Modem Manager MM-01

AUTOMATIC COMMUNICATIONS MANAGEMENT for REMOTE DATATAKERS

Datataker

Modem
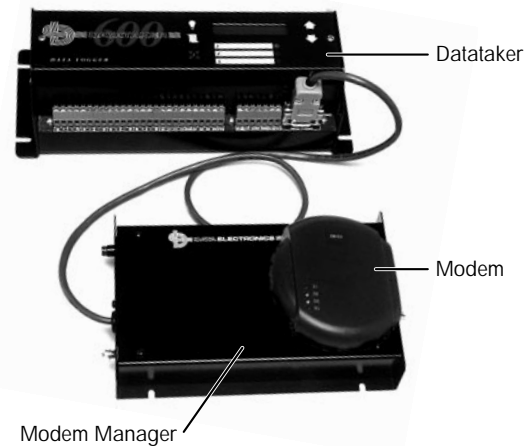
Modem Manager

Data Electronics' *Modem Manager* (MM-01) provides advanced communication features to situations where Datataker data loggers are remotely deployed and supervised by modems.

While the Datataker can directly support a modem for dial-in applications, there are many situations where the reliability and integrity of a directly-connected modem can be compromised due to frailties of telephone services and connections.

A Datataker, a Modem Manager and a modem can be used together to form a remote cell on an alarm monitoring network.

The Modem Manager works in conjunction with the Datataker to store alarms and manage automatic dial-out with remote alarm annunciation to a host monitoring system and/or pager.

The Modem Manager provides the following features:

Alarm Management
• Receives alarm messages from the Datataker and stores them in non-volatile memory
• Automatic dial-out and transmission of alarm messages to a central host and/or pager system
• Uses a simple, modified alarm message string from within the Datataker command program to initialise the alarm call-out function
• Existing Datataker command programs easily modified to interface with the Modem Manager

Call-Out to Pager Service
• Tele-pager call-out management for transmission of alpha-numeric pager messages via a host tele-pager service provider (for direct communication of alarms to service personnel)
• Automatic re-dial to pager service (until manually reset by service personnel called to attend site)

Call-Out to Host Computer
• Call-outs to a central host computer running special software application to manage a network of Datataker sites
• Host communication protocol fully documented to allow custom host applications to be written to suit customer requirements (sample program to save alarms to a file included as a guide)
• Can be used in manual response mode to communicate with remote Datatakers from a host computer running a terminal program like DeTerminal
• Simple but secure command set provides on-screen prompts for all commands and required responses
• Three configurable automatic dial-out strategies to suit a wide range of remote network applications: options include
    • continuous re-dial (with user-selected interdial delay) — dials until acknowledged
    • slow mode — successively re-dials the host and automatically increases the call interval after a specified number of calls
    • stop calling after a specified number of calls.

Modem Supervision
• Supports all types of modems
• Automatic management of modem initialisation and error message handling (sends initialisation strings to modem at regular intervals to ensure that modem is reset and always on-line in auto-answer mode)
• Reset of modem by complete power down if no response is received from regular modem dialog

Datataker Supervision
• Monitors Datataker status and triggers independent alarm dial-out if Datataker does not respond or has been reset
• Maintains Datataker parameters and command switches to optimize performance
• Talk mode from site and host system for transparent direct Datataker communication link

Security
• User-set site identification code uniquely identifies multiple sites for security and alarm recognition
• Password protects configuration access
• User-set inactivity timeout causes termination of communication session for security
• Local alarm output after a preset number of re-dial attempts can trigger a local audible or security alarm (in case of telephone line or service failure)
• Secure acknowledgment protocol ensures that the host receives and stores messages

Hardware
• Large capacity memory stores up to 30,000 characters received from the Datataker
• Auxiliary serial port supports local PC (for local monitoring of all communications and configuration of Datataker and Modem Manager)
• Hardware watchdog timer

Applications

Any unattended monitoring application, for example:
- supermarket refrigeration alarm systems
- cool and cold storage equipment and product monitoring
- automatic re-ordering of materials from remote storage locations (for example, industrial gases, plastic supplies)
- remote weather stations
- early warning systems for flood and river levels
- road traffic and condition monitoring

Mechanical & Electrical

- Dimensions   130mm(W) x 200mm(L) x 35mm(H)
- Weight   0.8kg
- Connectors   9-pin female D-connector for site terminal, 9-pin male D-connector for modem, 9-pin male D-connector for Datataker RS-232
- 200mm flying leads for 6VDC battery
- Provision to mount modem on lid
- Operating temperature   –20 to +70ºC
- Operating humidity   95% non-condensing

