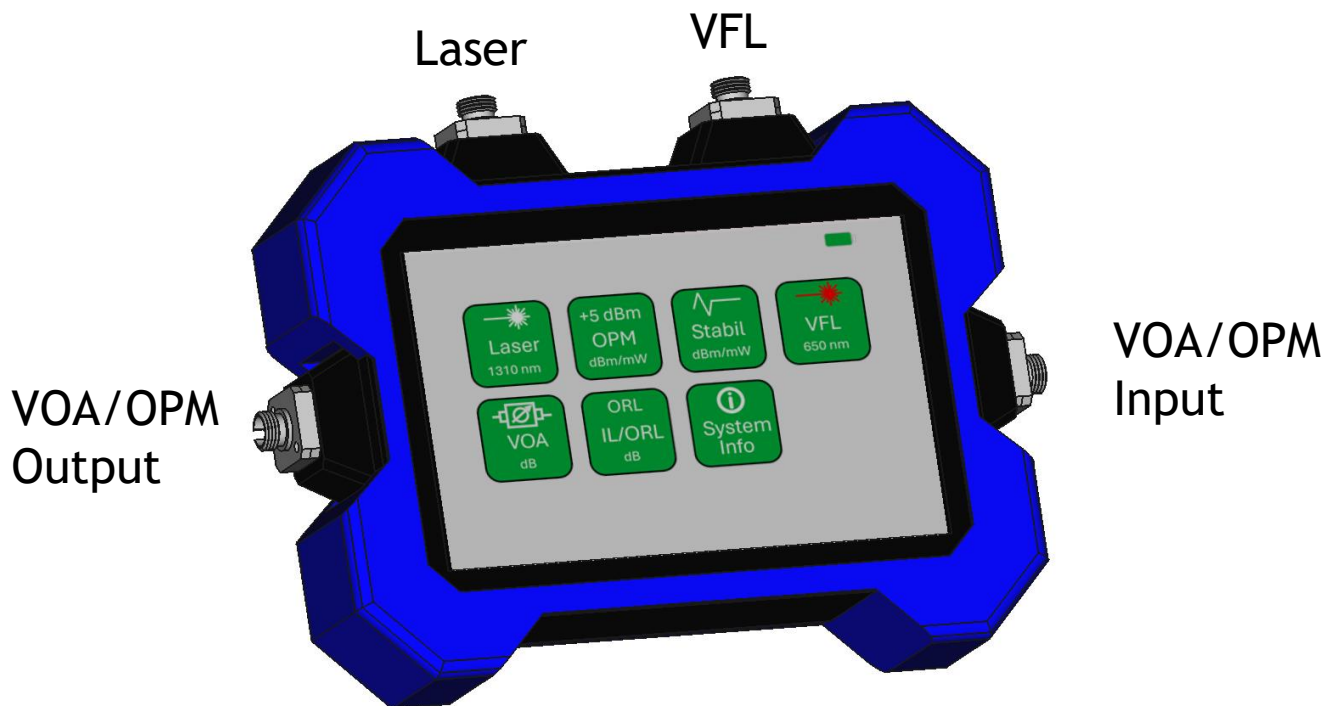# NuPhotonics

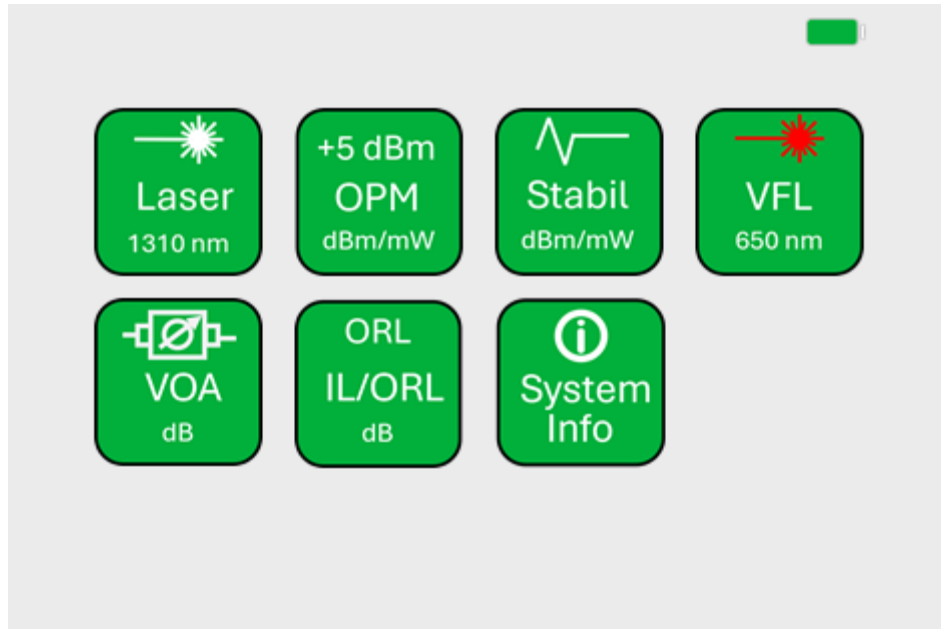# Product Brief
Inline Optical Power Meter OPM-12T16

