

Technical Specification

for

OTH 300 & 3000 (Optical Test Hub)

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1. General Introduction

1.1 Description

The Optical Test Hub (OTH) is an instrument which provides an optical stable light sources and optical power meters. The universal main frame provides up to 36 Channels (OTH-3000), Mini OTH (OTH-300) accordingly for installing power meter or light source module. The Optical Test Hub is ideal for field or laboratory testing of optical network testing by changing the interchangeable module.



1.2 Features

- 1U 19" rack mount design (OTH-3000) or mini-type Mini OTH (OTH300)
- +5 ~ -50 dBm optical power meter measurement range with general SC LC connector.
- +5 ~ -70 dBm optical power meter measurement range with general SC connector. Design for measuring Return Loss
- +3 / 0 / -3 dBm optical power adjustable and CW / 270 / 2K Hz modulation selectable for light source with SC connector.
- Low cost and hot swap for both the light source and power meter module.
- Simple USB interface with friendly Graph User Interface (GUI)
- Remote commands for controlling and accessing data.

1.3 Application

- Maintenance CATV / Telecom / FTTH fiber optical networks.
- Standard laboratory applications.
- Passive component fabrication. Return Loss measurement.
- Optical fiber network traffic monitoring systems.
- Optical analog sensing system.

2. Specification

Operating Temp.	0°C ~ 50°C
Storage Temp.	-20°C ~ 70°C
Resolution	0.01 dB
Accuracy for Singlemode	±0.3 dB under calibrated condition
Accuracy for Multimode	±0.5 dB under calibrated condition
Power Supply	100~240VAC / 50,60Hz
Dimension	168 * 108 * 36 mm
Weight	1.5 Kg

2.1. Power Meter Module selection guide

Calibration Wavelengths :	Power Range				Note
	Min.	Typ.	Max.	Unit	
1310nm , 1490nm , 1550nm	-50		+5	dBm	@ 25°C 9 / 125 μm fiber
CWDM 1270nm ~ 1450nm	-50		+5	dBm	@ 25°C 9 / 125 μm fiber
CWDM 1470nm ~ 1610nm	-50		+5	dBm	@ 25°C 9 / 125 μm fiber
CWDM 1270 ~1610nm	-50		+5	dBm	@ 25°C 9 / 125 μm fiber
VCSEL 850 nm	-40		+5	dBm	@ 25°C 62.5 / 125 μm fiber

2.2. Light Source Module selection guide

SC Connector

P/N: S20133320650	Min.	Typ.	Max.	Unit	Note
FP LD Output Power		-3		dBm	@ 25°C 62.5 / 125 μm fiber
Center Wavelength λC		650		nm	

P/N: S20133620850	Min.	Typ.	Max.	Unit	Note
VCSEL LD Output Power	-9	-6	-3	dBm	@ 25°C 62.5 / 125 μm fiber
Center Wavelength λC		850		nm	
Spectral Width Δλ			0.85	nm	

P/N: S20133321310	Min.	Typ.	Max.	Unit	Note
FP LD Output Power	-3	0	+3	dBm	@ 25°C 9 / 125 μm fiber
Center Wavelength λC	1290	1310	1330	nm	@ 25°C 9 / 125 μm fiber
Spectral Width Δλ			4	nm	@ 25°C 9 / 125 μm fiber

P/N: S20133321550	Min.	Typ.	Max.	Unit	Note
FP LD Output Power	-3	0	+3	dBm	@ 25°C 9 / 125 μm fiber
Center Wavelength λC	1520	1550	1570	nm	@ 25°C 9 / 125 μm fiber
Spectral Width Δλ			4	nm	@ 25°C 9 / 125 μm fiber

P/N: S20133421310	Min.	Typ.	Max.	Unit	Note
DFB LD Output Power	-3	0	+3	dBm	@ 25°C 9 / 125 μm fiber
Center Wavelength λC	1290	1310	1330	nm	@ 25°C 9 / 125 μm fiber
Spectral Width Δλ			1	nm	@ 25°C 9 / 125 μm fiber

P/N: S20133421550	Min.	Typ.	Max.	Unit	Note
DFB LD Output Power	-3	0	+3	dBm	@ 25°C 9 / 125 μm fiber
Center Wavelength λC	1530	1550	1570	nm	@ 25°C 9 / 125 μm fiber
Spectral Width Δλ			1	nm	@ 25°C 9 / 125 μm fiber

