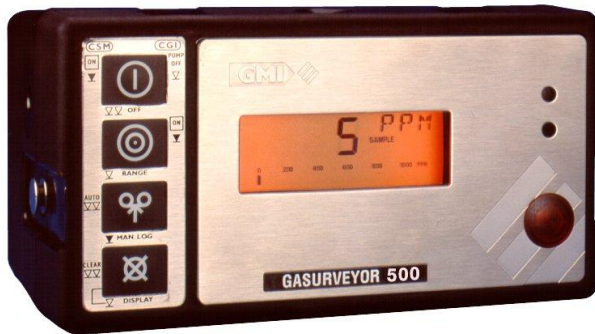# Gasurveyor 500 Operation Training

■ Gasurveyor 500 Series

- Generic Gasurveyor 500
- Gasurveyor 3 - 500
- Gasurveyor 6 - 500
- Gasurveyor 11 - 500
- Gasurveyor 526
- ppm Gasurveyor 500

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■ **Objectives**

– EXPLAIN THE FUNCTIONS OF THE INSTRUMENTS

– HOW TO OPERATE

- ROBUSTNESS

- PROTECTION

- CERTIFIED

- DISPLAY

- PUMP

- AUDIBLE / VISUAL ALARMS

- GEIGER INDICATOR

- SEALED RUBBERISED SWITCHES

- INFRA RED COMMS POINT

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■ Certification

– ATEX

» EEx iad IIC T4 II 2 G

– UNDERWRITERS LABORATORIES INC (UL)

» Class 1 Groups A B C D

– AUTHORISATION

– BATTERY COMPARTMENT

■ **Gasurveyor 500**

    – DUAL CONFIGURATION

        » CONFINED SPACE MONITOR

        » COMBUSTIBLE GAS INDICATOR

■ Ranges of Operation

» Volume Gas 0-100%

» 0-100% LEL

» Flammable 0-1000ppm

» Oxygen 0-25%

» Toxic 1 ppm

» Toxic 2 ppm

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■ # Display - LEL / Vol Gas
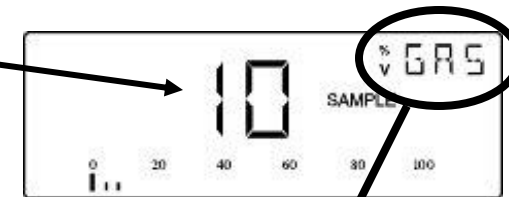
– Current Range Displayed

– Digital

  » Resolution

  - 0 - 10 % LEL - STEPS OF 0.1%
  - 10 - 100% LEL - STEPS OF 1%
  - 0 - 10% GAS - STEPS OF 0.5%
  - 10 - 100% GAS - STEPS OF 1%
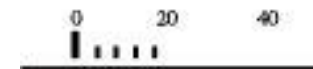
– Analogue

