Installation & Operation Guide

KMD-5540 CommTalk Protocol Interface

908-019-01C

Introduction

This section provides an overview of the KMD-5540 CommTalk Protocol Interface. Illustration 1 shows the major components and their locations.

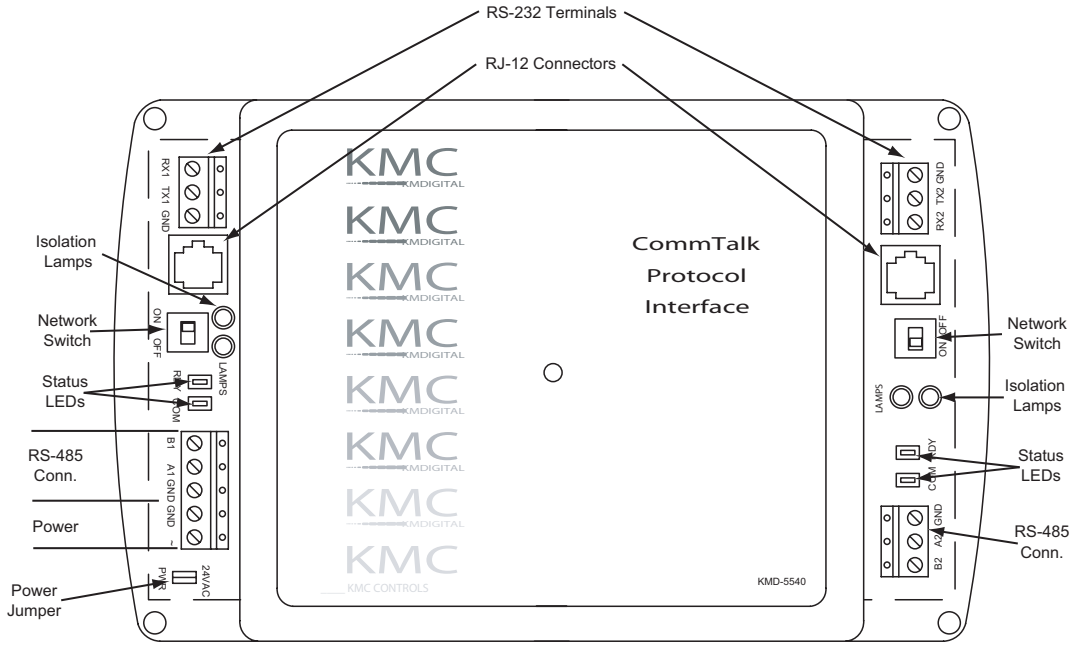

Illustration 1—Controller Components

Installation

This section provides important instructions and guidelines for installing the KMD-5540. Carefully review this information prior to attempting installation.

Note:

The actual configuration of the interface will depend on the model. KMDigital connections are made to the left side of the interface and third-party equipment is connected on the right side.

Mounting

Use the four mounting holes to securely mount the interface inside a UL-approved Enclosed Energy Management Equipment Panel or other suitable protective enclosure. See ***Illustration 2—Mounting Hole Locations on page 3***.

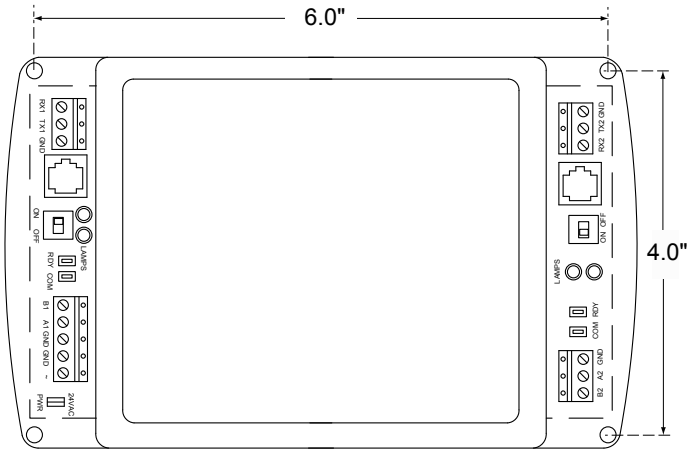

Illustration 2—Mounting Hole Locations

Input Connections

The following sections describe the input connections that can be made to the KMDigital input side of the interface. See the site plan wiring diagrams for specific requirements.

