

# VULCAN Series

## Technical specifications, Vulcan (LMDS 2850) LIBS (Laser Induced Breakdown Spectroscopy) analyser

- DC-input voltage range 12.0 – 15.0 V
- Operating temperature range 0 °C – 40 °C / 32 – 104 F
- Storage temperature range 0 °C – 40 °C / 32 – 104 F  
It is recommended to store the instrument in room temperature when not in use
- Operating humidity range 20 % RH – 95 % RH
- Maximum operating altitude 2000 m / 6500 ft.
- Ingress protection IP54 (NEMA 3 equivalent)
- MIL-STD-810G tests: Operating drop (method 516.6, Procedure IV: Pass), Vibration (method 514.6, Procedure I: Pass) and functional shock (method 516.6, Procedure I: Pass)

### Laser

- Laser type Passively Q-switched laser
- Average power < 0.45W
- Wavelength 1064 nm
- Pulse width 2-4 ns
- Pulse energy < 60 uJ
- Repetition rate <7.5 kHz
- Beam quality M2 < 1.3
- Beam half-divergence 30 mrad
- Laser class 3B
- Maximal permissible exposure (MPE) 50 W/m<sup>2</sup>
- Nominal ocular hazard distance (NOHD) 1.5 m



Complies with 21 CFR 1040 with deviations pursuant to Laser Notice

### Eye protection

- Eye protection recommendation OD6+ (1064 nm)  
or,  
1064 R LB6 D LB6 (according to EN207)

### Battery

- Battery part number OI IA, 54-6000887
- Battery type Li-ION
- Battery voltage 7.2 V
- Battery capacity 6.2 Ah

## Technical specifications, battery charger

- Battery charger part number OI IA, 54-6002586
- Operating temperature range 0 °C – 40 °C / 32 – 104 F
- Operating humidity range 10 % RH – 90 % RH
- DC-input Voltage range 12.0 VDC – 15.0 VDC
- Maximum operating altitude 2000 m / 6500 ft

Note: the battery charger is designed for indoor use only

## Power supply

- Power supply part number OI IA, 54-6003398
- Output voltage 12 VDC
- Operating temp range 0 °C – 40 °C / 32 – 104 F
- Mains supply voltage range 100 VAC – 240 VAC
- Mains supply current 0.35 A, maximum
- Mains supply frequency range 50 Hz – 60 Hz
- Maximum operating altitude 2000 m / 6500 ft

Note: the power supply is designed for indoor use only

## Radio module

- LMDS2850 (Vulcan) is handheld material analyser using ‘WIFI, IEEE 802.11b/g module’ made by Texas Instruments (FCC ID: Z64WL18SBMOD) for WLAN.
- The device has USB port for transferring data from the device. The EUT uses battery which can be charged when it is connected to the device or via separate charger.
- The module’s Bluetooth 802.11n, HT40 and MIMO capabilities have been disabled

## Standard accessories and consumables

- Vulcan Series Quick Guide
- Power supply with mains plugs for US/Japan, UK, Europe and Australia
- Desktop Battery charger
- Two Li-ion battery packs
- USB Flash Drive (includes the User Manual and Quick guide)
- Cleaning kit (100 pcs cotton buds)
- Lanyard
- Wrist Strap
- Check Sample for Vulcan Expert (A1 7075)
- Check Sample for Vulcan Smart (SS 316)
- Calibration Folder
- Carrying Case set

## Calibrations (Vulcan Smart)

- Cobalt (Co), copper (Cu), lead (Pb), low alloy steels, nickel (Ni), stainless steels, tin (Sn), titanium (Ti), tool steels, zinc (Zn) (\*)
- (\*) Note: some calibrations might not be included as standard and an optional calibration upgrade package is required

## Calibrations (Vulcan Expert)

- Aluminium (Al), Cobalt (Co), copper (Cu), lead (Pb), low alloy steels, magnesium (Mg), nickel (Ni), stainless steels, tin (Sn), titanium (Ti), tool steels, zinc (Zn) (\*)

*(\*) Note: some calibrations might not be included as standard and an optional calibration upgrade package is required*

## Dimensions and weight

- Dimensions 97 mm (W) x 291 mm (L) x 274 mm (H)
- Weight 1.5 kg (with battery)