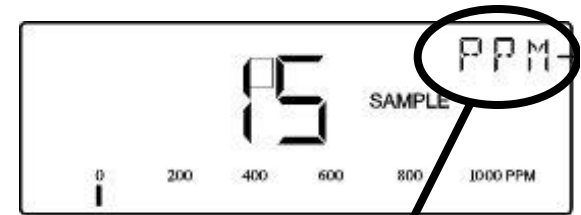 » Resolution

  - STEPS OF 4%

Range Indicator

Bargraph

■ Display - ppm

– Flammable 0-1000ppm

» Current Range Displayed

» Resolution

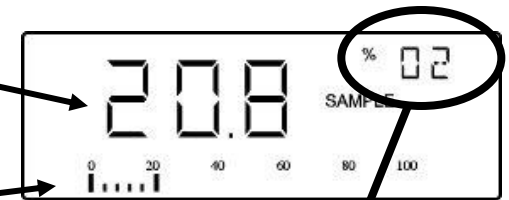• Digital - in steps of 5ppm

• Analogue - in steps of 40ppm

Range Indicator

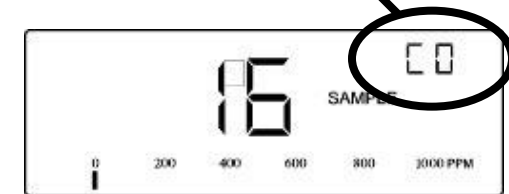# Display - O2 / Toxic

- 0-25% Oxygen
  - » top right corner of LCD - '% O2'
  - » digital display resolution
    - • 0-21% insteps of 0.1% O2
    - • 21-25% in steps of 1% O2
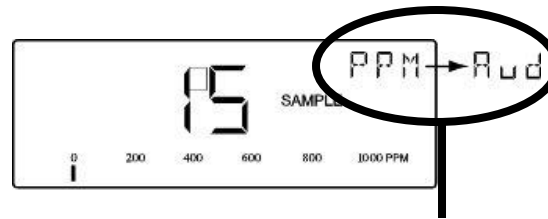 - » analogue bar in steps of 4%

Range Indicator

- Toxic Ranges
  - » top right corner of LCD
    - • - 'CO' / 'H2S' / 'SO2' / 'CL'

■ **Features**

– *threshold (ppm only)*
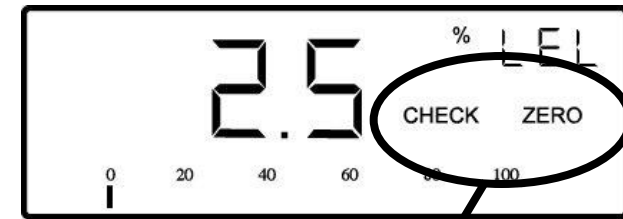
– confidence visual and audible

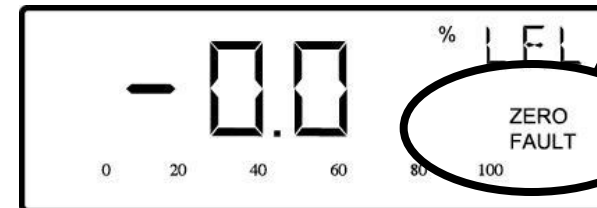**Current Range alternates with AUD**

– concentration geiger indication (flammable ppm only)

