



Cercis



Beacon

▶ Volume 4, Issue 7

Putting Light to the Test

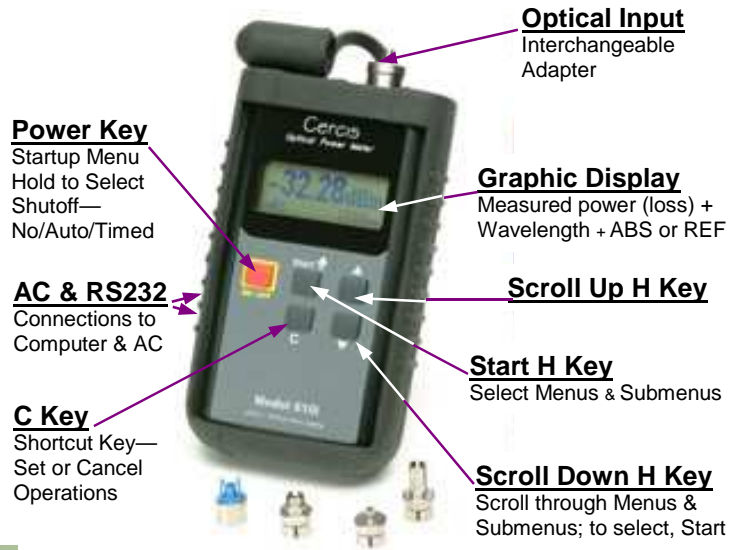
Cercis, Inc.

February 20, 2004

Model 610 Data Logging Optical Power Meter—On Sale Now!

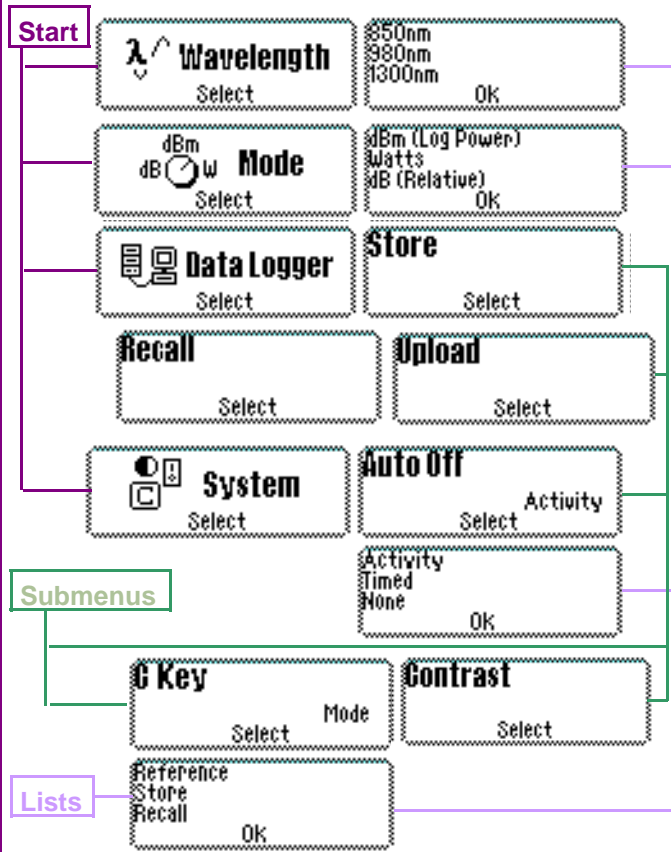
From February 20—June 1, 2004, Cercis Model 610i data-logging optical power meter is offered at the discounted price of \$750. Other versions—610S (Silicon 350-1100 nm); 610g (Germanium 750-1800 nm) & 610iH (High Power InGaAs) - are also on sale. All Cercis power meters include autoranging readout in nW, μ W, & mW + dB & dBm with reference store—plus a graphic display, interchangeable adapter port, and 9V battery + AC port. Included with each 610 power meter is: one interchangeable adapter (user can specify any one), a RS232 shielded DB9-to-3.5 mm male plug 1 meter cable, and instruction manual.