Early product briefing. Final product dimensions and specifications are subject to change.
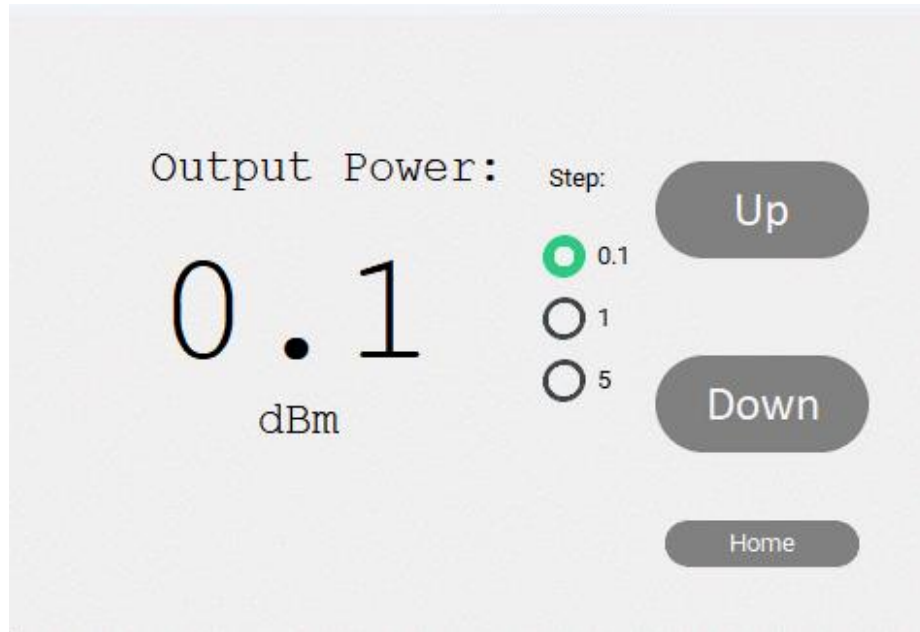
Highlights

- Toughened Glass Front Panel
- Capacitive Touchscreen
- 5" 800x480 IPS Display
  - 170 Degree Viewing angle
- 26 dBm maximum optical input
  - -70 dBm minimum detectable optical power.
- 30 mW VFL – 650 nm
- 40 dB MEMs Variable Optical Attenuator
- 5 mW adjustable laser
  - 1310 nm or 1550 nm
  - -40 – 6 dBm output power
- 5 Hour battery life

Home Screen

- ▶ <u>Home screen</u> – The main home screen
- ▶ Laser – Two wavelengths available
  - ▶ Variable power: -40 – 6 dBm/0.0001 - 5mW
  - ▶ 1310 nm – Option 13 / 1510 nm – Option 15
- ▶ Optical Power Meter - OPM
  - ▶ 1210 – 1650 nm response spectrum
- ▶ Visual Fault Locator – VFL
  - ▶ 650 nm / 30 mW
- ▶ Variable Optical Attenuator – VOA – Option 01
  - ▶ 1210-1650nm response spectrum
- ▶ Optical Insertion Loss (IL)/ Return Loss (ORL)
  - ▶ Single wavelength measurement – Dependent on Laser option selected
  - ▶ ORL not available if VOA is selected
- ▶ Stabil
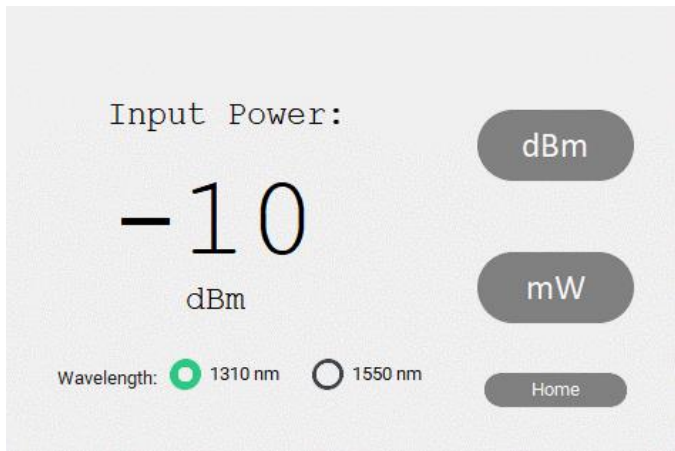 - ▶ Stabilized output power
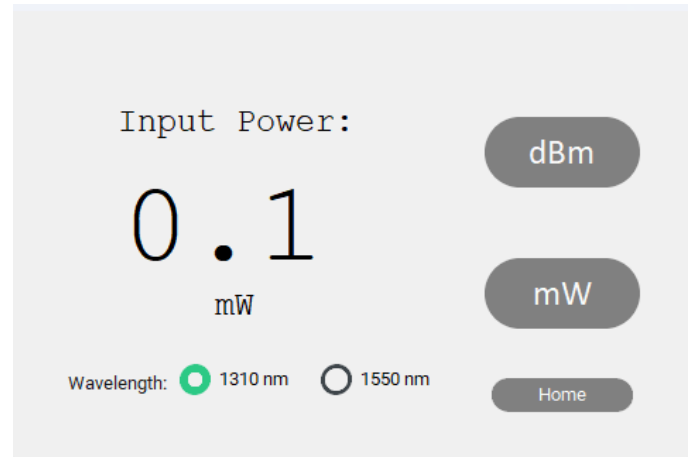- ▶ System Information – System Info

Laser

▶ <u>Laser</u>- Single wavelength variable power laser

  ▶ 1310 nm - Option 13

  ▶ 1550 nm – Option 15

▶ Easily increase and decrease desired power

  ▶ -40 dBm to 6 dBm

  ▶ 0.0001 to 5 mW

▶ 3 Selectable step sizes to precisely control desired level.