RS-232 (EIA-232) Inputs

RS-232 inputs are connected to the terminal in the upper left corner of the interface.

Detail

As a general rule in RS-232 wiring, the Red lead is the Receive (Rx) lead and the Black wire is the Transmit (Tx) lead.

Connect the appropriate leads to the indicated connectors on the terminal.

RS-485 (EIA-485) Inputs

Make connections to a network using the RS-485 connector.

Detail

An End-of-Line connection will have only one wire attached to the A and B terminals. See ***EOL (End Of Line) Setting on page 5*** for EOL switch setting.

- Use 18 gauge, twisted-pair, shielded cable with capacitance of no more than about 50 picofarads per foot for all network wiring. Belden cable model #82760 meets KMC requirements.
- Connect the nodes of the network in a daisy-chain arrangement. This means connecting the *A* terminal in parallel with all other *A* terminals and connecting the *B* terminal in parallel with all other *B* terminals.
- Connect the shields of the cable together at each controller.
- Connect the shields to an earth ground **only at one end of the segment**; tape back the shield ground at the other end.

Output Connections

Output connections are made to the connectors on the right side of the interface. The actual connectors that appear here depend on the KMD-5540 model.

Illustrations 3 through 7 show wiring configurations for typical implementations of the interface.

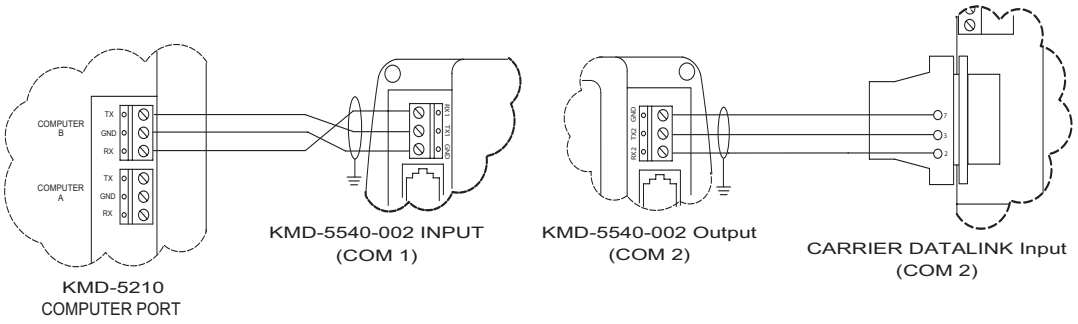

Illustration 3—KMD-5540-002 Carrier Datalink Configuration

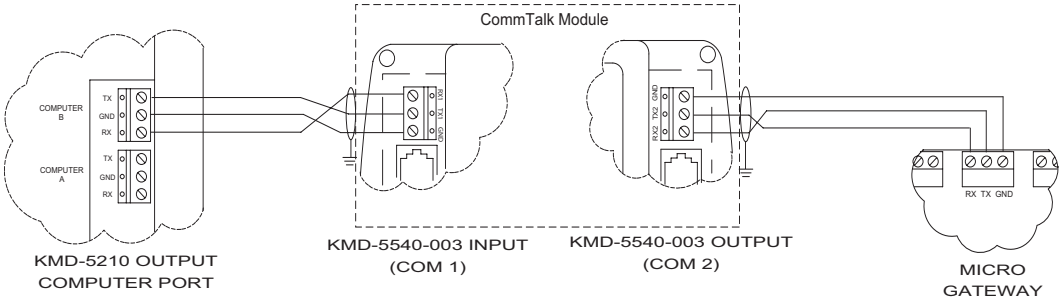

Illustration 4—KMD-5540-003 Micro Gateway Configuration

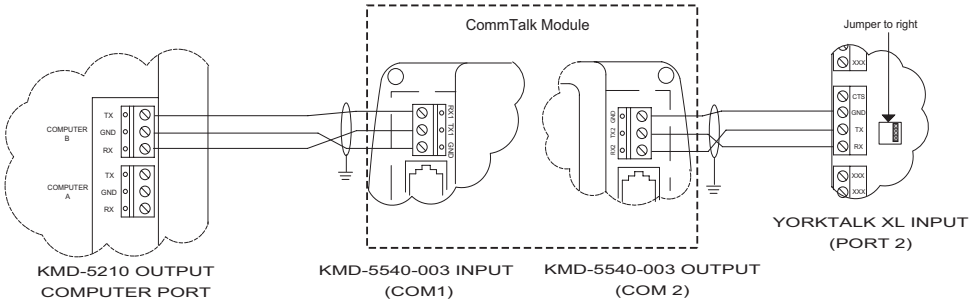

Illustration 5—KMD-5540-003 York Configuration

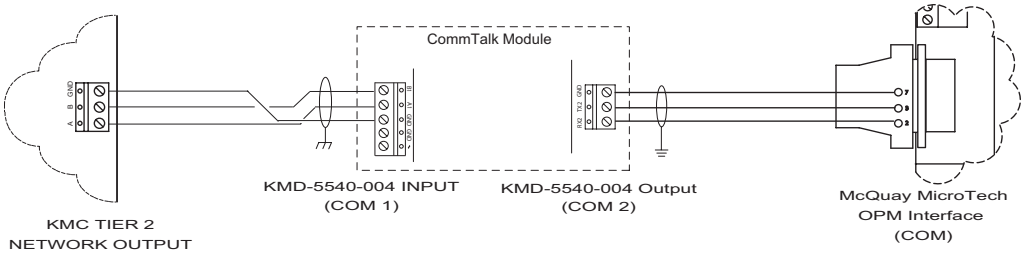

Illustration 6—KMD-5540-004 McQuay MicroTech OPM Configuration

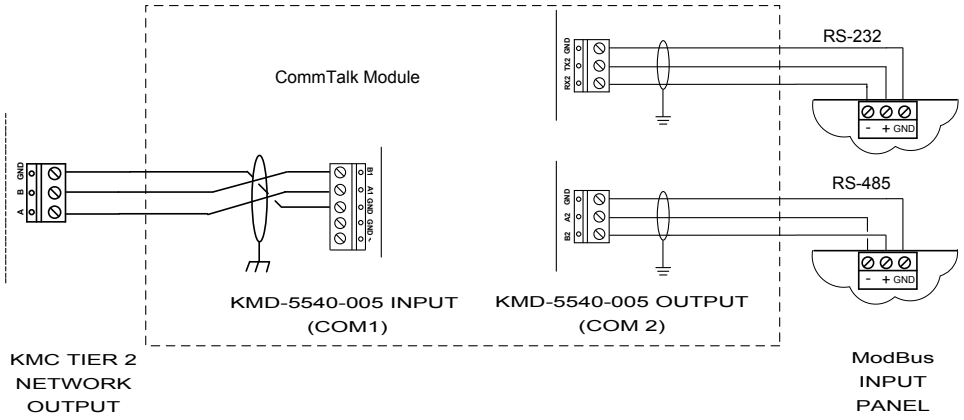

Illustration 7—KMD-5540-005 ModBus Configuration

EOL (End Of Line) Setting

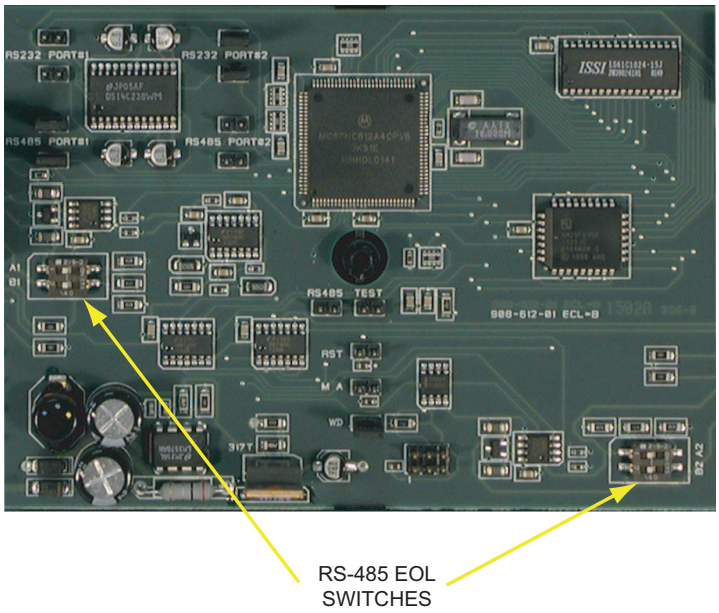

Illustration 8—RS-485 EOL Switches

To set or confirm the EOL termination for the RS-485 connection, see Illustration 7 to locate the switches for these settings.