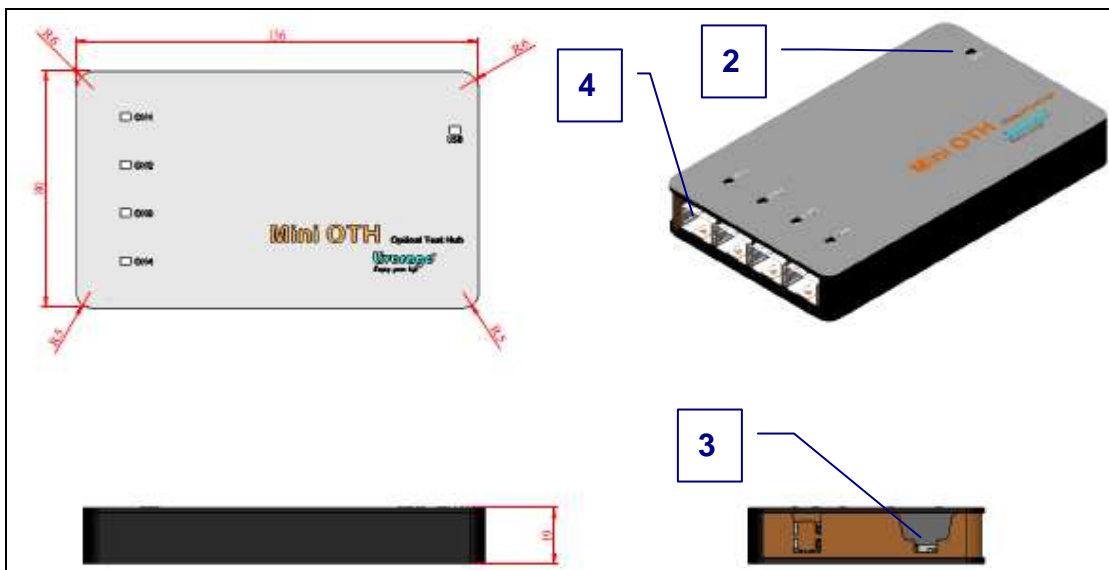
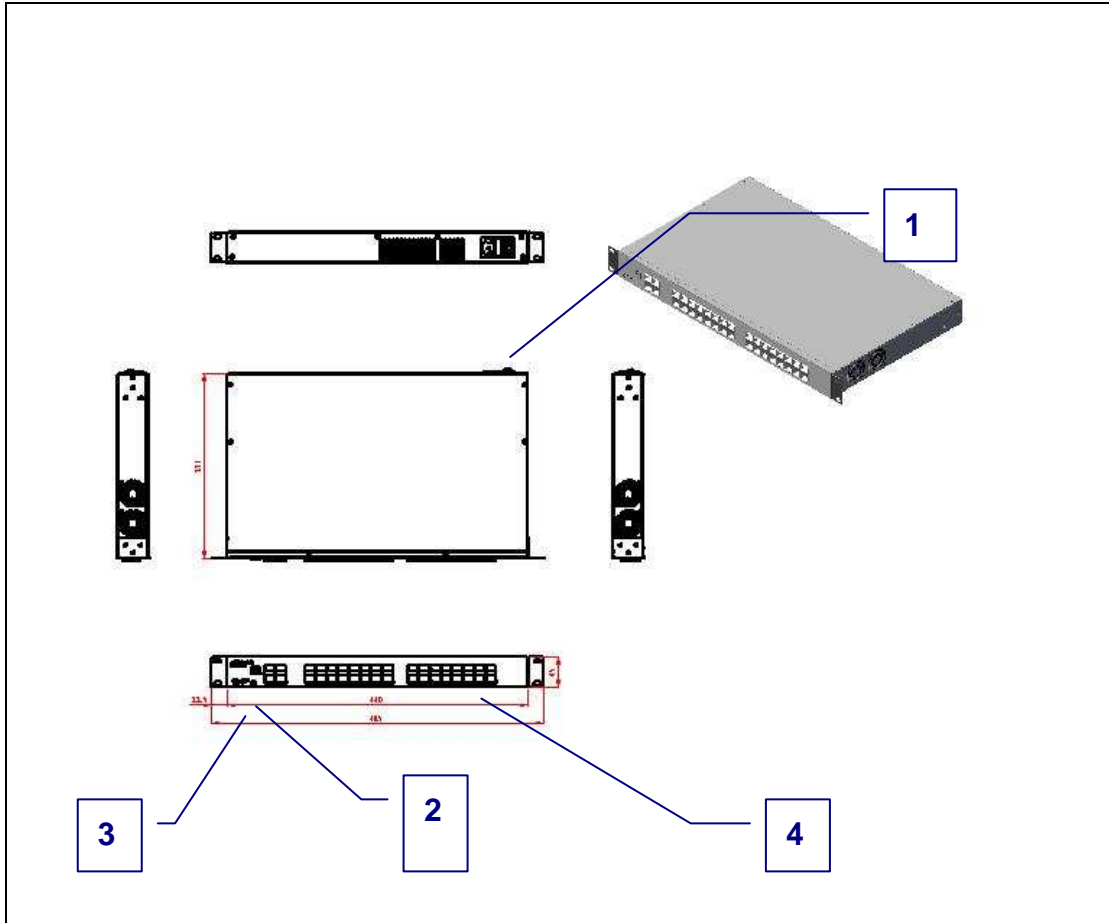
P/N: S20133421625	Min.	Typ.	Max.	Unit	Note
DFB LD Output Power	-3	0	+3	dBm	@ 25°C 9 / 125 μm fiber
Center Wavelength λC	1620	1625	1630	nm	@ 25°C 9 / 125 μm fiber
Spectral Width Δλ			1	nm	@ 25°C 9 / 125 μm fiber

