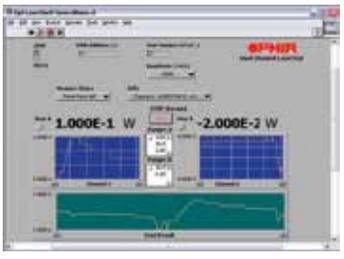
2.1.6 LaserStar

Versatile Laser Power/Energy Meter

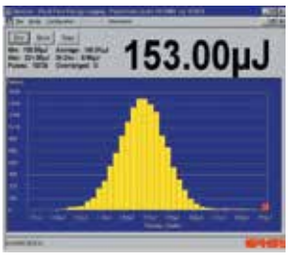
- Two models available: dual and single channel
- Single channel model can be upgraded to dual channel
- Compatible with all standard Ophir thermopile, pyroelectric, photodiode and RP sensors
- Large LCD display
- Backlighting and rechargeable battery
- Screen graphics and statistics (std dev. min, max)
- Analog output
- Built-in RS232 interface
- Log every data point at >1500Hz with pyroelectric sensors
- Non-volatile data storage up to 59,400 points
- Laser tuning screen and power log
- Audio sound for laser tuning and low battery
- RS232 interface with StarCom PC application software and LabVIEW driver (see pages 192-198)
- GPIB option (IEEE488.1)
- NIST traceable
- CE marked
- Soft keys, menu-driven

IEEE 488 GPIB Cable for LaserStar

The LaserStar's dual channel capabilities enable the user to simply plug in any of Ophir's thermal, pyroelectric or photodiode sensors and measure the two channels independently, or a comparison between the two channels. Up to 10 data files (54,000 points total) can be stored for onboard review or downloading to computer even if LaserStar has been switched off. The built-in RS232 interface and StarCom PC software allow on-line processing of data or processing previously stored data; results are displayed graphically on a PC. To support PC interfacing, LabVIEW drivers are provided.



LabVIEW

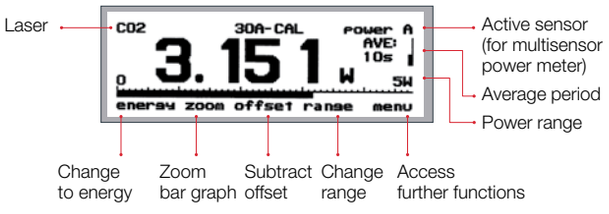


StarCom Software

Selected Screens

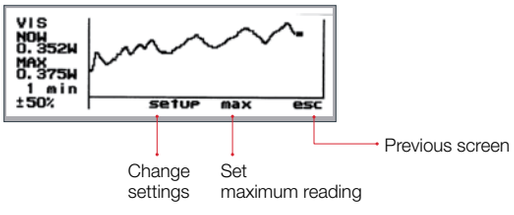
Digital Power Screen

- CW industrial, medical and scientific lasers
- pW to multi kW with appropriate sensors
- Can average over selected period. Useful for unstable lasers
- Fast response bar graph



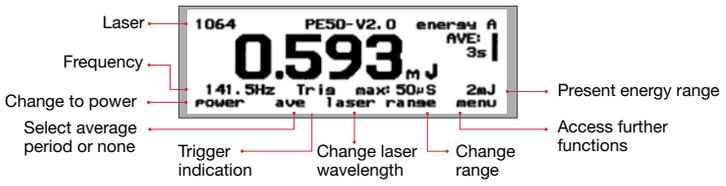
Laser Tuning Screen or Power Log Screen (not shown)

- Maximizing laser power
- User selected time period and zoom
- Option of audio tune tone for maximizing laser power



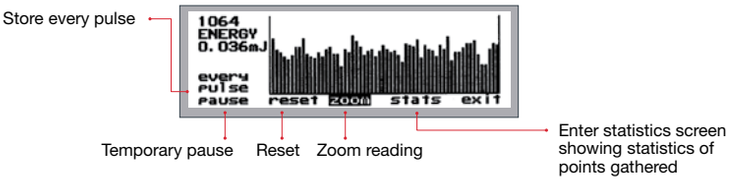
Energy Measurement Screen

- Pyroelectric and thermal sensors - single pulse
- Pyroelectric frequency measurement