The 610 OPM is versatile for use in quality control, manufacturing or engineering environments. Data transfer to PC is possible via an RS232 port. Additionally, the instrument may be controlled via standard PC software—such as LabView[®], Visual C++[®] or Visual Basic[®]—to perform repetitive measurements.



Model 610 Power Meter

610 Menus, Submenus & Lists



Cercis 610 Series Data Logging Optical Power Meters are full-feature hand-held instruments which can store and recall up to 1000 separate data records—containing unique user-assigned label, power reading, reference value, calibration wavelength, operating mode, data and time — in the instrument's non-volatile memory.

Features

- 3 Modes: nW, mW, mW, dBm & dB with Relative Store
- Input Range: +5 to -70 dBm (varies by detector type)
- Digital Calibration (up to 8 calibration points per meter)
- Easily Readable Graphic Display, adjustable contrast

The 610 combines a state-of-the-art microprocessor with a graphic display. Operation is simple with 5 menu keys: ON/OFF, START, C, \uparrow and \downarrow .

A menu, submenu and list allows the user to label, store and recall measurements as needed. Cercis OPMS utilize a quick-connect fiber optical connector interface. All models are supplied with one adapter (default is 2.5 mm universal); others available separately.

Inside this issue:

610 OPM - January Sale	1
Custom Units - May We Build To Your Specs?	2
Comparison of Hand-Held Dual Laser Light Sources	3
Available Accessories	3
90–264 VAC Adaptor Interchangeable	4

Cercis Custom Units for Application-Specific Uses—May We Help You?

Handheld or Bench Top/Rack-Mount Units—Single or Multiple Sources with Power Meter or Fault Finder

Cercis welcomes inquiries for custom units which might require sources or detectors of different wavelengths than those ordinarily used in fiber optic communications. Typical sources might include Super-Luminescent Diodes (SLDs typically 780, 850, 1300 or 1550 nm) usually used in applications, such as gyroscopes and other optical sensing devices, requiring incoherent illumination properties. Other “non-standard” sources include laser diodes, LEDs or VCSEL devices which are required for organic or inorganic materials analysis or manipulation. Wavelengths may range from 400 nm blue lasers or LEDs to 2200 nm infrared lasers. Varying detectors for optical power measurement might include large-area (5,10,13 mm) InGaAs or Germanium, or integrating sphere to handle high-optical power inputs. As noted on Page 3, Cercis can fiber-couple sources—usually using hermetically sealed diodes in TO or CD cans—but we have worked with mini-stud or pill-pack packages. Variations in fiber coupling can also incorporate optical isolators or external thermo-electric coolers.

Typical Applications May Include— Medical Instrumentation

Cercis has supplied various light sources for medical applications. A few examples include: 660 nm (or 470, 530 nm) POF (1 mm core Plastic Optical Fiber) LED source. Optical interface can be FC & ST, as well as V-Pin, J-Pin and SMA. Similar instruments could be made to be used with other fiber types, including PCS (Plastic Clad Silica 200/240, 400/440 μm core/cladding, etc.), as well as standard conventional communications-type fibers: 9/125 singlemode, & 50/125, 62.5/125 or 100/140 μm multimode. Other single-mode variations are 3/125 or 5/125 for 650 or 780-850 nm sources, respectively.

Industrial/Avionics Military Multi-Pin Connector Test Sets

Cercis can develop custom test sets for use with the various multi-pin and/or hermaphroditic connectors used in avionics, military tactical, rugged and industrial applications. These instruments make testing these connector types easier and more accurate—by eliminating the need for break-out assemblies. Various sources—singlemode or multimode—can be used. See the following preview of the Model 5210 or 5310. Instruments can offer combinations of sources, along with an optical power meter and fault finder—to meet the needs of installers or production assembly technicians.

Laser Simulation & Special Requirements

Cercis has manufactured instruments for a variety of custom applications—including a handheld free-space laser simulator for testing of target acquisition devices. These applications can utilize 904 or 1064 nm laser diodes or eye-safe wavelengths of 1550 nm.

If you have a custom application, please contact Cercis to discuss your requirements.

LabView[®] is a registered trademark of National Instruments; Visual Basic[®] and C++[®] are registered trademarks of Microsoft.

