The Modbus Display and Control with Auto Addressing

The Modbus Display & Control (MDC) is a device with two RS485 ports, a keypad for setting parameters and a display to view the status of the connected equipment. One port, the master RS485, communicates with ebm-papst Modbus enabled, electronically commutated fans with software version 5.0 or later using a two-wire plus ground RS485 connection. The second port, the slave RS485, communicates with a higher level third-party system such as a Building Management Systems (BMS), providing real-time monitoring and control data.

<table>
<thead>
<tr>
<th>Part Number</th>
<th>Ambient Temperature</th>
<th>Supply Voltage (nominal)</th>
<th>Max Humidity</th>
<th>Width</th>
<th>Length</th>
<th>Height</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>CN1116</td>
<td>-20 to 60°C</td>
<td>10 - 24V</td>
<td>90%RH</td>
<td>123mm</td>
<td>132mm</td>
<td>27mm</td>
<td>204g</td>
</tr>
</tbody>
</table>

The MDC provides auto-addressing for ease of installation and commissioning, and supports four different operating modes:

**Monitor mode**
- Display Modbus data from fans such as Speed, Power, Motor temperature, Electronics temperature, Setpoint %, Hours run, Warnings.

**Monitor & Control mode**
- Display as above plus control fan speed by one, or a combination of:
  - 0-10V control signal input
  - BMS system connected to the RS485 slave
  - MDC keypad

**Constant Volume / Constant Pressure Control mode**
- Display as above but requires an external 0-10V differential pressure sensor to maintain a constant volume / constant pressure. The setpoint is entered via keypad or RS485 slave port.

**Modbus Relay mode**
- Unique operating mode where the controller becomes a messenger between the fans and a BMS system thus allowing direct access to all Modbus registers on each fan.