■ Zeroing

   – AUTO ZERO

   – OPERATOR MESSAGES

      » CHECK ZERO FLAG

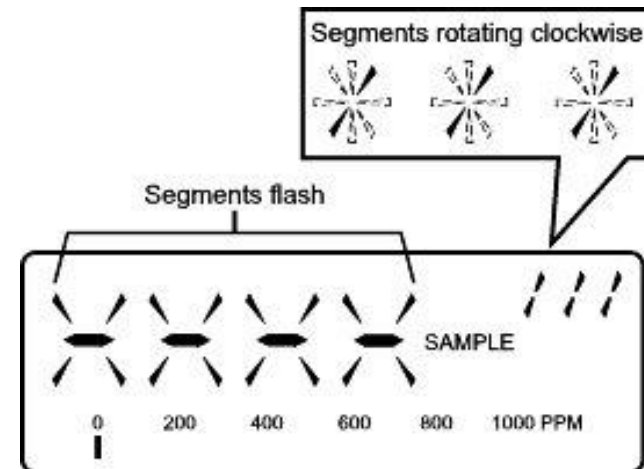   » ZERO FAULT FLAG

Operator Messages

■ **Manual Zeroing**

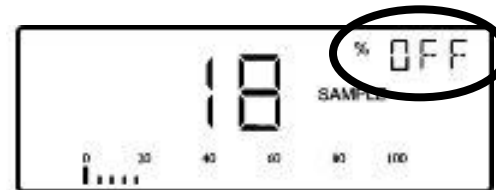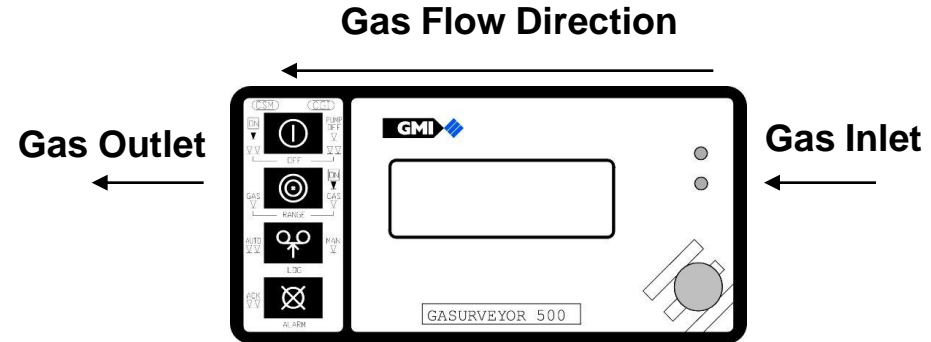 – PPM RANGES

    » double press Button Two

  – LARGE ADJUSTMENT

Gas Flow Direction

Gas Outlet

Gas Inlet

GASURVEYOR 500

■ Sampling

– PUMP

– 0.5 - 0.7 L PER MIN

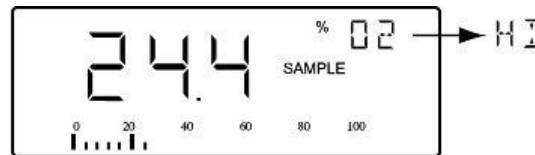– SAMPLE FLAG

– AUTO SWITCH OFF

» Display Message

■ **Alarm Levels**

– Instantaneous
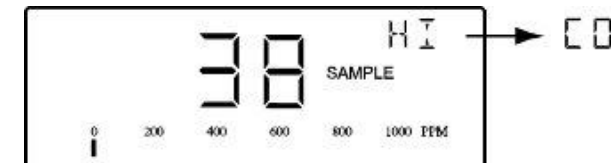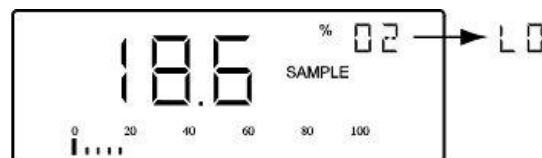
– STEL / LTEL

– Audible / Visual

Audible Alarm

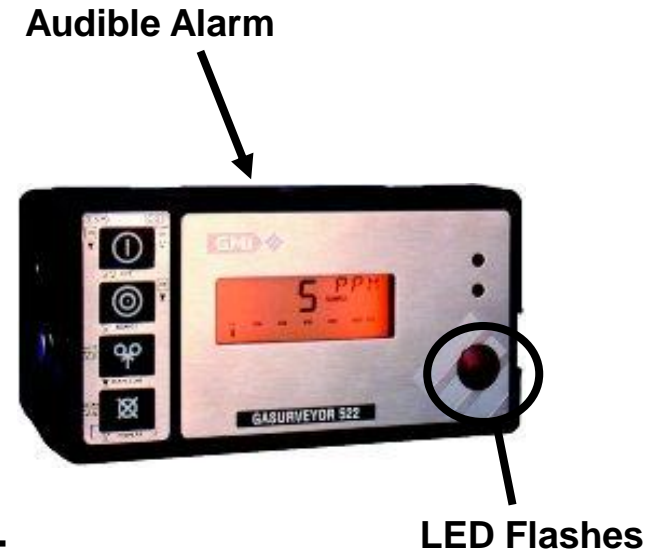**LED Flashes**

**Displays showing Oxygen Range -
High and Low Alarms**

Displays showing Range in Alarm

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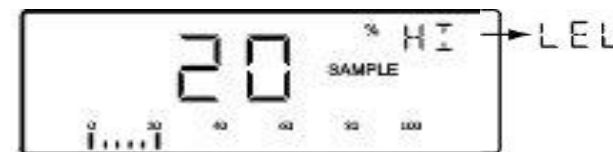
■ Alarm Functions

