



ToxGas Ranger™ Series

MultiGas Sample Draw System

Model R-4659

Self-Contained Sample Draw System for Toxic Gas Monitoring

- * Measures up to 5 different toxic or combustible gases simultaneously
- * Graphic display with engineering units and system setup information
- * High quality pump with current monitor for overload/ fail warnings
- * 3x solid state relay outputs for Alarm 1, Alarm 2 or Fault
- * Optional coalescing filter with automatic drain for wet applications
- * Built-in flow meter provides visual confirmation of sample flow rate
- * Prompted calibration and front panel inlet for easy maintenance
- * Accepts sample lines up to 100 ft in length
- * Optional 4-20mA output or wireless 900Mhz or 2.4Ghz modem
- * Disposable inline particulate filter for increased sensor life
- * Operates on +8 to +30VDC or built-in 110/220VAC power supply
- * Preinstalled conduit entry ports for AC and low level signal warning
- * Manufactured in USA

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This single point multigas sample draw system is designed to measure the level of toxic gases in confined spaces where the atmosphere is too hot, too wet or too dusty for traditional diffusion sensors. The R-4659 supports up to five separate electrochemical, infrared or photo ionization sensors in a compact NEMA 4X wall mount enclosure designed for interior or exterior mounting. The R-4659 comes standard with 3 open-collector alarm outputs and an RS-485 serial MODBUS slave interface. A optional coalescing filter and automatic drain pump allows the R-4659 to pull samples from hot or wet locations while maintaining accuracy and long sensor life.

Easy to install, Easy to use

The R-4659 MultiGas Sample Draw is a completely self-contained unit with integrated filter, sample pump, flow meter, sensor manifold and calibration gas port. The high resolution LCD display shows calibrated engineering units with numeric values as well as analog-style bar graph displays. Sensor calibration is quick and easy thanks to front-panel controls and user-prompted calibration procedures. A clear hinged cover protects the LCD display, Run / Calibrate valve, cal gas port and flow meter from dust and moisture while allowing users to visually monitor readings, alarm LED indicators and sample flow rates.



Reliability in Hostile Environments

The R-4659 MultiGas Sample Draw includes a 1.0 liter per minute pump that is constantly monitored by the on-board microprocessor. Pump speed is adjustable via the display, and in the event of a pump failure or sample-line blockage, a Pump Error warning is shown on the display and indicated in the MODBUS database. In addition to monitoring pump current, the R-4659 also includes integrated sensors that measure ambient temperature and atmospheric pressure. Current temperature and pressure are shown on the display and stored in the MODBUS database.

Multiple Output Options

Standard outputs include three solid-state switched outputs with a maximum of 1A (each) load and an RS-485 compatible MODBUS slave interface. Optional outputs include a five channel 4-20mA output board and 900Mhz or 2.4Ghz wireless MODBUS modems that are compatible with ToxGas Ranger™ Series Alarm and Display Controllers.

Warranty

The R-4659 MultiGas Monitor carries a two year warranty on electronics and one year warranty on sensors.

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Power Input	Unit includes standard 110/220VAC power supply. Unit can also be powered by source of +8 to +28VDC. Power usage less than 1 watt with toxic sensors
Display	Backlit 64 x 128 pixel LCD with numeric and bar graph displays
Sensor Options	Channels 1 and 2 accept toxic gas sensors; Channel 3 designed for oxygen deficiency sensor; Channel 4 designed for PID detector for VOCs; Channel 5 accepts catalytic bead or SmartIR infrared sensor for combustibles or carbon dioxide
Standard Output	Three independent solid state switched outputs (1A max) RS-485 serial MODBUS® slave RTU interface
Optional Output	Five channel 4-20mA output board 900Mhz wireless MODBUS® modem 2.4Ghz wireless MODBUS® modem 802.11 b/g wireless MODBUS® modem
Visual & Audible Output	Red, blue and red/yellow LED strobes Piezo warning buzzer
Sample Pump	1.0 liter/ minute diaphragm pump
Temp	0°C to +50°C (see sensor limitations)
Enclosure	Non-metallic NEMA 4X with clear latching cover.
Dimensions	12" x 14" x 8" (w/h/d); shipping weight 12 pounds
Inlet/ Outlet	1/4" compression, stainless steel; two 1/2" conduit connections
Approvals	For use in General Purpose Areas only
Warranty	2 years from the date of purchase on electronics, one year on sensors

Sensor Types

O2	Oxygen (0-25%)	-40 to +55C	N2H4	Hydrazine (0-1)	-40 to +40C
CO	Carbon Monoxide (0-300)	-40 to +55C	NO	Nitric Oxide (0-50)	-40 to +50C
CL2	Chlorine (0-5)	-40 to +55C	NO2	Nitrogen Dioxide (0-100)	-40 to +50C
CLo2	Chlorine Dioxide (0-1)	-40 to +40C	TBM	Mercaptan TBM (0-15)	-40 to +40C
H2	Hydrogen (0-2000)	-40 to +55C	CH24S	Tetrahydrothiophene (0-100)	-40 to +40C
H2S	Hydrogen Sulfide (0-100)	-40 to +55C	SIR-C1-LEL	SmartIR 0-100% LEL (Methane)	-20 to +50C
HCN	Hydrogen Cyanide (0-50)	-40 to +55C	SIR-C3-LEL	SmartIR 0-100% LEL (Propane)	-20 to +50C
HCL	Hydrogen Chloride (0-30)	-40 to +55C	SIR-C1-v/v	SmartIR 0-100% v/v (Methane)	-20 to +50C
HF	Hydrogen Fluoride (0-10)	-20 to +50C	SIR-CO2	SmartIR Carbon Dioxide	-20 to +50C
SO2	Sulfur Dioxide (0-25)	-40 to +50C	PID	PID Low (0-50ppm) 10.6eV	-40 to +60C
NH3	Ammonia (0-100)	-40 to +40C	PID-H	PID High (0-300 ppm) 10.6eV	-40 to +60C
O3	Ozone (0-1)	-40 to +40C	PID-9.6	PID 9.6eV	-40 to +65C
EO	Ethylene Oxide (0-20)	-40 to +50C	PID-10.0	PID 10.0eV	-40 to -60C
ASH3	Arsine (0-1)	-40 to +40C	CB-LEL	Catalytic Bead 0-100% LEL	-40 to 65C
SIH4	Silane (0-50)	-40 to +40C			
F	Fluorine (0-1)	-40 to +40C			
COCl2	Phosgene (0-1)	-40 to +40C			