

# KANE455 Infra-Red Analyser

*it's easy with Kane*

GAS ANALYSERS

Direct Measurement of  
CO<sub>2</sub> using Infra-Red  
Technology



# 455



O<sub>2</sub>

CO

CO<sub>2</sub>

CO/CO<sub>2</sub>

Efficiency

Diff. Temp

Diff. Pressure

## Features

- Long Life CO Sensor (>5 years expected life)
- Long Life IR based CO<sub>2</sub> Sensor (>5 years expected life)
- Low Annual Service Costs
- Easy to use rotary switch
- Protective rubber sleeve with magnet for "hands free" use
- Multi-fuel: Natural Gas, Propane, Butane, LPG, Light Oils (28/35 sec), and Wood Pellets
- High accuracy manometer
- Differential thermometer
- Separate reports for:  
Combustion  
Pressure  
Let-by and Tightness  
Temperature  
CO build up
- Designed to meet BS7967
- Easy transfer of test results
- 5 year extended warranty if serviced annually by Kane

## Optional Extras

- Plug-in gas leak detector
- Bluetooth™ module with xml compatible data transfer
- KMIRP infra-red thermal paper printer
- KANE ImPrint infra-red plain paper printer
- 12v in-vehicle charger
- Range of temperature probes



Colours shown may differ from those received.

Infra-red printer emitter



# The most user friendly '6

K455 1.0  
YOUR COMPANY NAME &  
PHONE NUMBER HERE

TEST 10  
DATE 12/07/07  
TIME 12:00:08

### COMBUSTION

FUEL	NAT	GAS
O2 %		5.4
CO2 %		8.8
CO PPM		12
FLUE °C		55.1
INLT °C		17.2
NETT °C		37.9
EFF (C)		98.3
LOSSES		1.7
XAIR %		34.8
CO/CO2		0.0001
PRS mBAR		0.00

Customer  
Appliance  
Ref.

## Combustion Analyser (#1)

- Select "Ratio" on the rotary switch to view current fuel, CO/CO<sub>2</sub> ratio, CO, and CO<sub>2</sub>
- Select "O<sub>2</sub>/Eff" to view O<sub>2</sub>, temperatures and efficiency
- Select "Aux" to view any 4 parameters, user selectable
- Measures CO<sub>2</sub>, CO, inlet and flue temperatures
- Calculates O<sub>2</sub>, CO/CO<sub>2</sub> ratio, excess air, losses and combustion efficiency, (nett, gross or condensing)
- Multi fuel - Natural gas, Propane, Butane, LPG, Light Oils (28/35 sec) and Wood Pellets
- Readings can be sent via an infra-red printer, (see printout example) or by Bluetooth™
- Memory stores up to 99 combustion tests

## CO Meter (#4)

Calibrate the analyser in fresh air to set the CO sensor to zero

- Select "Ratio" or "Aux" to check the ambient CO level in a room
- Select "Room CO" to perform a 15 minute CO test
- The CO level is logged at 1 minute intervals
- "Room CO" tests are automatically stored in the memory
- Tests can be sent via an infra-red printer or by Bluetooth™
- Memory stores up to 20 "Room CO" tests

