Anritsu Advancing beyond

# CMA5 Series

## Optical Loss Tester/Light Source/Optical Power Meter

# Optical Loss Tester/Light Source/Optical Power Meter CMA5 Series

## Compact Lightweight Model for Optical Fiber I&M

The CMA5 series (Optical Loss Tester/Light Source/Optical Power Meter) measures optical loss and power for optical fiber I&M.

The CMA5 series are compact and lightweight, its excellent cost performance and simple operation with the required minimum number of functions make it ideal for onsite I&M. Service engineers can choose from three models — optical loss tester, optical source, and optical power meter — to match the onsite application.

## Optical Loss Tester

- All-in-one light source and optical power meter supporting SM (1310 nm/1550 nm) and MM (850 nm/1300 nm) fiber
- Compact and lightweight (300 g)
- Measures +23 dBm max. optical power*1
- 20 hours of battery (dry cell) operation*2
- Useful fiber identification modulation function (270 Hz, 1 kHz, 2 kHz and CW)

*1: SM type (CATV model) only
*2: With 9-V alkaline batteries using optical source and optical power meter

| Optical Loss Tester* | |
|---|---|
| SM Model | 1310 nm/1550 nm (Power Meter: Standard) |
| | 1310 nm/1550 nm (Power Meter: CATV) |
| MM Model | 850 nm/1300 nm |

*: One 9 V alkaline battery as standard. No AC adapter.

*: Photographs about same size as actual instruments.

# Optical Loss Tester/Light Source/Optical Power Meter CMA5 Series

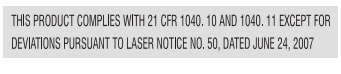
## Optical Loss Tester

### Specifications

| Model | | 5LT35 | 5LT35C | 5LT83 |
|---|---|---|---|---|
| Light Source Port | | | | |
| Supported Optical Fiber | | 10 µm/125 µm SM fiber, PC-polished | | 62.5 µm/125 µm MM fiber, PC-polished |
| Emitter Type | | LD | | |
| Wavelength | | 1310 nm/1550 nm ±20 nm | | 850 nm/1300 nm ±20 nm |
| Output Power | | ≥–7 dBm*1, *2 | | ≥–7 dBm*3 |
| Source Line Width (FWHNM) | | ≤5 nm | | |
| Modulation Output | | CW, 270 Hz, 1 kHz, 2 kHz (±2%) | | |
| Stability | | ±0.05 dB/15 minutes | | |
| | | ±0.10 dB/8 hours (1310 nm/1550 nm), ±0.15 dB/8 hours (850 nm/1300 nm) | | |
| Connector Type | | FC/PC, SC/PC, ST/PC (user replaceable) | | |
| Optical Power Meter Port | | | | |
| Supported Optical Fiber | | SM (10 µm/125 µm)/MM (50 µm/125 µm, 62.5 µm/125 µm) | | |
| Detector Type | | InGaAs | | |
| Setting Wavelength | | 850, 1300, 1310, 1490, 1550, 1625 nm | | |
| Measurement Range | | –60 to +5 dBm*2<br>–50 to +10 dBm (850 nm)*2 | –40 to +23 dBm*2 | –60 to +5 dBm*2<br>–50 to +10 dBm (850 nm)*2 |
| Accuracy | | ±0.2 dB*4, *6, ±0.5 dB*5 | | |
| Linearity | | ±0.2 dB*2 | | ±0.5 dB |
| Display Resolution | | 0.01 dB | | |
| Auto-Zero Setting | | Supported | | |
| Warm-up Time | | 60 s | | |
| Connector Type | | FC, SC, ST (user replaceable) | | |
| General Specifications | | | | |
| Input Power | | 9 V Alkaline battery, or optional AC adapter (input: 100 V to 240 V, 50 Hz to 60 Hz, output: 7.5 V) | | |
| Battery Operation | | 40 hours min. (Optical Power Meter), 20 hours min. (Optical Power Meter & Light Source) | | |
| Auto Off Function | | 5 minutes | | |
| Others | | Reference setting function, Loop loss testing function | | |
| Operating Temperature Range | | –10°C to +50°C | | |
| Storage Temperature Range | | –25°C to +60°C | | |
| Relative Humidity | | 0 to 95% (no condensation) | | |
| Dimensions | | 75 (W) × 145 (H) × 25 (D) mm (2.9 × 5.7 × 1 inch) (Excluding Rubber Protective Cover) | | |
| Mass | | 300 g (0.66 lbs) or less (Excluding Rubber Protective Cover and 9 V Alkaline Battery) | | |
| Warranty | | 3 years | | |
| Laser Safety*7 | | IEC 60825-1: 2007 CLASS1, 21CFR 1040.10<br>Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007 | | |
| CE | EMC | 2014/30/EU, EN61326-1, EN61000-3-2 | | |
| | LVD | 2014/35/EU, EN61010-1 | | |
| | RoHS | 2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018 | | |
| UKCA | EMC | S.I. 2016 No.1091, EN 61326-1, EN61000-3-2 | | |
| | LVD | S.I. 2016 No.1101, EN 61010-1 | | |
| | RoHS | S.I. 2012 No.3032, EN IEC 63000: 2018 | | |