Audible Alarm

» CSM / CGI Modes

» Audible / Visual

» Latching / Non Latching

» Priority

LED Flashes

Datalogging

Operator Message
during Auto and Manual
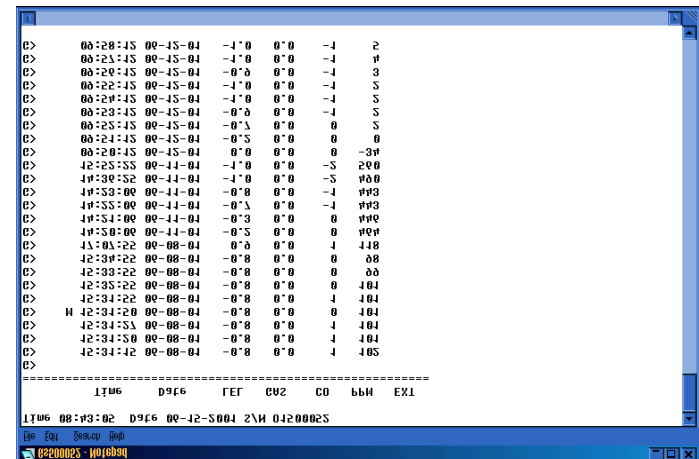Datalogging

– Auto

» Function

» 60 Second Intervals

» Operator Display

– Manual

– 1000 Logged Entries

– Infra-red output to Computer

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■ **Batteries**
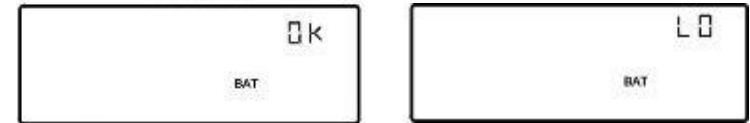
Battery life display

– Rechargeable (NiCd)

» approx. 9 hours runtime

» battery life displayed at power on

» 'BAT' flag approx. 30mins before switch off

Battery
Warning
Flag

– Alkaline

» approx. 15 hours runtime

» battery life displayed at power on

» 'BAT' flag approx. 60mins operating time remaining

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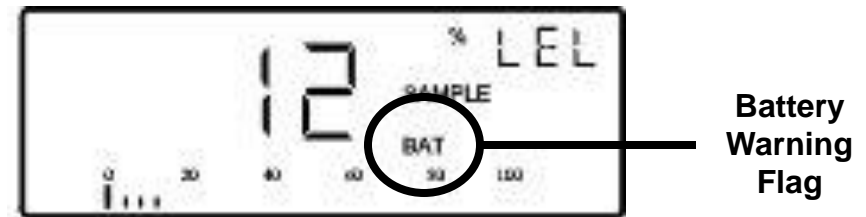# ■ **Rechargeable Battery Pack**

–   Standard Charger

   »   14 hours to charge a flat battery

–   Flatbed Charger

   »   14 hours to charge a flat battery

–   Smart Charger

   »   60mins to 90% recharged, 120mins to fully recharged

   »   2 batteries simultaneously
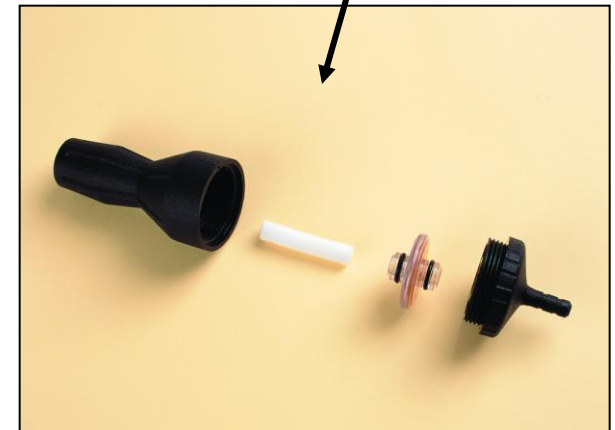
   »   Discharge and charge cycle
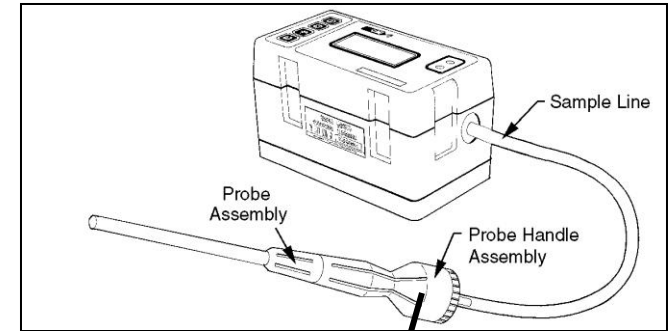
■ **Accessories**