Warning: Lasers emit Visible and Invisible laser radiation. Avoid eye and skin exposure to direct or scattered radiation. Approved laser protective eyewear required for using the Laser.
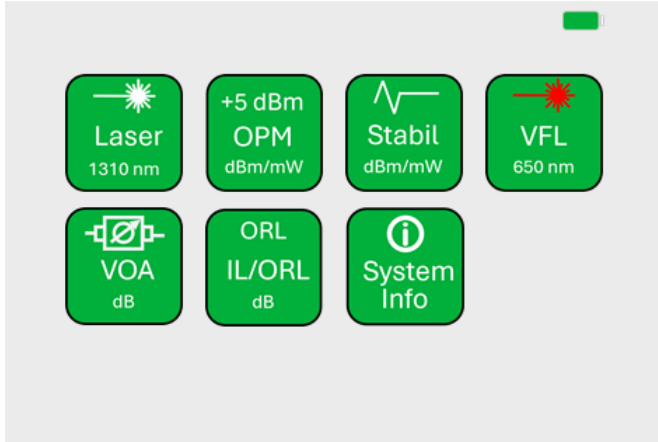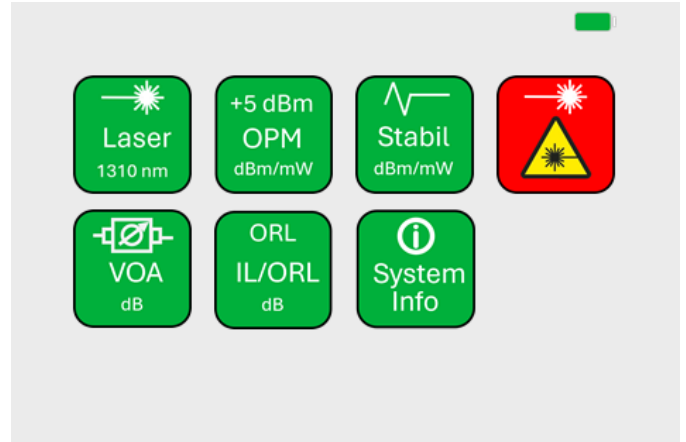
Optical Power Meter - OPM

dBM

mW

- ▶ <u>OPM</u>- 1/99% Inline Optical Power meter tap photodiode.
- ▶ Easily Convert between dBm and mW
- ▶ 1310 & 1550 nm Calibration
- ▶ -70 dBm – 26 dBm Range
- ▶ 0.1 Second refresh rate
- ▶ +/- 0.1 dB accuracy
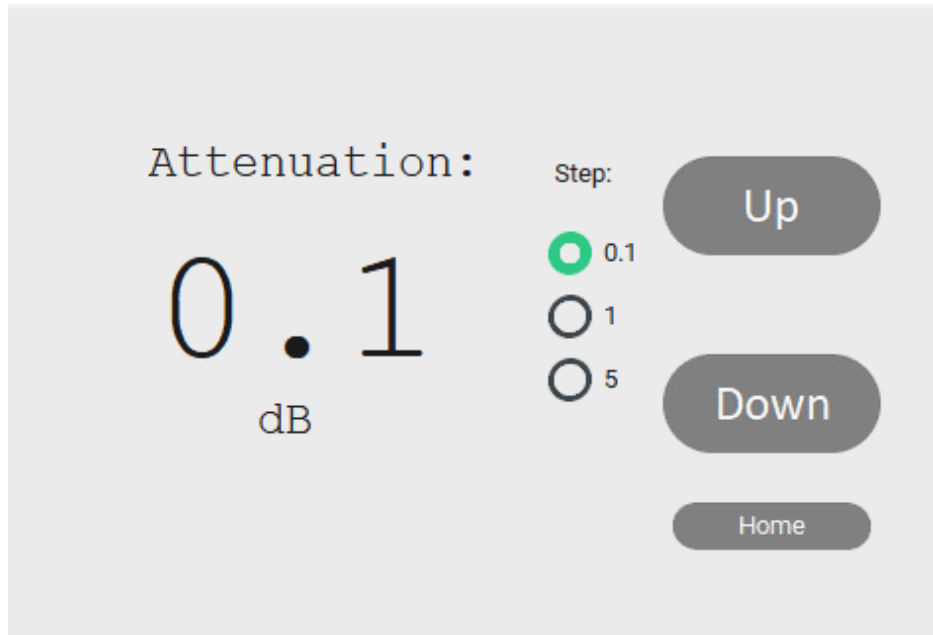
Visual Fault Indicator - VFL

Off	On

▶ <u>VFL</u>- Built in Visual Fault Indicator

▶ 650 nm wavelength

▶ 30 mW optical output power

▶ When selected the Green Icon will turn Red signaling VFL Laser output is on.