Specifications assured at 25°C (±3°C)

*1: When SM fiber (10/125 µm, NA = 0.1, PC polish) to connected.
*2: When GI fiber (62.5/125 µm, NA = 0.257, PC polish) is connected.
*3: If a 50 µm/125 µm MM fiber is connected to the optical output port, the rated output power (≥–7 dBm) can not be obtained due to differences in core diameter, NA, and fiber excitation condition. The optical output power can drop by about 2 to 10 dB from the rated output power.
*4: Wavelength 1300 nm, GI fiber (62.5/125 µm, PC polish) to connected, Input CW light.
*5: Wavelength 850 nm, GI fiber (62.5/125 µm, PC polish) to connected, Input CW light.
*6: Wavelength 1310 nm, 1550 nm, SM fiber (ITU-T G.652, Using Anritsu's reference PC polish connector fiber) to connected, Input CW light.
*7: Safety measures for laser products
This product complies with optical safety standards in 21CFR1040.10 and IEC60825-1; the following descriptive labels are affixed to the product.




### Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names. The actual name of the item may differ from the Order Name.

| Model/Order No. | Description |
|---|---|
| | **Main frame** |
| 5LT35-YY* | Optical Loss Tester 1310 nm/1550 nm (Standard Power Meter) |
| 5LT35C-YY* | Optical Loss Tester 1310 nm/1550 nm (CATV Power Meter) |
| 5LT83-YY* | Optical Loss Tester 850 nm/1300 nm (Standard Power Meter) |
| | **Standard accessories** |
| | CMA5 Optical Loss Tester Operation Manual: 1 pc |
| | Rubber Protective Cover: 1 pc |
| | 9 V Alkaline Battery: 1 pc |

*: Specify one connector adapter at YY (FU = FC/PC, SU = SC/PC, TU = ST/PC).

The specified connector adapter is fitted at each optical source and power meter connector.

| Model/Order No. | Description |
|---|---|
| | **Accessories** |
| GN-3HH-CASE | Hard Case (for two CMA5 series) |
| CMA5-POUCH-A | Carrying Pouch/Shoulder Strap |
| CMA5-BAT | 9 V Alkaline Battery |
| Z1525A | AC Adapter (CMA5) |
| CMA5-AD-LS-FC | FC Connector Adapter (Light Source Port) |
| CMA5-AD-LS-SC | SC Connector Adapter (Light Source Port) |
| CMA5-AD-LS-ST | ST Connector Adapter (Light Source Port) |
| CMA5-AD-LS-ALL3 | Connector Adapter (FC, SC and ST) |
| CMA5-AD-PM-FC | FC Connector Adapter (Power Meter Port) |
| CMA5-AD-PM-SC | SC Connector Adapter (Power Meter Port) |
| CMA5-AD-PM-ST | ST Connector Adapter (Power Meter Port) |
| CMA5-AD-PM-ALL3 | Connector Adapter (FC, SC and ST) |
| J1530A | SC Plug-in Converter (UPC(P)-APC(J)) |
| J1532A | FC Plug-in Converter (UPC(P)-APC(J)) |
| J1534A | LC-SC Plug-in Converter (for SM, SC(P)-LC(J)) |
| J1535A | LC-SC Plug-in Converter (for MM, SC(P)-LC(J))<br>*62.5 µm/125 µm type |

# Optical Loss Tester/Light Source/Optical Power Meter CMA5 Series

## Light Source

- Supports MM model (850 nm/1300 nm), SM model (1310 nm/1550 nm)
- Lightweight at only 250 g
- 16 hours of continuous running with 9 V alkaline battery
- Light source for fiber identification (270 Hz, 1 kHz, 2 kHz and CW)

| Light Source* | |
|---|---|
| SM Model | 1310 nm/1550 nm |
| MM Model | 850 nm/1300 nm |

*: One 9 V alkaline battery as standard. No AC adapter.

