Technical Data Sheet

T3A Gas Detector by RKI Instruments

Brand / manufacturer	RKI Instruments
Product codes	Ammonia (NH3) / 0 to 100 ppm — SKU: 66-6306-10 Ammonia (NH3) / 0 to 200 ppm — SKU: 66-6306-20 Ammonia (NH3) / 0 to 400 ppm — SKU: 66-6306-40 Carbon Dioxide (CO2) / 0 to 5% — SKU: 66-6350-05 Carbon Monoxide (CO) / 0 to 300 ppm — SKU: 66-6301-03 Chlorine (CI2) / 0 to 3 ppm — SKU: 66-6312-03 Chlorine (CI2) / 0 to 10 ppm — SKU: 66-6312-10 Chlorine (CI2) / 0 to 20 ppm — SKU: 66-6312-20 Chlorine Dioxide (ClO2) / 0 to 1 ppm — SKU: 66-6313-01 Chlorine Dioxide (ClO2) / 0 to 5 ppm — SKU: 66-6313-05 Hydrocarbon (CH4) - LEL catalytic / 0 to 100% — SKU: 66-6340-10 Hydrocarbon (CH4) - LEL IR / 0 to 100% — SKU: 66-6351-10 Hydrocarbon (HC) LEL - IR / 0 to 100% — SKU: 66-6353-10 Hydrogen Chloride (HCl) / 0 to 30 ppm — SKU: 66-6304-30 Hydrogen Cyanide (HCN) / 0 to 30 ppm — SKU: 66-6305-30 Hydrogen Fluoride (HF) / 0 to 10 ppm — SKU: 66-6314-10 Hydrogen Sulfide (H2S) / 0 to 100 ppm — SKU: 66-6303-10 Nitric Oxide (NO) / 0 to 100 ppm — SKU: 66-6307-10 Nitrogen Dioxide (NO2) / 0 to 20 ppm — SKU: 66-6308-20 Oxygen (O2) capillary / 0 to 25% — SKU: 66-6302-25 Phosphine (PH3) / 0 to 5 ppm — SKU: 66-6315-05 Sulfur Dioxide (SO2) / 0 to 20 ppm — SKU: 66-6310-20

Product description

RKI Instruments T3A Series 3-wire explosion-proof gas detector transmitter: a versatile fixed detector for ambient-air hazardous gases, using electrochemical, infrared or catalytic bead sensors.

Choose gas type and range from the options above.

Key benefits

- Electrochemical, infrared or catalytic bead sensors detect a variety of gases
- Wired power (3-wire), 12 to 35 VDC
- 4-20 mA analog and RS-485 Modbus outputs standard
- Magnetic switches allow non-intrusive calibration in the field, plus full system settings and diagnostics
- LCD display with LED backlight; 3 push-button interface (ADD, MENU, SUB)
- 2 individually configurable alarms with amber and red front-panel LEDs
- 2 optional fully programmable alarm relays (dry contacts)
- Operating temperature -40°C to +60°C

Sensor options

Gas Type	Range	T90	Hazard Classification

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LEL Catalytic	0 – 100% (0-5% Vol.)	< 90 sec.	Class 1, Div 1
CL2	0 – 10 ppm	< 60 sec.	Class 1, Div 2
CLO2	0 – 1 ppm	< 120 sec.	Class 1, Div 2
CO	0 – 300 ppm	< 30 sec.	Class 1, Div 1
CO2	0 – 5% vol.	< 30 sec.	Class 1, Div 1
H2S	0 – 100 ppm	< 30 sec.	Class 1, Div 1
H2S 2K	0 – 2000 ppm	< 25 sec.	Class 1, Div 1
HCL	0 – 30 ppm	< 300 sec.	Class 1, Div 2
HCN	0 – 30 ppm	< 70 sec.	Class 1, Div 2
HF	0 – 10 ppm	< 90 sec.	Class 1, Div 2
LEL-IR	0 – 100% (0-5% Vol.)	< 30 sec.	Class 1, Div 1
LEL-IR-HC	0 – 100% LEL	< 30 sec.	Class 1, Div 1
NH3	0 – 100 ppm	< 90 sec.	Class 1, Div 2
NH3 300	0 – 300 ppm	< 120 sec.	Class 1, Div 2
NH3 A	0 – 1000 ppm	< 120 sec.	Class 1, Div 2
NO2	0 – 20 ppm	< 25 sec.	Class 1, Div 2
O2	0 – 25 Vol.	< 15 sec.	Class 1, Div 1
PH3	0 – 5 ppm	< 30 sec.	Class 1, Div 2
SO2	0 – 20 ppm	< 35 sec.	Class 1, Div 1

Specifications

Sensor Type	Electrochemical, infrared, catalytic bead	
Operating Voltage	Wired power (3-Wire) 12 to 35 VDC	
Power Draw	2 Watts maximum	
Protection	Power electromagnetic interference (EMI) filter 4-20 mA surge suppression RS-485 surge suppression	
Display Screen	102×64 Resolution graphical LCD screen transflective (sunlight readable) with white LED backlight	
Interface	3 Push-buttons (MENU, ADD and SUB) 3 Magnetic non-intrusive switches for calibration	
Customizable Settings	2 Individual-configurable alarm LED/relay set-points	
Temperature Range	-40°C to +60°C (-40°F to +140°F)	
Output (digital)	RS-485 modbus	

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Wired (Analog) Output	4-20 mA (3-Wire) Fault terminal, wet relay contact. Has it's own power. Optional 2 dry-contact relays with replaceable 4 amp fuses.	
Product Dimensions	5.5 in, L x 6 in. W x 7 in. H (8 in. W x 17 in. H Max. dimensions with attachments)	
Total Weight	6 lbs.	
Remote Sensor Kit (Optional Additional Feature)	Remote sensor kit with enclosure (5 pin) • Electrochemical sensor max. length: 250 feet • Infrared sensor max. length: 40 feet • Catalytic bead sensor max. length: 15 feet	
Hazardous Location Approvals	Main Enclosure	Certified explosion / flame proof CQPSUS Class I, Division 1 & 2, Groups B, C & D Nema 3, 4, 4X, 7 (B, C, D) 9 (E, F, G) Temp.= -20°C to +60°C
Sensor Housing	Certified explosion / flame proof CQPSUS Class I, Division 1 & 2, Groups B, C & D Temp.= -40°C to +60°C Note: Certification only applies to some gases. Toxic gases not certified for Div. 1 locations are suitable for Div. 2 applications but have no third party approval.	
Controllers	Controllers compatible with all RKI Beacon controllers, as well as most DCS / PLC systems: Beacon 110, Beacon 200, Beacon 410A, Beacon 800, and MC-6400	
Warranty	1-Year warranty for electronics and sensor	

Information source

Russmill Safety product listing — https://www.russmillsafety.com/products/t3a-gas-detector-by-by-rki-instruments (listing notes product information supplied by the manufacturer, RKI Instruments)

Supplier / distributor contact

Supplier / distributor	Russmill Safety
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