P/N: S20133421650	Min.	Typ.	Max.	Unit	Note
DFB LD Output Power	-3	0	+3	dBm	@ 25°C 9 / 125 μm fiber
Center Wavelength λC	1645	1650	1655	nm	@ 25°C 9 / 125 μm fiber
Spectral Width Δλ			1	nm	@ 25°C 9 / 125 μm fiber

P/N: S2013352xxxx	Min.	Typ.	Max.	Unit	Note
CWDM LD Output Power	-3	0	+3	dBm	@ 25°C 9 / 125 μm fiber
Center Wavelength λC	λC *- 3	λC *	λC *+3	nm	@ 25°C 9 / 125 μm fiber
Spectral Width Δλ			1	nm	@ 25°C 9 / 125 μm fiber

*CWDM LD λC: S200835Xxxxx= 1270 nm / 1290 nm / 1310 nm / 1330 nm / 1350 nm / 1370 nm / 1390 nm / 1410 nm / 1430 nm / 1450 nm / 1470 nm / 1490 nm / 1510 nm / 1530 nm / 1550 nm / 1570 nm / 1590 nm / 1610 nm

3. Elements & Operating Instructions



■ Elements:

1. **AC Power Adaptor** : 110VAC or 220VAC, 50 or 60 Hz.
2. **Power LED indicator** : In Operation indicator is shown Green.
3. **USB interface** : To connect the optical power data to you PC.
4. **module Pug-In Cage** : for Light Source or Power meter module installation.

3.1. Operating Instructions

1. The Optical Test Hub is powered by 110V AC or 220V AC (OTH-2011, OTH-1011) and USB port (Mini OTH).
2. The power indicator LED in front panel will turn green after install power meter or light source module.
3. Connect the Optical Test Hub to the PC by connecting the USB cable.
4. DO NOT plug power meter module without dust cap.
5. Execute GUI
6. Select the COM port
7. Plug in the power meter Module or Light source module.
8. The ON/OFF, modulation frequency, and output power can be selected for light source and wavelength can be selected for power meter.
9. The status of light source module and optical power of power meter module will be displayed in the center of the GUI.

