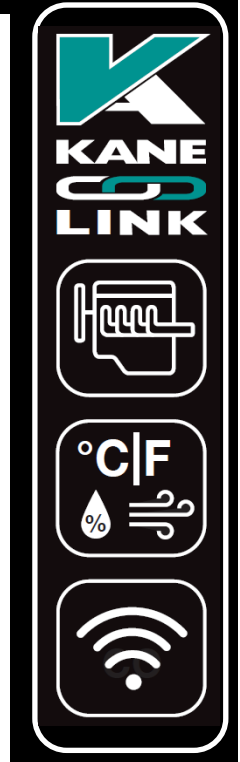




# KANE-EGA1/2/3



## Exhaust Gas Analyzer



Distributed in the USA by

Stock No: MAN00193 Rev: 1.10122



# CONTENTS

Page No.

<b>KANE EGA OVERVIEW</b>	<b>4</b>
<b>ANALYZER FEATURES AND KEYPAD</b>	<b>5-8</b>
KEYPAD BUTTONS	6
ANALYZER LAYOUT	7
BACK OF ANALYZER - PROBE ETC	8
<b>BATTERIES</b>	<b>9</b>
BATTERY TYPE	9
REPLACING BATTERIES	9
TIME & DATE	9
CHARGING NIMH BATTERIES	9
BATTERY DISPOSAL	9
<b>GENERAL SAFETY</b>	<b>10</b>
<b>FIRST TIME USE</b>	<b>11</b>
<b>GENERAL OPERATING PRINCIPLE</b>	<b>11-15</b>
QUICK START	11
USER INTERFACE	11
STATUS	12
STATUS BAR	12
STATUS BAR LAYOUT	13
STATUS BAR MESSAGE AREA	14
STATUS BAR ICONS	14
STATUS BAR ICONS LEVEL	14
STATUS BAR MENU OPTIONS	15
STANDARD OPTIONS	15
<b>USING MENU</b>	<b>15</b>
MENU ITEMS	15
<b>MEASURING EXHAUST GASES</b>	<b>17</b>

<b>CO SENSOR PROTECTION PUMP OPERATION</b>	<b>18</b>
AUX SCREEN	18
EDITING AUX SCREEN	18
MEASURE SCREEN	19
STORED MEMORY LOGS	19
MENU OPTIONS	19
VIEWING STORED LOGS	20
LOG VIEW MENU OPTIONS	20
FINDING STORED REPORTS	20
REPORT MENU OPTIONS	21
<b>PRINTING</b>	<b>21</b>
KANE INFRA-RED PRINTER	21
<b>PRINTOUTS</b>	<b>22</b>
<b>KANE LINK</b>	<b>23</b>
<b>SPECIFICATIONS</b>	<b>24</b>
<b>EU DECLARATION</b>	<b>25</b>
<b>COLD WEATHER PRECAUTIONS</b>	<b>26</b>
<b>WELCOME TO KANE CARE &amp; RECYCLING</b>	<b>28</b>

# KANE EGA OVERVIEW

Your KANE exhaust gas analyzer has the ability to measure up to 3 different gases,

Depending on your options it measures or calculates:

- Carbon Monoxide 0-10,000ppm (CO)
- Carbon Monoxide 0-10% (CO)
- Carbon Dioxide (CO<sub>2</sub>)
- Nitric Oxide (NO)
- Nitrogen Oxide (NO<sub>x</sub>)
- Corrected Carbon Monoxide (CO<sub>k</sub>)

Your KANE-EGA has a protective rubber cover with magnets for “hands-free” operation & is supplied with an exhaust probe & battery charger with 3 NiMH batteries.

Your KANE-EGA has a large 6 line display showing data & test results based on your actions. The display bottom line also highlights analyzer status at all times.

Your KANE-EGA prints test reports using an optional infrared printer or wirelessly sends them to the KANE wireless APP.

Your KANE-EGA stores up to 45 logs.

You can enter 2 lines of 24 characters on your test results printout.








KANE LINK wirelessly connects optional KANE LINK devices to your analyzer.



# ANALYZER FEATURES & KEYPAD



# KEYPAD BUTTONS

ICON	DESCRIPTION
 SAVE LOG	Long press to store data
 PRINT REPORT	Short press to print a report - Analyser offers a destination choice when wireless & irda fitted
 NAVIGATE UP	Short press to scroll up
 ENTER KEY	Use to select current option - also selects torch in some dial positions
 NAVIGATE DOWN	Short press to scroll down
 DATA HOLD	Short press to hold current data on screen - see status bar section on page 13
 PUMP ON/OFF	Press to turn pump on or off



Function Keys



Rotary dial

# ANALYZER LAYOUT





# BATTERIES

## BATTERY TYPE

Your KANE-EGA uses rechargeable Nickel Material Hydride (NiMH) batteries - Using other battery types may void your analyzer's warranty.

