



## *Enabling Australia's Field Technicians to build, troubleshoot and maintain better communications networks.*



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## Acterna optical power meters

High performance OLP-15C, OLP-16C and OLP-18C

The Acterna OLP-15C, OLP-16C and OLP-18C are compact, high performance optical power meters for installation, maintenance and repair in fiber optic networks. They can be used on their own for simple system power measurements, or with a light source for insertion loss measurements.

The full functionality of the high performance OLP range is realized when used with an Acterna Optical Light Source (OLS).

Together with a variable optical attenuator the OLPs are the right instruments for the commissioning of optical transmission systems, for example: DWDM systems.

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### Highlights

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- Easy report generation with FiberASSISTANT software
- Data storage and RS-232 interface
- Rugged, impact resistant, splash-proof
- Three year recalibration period
- High precision, easily exchangeable adapter including UPP

### **High performance measurement**

High performance OLPs feature a wide dynamic range making them suitable for use in many different applications. The OLP-18C is designed for those with high power levels such as CATV systems, optical amplifiers and DWDM systems.

Precision calibration to traceable national standards ensures high accuracy measurement in user selectable units. Two unique Universal Push Pull (UPP) adapters provide reliable, reproducible connection to all common 1.25 and 2.5 mm connectors, ensuring the user always has the correct connection in the field.

Absolute power level can be stored with a single keystroke, making it easy to take relative loss test measurements.

### **AutoWavelength Detection and TwinTest**

Used with an Acterna Optical Light Source (OLS), high performance OLPs feature two powerful functions, designed to avoid the possibility of measurement errors.

The AutoWavelength Detection function detects the actual wavelength being used and switches automatically to the appropriate wavelength range. TwinTest performs two wavelength loss measurements automatically.

### **Automatic identification of individual fibers**

High performance OLPs can be used to detect the modulation frequency of the fiber to be measured, for identification purposes. To speed this process, an audible signal identifying the fiber as one of four standard frequencies sounds as soon as the fiber is brought near the input.

### **Data storage**

High performance OLPs can store up to 1000 sets of test measurements. Data can be downloaded to a printer for hard copy records, or to a PC for long-term storage and further analysis using Acterna's FiberASSISTANT PC software (free software available from [www.Acterna.com](http://www.Acterna.com)).

### **Rugged field instrumentation**

OLP-15C, OLP-16C and OLP-18C feature low power consumption for long battery life. They can be operated with AC, dry or rechargeable AA batteries which can be changed in the field very easily. The units are supplied in a robust housing, with splash-proof foil keypad and protectors for the optical connectors, to ensure reliable operation even in harsh field conditions.



## Acterna High Performance Optical Power Meters

### Ordering information

|  |               |
|--|---------------|
| – Acterna OLP-15C                            | BN 2229/23    |
| – Acterna OLP-16C                            | BN 2229/33    |
| – Acterna OLP-18C                            | BN 2229/43    |
| – Calibration report for OLP-15C, -16C, -18C | BN 2229/90.04 |

### FiberASSISTANT

PC documentation software (free download available from [www.acterna.com](http://www.acterna.com))

### Specifications: Acterna optical power meters

#### Acterna OLP-15C

|  |                               |
|--|-------------------------------|
| – Wavelength range                               | 780 to 1650 nm                |
| – Photodiode                                     | Germanium                     |
| – Fiber type                                     | 9/125 to 100/140 $\mu$ m      |
| – Standard wavelengths, switchable               | 780, 850, 1300, 1310, 1550 nm |
| – Display range                                  | - 70 to +20 dBm               |
| – Max. permitted level                           | + 20 dBm                      |
| – Intrinsic uncertainty <sup>(1)</sup>           | $\pm 0.13$ dB ( $\pm 3\%$ )   |
| – Overall measurement uncertainty <sup>(2)</sup> |                               |
| – For the level range                            | -60 to +18 dBm                |
| – 850nm  | $\pm 0.25$ dB $\pm 0.8$ nW    |
| – 1300, 1310 nm                                  | $\pm 0.20$ dB $\pm 0.2$ nW    |
| – 1550 nm  | $\pm 0.40$ dB $\pm 0.2$ nW    |

#### Acterna OLP-16C

|  |  |
|--|--|
| – Wavelength range                               | 800 to 1700 nm                             |
| – Photodiode                                     | InGaAs                                     |
| – Fiber type                                     | 9/125 to 50/125 $\mu$ m                    |
| – Standard wavelengths, switchable               | 850, 1300, 1310, 1480, 1510, 1550, 1625 nm |
| – Display range                                  | -80 to +15 dBm                             |
| – Max. permitted level                           | +15 dBm                                    |
| – Intrinsic uncertainty <sup>(1)</sup>           | $\pm 0.13$ dB ( $\pm 3\%$ )                |
| – Overall measurement uncertainty <sup>(2)</sup> |  |
| – For the level range                            | -70 to +11 dBm                             |
| – 850nm  | $\pm 0.3$ dB $\pm 0.15$ nW                 |
| – 1300, 1310 nm                                  | $\pm 0.2$ dB $\pm 0.02$ nW                 |
| – 1550 nm  | $\pm 0.2$ dB $\pm 0.02$ nW                 |
| – 1625 nm  | $\pm 0.35$ dB $\pm 0.02$ nW                |

