SPECIFICATIONS	
CO-Sensor (A1)	
Measurement range	0...1.000 ppm
Accuracy	±5 ppm + max. ±5% f. mv (at 20°C, 50% r.H.)
Temperature dependency	±5 ppm / K
Response time (t90)	< 5 min
Long term stability	±1% FS/year
Sensor	Electrochemical gas sensor
CO2-Sensor (A2, A22, A23)	
Measurement range A2	0...10.000 ppm
Measurement range A22	0...20.000 ppm
Measurement range A23	0...50.000 ppm
Accuracy	±50 ppm + 2% v. MW at 0-2000 ppm, ±50 ppm + 3% v. MV at 0-5000 ppm, else ±100 ppm + 5% v. MV (at 20°C, 1013 mbar, auto calibration ON)
Temperature dependency	±5 ppm / K
Druckabhängigkeit	compensated if option "air pressure sensor" is selected, else 1.6% of the meassurement value / kp difference to 1013mbar
Response time (t90)	< 1 min
Long term stability	±1% FS/year
Sensor	Nondispersive infrared sensor (NDIR)
Automatic calibration	The automatic drift compensation takes place in the interval of 7 days. This ensures an excellent long-term stability. The device must be supplied with fresh air within this interval (during continuous operation) for at least 10 minutes. This function can be deactivated on the device via DIP switch (necessary, if at several consecutive intervals no fresh air will be supplied).
Manual calibration	Manual adjustment to 400 ppm can be executed via registry-command.
Oxygen sensor (A31, A32)	
Measurement range oxygen A31	0...25% vol.
Measurement range oxygen A32	0...100% vol.
Accuracy	±5 µg/m³ + max. ±4% FS (@ 20°C, 45% r.H., 1013 mbar)
Temperature dependency	±1% FS / 10 K
Long term stability	±0,2% FS/year at auto calibration ON
Response time (t90)	<1s
Air quality sensor for mixed gas -VOC (A4)	
Measurement range VOC	0-100% referring to the calibration gas
Accuracy	± 10% FS (at 20°C, 50% r.H. and auto-calibration ON)
Temperature dependency	±0,2% FS/K
Response time (t90)	< 1 min
Long term stability	±5% FS/year (auto-calibration ON)
Sensor	metal oxide VOC-sensor
Automatic calibration	The automatic drift compensation takes place in the interval of 7 days. This ensures an excellent long-term stability. The device must be supplied with fresh air within this interval (during continuous operation) for at least 10 minutes. This function can be deactivated on the device via DIP switch.
Manual calibration	Manual zeropoint can be setted via registry-command to 10%
Sensitivity	Sensitivity can be varied at three levels via registry-command to 10%
Particulate Matter Sensor PM2.5/PM10 (A51)	
Measurement range particulate matter	0 µg/m³ ... 1000 µg/m³
Accuracy	±5 µg/m³ + max. ±4% FS (@ 20°C, 45% r.H., 1013 mbar)
Temperature dependency	±1% FS / 10 K
Long term stability	±1% FS/year
Response time (t90)	<10s
Flow transducer (F11 or F12 - with pendulum sensor, mounting flange within scope of delivery)	
Measuring principle	calorimetric measuring method
Measurement range flow F11	0...5 m/s
Measurement range flow F12	0...20 m/s

Calculation air flow F11	0-50.000 m³/h, formula and parameters via registry
Calculation air flow F12	0-200.000 m³/h, formula and parameters via registry
Accuracy	±0,3 m/s + max. ±4% FS (@ 20°C, 45% r.H., 1013 mbar)
Temperature dependency	±1% FS/ 10 K
Long term stability	±1% FS/year
Response time (t90)	<1s
operating range F11	0,3...5 m/s
operating range F12	0,3...20 m/s
Humidity / temperature transducer (H1T1 or H2T1 - heated temporarily or permanently)	
Measurement range r.H.	0-100% r.H.