### **WARNING**

Although you can use Alkaline batteries you must not charge your analyzer with Alkaline batteries fitted.

Do not mix NiMH cells with different capacities or from different manufacturers - All batteries must be identical.

## REPLACING BATTERIES

Turn over your analyzer, remove protective rubber cover, find battery compartment & fit 3 NiMH "AA" rechargeable batteries ensuring correct battery polarity. Replace battery cover & protective rubber cover.

## TIME & DATE

After changing batteries reset your analyzer time & date.

## CHARGING NiMH BATTERIES

Your KANE-EGA uses a standard Micro USB connector - For best results turn off then connect your charger. Charging indicator will illuminate then turn off when charging is complete.

Your first charge should be for 8 hours - Thereafter NiMH batteries can be topped up at any time, even for short periods

If your batteries discharge & your analyzer enters a low power shutdown, 1 hour charge provides approx. 2 hours continuous use.

## BATTERY DISPOSAL

Always dispose of depleted batteries using approved disposal methods to protect our environment.



## GENERAL SAFETY



### SAFETY WARNING

Your analyzer extracts combustion gases that may be toxic in relatively low concentrations. These gases are exhausted from the back of the analyser. This analyzer must only be used in well-ventilated locations by trained & competent persons after due consideration of all the potential hazards.

Portable gas detectors should conduct “bump” tests before relying on units to verify atmospheres are free from hazards.

A “bump” test is a way to check an instrument works within acceptable limits by briefly exposing it to known gas mixtures to change the output of all sensors present.

**NOTE: This is different from a calibration where your analyzer is exposed to known gas mixtures but allowed to settle to a steady figure with readings adjusted to the stated gas concentration of the test gas.**

Protection Against Electric Shock (In accordance with EN 61010-1:2010):

This analyzer is designed as Class III equipment & should only be connected to SELV circuits. The battery charger is designated as:

- Class II equipment
- Installation category II
- Pollution degree 2
- Indoor use only
- Altitude to 2000m
- Ambient temperature 0°C-40°C
- Maximum relative humidity 80% for temperatures up to 31°C decreasing linearly to 50%RH at 40°C
- Mains supply fluctuations not to exceed 10% of the nominal voltage

## FIRST TIME USE

Charge your analyzer batteries for 8 hours - an overnight charge should be sufficient for an average 8 hour day.

Take time to read this manual fully & be aware your analyzer configuration may not support all features explained in this manual. Before using your analyzer ensure it is set up for your requirements.


**NOTE: Your analyzer STATUS bar displays current time, date & battery status - Check time & date are correct as they can only be changed if you have not stored logs in Memory to protect the integrity of your stored data.**

## GENERAL OPERATING PRINCIPLE

Using your KANE-EGA is simple with the rotary dial & user interface. Most tests can be made with little user activity.




Your analyzer status bar offers options based on tasks you are performing & displays useful information & messages.

## QUICK START

Turn on your analyzer in fresh outdoor air pressing the  button for 2 seconds. Your analyzer starts a 60 second zero calibration - once completed select your tests by turning the analyzer rotary dial.

## USER INTERFACE

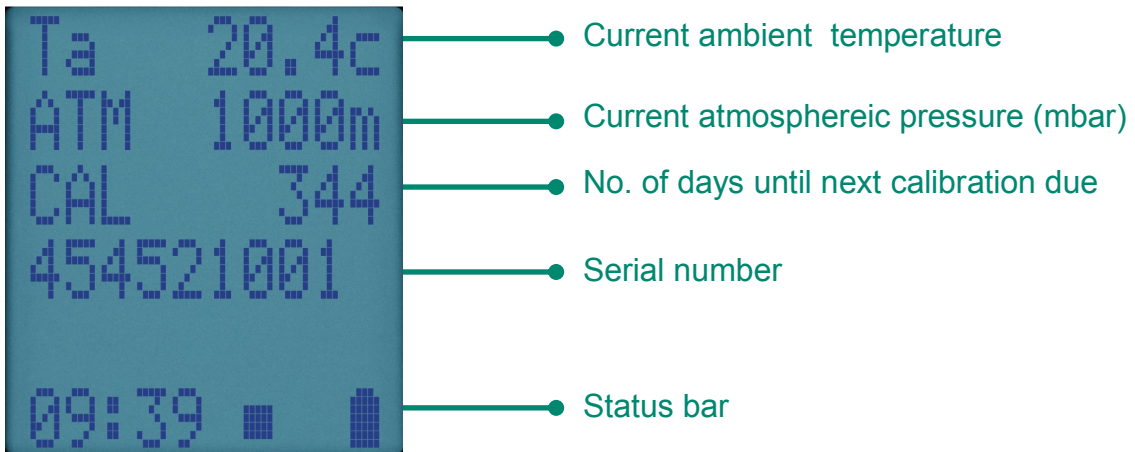
Your analyzer display shows 5 lines of tests & a status bar. The backlight activates each button press then turns off after 10 seconds.