K455 1.0  
YOUR COMPANY NAME &  
PHONE NUMBER HERE

### ROOM CO TEST

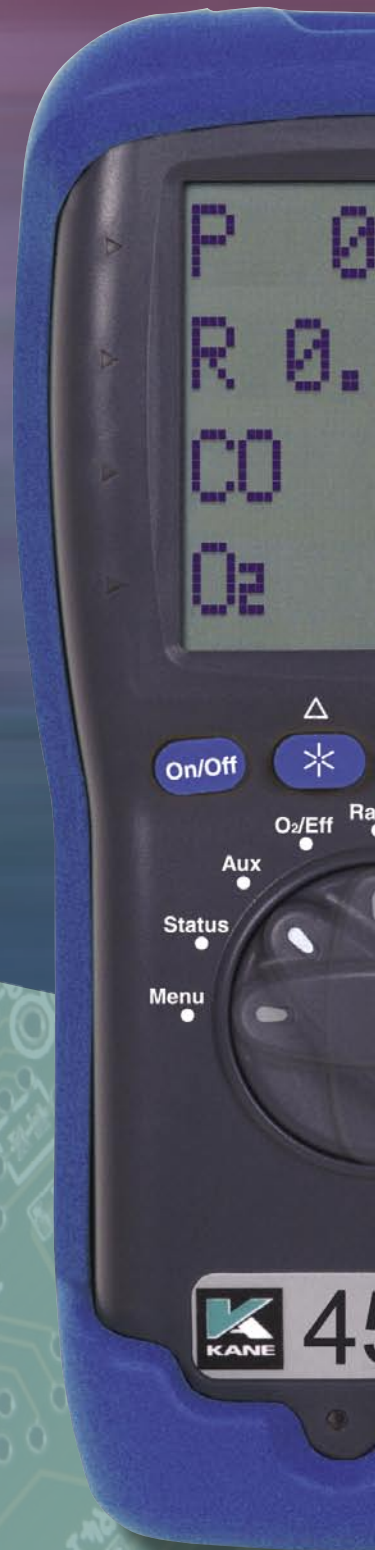
LOG 01  
TIME 12:50 12/07/07

TEST	CO ppm
0	00
1	00
2	10
3	04
4	01
5	00
6	00
7	10
8	03
9	00
10	00
11	00
12	07
13	11
14	02
15	00
MAXIMUM CO	11

Customer  
Appliance  
Ref.

## Gas Leak Detector (#5), optional

- Plug-in, handheld unit with the sensor at the tip of a flexible shaft
- LED's and a variable buzzer enable the user to pinpoint a gas leak
- Can detect leaks down to 50ppm of methane / natural gas



# 5 in 1" analyser available



## Differential Pressure Meter (#2)

- Select "Prs" on the rotary switch for high accuracy single or differential pressure readings
- Range  $\pm 80\text{mBar}$ , maximum resolution  $0.001\text{mBar}$   
Ideal for difficult applications such as flue draught
- Readings can be smoothed to damp out pressure pulsing  
Ideal for setting air/gas ratio valves
- Display includes a clock for manual timing
- Readings can be sent via an infra-red printer, (see printout example) or by Bluetooth™
- Memory stores up to 20 pressure tests
- Select "Tightness" to perform a let-by test and stabilisation/tightness test
- The let-by period defaults to 1 minute  
The stabilisation period defaults to 1 minute  
The tightness test period defaults to 2 minutes  
All 3 times can be adjusted by the user
- Tests are automatically stored in the memory
- Tests can be printed via an infra-red printer, (see printout example)
- Memory stores up to 20 "Tightness" tests

```

K455 1.0
YOUR COMPANY NAME &
PHONE NUMBER HERE
PRESSURE
.....
TIME 12:56 12/07/07
PRS MBAR -0.037
Customer
.....
Appliance
.....
Ref.
.....
    
```

```

K455 1.0
YOUR COMPANY NAME &
PHONE NUMBER HERE
LOG TIME 11:53 12/07/07
Let By Test
.....
PRS_1 MBAR 10.12
PRS_2 MBAR 10.11
LET BY MINS 1:00
Tightness Test
.....
PRS_1 MBAR 20.12
PRS_2 MBAR 20.10
ΔPRS MBAR -0.02
STABIL'N MINS 1:00
TIGHTN'S MINS 2:00
Customer
.....
Appliance
.....
Ref.
.....
    
```

## Differential Thermometer (#3)

- Select "Diff Temp" to view flow (T1), return (T2) and differential ( $\Delta T$ ) temperatures
- Temperature probes are available to measure air, liquid and surface (pipe) temperatures
- Ideal for Benchmark log book
- Readings can be sent via an infra-red printer, (see printout example) or by Bluetooth™
- Memory stores up to 20 differential temperature tests

```

K455 1.0
YOUR COMPANY NAME &
PHONE NUMBER HERE
DIFF TEMP
.....
LOG TIME 12:10 12/07/07
T1 °C 60.1
T2 °C 47.0
ΔT °C 13.1
Customer
.....
Appliance
.....
Ref.
.....
    
```

## Torch Light (#6)

- Never got a torch when you need one? You have now!
- The KANE455 has a backlit display and an inbuilt LED torch

