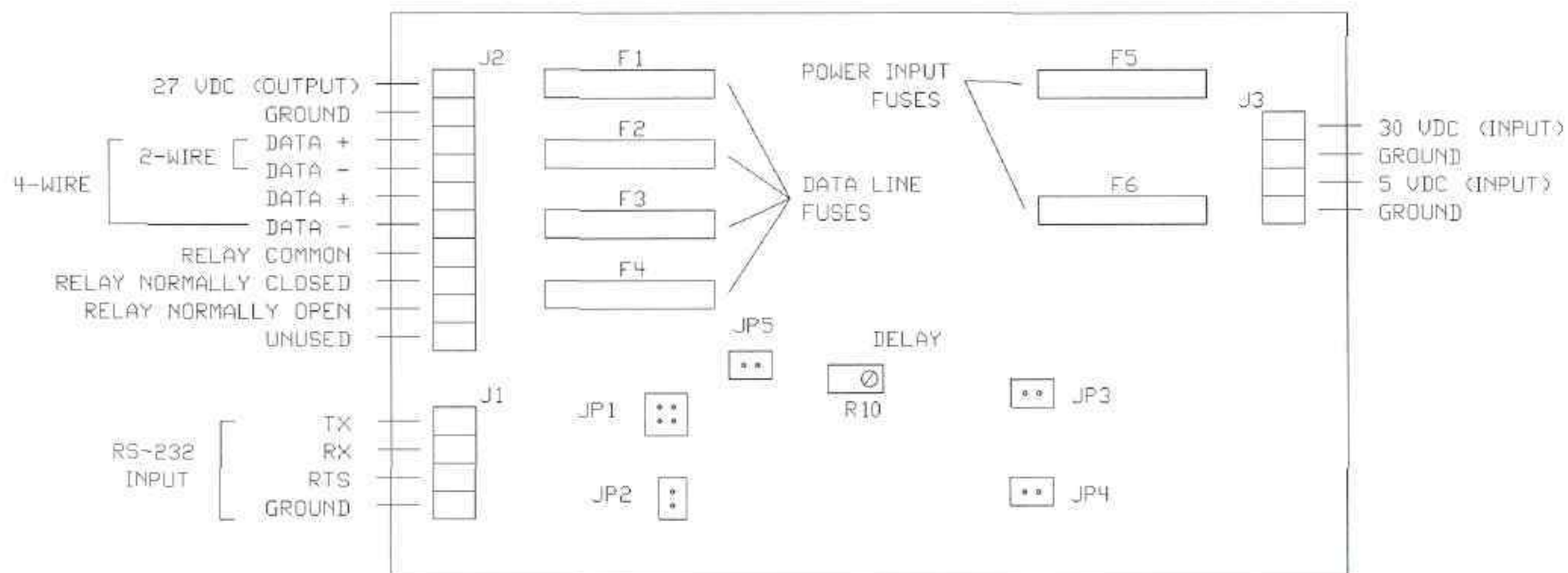


Figure 2

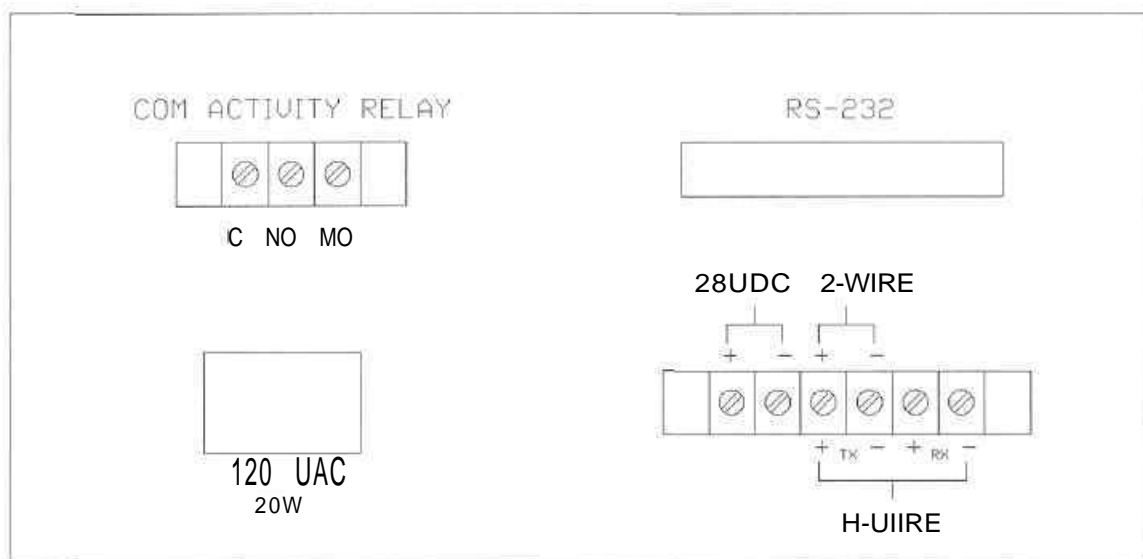
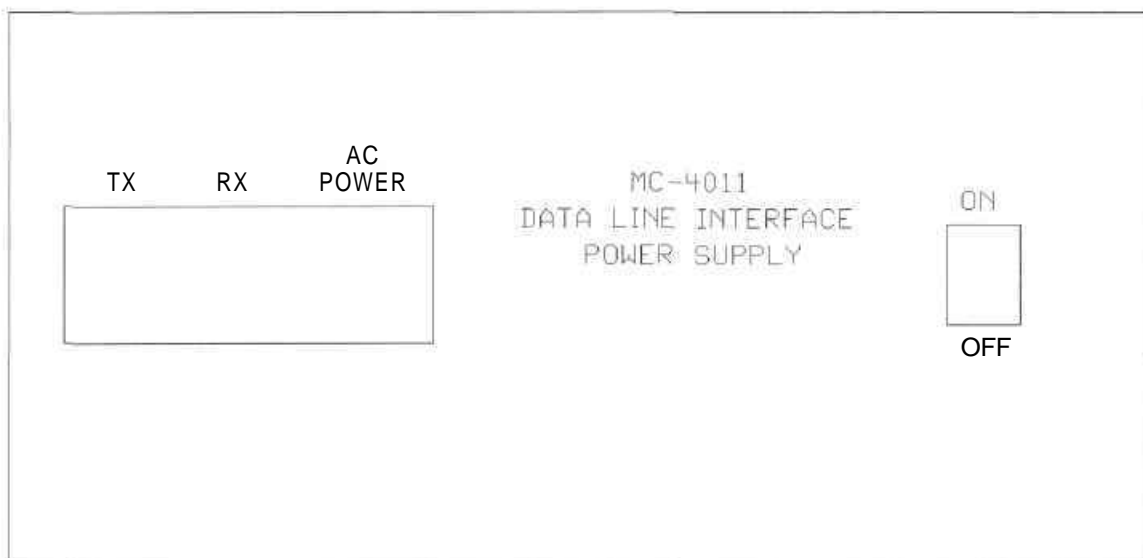