- – Carry Case
- – Filters
- – Sample Line
- – Sample Line Adaptor
- – Probe
- – Probe Handle Assembly
- – Shoulder Harness
- – Hex Driver
- – Handbook

■ Probes / Probe Handle Assembly

Sample Line
Probe Assembly
Probe Handle Assembly

Range of Probes Available

Cotton and Hydrophobic Filters within Probe Handle Assembly

■ Before Use Checks

- – CASING
- – DISPLAY
- – FILTERS
- – CALIBRATION LABEL
- – SAMPLE LINE
- – BATTERY PACK
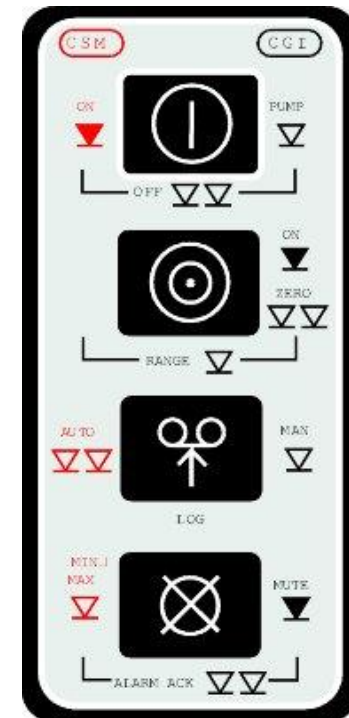