Preview—Model 5210 & 5310 Optical Loss Test Sets

2–3 Instruments In 1 Small Hand-held . . .

. . . 2 Sources + Power Meter + Visible Fault Finder

The 5210 Series and 5310 Series are optical loss test sets which combine a dual laser (5210) or dual LED (5310) source with a power meter and a visible laser fault finder.

8 Keys Access All Functions

The functions are accessed via 8 keys on the front of the unit. Parameters—mode (dBm, n/ μ /mW), Calibrated Wavelength—are selected by the user, first for Channel 1, then for Channel 2. Combinations of industry-standard simplex and duplex (SC, LC) connectors are available to best suit the user. The 5210 or 5310 Optical Loss Test Set is housed in a 7.2” X 3.7” X 1.3” box with protective rubber holster, including retractable pedestal. Each unit has a battery pack 4—AA rechargeable NiMH batteries, plus external AC adapter/recharger. (Std. 120V AC adapter provided with each unit). As with all Cercis instruments, a proprietary click-on/click-off interchangeable adaptor is provided for the power meter port; the sources can be either fixed FC or interchangeable adapter(s). One power meter adapter is provided with each unit and 1 or 2 for each light source port—and user may specify type desired. ABS case with OLTs and accessory items, can be provided.

Features - Model 5210 & 5310 Optical Loss Test Sets

- 3 Modes: dBm & dB with Relative Store + n/ μ /mW (autoranging)
- Easy Readable Graphic Display (~2.7” X 1.5” W X H)
- Input Range: +6 to -70 dBm (InGaAs detector)
- LASERS: 1310/1550, 1550/1625, 850 VCSEL/1310 nm
- LEDs: 850/1300 nm
- ~15 hours 4 AA NiMH Rechargeable Battery Lifetime
- Protective Holster w/ Retractable Pedestal; Tethered Dustcap
- Ergonomic, Tactile Rubber Keys
- Custom Units for Avionics / Military or Multi-fiber Connectors

Key	Option	Description
POWER	On—Hold to select: Timed (default), Activity, or No Auto Shutoff	Timed: Auto off if no key for ~15 min. Activity: Auto off if no chg of 1 dB No Shutoff; VFF: activates fault finder
VFF		
MODE	Power Readout	dBm (absolute), dB (relative), n/ μ /mW
REF	Set Reference (zero) dB	Stores Relative Power Level (Zero Out); relative power readout displays in lower left
λ	Wavelength	Selects Calibration Wavelength
SOURCE	LED Source	Turns 1st or 2nd source on/off
1 or 2	Select Channel 1 or 2	Activates either Channel 1 or 2

Comparison of Dual Laser Light Sources

Manufacturer	Cercis	Noyes/Alcoa	Nettest	Tempo/Rifocs	Agilent
Model	520D-3511NA	OLS-3	GN-6250	262A / 262C	N3974A
Emitter (FP LD λ_c nm)	1310/1550	1310/1550	1310/1550	1310/1550	1310/1550
Optical Power	-10 dBm*	-10 dBm	-8 dBm	-8 dBm	-6 dBm
Fiber Types Interface / Endface	SM / MM PC / APC opt.	SM PC	SM / MM PC	SM / MM PC / APC opt.	SM PC
Modulation opt. (Hz)	270, 1000, 2000	2000	2000	270, 1000, 2000	270, 1000, 2000
Optical Port	Interchangeable** Click-on/off; 1 incl.	Fixed FC, ST or SC (choose one)	Fixed FC, ST or SC (choose one)	Interchangeable Snap-on/off; 1 incl	Fixed FC, ST or SC (choose one)
Stability (1 hr. max. deviation)	± 0.05 dB	± 0.05 dB	± 0.05 dB	± 0.05 dB	± 0.05 dB
Auto Shutoff / Shutoff Disable	Timed Shutoff (default) No Shutoff (user selectable)	Timed Shutoff (default)	Timed Shutoff (default)	Timed Shutoff (default)	Timed Shutoff (default)
Battery Type/Hrs	9 V*** / 50 hrs.	9 V*** / 50 hrs.	2 AA*** / ~ 50 hrs.	2 AA*** / 50 hrs.	2 C*** / 250 hrs.
Size (inches)	5.5 X 3.1 X 1.6****	7.0 X 4.1 X 1.6	6.3 X 3.3 X 1.3	5.6 X 2.8 X 1.4	7.9 X 5.4 X 2.9
Price	\$1800 (APC \$1800)	~\$3000	\$2985	\$3295 (APC \$3495)	\$4345