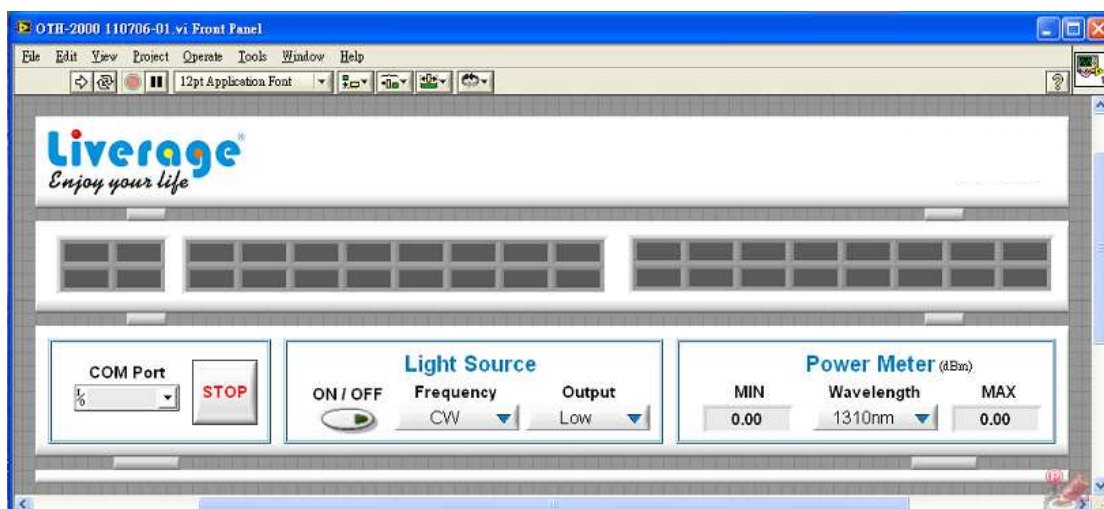


Illustration 1

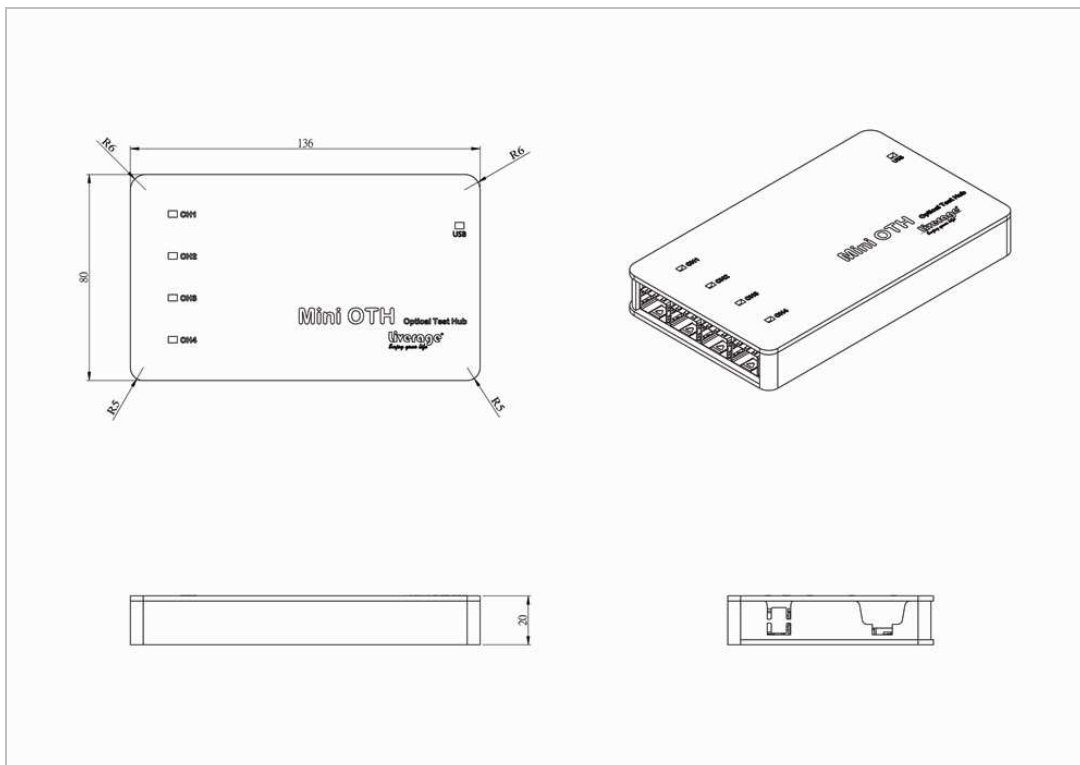
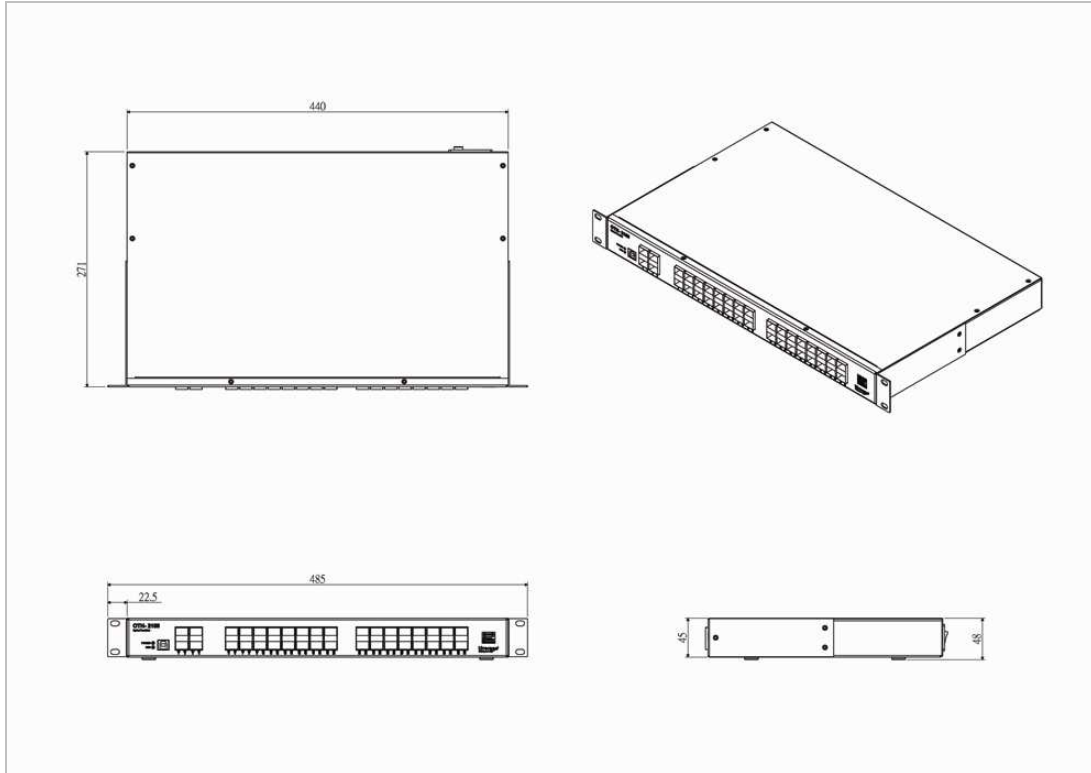
4. Maintenance