Accuracy humidity	±3% r.H. (30-70% r.H., else ±5% r.H., at 20°C)
Measurement range temperature	-20°C...50°C
Accuracy temperature	±0,5 K
Calculated thermodynamic values	dew point temperature, abs. humidity, air fuel ratio, enthalpy, wet bulb temperature, vapour pressure
Long term stability	±1% FS/year
Sensors	Combined humidity and temperature sensor
Sensor protection high-humidity range H1T1	condensation protection by heating function at more than 95% r.H. (holding function of the meassured values during heating function).
Sensor protection high-humidity range H2T1	condensation protection by permanent heating around 3k above ambient temperature
Flow rate	< 2 m/s
Motion Sensor (M1)	
Measurement range motion	motion yes/no, apex angle 90°/110° on 360° range, reach 10 m
Response time (t90)	< 1 s
Sensor	infrared motion sensor MTS 10/360, photodiode
Pressure Sensor (P2 oder P22 oder P23)	
Measurement range pressure P2	-100...+100 Pa
Measurement range pressure P22	-500...+500 Pa
Measurement range pressure P23	-5000...+5000 Pa
Calculation air flow P2	0...4.000 m³/h of the differential pressure uo to 100Pa, formula and parameters via registry
Calculation air flow P22	0...20.000 m³/h of the differential pressure uo to 500Pa, formula and parameters via registry
Calculation air flow P23	0...200.000 m³/hof the differential pressure uo to 5000Pa, formula and parameters via registry
Accuracy difference pressure	±3,0% FS (at 20°C)
Temperature dependency difference pressure	±2,5% FS / 10 k
Linearity inaccuracy difference pressure / Air Pressure	±1,0% FS
Offset	can be set at the registry
Output attentuation	can be set at the registry
Pressure resistance	5-times of measurement range
Manual zero-point adjustment	Manual zero-point adjustment can be executed
Air Pressure Sensor (P4)	
Measurement range atmospheric / barometric pressure	500-1150 mbar
Accuracy	±3 mbar (at 20°C)
Temperature dependency	1 mbar / 10 K
Linearity inaccuracy	±1% FS
Offset	can be set at the registry
Output attentuation	can be set at the registry
General	
Supply voltage	24V DC +/-5%
Current consumption	typically 100 mA, (depending on MODBUS parameters and selected backlight) plus around 20ma/sensor
Digital output	Modbus RTU
Electrical connection	push-in terminal, no tools required, time-saving

Display	programmable display at 3 levels, customer-specific interfaces optional
Housing	Polycarbonate PC UL 94 V0 with hinge locks, color light grey
Cable gland	Cable connection 12mm with stain relief
Dimensions Housing	L 150 x W 80 x H 62 mm, without attachements
Alarm transmitter (piezo)	freely programmable, volume approx. 85db at a distance of 10cm
Protection type Housing/electroic	IP65 (IP20 at option particulate matter and/or O2)
Protection type sensor attachments	IP30
Protection class	III
Sensor protection	(1) r. / Temp, VOC, CO2: in V2A attachments with V2A sintered filter screwed / changeable (2) pressure, differential pressure, CO, movement: in the housing (3) flow velocity: in V2A pendulum (4) O2, fine dust: internal filter
Working- and Storage temperature	-20...+50°C
Range of application	Ambient air monitoring, pollution-free, non-condensing air up to max. 98% r.H. (except harmful gases in accordance with sensor specifications)
Attachments at the device	V2A tubes and/or V2A sinter filter
Option clamping connectors / screw connectors	Steel M12 industrial standard
special features	When calculating different sizes, depending on the selected sensor configuration, air pressure, air density, etc. are included. If these values are not available internally from sensors, they can be entered by the Modbus master into the corresponding registers of this measuring device. These values are therefore used for the calculation instead of default values. Further information can be found in the current MODBUS system description.