Proceed as follows:

1. Remove the screw at the center of the interface that secures the cover and remove the cover.
2. Locate the appropriate switch (see Illustration 8).
3. If the RS-485 connection is the End-of-Line (one set of wires under the RS-485 terminals), verify that both switches on the RS-485 switch assembly are in the ON position. Otherwise, the switches should be in the OFF position.
4. After you set/confirm the switches, reinstall the cover and screw.

Power Connection

Connect the 24 VAC supply voltage (Class 2 transformer only) to the power terminals on the lower left side of the controller. **Connect the neutral lead from the transformer to the GND terminal and the AC phase lead to the ~ (phase) terminal.** Power is applied to the KMD-5540 when the transformer is plugged in and the power jumper is in place (see *Illustration 1—Controller Components on page 2*).

Configuration

Prior to operating the KMD-5540, it must be configured using the Hardware Configuration Manager (HCM) application supplied with WinControl. See the WinControl XL User's Manual for additional information.

Note:

All devices on the same network must be configured for the same baud rate.

Operation

Once configured, programmed, and powered up, the interface requires very little user intervention.

Controls and Indicators

The following sections describe the controls and indicators found on the device.

Network ON/OFF

The network ON/OFF switch is located below the modular jack on the left side of the controller. Use this switch to enable or disable the RS-485 network connection.

Alternately, you may remove the RS-485 terminal block from the pins to completely isolate the KMD-5540 from the network.

Status LEDs

Two status LEDs are located on the left side of the controller above the power connector terminal. They are used to indicate the following:

RDY – The Ready LED blinks rapidly whenever the controller is operating normally. You can consider this the same as a power LED.

COM – The Communications LED indicates when the controller is transmitting over the RS-485 network connection.

Isolation Lamps

Two isolation lamps are located near the Network ON/OFF switch. These lamps serve three functions:

- Removing the lamps will open the RS-485 circuit and isolate the KMD-5540 from the network.
- If one or both lamps are lit, it indicates the network is improperly phased. This means that the ground potential of the KMD-5540 is not the same as other devices on the network
- If the voltage or current on the network exceeds safe levels, the lamps operate as fuses to protect the KMD-5540 from damage.

Resetting the Controller

If the KMD-5540 appears to be operating incorrectly, or is not responding to commands, you may need to reset it.

Note

Resetting the interface will restore the factory default configuration.

It may be necessary to re-configure the KMD-5540 with HCM to establish normal communications and operation.

To reset the KMD-5540, proceed as follows.

1. Remove the screw at the center of the the cover and remove the cover.
2. Locate the jumper block next to the input pull-up switches (see Illustration 9).

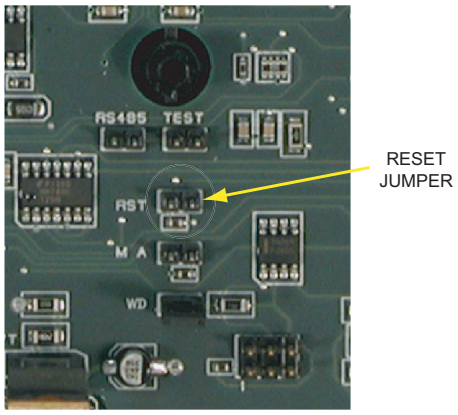

Illustration 9—Reset Jumper Block

3. Remove power to the KMD-5540.
4. Place a short on the RST pins. Use a jumper if a spare is available.
5. Power up the KMD-5540. Wait until the RDY LED begins to flash normally.
6. Remove power to the KMD-5540.
7. Remove the short from the RST jumper.
8. Reinstall the cover and screw.
9. Power up the KMD-5540 and re-configure it if necessary.

Important Notices

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