▶ Selecting any other feature will turn off the VFL laser.

  ▶ To lower the chances of unexpected laser radiation the device will not allow the VFL to turn on if any other feature is being used. If the VFL is **ON** and another feature is selected, the VFL will be turned **OFF** and can not be turned on until the user returns to the home screen.
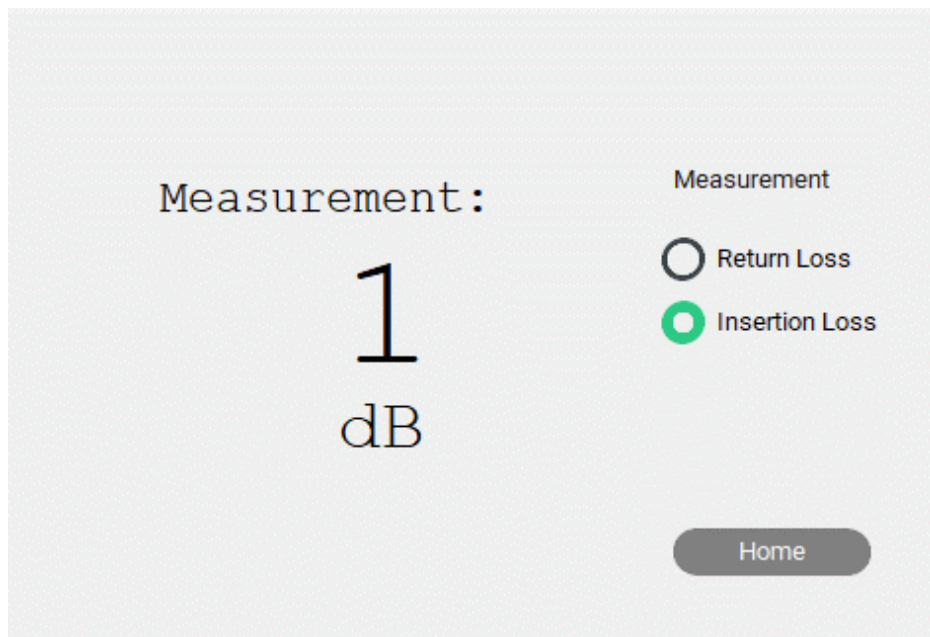
Warning: VFL Lasers emit Visible and Invisible laser radiation. Avoid eye and skin exposure to direct or scattered radiation. Approved laser protective eyewear required for using the VFL Laser.

Variable Optical Attenuator - VOA

▶ <u>VOA</u>- Built in Inline MEMs Variable Optical Attenuator – Option 01

▶ 1250 – 1650 nm Response spectrum

▶ 0.3 dB Typical insertion loss in OFF state

    ▶ The system will automatically set it to the calibrated Off state insertion loss.
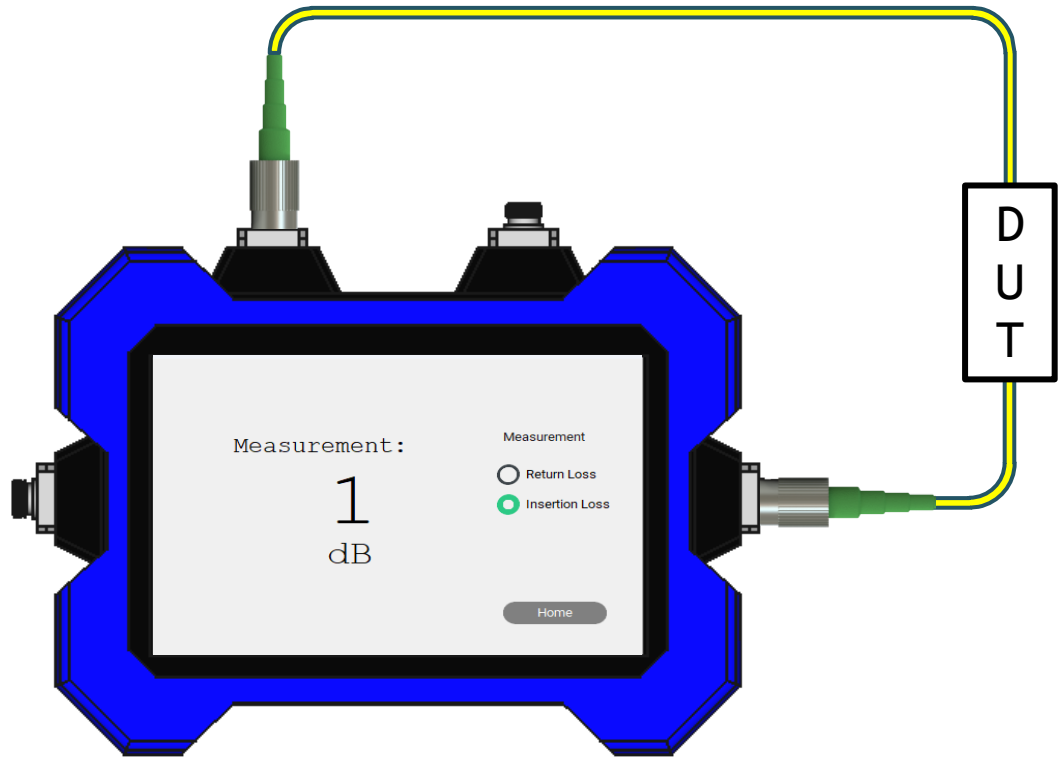
    ▶ Stable across temperature

