

**A concentration measurement instrument of carbon dioxide
using light-emitting diode**

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A new kind of concentration measurement instrument of carbon dioxide using light-emitting diode and Pbse detector is presented. The instrument consists of detector system, signal amplifying and controlling system and display system. In detail, detector system is mainly composed of light-emitting diode inAsSbP, infrared window, gas path, sampling pump, spherical reflector, bandpass filter and PbSe detector. Signal amplifying and controlling system is mainly composed of voltage amplifier, sampling hold circuit, multi-channel simulating switch, A/D converter and 8031-chip microcomputer. And the display system is mainly composed of indicator, printer and acoustic warning apparatus. The principle, the structure and the main specifications of the instrument are introduced. The key technologies and corresponding methods are discussed. Some specifications are given.

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