



**Office of Surface Mining  
Reclamation and Enforcement**  
Technical Innovation and Professional Services Team (TIPS)



## Portable Gas Monitors: RKI SC-01, RKI GX-2012, and RKI GX-6000



**Description:** Toxic gas monitor SC-01 detects the presence of sulfur dioxide in the range of 0–6 ppm. The GX-2012 and GX-6000 are hand-held data-logging instruments for simultaneously monitoring four and five gasses, respectively—combustible gas (0–100% lower explosive limit), oxygen (0–40% vol.), hydrogen sulfide (0–100 ppm), carbon monoxide (0–500 ppm), and for GX-6000, carbon dioxide (0–10,000 ppm). An internal pump draws the atmosphere through the sensor array. A back-lit LCD screen simultaneously displays readings from all sensors. Alarms are vibrational, visual, and audio. Each of the three meters is powered by AA alkaline batteries and has a clip which allows the unit to be worn on a belt.

**Uses:**

- Check for combustible gas emitted from boreholes and mine shafts before inserting non-explosion-proof electronic equipment such as a borehole camera.
- Monitor noxious gas generated by sulfate-reducing water-treatment systems.
- Alert to dangerous levels of carbon dioxide in structures built on mine spoil or above underground mine works.
- Detect harmful concentrations of sulfur dioxide emitted by burning coal or coal waste.

**Maintenance:** Periodic calibration is a check on the status of the sensors. Calibration is done with cylinders containing known concentrations of compressed gas or gas mixture. The oxygen sensor is a galvanic type that is always “on” regardless of whether the instrument is turned on or even if the sensor is inserted in the instrument. Freshly manufactured galvanic oxygen sensors should provide at least two years of service.

**Check-out & Contact Information:**

The RKI gas monitors are available from the Technical Services Branch of the Mid-Continent Region, Contact Brian Hicks at 202-513-0383 or [bhicks@osmre.gov](mailto:bhicks@osmre.gov).

Equipment may be borrowed for a specific period. Equipment on loan will be temporarily transferred using a Department of the Interior Property Pass, Standard Form DI-1934, signed by the appropriate responsible individuals. OSMRE will generally pay for delivery to the requestor’s office. The cost of return delivery will be borne by the requesting office. Some equipment is oversized or may need special handling.