READ MANUAL BEFORE OPERATING

RETURN FOR SERVICE   Flam. Cal. Gas
BEFORE

MADE IN THE EC

CALIBRATION GAS

■ Operation

Operation - CSM Mode

- **SWITCH ONE**
  - PRESS AND HOLD - SWITCH INSTRUMENT ON
  - TWO SHORT PRESSES - SWITCHES INSTRUMENT OFF
  - SINGLE PRESS - CLEARS SAMPLE FAULT DISPLAY
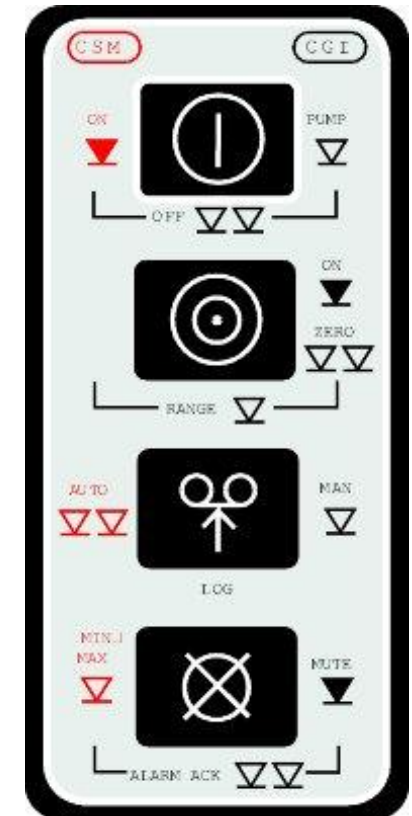
- **SWITCH TWO**
  - SINGLE PRESS - CHANGES RANGE
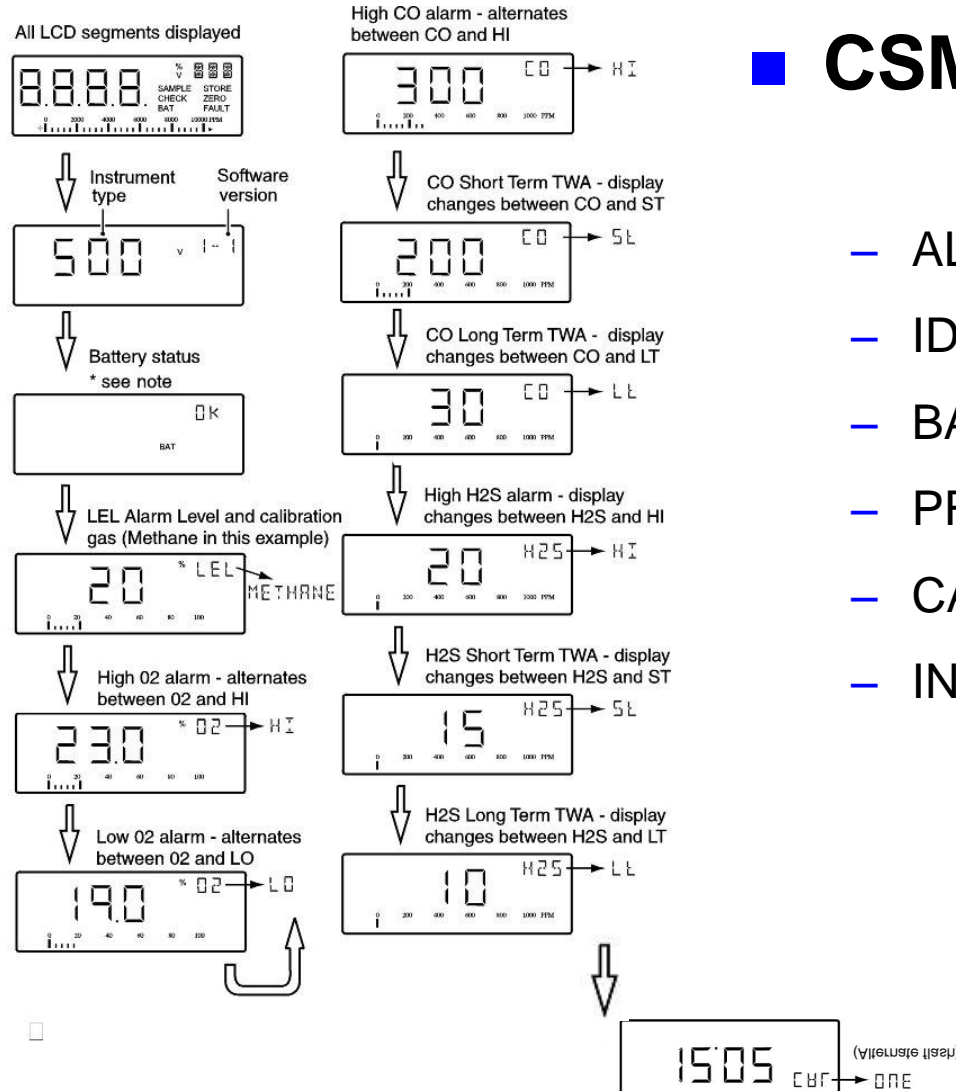
- **SWITCH THREE**
  - SINGLE PRESS - ADD MANUAL LOG
  - DOUBLE PRESS - TOGGLE AUTO DATALOGGING

- **SWITCH FOUR**
 - DOUBLE PRESS - CLEARS LATCHED ALARM / MUTES UNLATCHED ALARM
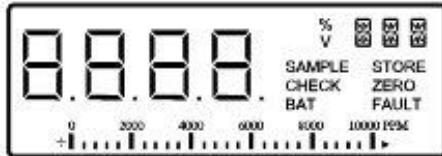
- ## CSM Mode Start Up