Navigate through your options & menu choices via 3 dedicated   &  buttons.

Button presses are either short or long.

# STATUS

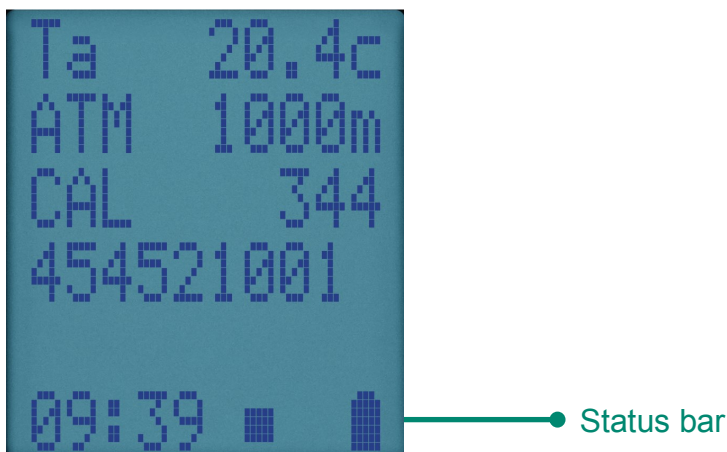
Rotate dial to "Status" :



# STATUS BAR

Status bar shows analyzer status & offers options based on your settings.

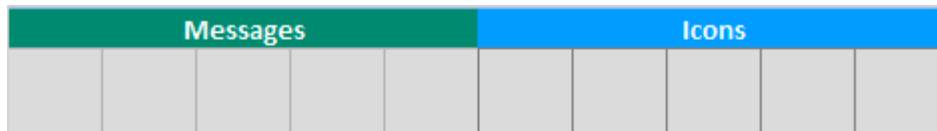
Navigate through status bar options via ▲ & ▼ buttons when status bar is on display.