    ▶ Stable with time

Optical Insertion Loss – OIL/ORL

Measurement:

1

dB

Measurement

○ Return Loss

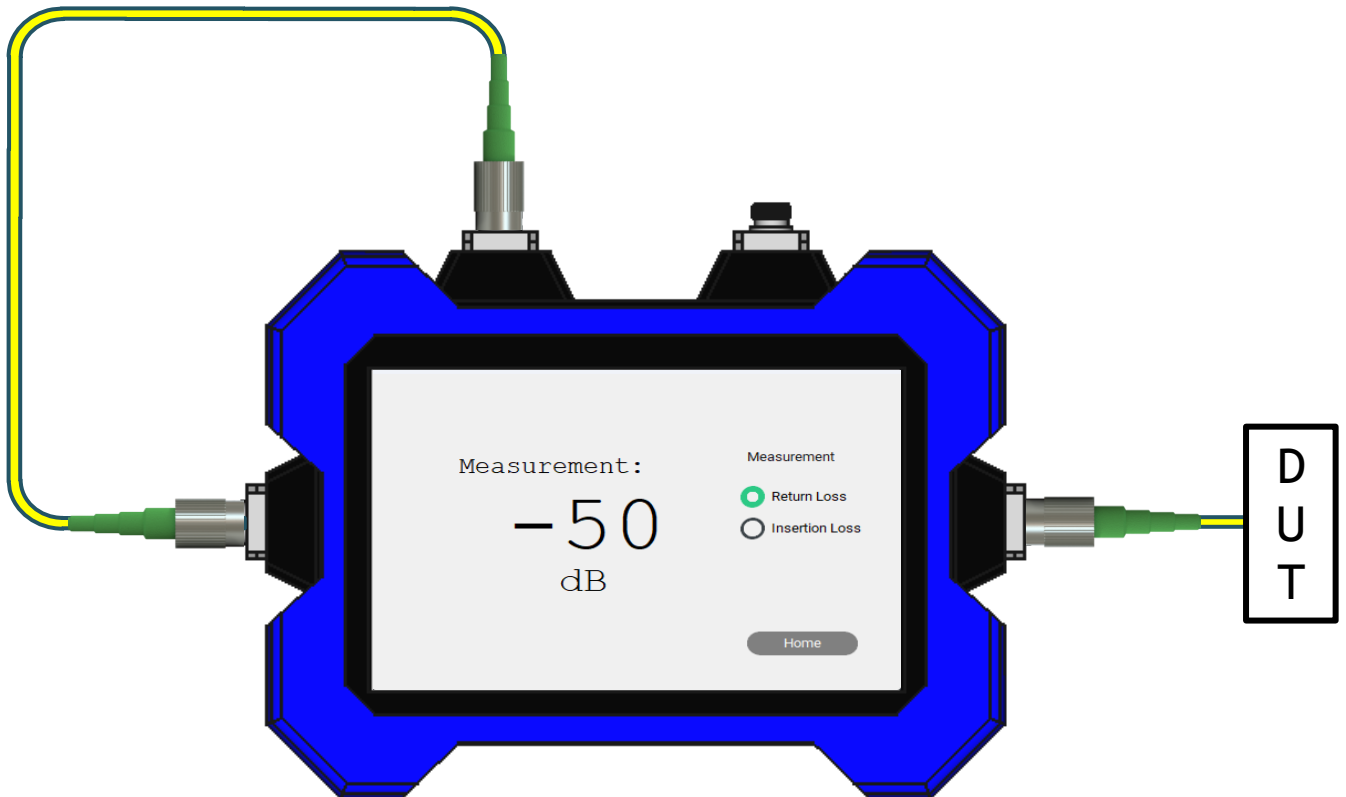● Insertion Loss

Home

- ▶ <u>OIL</u> – Quickly do a single wavelength Optical Insertion Loss measurement
    - ▶ Wavelength is set by the selected Laser wavelength.
        - ▶ Option 13 – 1310 nm
        - ▶ Option 15 – 1510 nm
- ▶ <u>ORL</u> – Quickly do a single wavelength Optical Return loss measurement
    - ▶ Wavelength is set by the selected Laser wavelength.
        - ▶ Option 13 – 1310 nm
        - ▶ Option 15 – 1510 nm
    - ▶ Not available with option 01
- ▶ 0.1 Second refresh rate
- ▶ +/- 0.1 dB accuracy

