

FAN Control PRO v2

FAN Control PRO is an electronic module that

- **acquires data** from sensors (temperature, humidity, air pressure, fan speed and battery/supply voltage, other signals door state breaker states),
- **controls** several fans with progressive speed based on temperature
- **triggering alarms** when failures are detected,
- **communicates** over Modbus, RS485 SNMP or Ethernet



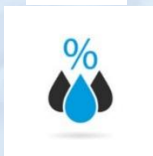
Controls up to 4 fans with variable speed based on temperature level. Increase fans life by reducing the speed when temperature is under 50°C.



Reduce Energy consumption up to 80% by controlling the fans with variable speed (one fan is consuming 4W at 1000RPM and 24W at 4600 RPM).



Temperature measurement from one 1 or 2 external sensors.



Humidity measurement with high accuracy +/- 1%.



Innovative Dust Filter check with only one internal sensor. (not available in v2 hardware version)



Remote monitor and control by MODBUS, RS485 SNMP, Ethernet, GSM or Bluetooth



Maintenance information and alarms when one or several fans are damaged, or measured temperature, humidity is over defined limit or dust filter is dirty.

Detailed description

Module dimension:
Y:90mm; X:70mm; Z:85mm;
Enclosure for DIN rail mounting;

Supply voltage:
12-14V

Module Power consumption:<2W
(when alarms are not active)

Sensors:
- external temperature;
- humidity;
- atmospheric pressure;
- cabinet door status;
- supply or battery voltage measurement;
- up to 4 fans RPM (rotation per minute) feedback;

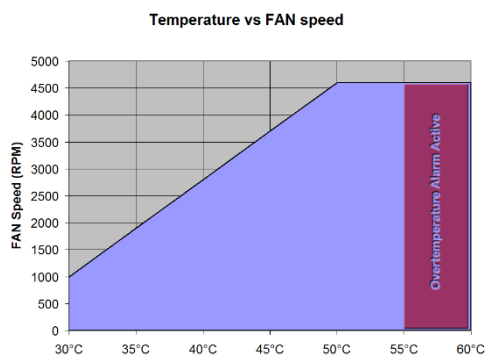
Provided Alarms:
-High Temperature
-Fan Failure
-Filter Failure
-High Humidity

Default IP address: 192.168.1.21

FAN Control

The module can control up to 4 Fans.

Fans are switched on starting at *StartTemp* threshold (default 30°C) with a speed of 1000RPM.



The speed is progressively increased together with temperature up to 50°C. When 50°C is reached the FAN are driven at full speed with 4600RPM.

Alarms

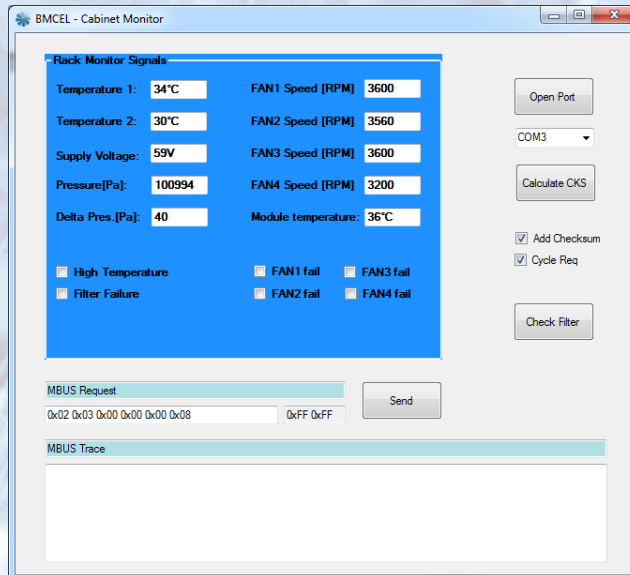
Alarms are provided by dry contacts (relays) configured as normal open or normal closed.