- Cables   MM-01 to Datataker comms/power cable, MM-01 to PC comms cable (both included)
- Power supply   6–15VDC
  Current drain   60mA normal power (no modem)
  Can be powered from DT50/500/600 series loggers
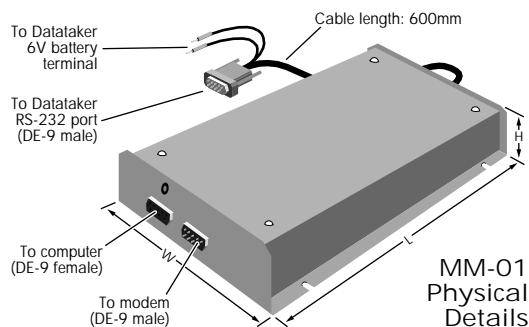- Local alarm relay   1-pole changeover
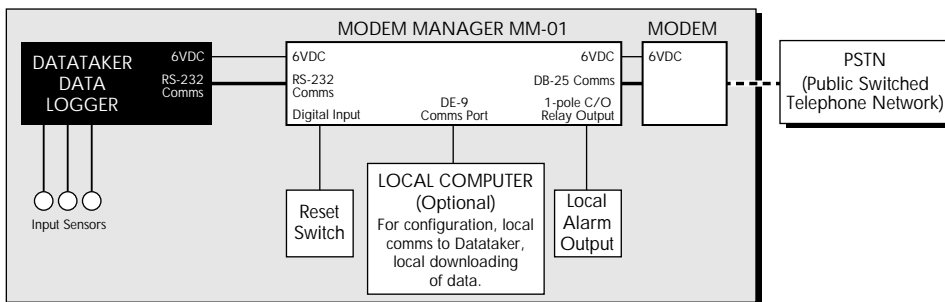- Modem power relay   2-pole changeover
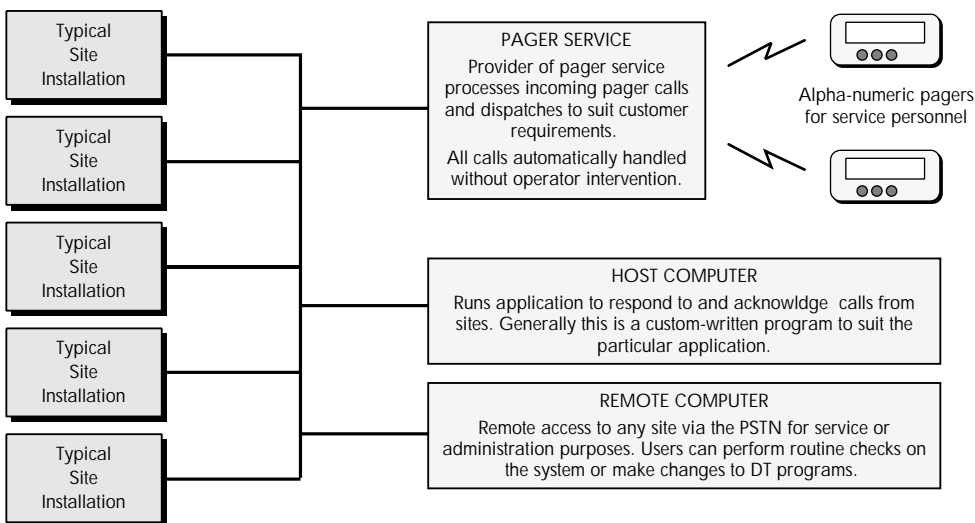
Ordering

Modem Manager   MM-01

To Datataker 6V battery terminal
Cable length: 600mm
To Datataker RS-232 port (DE-9 male)
H
To computer (DE-9 female)
W
To modem (DE-9 male)
L

MM-01
Physical
Details

Typical Site Installation

MODEM MANAGER MM-01   MODEM

DATATAKER DATA LOGGER
6VDC
RS-232 Comms

6VDC
RS-232 Comms
Digital Input
DE-9 Comms Port
6VDC
DB-25 Comms
1-pole C/O Relay Output

6VDC

PSTN (Public Switched Telephone Network)

Input Sensors

Reset Switch

LOCAL COMPUTER (Optional)
For configuration, local comms to Datataker, local downloading of data.

Local Alarm Output

Typical Alarm Monitoring Network (with Pager and Host Call-Out)

Typical Site Installation

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Typical Site Installation

PAGER SERVICE
Provider of pager service processes incoming pager calls and dispatches to suit customer requirements.
All calls automatically handled without operator intervention.

Alpha-numeric pagers for service personnel

HOST COMPUTER
Runs application to respond to and acknowldge calls from sites. Generally this is a custom-written program to suit the particular application.

REMOTE COMPUTER
Remote access to any site via the PSTN for service or administration purposes. Users can perform routine checks on the system or make changes to DT programs.

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