This meter used a standard RS-485 as the hardware interface with the Modbus RTU protocol. Modbus ASCII and Modbus TCP are not supported. Naming conventions for the RS-485 interface are per the latest revisions of the Modbus over Serial Line Specification and Implementation Guide V1.02 and the Modbus Application Protocol Specification V1.1b3. These documents can be obtained at www.modbus.org.

**RS-485 Wiring**

![RS-485 Wiring Diagram](image)

**Modbus Termination and Jumpers**

**Modbus Termination Point J1**
- **D0**: Inverted Modbus Input
- **D1**: Non Inverted Modbus Input
- **COM**: Modbus return
- **SHLD**: Drain wire from Modbus cable shield

**SW1 Modbus 120 ohm Termination Resistor**
- **OFF**: No Termination
- **ON**: Modbus Terminated

**SW2 Positive Bias Resistor Jumper**
- **OFF**: No Bias
- **ON**: Modbus Positive Bias

**SW3 Negative Bias Resistor jumper**
- **OFF**: No Bias
- **ON**: Modbus Negative Bias

**SW4 Not used**
RS-485 Communications settings
The meter is preconfigured for serial communications at 9600 baud, even parity, 8 data bits, 1 stop bit. These settings can be changed in the field by using the TICO Parameter Setup Utility software tool.

Slave ID
The unit is shipped from the factory with the Slave ID set to 1. This setting can be changed in the field by using the TICO Parameter Setup Utility software tool.

Modbus Function Codes Supported
The only function supported in this version is the Read Holding Register. As described below.

<table>
<thead>
<tr>
<th>Reg Type</th>
<th>Modbus Addr</th>
<th>Data Type</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Holding</td>
<td>40001</td>
<td>Float</td>
<td>Mass Flow in eng units</td>
</tr>
<tr>
<td>Holding</td>
<td>40002</td>
<td>Float</td>
<td>Mass Flow in eng units</td>
</tr>
<tr>
<td>Holding</td>
<td>40003</td>
<td>Float</td>
<td>Mass Total in eng units</td>
</tr>
<tr>
<td>Holding</td>
<td>40004</td>
<td>Float</td>
<td>Mass Total in eng units</td>
</tr>
</tbody>
</table>

The float values are sent in the normal order mode as accepted by most Modbus masters. The float values can be changed to Swap Word Order, Swap Byte Order, or Swap Both Word and Byte Order by using the TICO Parameter Setup Utility software tool.