  - ALL SEGMENTS

  - ID & SOFTWARE VERSION

  - BATTERY STATUS

  - PRESET ALARM LEVELS

  - CALIBRATION DATE

  - INSTRUMENT SAMPLING

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Operation - CGI Mode

- **SWITCH ONE**
  - SINGLE PRESS - TOGGLE PUMP ON/OFF
  - DOUBLE PRESS - SWITCHES INSTRUMENT OFF

- **SWITCH TWO**
  - PRESS AND HOLD SWITCHES INSTRUMENT ON
  - SINGLE PRESS - CHANGES RANGE
  - DOUBLE PRESS - ZEROES PPM RANGES

- **SWITCH THREE**
  - SINGLE PRESS - ADD MANUAL DATA LOG

- **SWITCH FOUR**
  - PRESS AND HOLD - ACTIVATES AUDIBLE GEIGER INDICATOR
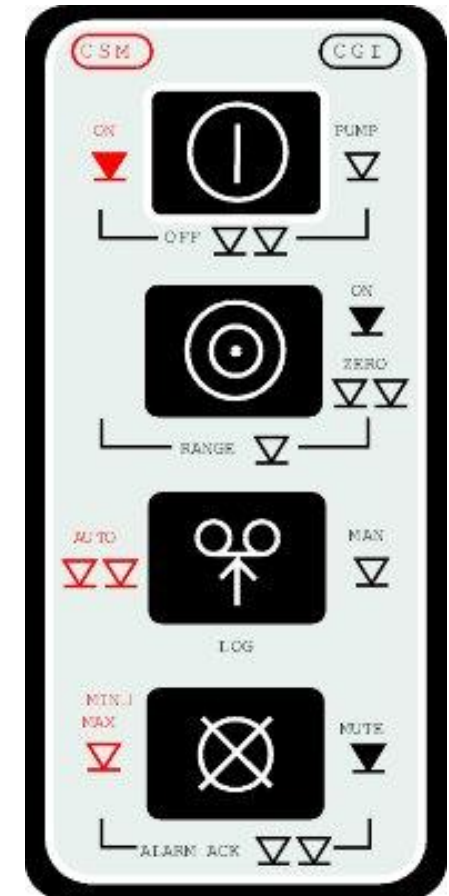
All LCD segments displayed
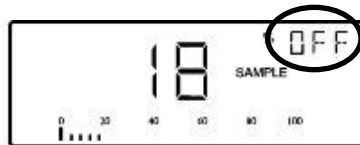
Instrument type

Software version
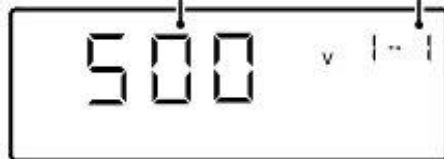
Battery status

CGI Start Up

- ALL SEGMENTS

- ID & SOFTWARE VERSION

- BATTERY STATUS

- CALIBRATION DATE

- INSTRUMENT SAMPLING

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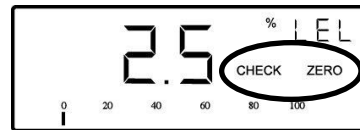
■ Operator Messages

Pump is running and instrument sampling
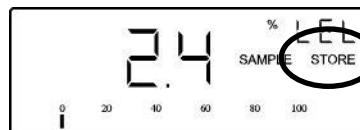
Instrument about to switch off

Batteries will soon require replacing
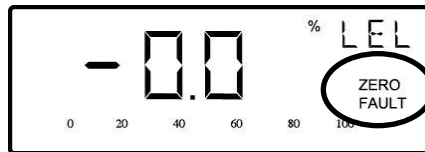
Possibility of zero shift

Measurement over range (>999ppm) or below -99ppm (incorrect zero setting)

Instrument is in auto datalogging mode or during manual datalogging

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■ **Fault Messages**

 Zero is outwith its calibration limit
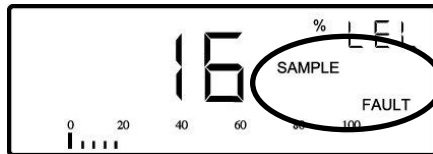
 Problem with the instrument's sample flow