**KANE455 ANALYSER SPECIFICATION** (NOTE: MAY BE SUBJECT TO CHANGE)

Parameter	Range	Resolution	Accuracy
<b>Temp Measurement</b>			
Flue Temperature	0-600°C (0-1200°C with special probe)	0.1°C	±1.5°C or ±1% reading
<b>Inlet Temperature</b>			
(Internal sensor)	0-50°C	0.1°C	±1.0°C
(External sensor)	0-600°C	0.1°C	±1.5°C or ±1% reading
<b>Gas Measurement</b>			
Oxygen <sup>*2</sup>	0-21%	0.1%	±0.3%
Carbon Dioxide	0-20%	0.1%	±0.2% <sup>*1</sup>
Carbon monoxide	0-2,000ppm nom 4,000ppm max for 15 mins	1ppm	±5ppm <100ppm <sup>*1</sup> ±5% reading >100 ppm
<b>Calculated values</b> <sup>*3</sup>			
Efficiency	0-99.9%	0.1%	
Excess Air	0-250%	0.1%	
CO/CO <sub>2</sub> ratio	0-0.9999	0.0001	
<b>Pressure (differential)</b>			
Nominal range ±80 mbar (Maximum over range without damage to sensor is ±400 mbar)	±0.2 mbar  ±1 mbar  ±80 mbar	0.001 mbar to 24.999 bar then 0.01 mbar	±0.005 mbar  ±0.03 mbar  ±3% of reading

\*1 Derived from CO<sub>2</sub> measurement\*2 Derived from O<sub>2</sub> measurement

\*3 All calculations in accordance with BS EN50379 approval.

<b>Pre-programmed Fuels</b>	Natural gas, Propane, Butane, LPG, Light Oils (28/35 sec), Wood Pellets.
<b>Storage Capacity</b>	99 Combustion tests 20 Pressure tests 20 Tightness tests 20 Temperature tests 20 Room CO tests
<b>Ambient Operating Range</b>	0°C to +45°C 10% to 90% RH non-condensing Atmospheric Pressure: 850 to 1100 mbar
<b>Battery Type / Life</b>	4 AA cells >8 hours using Alkaline AA cells
<b>Chargers (optional)</b>	220v charger, for NiMH batteries only 12v in vehicle charger, for NiMH batteries only
<b>Dimensions</b>	
Weight:	0.8kg handset with protective cover
Handset:	200 x 45 x 90mm
Standard Probe:	300mm long including handle. 6mm diameter x 240mm long stainless steel shaft with 3m long neoprene hose. Type K thermocouple.

**Each KANE455 is supplied with:**

Flue probe, protective rubber sleeve with integral magnet, 2 pressure connectors, 4 x AA NiMH batteries with fast charger and instruction manual.

**KANE455 options include:**

Soft protective carry case, infra-red printer, plug-in gas leak detector, 12v in-vehicle charger and a range of probes for air, liquid and surface temperatures. A Bluetooth™ wireless module can be factory fitted. Data can be added to xml compatible Service Management software programs eg: Cognito.

**KANE455 Kits:**

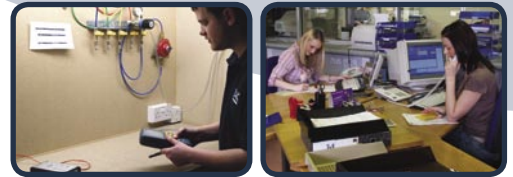
Various KANE455 Kits are available offering extra value. Contact your distributor or Kane International for more details.

**5 year Warranty Offer.**

All flue gas analysers should be checked and recalibrated annually. Kane's unique fixed price service system includes the following benefits...

- Another 12 months warranty each time the analyser is returned\*  
Equivalent to a 5 year Extended Warranty if returned annually
- Free software upgrades if applicable
- New traceable calibration certificate as required by BS7967
- Return carriage via courier to a UK address
- Very competitive fixed prices - makes budgeting much easier
- Recalibration reminders can be sent
- See [www.kane.co.uk](http://www.kane.co.uk) for full details

\*Applies to all Kane analysers up to 5 years old



Your distributor

**Kane International Limited**

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Fax: +44 (0) 1707 393277

Email: sales@kane.co.uk

Web: www.kane.co.uk

**Warranty**

All Kane International Limited products are warranted for 12 months from the date of purchase. This warranty covers any defects in materials or manufacturing.

Kane International Limited specialise in the design, manufacture and marketing of electronic instruments for monitoring and optimising both energy usage and emissions from energy processes. Our Policy is to continuously develop and improve our products and so we reserve the right to change any part of our product specifications without prior notice.



Ref: KA455IT308

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