NH_3-Monitoring in Animal barns with long-term stability
Measuring Concept NH_3-Stable
Article-No.: 410109

ExTox Gasmess-Systeme GmbH



Measuring Concept NH_3-Stable

(Pre-production series)



Control Unit ET-CS

Application:

- Measuring system for monitoring the ammonia (NH_3)-concentration in animal barns
- Lifetime of NH_3-Transmitter/Sensor > 1 year
- Maintenance friendly
- Installation inside the barn
- Possibilities of extension:
  - Measurement of Carbon dioxide (CO_2),
  - Ambient air inside barn: temperature, relative humidity, absolute pressure
  - Switching between two measuring points

Features

Measuring Procedure:	Discontinuous measurement including automatic flushing / filter system for long-term stable measurements.
Measuring Cycles Time:	Between 1 and 12 hours (configurable); constant output of measured values during measuring pauses
Transmitter (Standard):	▪ NH_3-Stable with measuring range 0…200 ppm NH_3 ▪ Lifetime > 1 year
Flushing-/Filter System:	▪ Filter simply exchangeable ▪ Lifetime: > 1 year
Transmitter (Option):	▪ CO_2-5000-IR4 with measuring range 0…5000 ppm CO_2 ▪ Temperature (T), relative Humidity (r. H.), pressure (p)
Measuring Points	1 (Standard) or 2 including switching between measuring points (as an option)
Operation Temperature:	-10 °C to +40 °C, humidity: non condensing
Storage Temperature: (system not in operation)	-25 °C to +60 °C, humidity: non condensing

Control Unit

Control Unit:	ExTox ET-CS
Installation:	Integrated, mounted on DIN-rail
Number of Transmitters:	2 (for NH_3; installation for any other Transmitter prepared)
Integrated Sensors:	▪ T, r. H., p (as an option)

Indication:	▪ Illuminated graphic display for indication of measured values and messages
	▪ LED indication
	  · Alarm (2 x 2 x red)
	  · Channel operation (2 x green) and fault (2 x yellow),
	  · Control Unit operation (1 x green)and fault (1 x yellow)
	▪ Remote indication of measured values (as an option)

User Interface:	▪ Menu guided system via display and six keys ▪ Completely configurable at ET-CS, no additional tools needed ▪ Password protected ▪ Zero point and sensitivity adjustment at ET-CS ▪ Maintenance mode via potential free digital input 24V

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Alarms/Messages:	▪ 2 freely adjustable alarm levels per transmitter · Over-scale · Under-scale ▪ Latching of each alarm configurable ▪ Flow-rate monitoring of measured gas (integrated)
Relays, potential free:	▪ 4 change-over contacts 230 V / 4 A (total switching current: max. 10 A), freely configurable with alarms and fault messages ▪ Switching selectable: normally open or normally closed ▪ Horn reset adjustable (can be quit in spite of upcoming message)
Inputs:	▪ 2 Analogue inputs 4…20 mA (usable for NH_3, CO_2– or any other 4…20 mA-Transmitter) ▪ 2 Digital inputs, 24 V DC, potential free
Outputs:	▪ 2 Analogue outputs 0-10 V or as an option 4…20 mA ▪ Interface RS232 or RS485/RS422 (configurable) ▪ Interface RS232 or as an option Ethernet/LAN
Options:	▪ Data logger incl. SD-Card (integrated) ▪ Remote display (external)

Mechanical Data

Dimension:	500 mm x 500 mm x 300 mm (W x H x D)
Housing:	Wall mounted housing with door, mounting plate, foamed-in door sealing, 2 cam-locks
Material:	Steel, powder-coated, RAL 7035 Structure
Weight:	appr. 25 kg
Installation:	Wall mounted
Sampling of Measured Gas:	▪ Directly from the air inside the barn ▪ as an option: via PE-hose (Ø inner/outer: 4/6 mm, hose length sampling point → system: max. 20 m)

Electrical Data

Power Supply:	230 V AC
Power Consumption:	appr. 200 W
Connections:	▪ Clamps: power supply 230 V (L, N, PE) ▪ ExTox ET-CS: in- and outputs (plugable) ▪ Cable glands 5 pieces M16 x 1.5

Options/Spares

Art.-No. 211288	Transmitter Sens NH_3-Stable
Art.-No. 211272	Transmitter Sens CO_2-5000-IR4
Art.-No. 307000	Control Unit ET-CS
Art.-No. 940439	Extension: Temperature/relative humidity/absolute pressure
Art.-No. 920080	Extension: Analogue output 4…20 mA (not potentially isolated)
Art.-No. 825025	Extension: Ethernet module
Art.-No. 825026	Extension: Data logger module incl. SD-Card (940439, 920080, 825025, 825026 will be integrated in ET-CS)
Art.-No. 825019	Remote display 4-channels
Art.-No. 940398	Filter NH_3-Stable
Art.-No. 862005	PE-hose
Art.-No. 940348	Gas pump

This is a preliminary Data Sheet. Changes possible until production in series.
(Subject to technical changes)

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