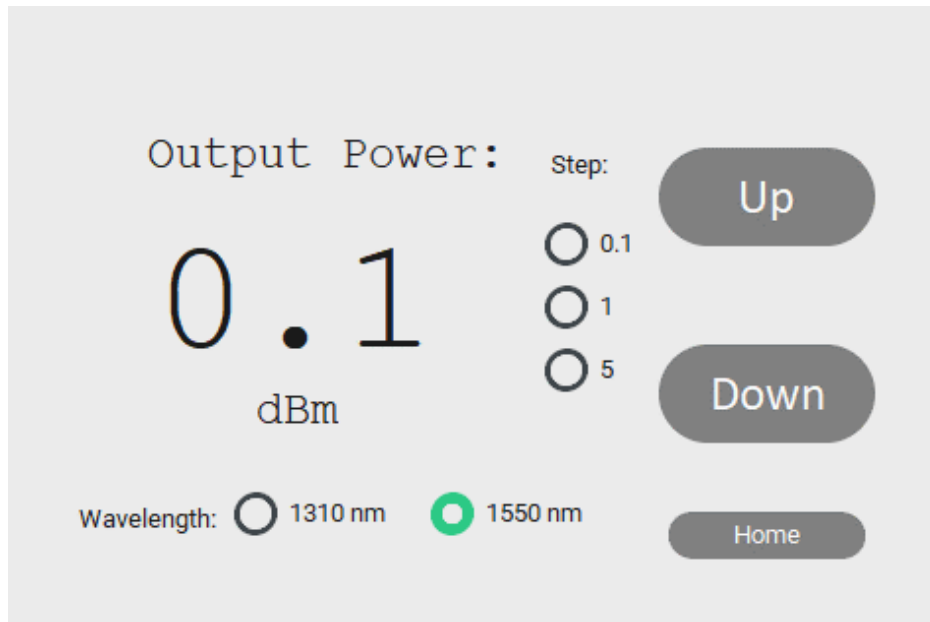# Optical Insertion Loss – OIL/ORL
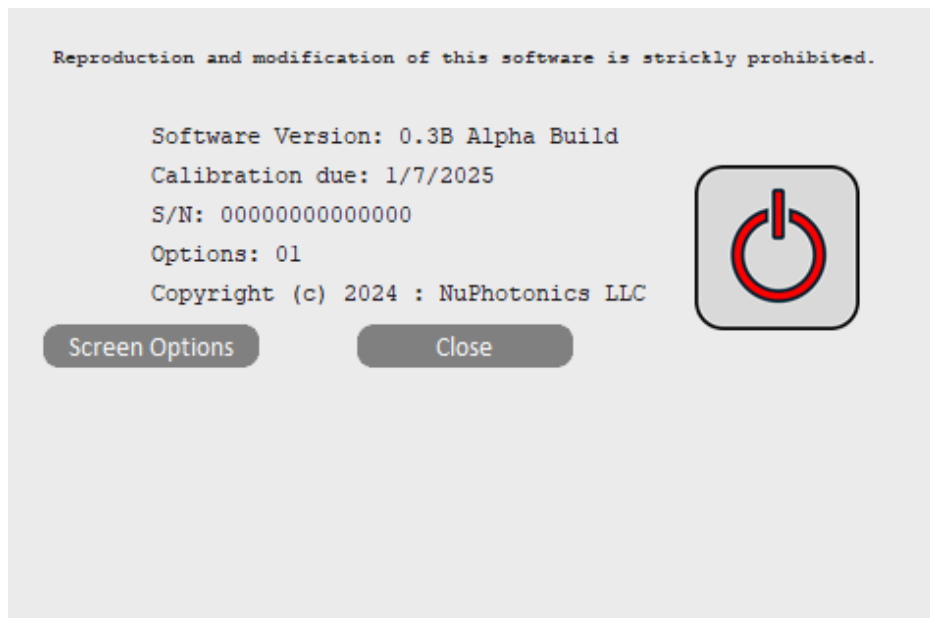
▶ OIL configuration

▶ ORL configuration

Stabil – Stabilized Output

- ▶ System monitors input power and outputs stabilized output power.
  - ▶ Desired optical output is set and the system adjusts and maintains that output power.
  - ▶ Can only attenuate the input signal
    - ▶ Recommended that input power is 2 dBm+ higher than desired output power.
    - ▶ Devices takes into account system loss
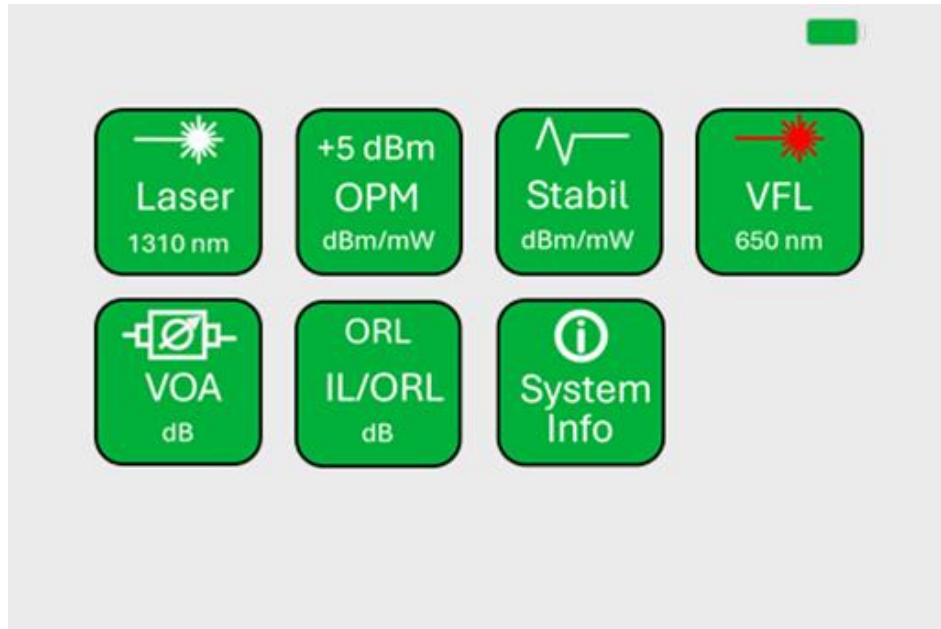 - ▶ Adjusts VOA to meet desired optical output

System Info

Software Version: 0.3B Alpha Build
Calibration due: 1/7/2025
S/N: 00000000000000
Options: 01

Screen Options   Close

▶ Gives the system information.

