

1. The VPFlowscope M alarm option

The VPFlowScope M features an alarm option for condition monitoring. This alarm option can be configured with VPStudio. Upper, lower or a combination of these boundaries can be set as a condition level.

To which of the 3 measurements the alarm is connected is up to the user. One of 3 can be chosen with the preferred unit, e.a.: m^3_n/hr , bar, SCFM, deg F, Kelvin, and many more.

2. Alarm signaling

The alarm can be made visible in various ways. One or multiple ways can be used:

1. The red LED on the display will turn on when the alarm is active.
2. A Modbus register can be read out to check the alarm status. It will return 0 or 1.
3. The analogue (current) output can output 0mA (no alarm) or 20mA (alarm active).

3. Analogue output

There is 1 analogue (current) output available on the VPFlowScope M. It can be used in 3 modes:

1. 4..20mA Mode for representing actual measurement values,
2. Pulse mode for indicating flow consumption,
3. Alarm mode.

3.1. Alarm mode

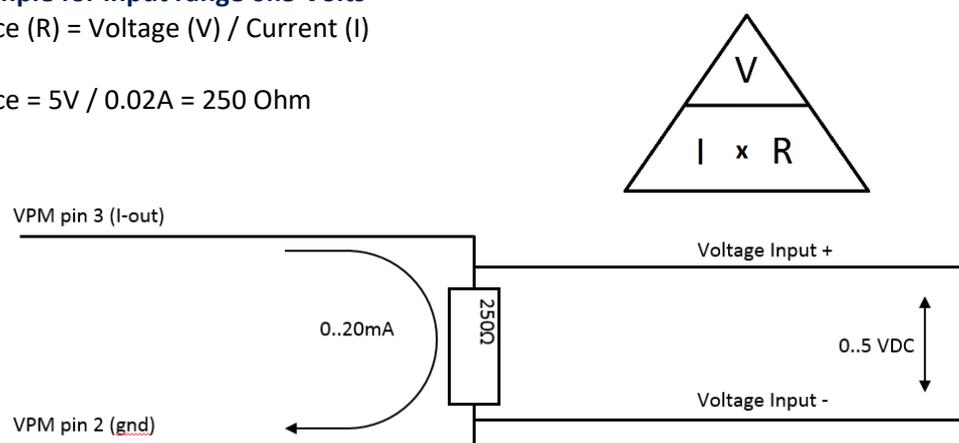
The current output will show 0mA by default. This is a non potential free output as there will always be a voltage on the line. When an alarm happens, the VPFlowScope M transmitter will drive the current to 20mA.

This current signal can be used to connect directly to building management systems that feature an analogue input. Connecting to voltage input requires a resistor. The value of this resistor depends on the voltage range that is required. A voltage will drop over a resistor when it is connected inline with the current loop. The voltage over this resistor can be connected to the voltage input.

3.2. Example for input range 0..5 Volts

Resistance (R) = Voltage (V) / Current (I)

Resistance = $5V / 0.02A = 250 \text{ Ohm}$



4. Connecting to external actuators

The VPFlowScope M transmitter cannot directly drive an alarm light, buzzer or other signaling devices. A relay is required to drive these devices. The input will be 0..20mA and the output can be matched to the attached device.

4.1. Switching VAC

Phoenix contact [MINI MCR-2-UI-REL] can be used to switch up to 250VAC with 6A.

4.2. Switching VDC

Phoenix contact [MINI MCR-2-UI-FRO] can be used to switch up to 30VDC with 100mA.