 Batteries require replacing

 Calibration error detected

■ **Sample Fault**

   – Blockage

   – Filters

      » hydrophobic

      » cotton

      » check / change

   – Restart Pump

      » single press button one

■ **Filter Replacement**

Cotton Particulate Filter
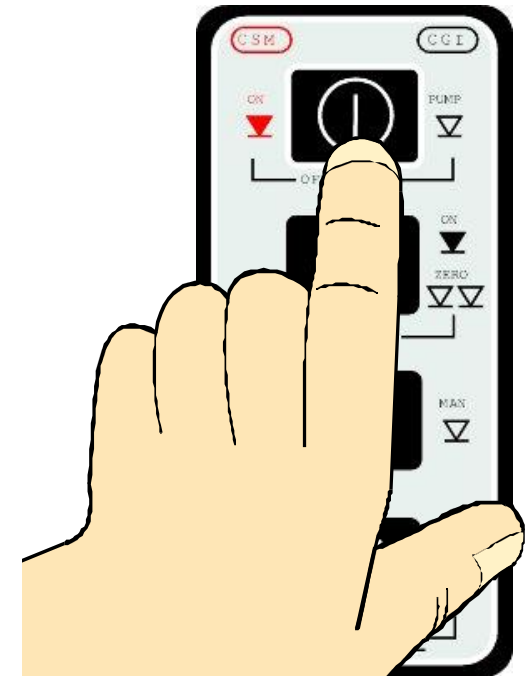
Hydrophobic Filter

– Probe Handle

» Cotton

» Hydrophobic

Probe Handle Assembly
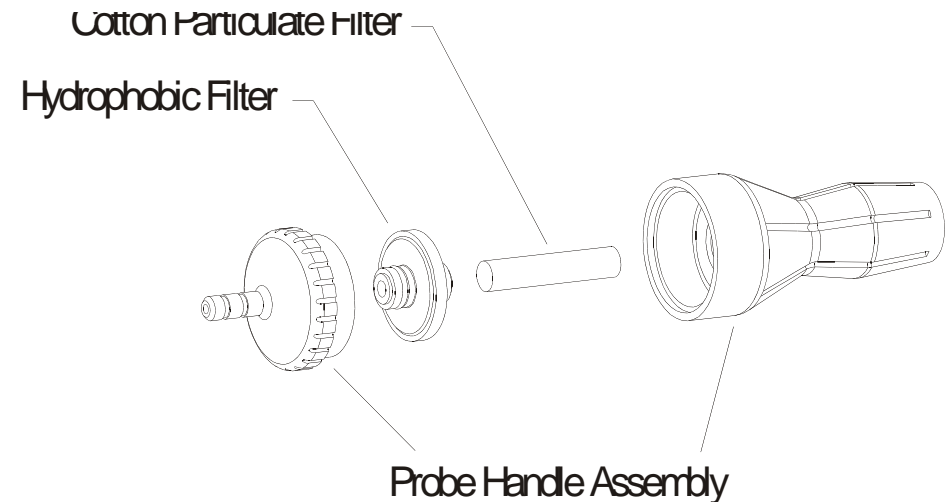
■ **Fault Finding**

– Not switching on

» check batteries

– Pump failure

» filters

» switch on

■ **Battery Replacement**

– Alkaline

» Ensure the instrument is switched off

» Loosen instrument base plate screws using tool provided (4mm hex)

» Remove battery cover then remove batteries

» Check battery compartment for damage to spring contacts or corrosion on springs

Loosen base screws to remove battery cover

» Insert new batteries, observing correct polarity

» Replace base plate and fasten base screws

» Check the instrument switches on and works to specification

■ Battery Replacement

– Rechargeable

» Ensure the instrument is switched off

» Loosen instrument base plate screws using tool provided (4mm hex)

» Remove battery pack

» Insert new battery pack

» Fasten base screws

» Check the instrument switches on and works to specification

Loosen base screws to remove battery cover

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■ **Calibration**

– 4 methods

» field calibration

» manual calibration

» automatic calibration

» instrument management system

– ANNUAL

– CALIBRATION DATE LABEL