   ▶ Software Version

   ▶ Serial

▶ Calibration date

   ▶ Laser, OPM, and VOA must be calibrated to be within specifications.

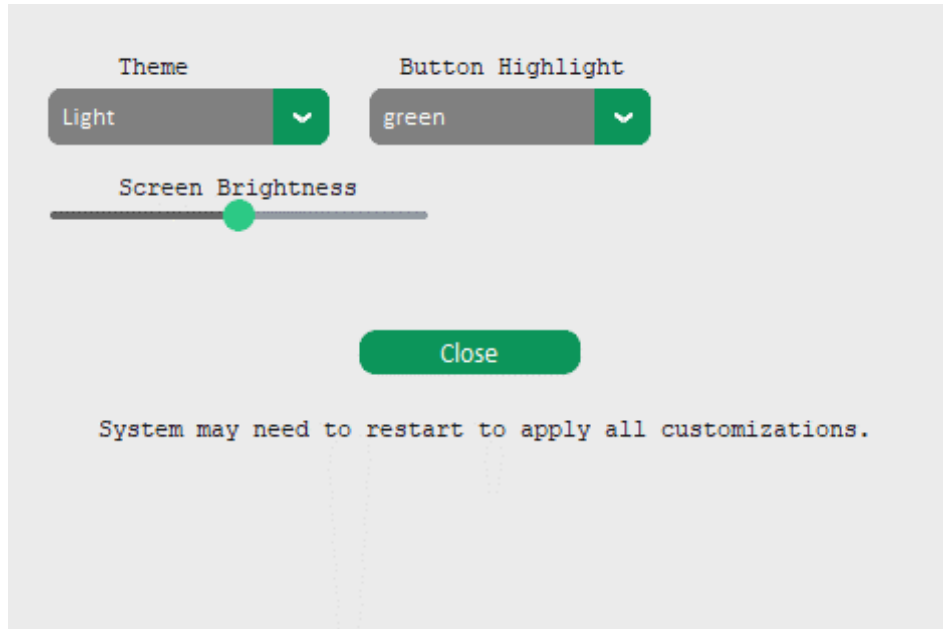   ▶ Recommended 1 year calibration cycle.

Screen Options

Theme
Light

Button Highlight
green

Screen Brightness

Close

System may need to restart to apply all customizations.

▶ Customize the system

    ▶ Theme options

        ▶ Light (Current)

        ▶ Dark

    ▶ Button Highlights/Accents

        ▶ Green (Current)

