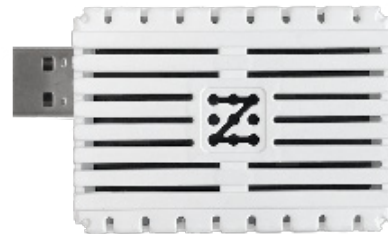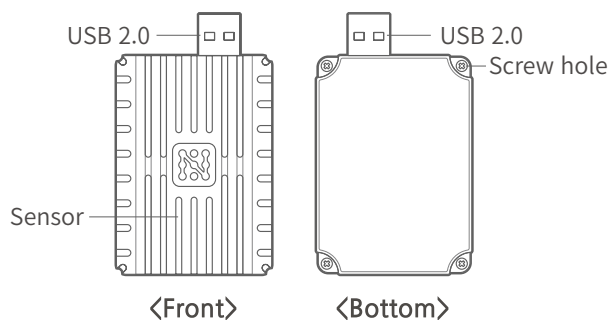## Flammable Gas Transmitter via USB

UA58-LEL

- Real-time LEL,Temperature,Humidity
- Compact size sensor in various industrial sites.
- Support the classification of 6 gas groups.
- Support 18 types of flammable gases
- Operating On Windows / Linux / MacOS
- AT Command Support
- Free Recording Software on PC

The UA58-LEL categorizes hydrocarbon (HC) combinations into one of six classifications and supports the detection of 18 flammable gases. It transmits real-time density information via a USB connector and operates across a wide environmental range. With M.L. Technology, delivers highly accurate and reliable measurement.

The UA Series is automatically recognized as a serial port on the operating system and accessed using the AT command. Multiple USB connections of the UA device could compose the multi-channel sensor. The sensor data is not stored in the UA, but recorded in PC and Android devices. 128CH real time monitoring software on PC is downloadable on our website(www.radionode365.com). The optional RN17X model helps the UA series for you to setup remote web monitoring system or MODBUS TCP
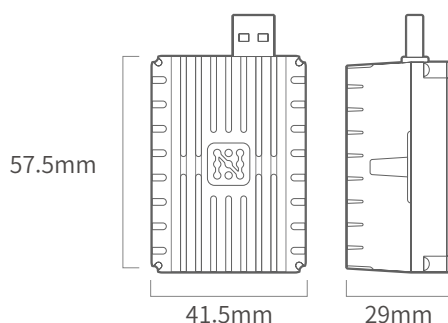
Hardware

USB 2.0

USB 2.0

Screw hole

Sensor

〈Front〉　〈Bottom〉

Dimensions

57.5mm

41.5mm　29mm

⚠ CAUTION!

- Avoid temperatures above 90℃ or below -60℃.
- Do not exceed ambient pressures above 130 kPa or below 30 kPa.
- Keep water or liquids away from the sensor.
- Direct exhalation onto the sensor may cause brief false flammable gas readings.

Contact Information

- www.radionode365.com
- master@dekist.com

UA58-LEL-U Specifications

Sensor Channel Info.	• CH1: Flammable gas (default methane) • CH2: Temperature • CH3: Humidity • CH4: gas class ID	Baseline Drift	CH4: 0%LEL
		Long-term Drift	CH4: < ±3 %LEL signal loss/year
Gas Sensor Type	MEMS sensor with True LEL Algorithm	Gas Response Time	Flammable gas: T90 < 20 secs
Body Material	PC(Polycarbonate)	Warming up Time	< 3mins after power-on (Auto-initializes to reach stable values)
Measurement Range	• Flammable gas : 0-100%LEL • Temperature : -30 ~ 50℃ • Humidity : 5~95% • gas id : 1 ~ 6	Operating Condition	• Temperature: -40 ~ 75℃ • Humidity: 0 ~ 100% R.H(non condensing) • Pressure: 80 to 120kPa
Measurement Unit (Selection using SW)	• Flammable gas : %LEL • Temperature : ℃(Default), ℉ • Humidity : % • gas id : number	Lifetime[2]	15 Years @ (20 ± 3℃, 45 ± 5% RH recommended)
Measurement Cycle	3 sec	Cross-Sensitivity	• O2: +1%VOL = +1.07%LEL • CO2: +1,000 ppm = +1.74%LEL Note: In normal air, when O2 levels are up to 21.8% VOL and CO2 levels are around 400 ppm, there is no LEL response, but exceeding these levels may trigger an LEL response
Sensor Resolution	• 0.1%LEL • Temperature: 0.01℃ • Humidity: 0.01%		

<flammable gas sensor>

• Butane: ±5 %LEL	• Pentane: ±7 %LEL
• Ethane: ±5 %LEL	• Propane: ±7 %LEL
• Hydrogen: ±5 %LEL	• Propylene: ±5 %LEL
• Isobutane: ±5 %LEL	• Acetone: +20 %LEL
• Isobutylene: ±5 %LEL	• Ethylene: −12 %LEL
• Isopropanol: ±10 %LEL	• Heptane: ±12 %LEL
	• Octane: ±12 %LEL
• Methane: ±3 %LEL	• Styrene: −20 %LEL
• MEK: ±5 %LEL	• Toluene: ±12 %LEL
	• Xylene: ±12 %LEL

Sensor Accuracy (Repeatability)

<Temp & RH>
• Temperature: ±0.2℃
• Humidity: ±2.0%

Power Consumption	5V (Max. 183.75mW, Avg.112mW)		
USB Port	USB 2.0 Type A Plug		
Output Signal	USB digital, CDC Device (AT Command)		
LED	Device Status Indicator • BLINK RED & GREEN: Warming-up • RED KEEP ON: USB Connection Failed • BLINK GREEN: Measuring		
Software Support	• Tapaculo Lite 128CH recording software on PC Download: www.radionode365.com • Calibration Software (to be done) Calibrator that compensates measuring error. Download: www.radionode365.com		

Compensation Logic	Automatic Background Calibration

Gas Classification[1]	• gasID 0 : No gas
	• gasID 1 : Hydrogen
	• gasID 2 : Hydrogen Mixture
	• gasID 3 : Methane
	• gasID 4 : Light Gas
	  - butane, ethane, isobutane, isobutylene
	  - propane, propylene, ethylene
	• gasID 5 : Medium Gas
	  - MEK, pentane, acetone,heptane
	• gasID 6 : Heavy Gas
	  - octane, styrene, toluene, xylene

1) The sensor provides one of six classifications but does not identify individual gas constituents, except for hydrogen and methane combinations

2) Gas sensors have a longer life when measured discontinuously than when measured continuously.

Flammable Gas Transmitter via USB

Application

• Industrial safety Monitoring
• Air Ventilation System
• Fire Prevention Systems

Product Components

Model	Component
UA58-LEL-U	• UA58-LEL-U(1EA) • USB Extension Cable 1.5m(1EA) • Calibration Certificate(1EA)

Optional Accessories

Type	Model Number	Spec.
Sensor data transmitter via Ethernet	RN171 WC	• Supports cloud monitoring • Supports MODBUS TCP/ HTTP data transmission • Power: PoE 48V, IEEE802.3af/at, DC6V, 1.9W
Sensor data transmitter via WiFi	RN172 WC-D	• Supports cloud monitoring • Supports MODBUS TCP/ HTTP data transmission • Power: DC5V, 12W