High Temperature Alarm (Over temperature)	High temperature alarm will be active when temperature is over a <i>HighTemp</i> threshold (default 55°C). When temperatures is decreasing under high temperature threshold the alarm will be cleared (inactive).
Humidity Alarm	Humidity alarm will be activated if measured humidity is over 80%. (threshold can be configured)
FAN Failure Alarm	If the temperature is over <i>StartTemp</i> threshold (default 30°C) and one or several fans are not working the module will increase the PWM up to 100% and will try to restart the fault fan. After 1 minute if the fan is not starting the FAN Failure Alarm will be activated. The remaining working fans will be controlled at full speed to compensate until temperature decrease bellow <i>StartTemp</i> . As long the temperature is below <i>StartTemp</i> the fans are not controlled, and the failure remains active until the temperature is over <i>StartTemp</i> and all the fans are working properly at least 1 minute.
Dust Filter Alarm	Fan Controller is checking the dust filter status by measuring the vacuum that Fans are creating at full speed (170-200Pa). If measured vacuum is over FilterFailPressure threshold (default 120Pa) filter alarm is activated. The dust filter check is performed each 12 hours if temperature is over <i>StartTemp</i> .

Optional Features

Customized PC Desktop Application

Communication is ensured by MODBUS, Ethernet or GSM. Measured data from sensors, other signals like voltage, door status, breakers status or current shunt can be live monitored.

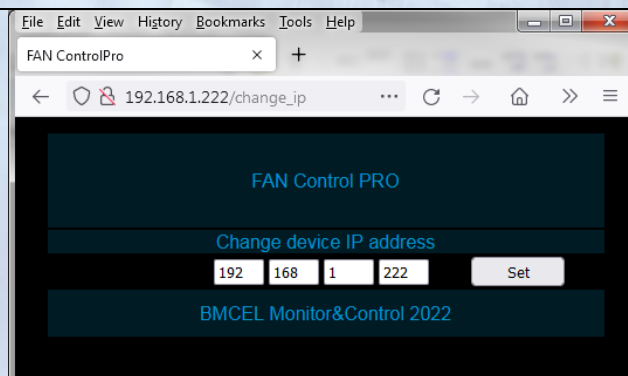


Ethernet variant modules provide an embedded web server that can be accessed from a web browser from a PC or Smartphone using the device IP address.

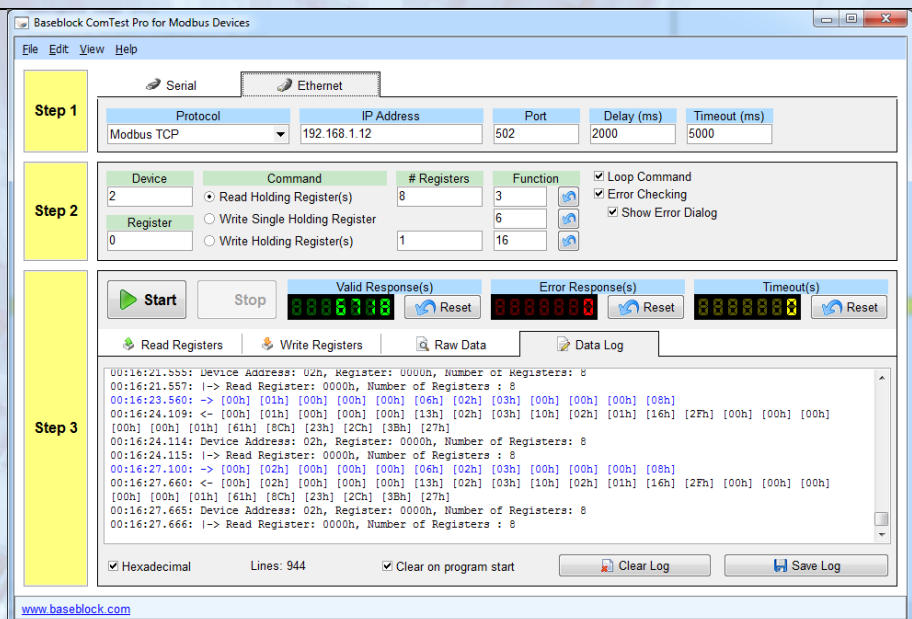
Ethernet variant also provides the MODBUS over TCP/IP protocol, this allow further integration in industrial systems.



IP address change is possible by web interface.



RS485 SNMP test with ComTest Pro



Optional 7"-20" TFT Display can be integrated in cabinet, wall mounted or placed on the desktop.



Other optional features:

-TFT 1.4" color display embedded in module enclosure for live monitoring measured signals.

-Bluetooth communication with PC or Smartphone.

-GSM 3G/4G connectivity and SMS alerts when failures occur.

Other signals can be acquired and other features can be implemented according to customer needs.