        ▶ Blue

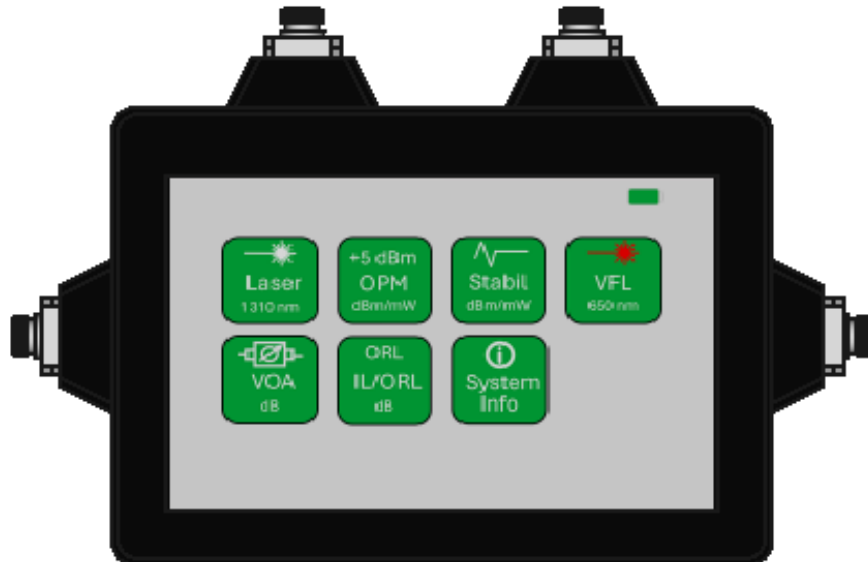   ▶ Screen Brightness

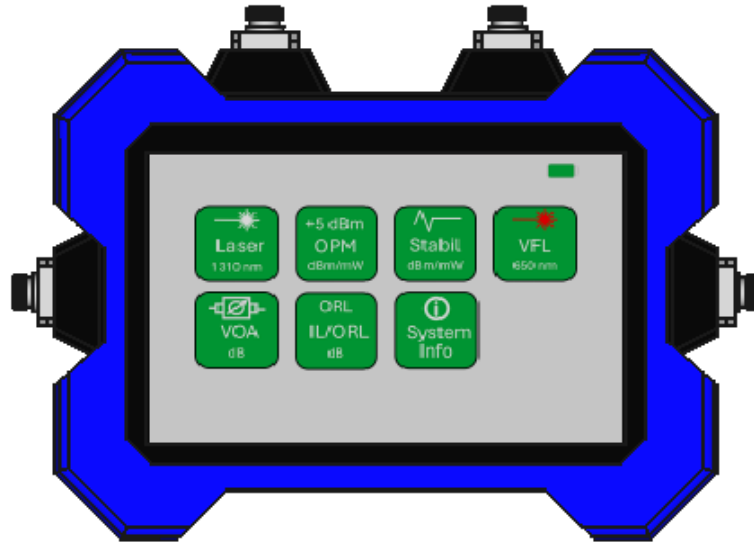   ▶ Settings are saved

Theme Select

▶ Two themes to select from.

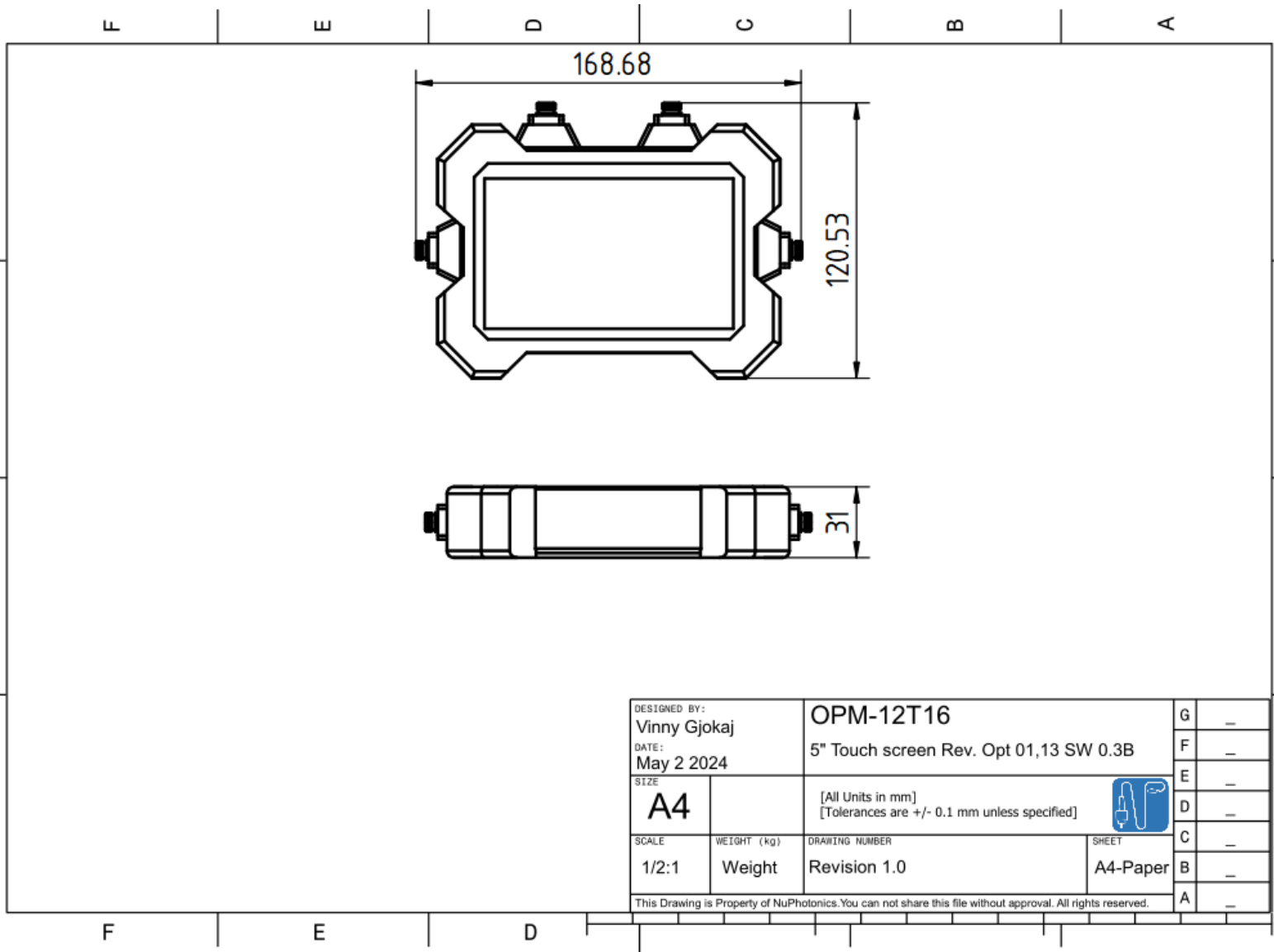   ▶ Theme settings are saved.

Button Highlight

▶ Button Color

    ▶ Accent color changes

Protective Cover

▶ Recommended to always have the OPM fitted with the protective cover

Device Dimensions

168.68

120.53

31