### Specifications

| Model/Order No. | | 5L83 | 5L35 |
|---|---|---|---|
| Emitter Type | | LD | |
| Wavelength | | 850/1300 ±20 nm | 1310/1550 ±20 nm |
| Output Power*1 | | –7 dBm*2 (62.5 µm/125 µm MM fiber) | –7 dBm (SM fiber) |
| Source Line Width (FWHM) | | <5 nm | |
| Modulation Output | | CW, 270 Hz, 1 kHz, 2 kHz | |
| Stability (8 hours) | | ±0.1 dB (25°C) | |
| Connector Type | | FC, ST, SC (User replaceable) | |
| Battery Operation Time | | 16 h (9 V alkaline battery) | |
| Input Power | | 9 V (9 V alkaline battery) | |
| AC Adapter (Option) | | Input: 100 V to 240 V, 50 Hz to 60 Hz, Output: 7.5 V | |
| Operating Temperature Range | | –10°C to +50°C | |
| Storage Temperature Range | | –25°C to +60°C | |
| Relative Humidity | | 0 to 95% (no condensation) | |
| Dimensions | | 75 (W) × 145 (H) × 25 (D) mm (excl. rubber cover) | |
| Mass | | 250 g | |
| Warranty | | 3 years | |
| Laser Safety*3 | | IEC 60825-1: 2007 CLASS 1<br>21CFR 1040.10<br>Excludes deviations caused by conformance to Laser Notice No. 50 dated June 24, 2007 | |
| CE | EMC | 2014/30/EU, EN61326-1, EN61000-3-2 | |
| | LVD | 2014/35/EU, EN61010-1 | |
| | RoHS | 2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018 | |
| UKCA | EMC | S.I. 2016 No.1091, EN 61326-1, EN61000-3-2 | |
| | LVD | S.I. 2016 No.1101, EN 61010-1 | |
| | RoHS | S.I. 2012 No.3032, EN IEC 63000: 2018 | |

*1: Typical (25°C)
*2: If a 50 µm/125 µm MM fiber is connected to the optical output port, the rated output power (≥–7 dBm) can not be obtained due to differences in core diameter, NA, and fiber excitation condition. The optical output power can drop by about 2 to 10 dB from the rated output power.
*3: Safety measures for laser products
This product complies with optical safety standards in 21CFR1040.10 and IEC 60825-1; the following descriptive labels are affixed to the product.

### Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names.
The actual name of the item may differ from the Order Name.

| Model/Order No. | Description |
|---|---|
| | **Main frame** |
| 5L35-YY* | Light Source: 1310 nm/1550 nm (Dual wavelength for SM fiber) |
| 5L83-YY* | Light Source: 850 nm/1300 nm (Four wavelength for MM fiber) |
| | **Standard accessories** |
| | CMA5 Operation Manual: 1 pc |
| | Rubber Protective Cover: 1 pc |
| | 9 V Alkaline Battery: 1 pc |
| | **Accessories** |
| GN-3HH-CASE | Hard Case (for two CMA5 series) |
| CMA5-POUCH-A | Carrying Pouch/Shoulder Strap |
| CMA5-BAT | 9 V Alkaline Battery |
| Z1525A | AC Adapter (CMA5) |
| CMA5-AD-LS-FC | FC Connector Adapter |
| CMA5-AD-LS-SC | SC Connector Adapter |
| CMA5-AD-LS-ST | ST Connector Adapter |
| CMA5-AD-LS-ALL3 | Connector Adapter (FC, SC and ST) |

*: Specify one connector adapter for YY.
FU = FC/PC, SU = SC/PC, TU=ST/PC, FA = FC/APC, SA = SC/APC
(FA = FC/APC and SA = SC/APC cannot be selected for 5L83-YY.)

*: Photographs about same size as actual instruments.

# Optical Loss Tester/Light Source/Optical Power Meter CMA5 Series

## Optical Power Meter

- Lightweight at only 250 g
- 40 hours of continuous running with 9 V alkaline battery
- Measures up to +23 dBm optical power*1

*1: CATV model

| Optical Power Meter* (Calibrated for 850, 1300, 1310, 1490, 1550, and 1625 nm) | |
|---|---|
| Standard Model | –60 to +10 dBm |
| CATV Model | –50 to +23 dBm |

*: One 9 V alkaline battery as standard. No AC adapter.