Compliance with other type of electronic equipments, this OTH should be kept away from water, high humidity, dust, electricity, and environments of extreme temperatures.

Do not drop this tool on any hard surface!

Internal modification of any of the OTH components can cause a malfunction and will invalidate the manufacturer's warranty.

5. Dimension (in mm)



6. Ordering Information

OTH Main Frame				
Part Number		Description		
S20121009999		4 ports	Mini OTH Main frame 300 Type	
S20123009999		36 ports	1U 19" rack OTH Main frame 3000 Type	
Light Source Module				
Part Number	Media	Wavelength	Description	
S20124120650	SC MM	650 nm	Visible LD Light Source Module	
S20124620850	SC MM	850 nm	VCSEL LD Light Source Module	
S20124321310	SC SM	1310 nm	FP LD Light Source Module	
S20124321550	SC SM	1550 nm	FP LD Light Source Module	
S20124421310	SC SM	1310 nm	DFB LD Light Source Module	
S20124421550	SC SM	1550 nm	DFB LD Light Source Module	
S20124421625	SC SM	1625 nm	DFB LD Light Source Module	
S20124421650	SC SM	1650 nm	DFB LD Light Source Module	
S2012452xxxx	SC SM	1270 nm ~ 1610 nm	CWDM LD Light Source Module	
Power Meter Module				
Part Number	Receiving Wavelength	Connector	Rang	Accuracy
S20125122	1310 / 1490 / 1550 nm	SM SC	-50 ~ +5 dBm	±0.3 dB
S20125123	CWDM 1270~1450 nm	SM SC	-50 ~ +5 dBm	±0.3 dB
S20125124	CWDM 1470~1610 nm	SM SC	-50 ~ +5 dBm	±0.3 dB
S20125126	CWDM 1270~1610 nm	SM SC	-50 ~ +5 dBm	±0.3 dB
S20125221	VCSEL 850 nm	MM SC	-40 ~ +5 dBm	±0.5 dB
Part Number	Receiving Wavelength	Connector	Rang	Accuracy
S20115322	1310 / 1490 / 1550 nm	SM SC	-70 ~ +5 dBm	±0.3 dB
S20115323	CWDM 1270~1450 nm	SM SC	-70 ~ +5 dBm	±0.3 dB
S20115324	CWDM 1470~1610 nm	SM SC	-70 ~ +5 dBm	±0.3 dB
S20115326	CWDM 1270~1610 nm	SM SC	-70 ~ +5 dBm	±0.3 dB

7. Warranty

The manufacturer warrants this product to be free of defects in workmanship and materials for a period of 1 year after purchase. This warranty (excluding batteries) is solely limited to the repair or replacement of the original parts. All other costs are the sole responsibility of the owner. This warranty does not cover any defects, damage, or deterioration due to misuse, alteration, or negligence.

8. Service Contacts

Please contact us :

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<http://www.liverage.com.tw>Dimension (in mm)