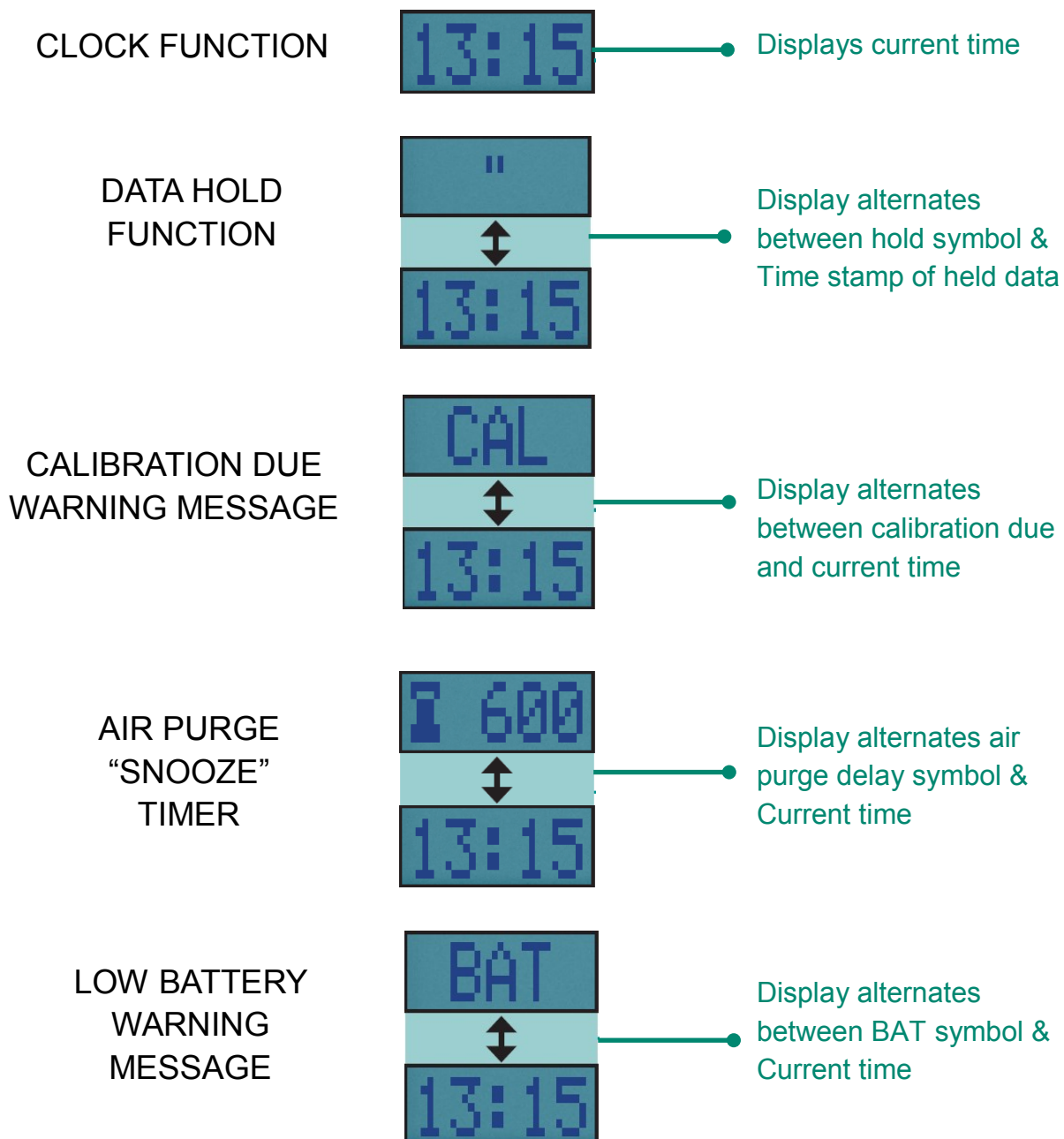


# STATUS BAR LAYOUT

Status bar splits into 2 zones, Message & Icons shown below:



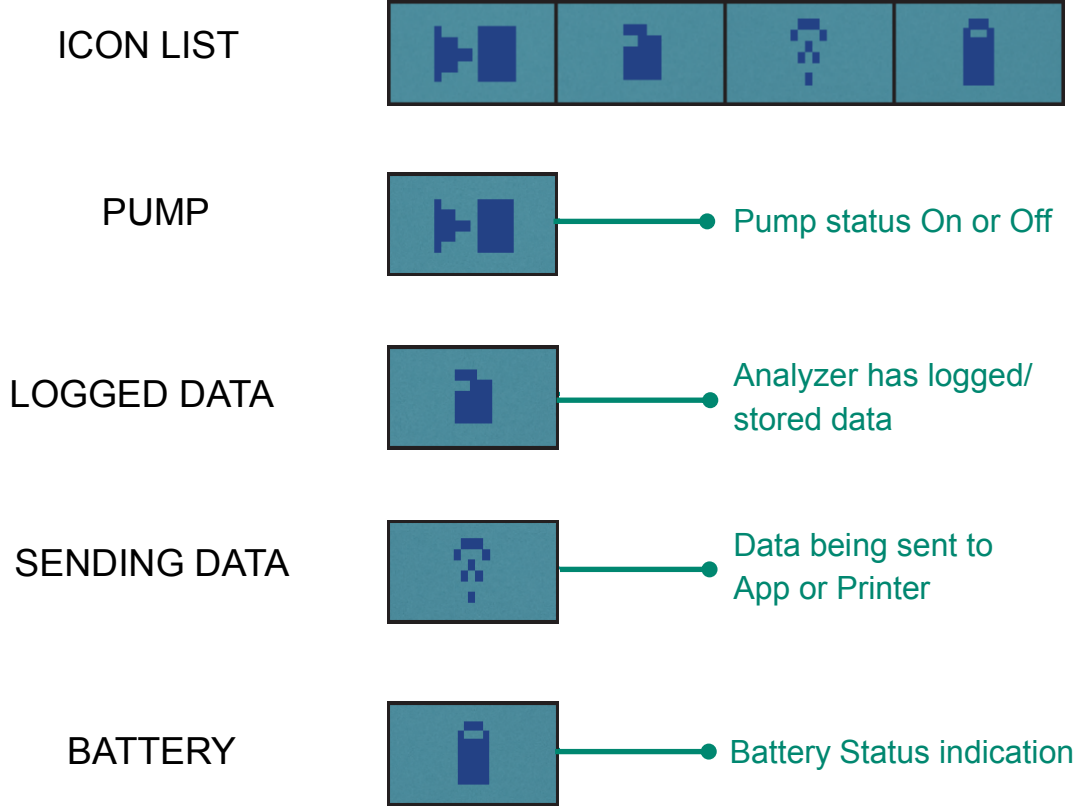
## STATUS BAR MESSAGE ZONE



# STATUS BAR ZONES

Icons give quick & simple status information:

## STATUS BAR ICON LEVEL



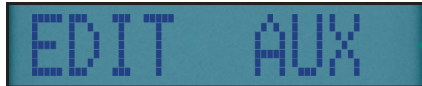
## STATUS BAR MENU OPTIONS


Status Bar offers you contextual menu items based on your screen display.