### Specifications

| Model/Order No. | | 5P100 | 5P100C |
|---|---|---|---|
| Connector Type | | FC, SC, ST (User replaceable) | |
| Fiber Type | | MM, SM | |
| Detector Type | | InGaAs-PD | |
| Setting Wavelength | | 850/1300/1310/1490/1550/1625 nm | |
| Measurement Range | | –60 to +10 dBm<br>–50 to +10 dBm (850 nm) | –50 to +23 dBm |
| Accuracy | | ±0.2 dB*1, *3, ±0.5 dB*2 | |
| Linearity*4 | | ±0.2 dB @ 1310/1550 nm<br>(–60 to +5 dBm)<br>±0.5 dB @ 850 nm<br>(–50 to +5 dBm) | ±0.2 dB @ 1310/1550 nm<br>(–40 to +23 dBm)<br>±0.5 dB @ 850 nm<br>(–40 to +23 dBm) |
| Display Resolution | | 0.01 dB | |
| Modulation Detection | | 2 kHz modulation | |
| Display | | 4-digit, 7-segment display LCD | |
| Others | | Reference setting function, battery level display, automatic power OFF | |
| Battery Operation Time | | 40 hours min. (9 V alkaline battery) | |
| Input Power | | 9 V (one alkaline battery) | |
| AC Adapter (Option) | | Input: 100 V to 240 V, 50 Hz to 60 Hz, Output: 7.5 V | |
| Operating Temperature Range | | –10°C to +50°C | |
| Storage Temperature Range | | –25°C to +60°C | |
| Relative Humidity | | 0 to 95% (no condensation) | |
| Dimensions | | 75 (W) × 145 (H) × 25 (D) mm (excl. rubber cover) | |
| Mass | | 250 g | |
| Warranty | | 3 years | |
| CE | EMC | 2014/30/EU, EN61326-1, EN61000-3-2 | |
| | LVD | 2014/35/EU, EN61010-1 | |
| | RoHS | 2011/65/EU, (EU) 2015/863, EN IEC 63000: 2018 | |
| UKCA | EMC | S.I. 2016 No.1091, EN 61326-1, EN61000-3-2 | |
| | LVD | S.I. 2016 No.1101, EN 61010-1 | |
| | RoHS | S.I. 2012 No.3032, EN IEC 63000: 2018 | |

*1: Wavelength 1300 nm, GI fiber (62.5/125 µm, PC polish) to connected, Input CW light.
*2: Wavelength 850 nm, GI fiber (62.5/125 µm, PC polish) to connected, Input CW light.
*3: Wavelength 1310 nm, 1550 nm, SM fiber (ITU-T G.652, Using Anritsu's reference PC polish connector fiber) to connected, Input CW light.
*4: 25°C

*: Photographs about same size as actual instruments.

### Ordering Information

Please specify the model/order number, name and quantity when ordering.
The names listed in the chart below are Order Names.
The actual name of the item may differ from the Order Name.

| Model/Order No. | Description | |
|---|---|---|
| | **Main frame** | |
| 5P100-YY* | Optical Power Meter (Standard): –60 to +10 dBm | |
| 5P100C-YY* | Optical Power Meter (CATV): –50 to +23 dBm | |
| | **Standard accessories** | |
| | CMA5 Operation Manual: | 1 pc |
| | Rubber Protective Cover: | 1 pc |
| | 9 V Alkaline Battery: | 1 pc |
| | **Accessories** | |
| GN-3HH-CASE | Hard Case (for two CMA5 series) | |
| CMA5-POUCH-A | Carrying Pouch/Shoulder Strap | |
| CMA5-BAT | 9 V Alkaline Battery | |
| Z1525A | AC Adapter (CMA5) | |
| CMA5-AD-PM-FC | FC Connector Adapter | |
| CMA5-AD-PM-SC | SC Connector Adapter | |
| CMA5-AD-PM-ST | ST Connector Adapter | |
| CMA5-AD-PM-ALL3 | Connector Adapter (FC, SC and ST) | |

*: Specify one of FC, SC or ST connector adaptor for YY.

## Related Product

### MT9090A Series

Network Master

**µOTDR Module** **MU909014/15**

Compact OTDR for full automatic verification of optical networks, FTTH-PON, Metro and Core.

**Gigabit Ethernet Module** **MU909060A**

Dedicated field test solution for installation and troubleshooting Ethernet links in access networks.

MU909014/15

MU909060A

### ACCESS Master MT9085 Series

**For WAN/MFH/DCI/FTTH Optical Fiber I&M**

- Improved operability with powerful synergy of 8-inch touchscreen and hardware keys
- At-a-glance Pass/Fail evaluation using Fiber Visualizer
- All OTDR, OLTS, and Visible Light Source operations on one screen
- Short event dead zone of ≤0.8 m and high dynamic range of 46 dB max.
- Power meter option for measuring optical power up to +30 dBm

## Note

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Specifications are subject to change without notice.


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