



When equipped with a RACO Modbus Interface Module, a RACO VERBATIM[®] autodialer delivers cost-effective connectivity to all programmable logic controllers (PLCs) compatible with Modicom[®] Modbus[®] RTU master protocol.

Modbus Interface Module

The optional Modbus Interface Module permits the Verbatim to function as an alarm autodialer in a network utilizing PLCs as data concentrators and/or remote terminal units (RTUs). The Verbatim system permits alarm reporting, status checking, and remote alteration of process variables and setpoints via TouchTone telephone, as well as providing data logging to a local printer.

Alarm Reporting

When monitored PLC data registers change state indicating an alarm, the Verbatim automatically starts its alarm dialing sequence. Digitized alarm messages are selectively played back to indicate the specific alarm condition.

Status Reporting

Users can call the Verbatim at any time from any standard TouchTone phone to get a status report of all points being monitored. Digital voice messages are selectively played back when a status condition is requested.

Modbus Protocol

The Verbatim can interface with the Modicon family of PLCs using the Modbus protocol, as well as all other types of PLCs, RTUs, and Distributed Control Systems which are compatible with the Modbus protocol. The Verbatim communicates with the PLC using an RS-232 connection, without requiring additional PLC outputs, modification of control programs, or complex wiring. The Verbatim, in turn, is connected to the public telephone network via a standard plug-in phone jack.

The Verbatim allows access to PLC data tables and I/O points via any standard TouchTone phone. At any time, the user can check the status of any monitored data table location or I/O point. In addition, the Verbatim provides automatic monitoring of up to 32, 64, or 96 points reflecting any combination of discrete, analog, timer, counter, or other PLC data objects for alarm reporting, status checking and data logging.

Serial Ports

Two serial ports are provided: one is a Modbus connection and the other is a printer connection. Cable model number for a Modbus connection is VMBM-2 and the cable model number for a serial printer connection is VSER-01.

Data Logging

For local data logging functionality, the Verbatim is provided with a serial and a parallel printer port to provide a hardcopy record of all events. At user-programmable intervals, the system will print the status of all channels, details of alarm activities, run times, totalizer, and analog input values.

Verbatim-to-PLC Interface

Modbus PLC address formatting, which is completely consistent with the operation of Modicon's Modbus data register designations, is shown below.

The expression 'xxxx' represents a maximum of four digits in the range 0-9. If less than four are entered, zeros are inserted on the left. If a value is out of range for a particular PLC, that PLC will issue an error diagnostic to the user. PLCs enforce the validity of PLC address on their own.

Modbus PLC Address Format

Address	Function
0xxxx	Coil (1-bit Output) number xxxx
1xxxx	Input point (1-bit) number xxxx
3xxxx	Input register (16-bit) number xxxx
4xxxx	Output (holding) register (16-bit) number xxxx

Default Communication Parameter Settings

Net baud rate	9600
Data bits for net	8
Stop bits for net	1
Parity for net	Even
Default net address	1

Verbatim Circuit Board Requirements for the Modbus Option

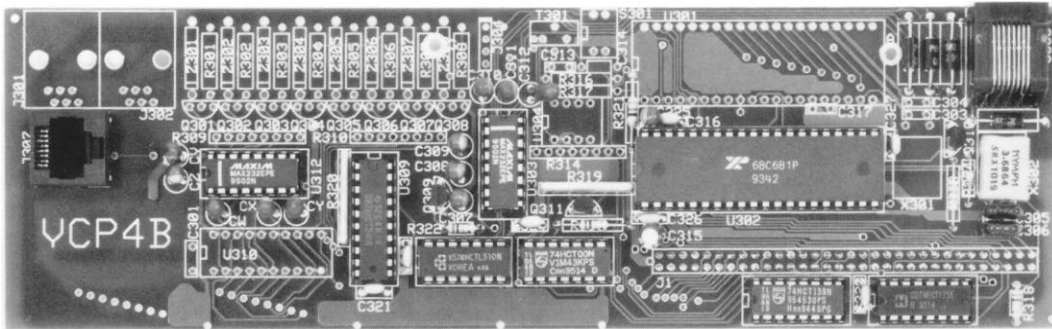
In order to accommodate the Modbus option, the Verbatim unit being modified must have the following hardware:

- Main board, VMP5x, where x can be any letter
- Daughter card, any revision
- Speech card, VSPE-2 or later

This option cannot be added to Verbatim units equipped with either SCADA or Central Data Logging options.

Ordering Information

Model Number	Description
VMOD-32	Modbus Interface Module capable of 32 points
VMOD-64	Modbus Interface Module capable of 64 points
VMOD-96	Modbus Interface Module capable of 96 points
VMBM-2	Cable for a Modbus connection
VSER-01	Cable for a printer connection



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REMOTE ALARMS AND CONTROLS

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