### STANDARD OPTIONS



Date



Turn rotary dial to AUX position to make changes to AUX screen then long press  button until cursor flashes

### USING MENU

Rotate dial to MENU to customise your analyzer default setting to your requirements.

Navigate through the MENU using these buttons  &  



Menu option to edit

As you navigate up or down items will move up or down the screen returning to the beginning.

Note: To exit MENU turn your analyzer rotary dial to any position - note any unsaved changes will be lost.

## MENU ITEMS

MENU ITEM	MENU TEXT	OPTIONS/COMMENTS
TIME	TIME	HH:MM:SS format E.G.. 7am = 07:00:00, 7pm = 19:00:00
DATE	DATE	DD/MM/YY format
HEADER	HEADER	Edit 2 Line Header on your printouts
PRINTER TYPE	IR PRINT	Select, KMIRP, IRP-2
LOGS	LOGS	View current memory usage & stored logs
LANGUAGE	LANGUAGE	Select required language from list
CODE	CODE	Password protected for authorised service agents only - Default to 000000

## KANE LINK

You can wirelessly connect optional KANE LINK devices to your analyzer. Once connected, they stay connected until you use KANE LINK to remove them.

If on, they replace or adds to your analyzer measurements.

See page 23 to add or remove optional KANE LINK devices.

# MEASURING EXHAUST GASES

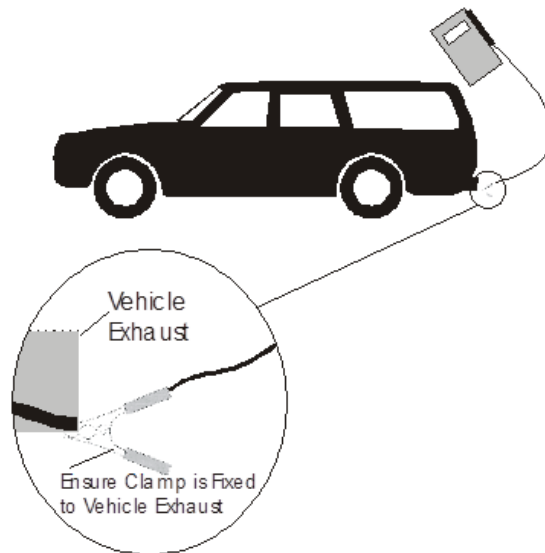
After countdown is finished & your analyzer is ready to use, put your exhaust probe into the vehicles exhaust.

For normal emission testing, ensure that the engine has been pre-conditioned to normal operating temperature. The engine conditions must be constant & stable to give a stable measurement.

Ensure the probe is fully inserted into the exhaust pipe to avoid any dilution of the exhaust gas with back-flushing ambient air. Position the hose assembly away from any hot surfaces.

## SAFETY WARNING

**Use suitable protection when disconnecting the probe, as it may be hot!**



Do not exceed analyzer operating specifications - In particular:

- Do not exceed analyzer internal temperature operating range
- Do not put analyzer on hot surfaces
- Do not exceed analyzer water trap max levels
- Do not let analyzer particle filter become dirty & blocked

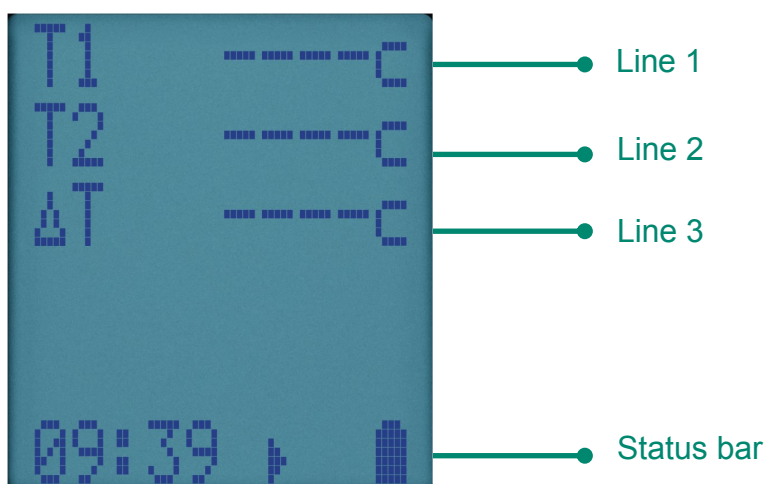
Check readings are stable & within expected range.