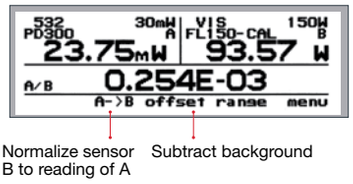
Energy Log Screen

- Pulsed energy sensors
- Thermal sensors - successive single pulses
- Continuous scroll
- Energy statistics



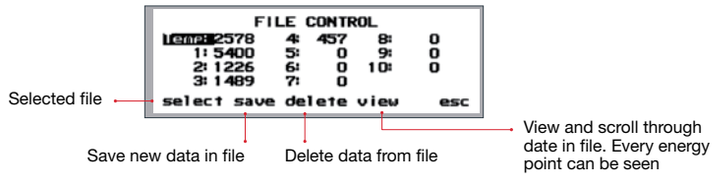
Ratio Screen

- Two independent sensors
- Measure ratio, sum, difference
- Normalize one sensor to the other



Data Storage and Transmission

- Non-volatile storage of power and energy logging data
- Store in up to 10 files and transmit to PC
- PC using StarCom Windows program provided



Specifications

Power Meter	High legibility 64 x 240 pixel graphics supertwist LCD with switchable, electroluminescent backlight which operates from charger or battery. Large 17mm digits. Screen refresh 15Hz.
Features	Many screen features including: power with bargraph, energy, average, exposure, frequency, graphs and more.
Outputs	RS232 and analog output 1V f.s.
Screen Refresh	15 times /sec
Case	Molded high-impact plastic with swivel display and EMI conductive shielding, to allow use even in proximity to pulsed lasers.
Size	Folds to a compact 194mm L x 228mm W x 57mm H.
Battery	Rechargeable 18 hours between charges. The charger can be ordered from your local distributor. The charger also functions as AC adapter.
Multisensor Option	Two sensors can be connected and measure independently, or with a mathematical comparison. Also the ratio, sum or difference of the two can be displayed.
Data Handling	Data can be viewed on board or transmitted to PC: On Board: Non-volatile storage of up to 54,000 data points in up to 10 files. Max data logging rate >1500 points/s. Transmitted to PC: Data transmission rate of ~500 points/s. RS232 baud rate of 38400.
Sensor Features	Works with standard Thermal [a], Pyroelectric [b], Photodiode [c] and RP sensors.
Program Features	Preferred startup configuration can be set by user. User can recalibrate power, energy, response time and zero offset.
Compliance	CE, UKCA, China RoHS

Note: (a) When operating with BeamTrack sensors, measures Power & Energy only
Note: (b) Limited functions for new Pyroelectric (PE-C series) sensors
Note: (c) Not including PD300RM sensors

Ordering Information

Item	Description	Ophir P/N
LaserStar	LaserStar single channel universal power meter for thermal, pyroelectric, photodiode and RP sensors	7Z01600
LaserStar 2 Channel	LaserStar with dual channel capability including ratio and difference measurement	7Z01601
RS232 Cable for LaserStar	Cable RS232 D9 - D25 (1 unit supplied with LaserStar)	7E01121
LaserStar Battery Pack	LaserStar NiMH Battery update Kit	7Z14006A
LaserStar IEEE Option	IEEE GPIB adapter for LaserStar (see page 183)	7Y78300 [a]
N Polarity Power Supply/Charger	Power Supply/Charger AC/DC 12V 2A N-2.1x5.5 (1 unit supplied with LaserStar)	7E05029
LaserStar Analog Output Connector	Analog Output plug for LaserStar (1 unit supplied with LaserStar)	7Z11004

Note: (a) P/N 7Y78300 replaces P/N 78300