Figure 3



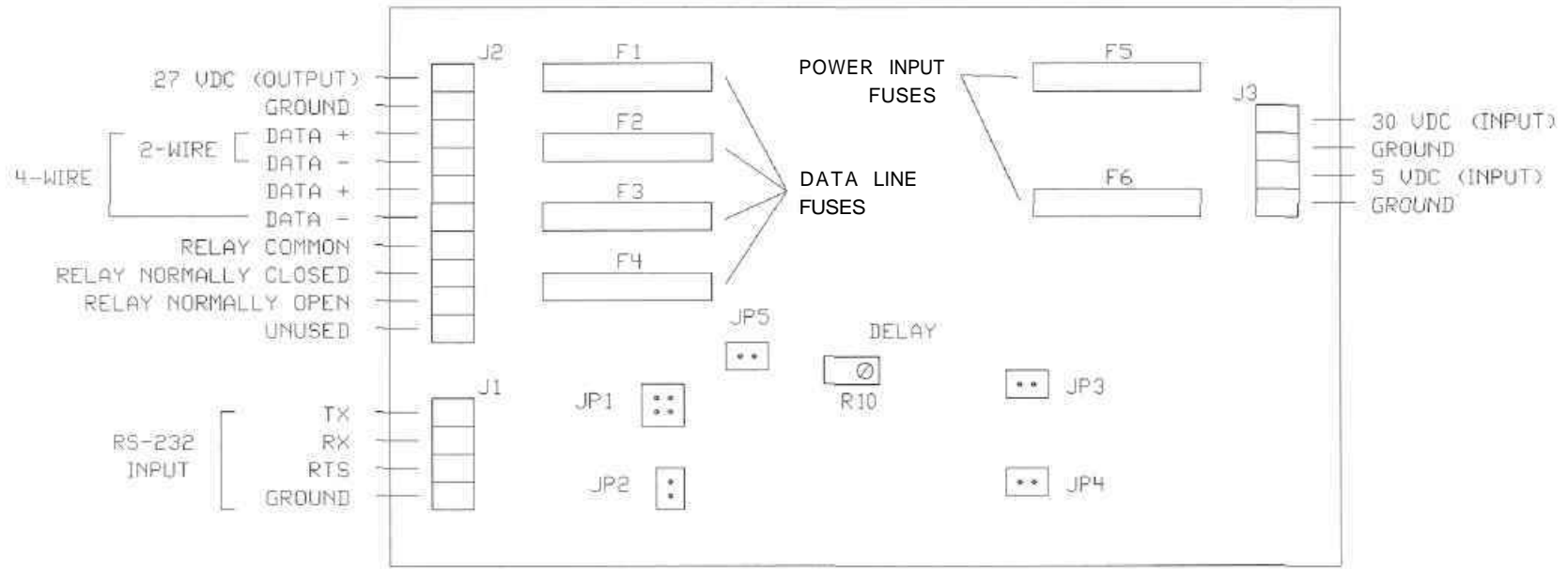


Figure 1