## CO SENSOR PROTECTION PUMP OPERATION

Your analyzer CO sensor is automatically protected from high levels of CO. When CO is above the maximum range of your analyzer the main pump stops & CO Purge pump starts.

Your analyzer displays - - - - until CO levels fall below the maximum measurement range.

## AUX SCREEN



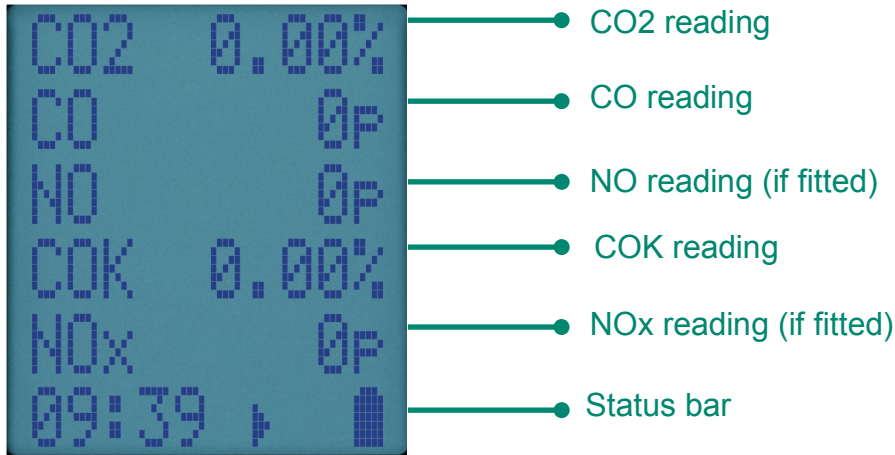
## EDITING AUX SCREEN

You can customise lines 1 to 5 of your analyzer AUX screen.

To edit a line, press ▲ ▼ until EDIT appears on the status bar. Press & hold ← to select EDIT.

Cursor flashes & line number appears in status bar. Use ▲ ▼ to select option to appear on line then press ← to enter.

