Attachment 1 Specifications

Salient Characteristics – Ammonia analyzers for poultry research

The analyzer must use a flow through measurement cell with tunable diode laser spectroscopy and be capable of continually measuring aerial ammonia (NH_3) concentration at high speed (≥ 0.5 Hz) with a precision of < 0.8 ppm, measurement resolution of ≤ 0.01 ppm, and a response time ≤ 3 s over a measurement range of 0 to 100 ppm. The instruments must have an analog output signal (4-20 mA) with 12-bit output signal resolution or better and require an input voltage supply range of 10-30 VDC to integrate with existing data acquisition and control systems. Startup time must be ≤ 30s to allow for rapid resumption of control in the event of system failure to limit ammonia concentration rise for animal safety. Analyzers must include at least two alarm outputs. Must be supplied with an interface cable for initial setup. The analyzer and associated necessary hardware must fit within a footprint of 300 mm (L) x 160 mm (W) x 225 mm (H) to integrate into existing equipment enclosures with data acquisition equipment at the point of use.