CONVERSION CHART AVAILABLE Pick up a handy Watts to dBm conversion chart—a convenient reference for anyone needing to calculate optical power in Watts from the dBm readout of power meters without Watt option. Or contact Cercis by phone, fax or EMAIL to request a conversion chart.

International 90-264V AC Interchangeable Adaptor Available

Cercis provides an interchangeable AC adaptor which is able to accept AC currents 90–264 V. The adaptor is supplied with interchangeable plugs, compatible with US, Europe, UK and Australian configurations.

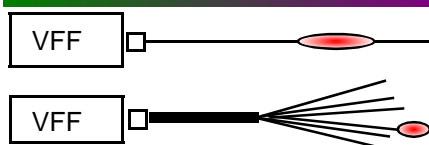
The A605 is a standard AC power supply with a negative center plug compatible with Cercis test instruments.

Interchangeable plugs compatible with US (A605A), UK (A605K), Europe (A605E) and Australia (A605S) electrical configurations snap on or off. Once the proper plug is attached, just plug it into the outlet and you're ready to use your Cercis power meter, light source of visual fault finder with any 90-264V AC worldwide.



Cercis A605 Interchangeable Adaptor – 90-264V AC, 47-63 Hz, 9V DC

Uses for a Visual Fault Finder



- Detect fiber breaks or microbends >5 km
- End-to-End fiber ID
- ID Fibers within multi-fiber cables
- Inspect Optical Elements for Cracks, Chips

*Output Power can be modified for enduser; standard output meets CDRH laser safety.
**Fixed FC optional.
***AC adapter available
****Holster & adapter included.

Information accurate to the best of our knowledge; specs obtained from publicly-available documents. Corrections will be made upon receipt of published data sheet from manufacturer.

Fiber-Coupling of LASERs, VCSELs, LEDs

Cercis fiber-couples its own lasers, VCSELs, and LEDs, beginning with commercially-available devices in TO cans. Most standard devices use either TO18 / TO 46 or 5.6 mm CD headers. Fiber coupling is done external to the hermetically sealed device using various singlet lenses. Fiber coupling gives Cercis the flexibility to provide its light sources with higher or lower optical output powers. For instance, 1310 or 1550 nm FP lasers can be provided with output powers of 100 mW (-10 dBm), 200 mW (-5 dBm), 500 mW (-3 dBm), 1 mW (0 dBm), or 2 mW (3 dBm). It also enables Cercis to use nonstandard or customer-provided fibers and/or sources to meet various application requirements.

All Cercis light sources used fiber coupled devices which, unlike active receptacle elements, mode strip the fiber—eliminating the need for an external mandrel-wrap. On a special-order, limited quantity basis, Cercis will provide fiber coupled devices—either standard or custom wavelengths or packages. Cercis standard (stocked) lasers include: 635, 850 VCSEL, 1310, 1550 & 1625 nm.



Features	Safety Approvals
Double Insulated	UL 1950, Class 2
Power-On LED	CSA 22.2 M950
Class B EMI	TUV EN60950 (In Process)



Cercis, Inc.

25 Rt. 31 S, Ste C 2030
 Pennington, NJ 08534
 TEL: 609-737-5120
 FAX: 609-564-0546
 EMAIL: info@cercis.com

**Putting Light
to the Test**

We're on the Web!
www.cercis.com

Add to Mailing List/Corrections

Name: _____

Company: _____

Address: _____

City: _____ State: _____ Zip: _____

Phone: _____ FAX: _____

EMAIL: _____

Primary Function: Engineering _____ Research _____

Technician _____ Scientist _____ Purchasing _____

Sales/Mktg _____ Management _____ Other _____

Do you plan to purchase any of the following during the next

1 mo _____ 3 mos _____ 6 mos _____ 1 yr _____

Light Source _____ OPM _____ VFF _____

Have a Cercis representative contact me. Add to mail list.