## MEASURE SCREEN

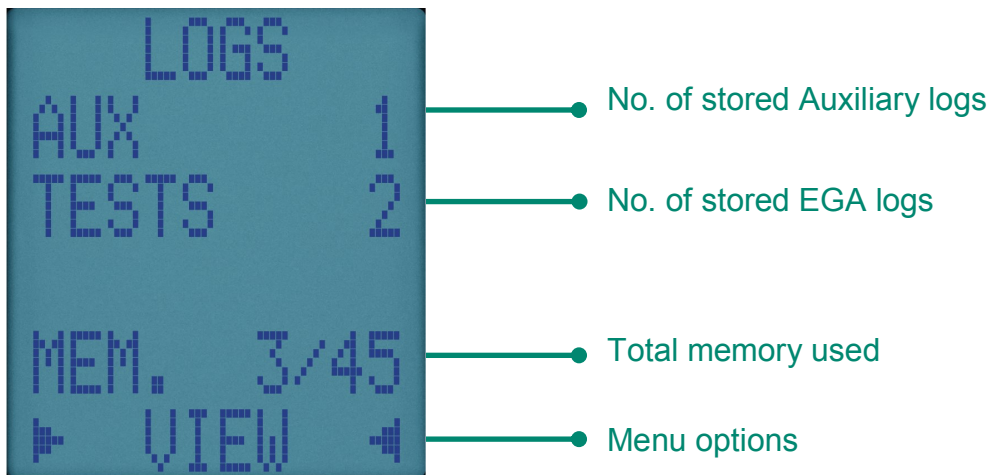


## STORED MEMEORY REPORTS

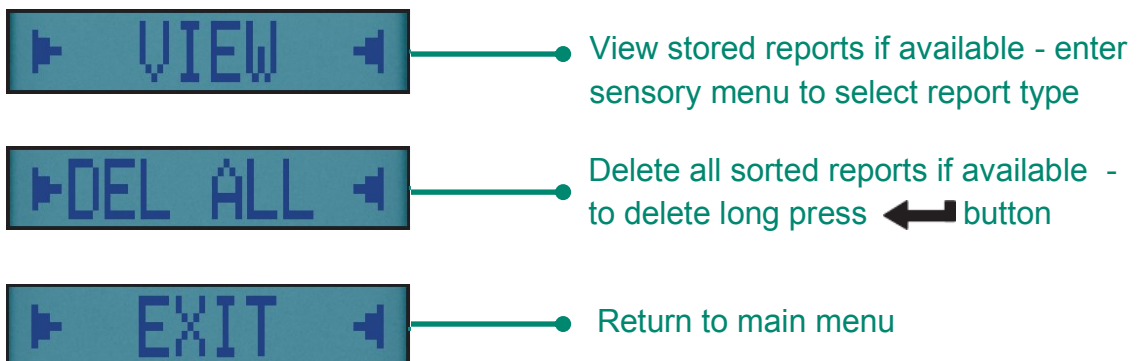
Your KANE-EGA utilises a shared memory system which means stored logs are not limited by type.

An icon displays when your analyzer has stored data.

To view current memory rotate dial to MENU then select LOGS to display.



## MENU OTIONS



## VIEWING STORED REPORTS

To view your reports, select VIEW option from LOGS Menu:



List of available LOGS  
To navigate and select use  
▼▲ & ←

## LOG VIEW MENU OPTIONS



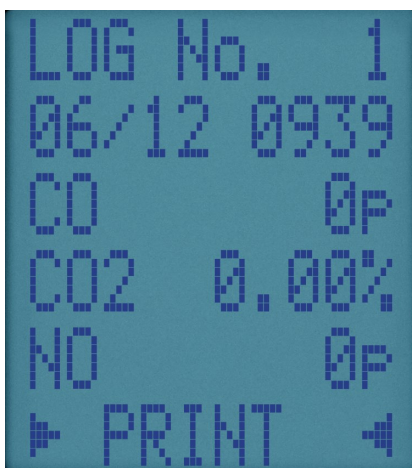
View stored Tests



Returns to previous menu

## FINDING STORED REPORTS

Once you select your report type the first stored log is displayed:



LOG Number of that

type Time & date of LOG

Report readings specific to report type

Navigation menu options



## REPORT MENU OPTIONS



Print currently selected report



Use to find next available report if available





Use to find previously selected report once navigation begins



Return to main menu

## VIEWING & PRINTING

Press  button to send full Pressure & Temperature reports to your optional KANE-IRP3 printer or wirelessly to a KANE APP.

Press & hold  button 2 seconds to log a pressure & temperature report - See PRINTING to print stored reports.

## KANE INFRA-RED PRINTER

To use your printer, switch on & place the printer infrared receiver in line with the emitter on top of your analyzer - allow a 15cm gap between analyzer & printer.

# PRINTOUTS

## Aux

KANE  
EGA2  
SW00182 2.10.b2

NAME  
NUMBER

SERIAL NO.        123456789

DATE                28/09/21  
TIME                10:08:19

-----  
CAL DUE            28/09/22  
-----

VEHICLE REG.  
.....  
.                    .  
.                    .  
.....

AUXILIARY  
-----  
T1                 °C    22.2  
T2                 °C    22.1  
NETT               °C    0.0  
-----

## Tests

KANE  
EGA2  
SW00182 2.10.b2

NAME  
NUMBER

SERIAL NO.        123456789

DATE                28/09/21  
TIME                10:08:32

-----  
CAL DUE            28/09/22  
-----


VEHICLE REG.  
.....  
.                    .  
.                    .  
.....




TEST RESULTS  
-----  
CO                  ppm    0  
CO2                 %    0.00  
COK                 %    0.00  
-----

# KANE LINK WIRELESS MEASUREMENT & DATA TRANSFER

You can wirelessly connect optional KANE LINK devices to your analyzer.

Rotate dial to KANE LINK on your analyzer to manage how your analyzer communicates with wireless devices.

To wirelessly transfer data to a connected smart device running our KANE APPS, select APP using 

To ADD, REMOVE & check STATUS of optional KANE LINK device select LINK using   &  buttons.

## KANE-WPCP2 WIRELESS PIPE CLAMP

To add select it then enter its serial number using  &  buttons.

Enter its serial number using  &  buttons. Each clamp serial number must be 10 digits long.

If longer use the last 10 digits, e.g, in this example only enter last 10 digits: 2105094301



## KANE-DTHA2 ANEMOMETER

To add a DTHA2 anemometer select DTHA2 using  &  buttons.

Enter its serial number using  &  buttons. Each serial number must be 10 digits long.

If shorter enter 0's to make up to 10 e.g in this example enter 2001228 as 0002001228.