#### Acterna OLP-18C

|  |   |
|--|---|
| – Wavelength range                               | 800 to 1700 nm                            |
| – Photodiode                                     | filtered InGaAs                           |
| – Fiber type                                     | 9/125 to 50/125 $\mu$ m                   |
| – Standard wavelengths, switchable               | 850, 980, 1310, 1480, 1510, 1550, 1625 nm |
| – Display range                                  | -60 to +26 dBm                            |
| – Max. permitted level                           | + 26 dBm                                  |
| – Intrinsic uncertainty <sup>(1)</sup>           | $\pm 0.13$ dB ( $\pm 3\%$ )               |
| – Overall measurement uncertainty <sup>(2)</sup> |   |
| – For the level range                            | -50 to +23 dBm                            |
| – 850nm  | $\pm 0.33$ dB $\pm 10$ nW                 |
| – 1300, 1310 nm                                  | $\pm 0.25$ dB $\pm 2$ nW                  |
| – 1550 nm  | $\pm 0.25$ dB $\pm 2$ nW                  |
| – 1625 nm  | $\pm 0.5$ dB $\pm 2$ nW                   |

### General specifications

- Wavelength detection<sup>(3)(4)</sup> automatic switching and display of nominal wavelength
- Fiber detection<sup>(4)</sup> automatic display of line ID
- Data memory 1000 measurement results
- Data readout/remote control RS-232 interface

### Display

- Modulation detection<sup>(4)(6)</sup> 270Hz, 330 Hz, 1 kHz, 2k Hz
- Result display LCD, 4 digit
- Results displayed in dBm, dB, mW,  $\mu$ W
- Resolution<sup>(5)</sup> 0.01 dB/0.001  $\mu$ W
- Backlight function switchable via separate key
- Reference level transfer of measured value or entry of any reference level in the range -80 to +30 dBm, storage of one reference value per wavelength
- Optical connector interchangeable adapter interchangeable adapter from the BN 2014/00.XX range suitable for measurements on flat or angled physical contact systems.  
e.g. 2.5 mm plugs: FC, ST, SC, DIN, E2000, SMA, ...  
e.g. 1.25 mm plugs: LC, MU-Adapter BN 2014/00.28 and many more

- Power supply Dry batteries 2 x Mignon (AA) 1.5 V  
Or NiCd rechargeable cells 2 x Mignon (AA) 1.2 V
- Operating time from batteries typically 36 h  
NiCd cells typically 12 h
- Batteries/NiCd power saving the instrument switches off automatically after approx. 20 min (function can be disabled)
- AC line operation (OLP-1xC) separate AC adapter
- Electromagnetic compatibility corresponds to EN 50081-1 and EN 50082-1 (CE conformance)
- Recommended calibration interval 3 years
- Ambient temperature Nominal range of use -10°C to +55°C  
Storage and transport -40°C to +70°C
- Dimensions (w x h x d) Approx. 95 x 49 x 185 mm
- Weight Approx. 500 g

### Delivery contents

Comes complete with Acterna Optical Power Meters OLP-15C, -16C, -18C

- 1 interchangeable adapter from BN 2014/00.XX range
- K778 RS-232 cable, 9 way plug
- S911 RS-232 adapter 25-way to 9-way
- 2 dry batteries Mignon AA 1.5V
- Operating manual

### Accessories

- Optical connector cleaning kit BN 2229/90.07
- Spare tape for cleaning kit BN 2229/90.08
- NiCd cells, Mignon (AA) type BN 2229/90.02 (2 required per instrument)

### Battery charger (for external charging)

- 230 V, European AC line plug BN 2229/90.03
- 110 V, US AC line plug BN 2229/90.09
- 230 V, UK AC line plug BN 2229/90.19

### AC Adapter NT-20

- European version BN 2238/90.02
- UK version BN 2238/90.03
- US version BN 2238/90.04
- Australian version BN 2238/90.05
- Japanese version BN 2238/90.06
- Neck strap BN 820/00.52
- ABK-30 storage box for optical accessories BN 2126/30

- Equipment case MK-1 BN 2090/13 (rigid shell case for 2 x OLX-1x plus accessories)
- Equipment bag MT-2 BN 2126/01 (nylon bag for 2 x OLX-1x plus accessories)
- Equipment bag MT-3 BN 2126/02 (nylon bag for 3 x OLX-1x plus accessories)
- Equipment bag MT-22 BN 2126/22 (nylon bag for 1 x OLX-1x and 1 x OLX-x plus accessories)
- Equipment bag MT-32 BN 2126/32 (nylon bag for 1 x OLX-1x and 2 x OLX-x plus accessories)
- Equipment case MK-4 BN 2092/12 (rigid shell case for 3 x OLX-1x plus accessories)

Detailed information about test adapters, cables and fiber-optic sleeves can be found in separate data sheet: "Acterna fiber-optic test adapters and cables".

<sup>(1)</sup>Under reference conditions: -20 dBm (CW), 1310 nm,  $\pm 1$  nm, 23°C  $\pm 3$ K, 45 to 75% relative humidity, 9 to 50  $\mu$ m test fiber with DIN connector

<sup>(2)</sup>Temperature range - 5 to 45°C; after zeroing with  $\Delta T = \pm K$ ; lower level range limits increased by 5 dB at 850 nm. OLP-18C: typical values for levels > +20 dBm

<sup>(3)</sup>1310 and 1550 nm and 1625 nm only to be used together with Acterna Optical Light Source eg: OLS-6 or OLS-15

<sup>(4)</sup>OLP-15C: from -45 dBm (780, 850 nm), from -50 dBm (1300, 1310, 1550 nm). OLP-16C: from -55 dBm (850 nm), from -60 dBm (1300, 1310, 1550, 1625 nm). OLP-18C: from -35 dBm (850, 980 nm), from -40 dBm (1310, 1550, 1625 nm)

<sup>(5)</sup>For levels < -60 dBm: Display resolution 0.1 dB

<sup>(6)</sup>Can be disabled

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