Tell us about a product which would be useful to you and why.

Before returning, please make sure you have:

- ▶ Provided full & legible company name & address or attached a business card) & completed the form

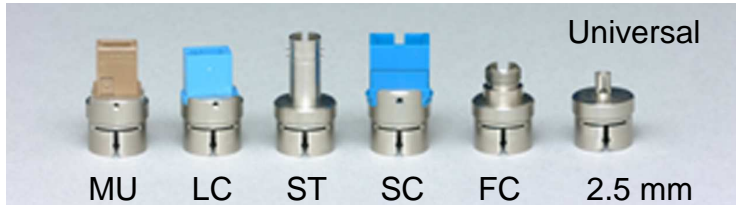
Custom/OEM requirements welcome. If you have a custom requirement for a fiber optic, medical, sensor, industrial or military application, please contact us. We have done custom meters for tactical and military multifiber connectors, a fiber-coupled instrument to replace a range finding laser, & 10 mW multi-laser station for 40 Gb/s detector screening.

Accessories—Bare Fiber Adapters, Mating Sleeves, Jumpers

Part No.	Description
B128FC,B125FC	FC Bare Fiber Adapter (SM/MM)
B125ST	ST Bare Fiber Adapter (SM/MM)
B125SC	SC Bare Fiber Adapter (SM/MM)
BA-FC	FC:FC Mating Sleeve (SM/MM) 2-D, Zir SS
BA-ST	ST:ST Mating Sleeve (SM/MM) Zir SS
BA-SC	SC:SC Mating Sleeve (SM/MM) Zir SS
BA-FC/ST	FC:ST Mating Sleeve (SM/MM) Zir SS
FC-1H1-FC	FC:FC Jumper, 1 m 9/125/900 μm SMF

Interchangeable Optical Adapters

Although interchangeable adapters for light sources and power meters are similar, they cannot be switched. The light source adapters have a large drilled hole to accommodate a split sleeve—simulating a connector mating sleeve. For 1.25 mm or other ferrules, a hybrid jumper or adapters can be used. The power meter adapters have a small drilled hole which stops the connector ferrule at a set distance from the detector—preventing damage to the window.



Connector	Light Source	Power Meter	Comments
2.5 mm	LS101	PM101	Compatible FC, ST, SC & any 2.5 mm ferrule
FC	LS102	PM102	PM: PC, APC, UPC LS: PC, UPC (APC order)
ST	LS103	PM103	PM: PC, APC, UPC LS: PC, UPC (APC order)
SC	LS104	PM104	PM: PC, APC, UPC LS: PC, UPC (APC order)
LC	LS105*	PM105	PM: PC, APC, UPC LS: PC, UPC (APC order)
SMA	-	PM106	PM: SMA connector

*Light sources using 1.25 mm connectors must be used only for those connectors; not interchangeable with 2.5 mm

OFC 2004 Los Angeles Convention Center—Los Angeles, CA
 Cercis products will be exhibited at New England Fiberoptic Council Booth #1205 at the Optical Fiber Communications Conference. Exhibits are open February 24–26; hours are Tues 10:00a–5:00p; Wed 9:00a-5:00p; & Thurs 10:00a-4:00p.

Yes, We Accept Credit Cards—VISA, MC, Amex



Cercis accepts credit card orders.

We are able to process all major credit card types, including VISA, Mastercard, American Express, and others.

To assist its customers with measurement of optical components, Cercis provides accessories for use with fibers and connectors. Items such as bare fiber adapters, standard and hybrid mating sleeves, jumpers and custom assemblies are supplied from stock or by request. To

To prevent scratches, it is advisable that bare fiber adapters be mated to jumpers rather than to instruments directly. Bare fiber adapters allow the user to strip the fiber, insert it into the adapter, then cleave it—providing a quick fiber termination. However, the cleaved fiber could damage a mated component.



Cercis Bare Fiber Adapter