Other KANE LINK devices can be paired - Contact KANE for more details.

# SPECIFICATIONS

PARAMETER	RANGE	RESOLUTION	ACCURACY
<b>Temperature Measurement</b>			
T1 Temperature	0 - 600°C	0.1°C	±0.5°C
T2 Temperature	0 - 600°C	0.1°C	±0.5°C
Inlet temperature (Internal Sensor)	0.50°C	0.1°C	±1°C
<b>Exhaust Gas Measurement</b>			
Carbon Monoxide	0 - 10,000ppm	1ppm	±5ppm or ±5% of reading (whichever is greater)
Carbon Monoxide	0-10.0%	0.01%	±5% reading 0.1%-10.0%
Carbon Dioxide	0 - 20%	0.1%	±0.3% Volume
Nitric Oxide (if fitted)	0 - 600ppm	1ppm	±5ppm or ±5% of reading (whichever is greater)
<b>Calculations</b>			
Corrected Carbon Monoxide	0 - 21%	0.1%	±0.3% Volume
<b>Pre-programmed Emissions</b>			
Battery Life	>8 hours (continuous with pump on)		
Certification	KANE EGA is independently tested and certified to EN50379, Parts 1-3		
<b>Operating Conditions</b>			
Temperatures	0 - 45°C		
Humidity	15 to 90% RH, (non-condensing)		
Power Supply	Rechargeable batteries, USB Charging		
<b>Physical Characteristics</b>			
Weight	Approx. 0.625g		
Dimensions	216mm x 105mm x 45mm		

# EU DECLARATON OF CONFORMITY

This declaration of conformity is issued under the sole responsibility of the manufacturer:-

Kane International Ltd.

Kane House, 11 Bessemer Road, Welwyn Garden City, Hertfordshire, AL10 1GF, UK.

Tel: + 1707 375550

Web: [www.kane.co.uk](http://www.kane.co.uk)

The KANE EGA is in conformity with the relevant Union harmonization legislation below:

UK Directive	
The Electromagnetic Compatibility Regulations 2016 (EMC)	
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (RoHS)	
Electrical Equipment (Safety) Regulations 2016	
EU Directive	Title
2014/30EU	Electromagnetic Compatibility (EMC)
2011/65EU	Restriction of the use of certain hazardous substances in electrical and electronic equipment (EMC)
2014/35	Low Voltage Directive (LVD)

The following harmonised standards and technical specifications have been applied:

Certification

The KANE-EGA is independently tested and certified to EN 50379, Parts 1 & 3

EMC

EN50270:2015

SAFETY

EN61010-1:2010

ROSH (UK & EU)

IEC62321-2:2013, IEC62321-1:2013, IEC62321-3-1:2013, IEC62321-5:2013, IEC62321-4:2013, IEC62321-7-2:2017, IEC62321-7-1:2015, IEC62321-6:2015

Signed for on behalf of:-  
01. July 2021

Kane International Ltd.



Paul Morrison  
Engineering Manager

A handwritten signature in black ink, appearing to read 'P. Morrison'.

## **COLD WEATHER PRECAUTIONS**

Do not leave your analyzer in a cold place overnight.

Cold electronic devices suffer when taken into a warm place.  
Condensation may form affecting analyzer performance.

Sensors are affected by condensation or water - When this happens, readings may display as “-” & sensors may be permanently damaged.

If your analyzer is affected by condensation or water ingress, leave running in a warm place with pump ‘ON’ sampling fresh air for up to 3 hours -  
Connect charger to avoid draining batteries.

If you still experience problems please contact ANSED Customer Service.

ANSED Diagnostic Solutions LLC  
1528 Walnut Street Suite 1600  
Philadelphia,  
PA 19102  
1-888-685-7287





# Welcome to KANE CARE

## KANE CARE Service & Recertification

KANE CARE is our promise to never let you down & includes...

★ 10 Year warranty with annual Service & Recertification

KANE CARE applies to any KANE analyser Service & Recertification registered & booked in via

[www.ansediagnostics.com/pages/product-registration](http://www.ansediagnostics.com/pages/product-registration)  
or use QR code below

## ANSED Diagnostic Solutions LLC

1528 Walnut Street Suite 1600

Philadelphia,

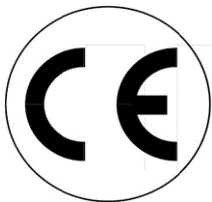
PA 19102

1-888-685-7287



## RECYCLING

## THIS PRODUCT CONFIRMS WITH THE FOLLOWING



ROHS



**PLEASE RECYCLE - PACKAGING MADE IN THE UK**

