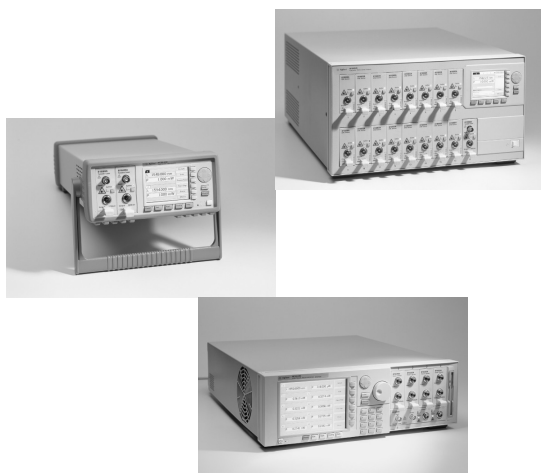
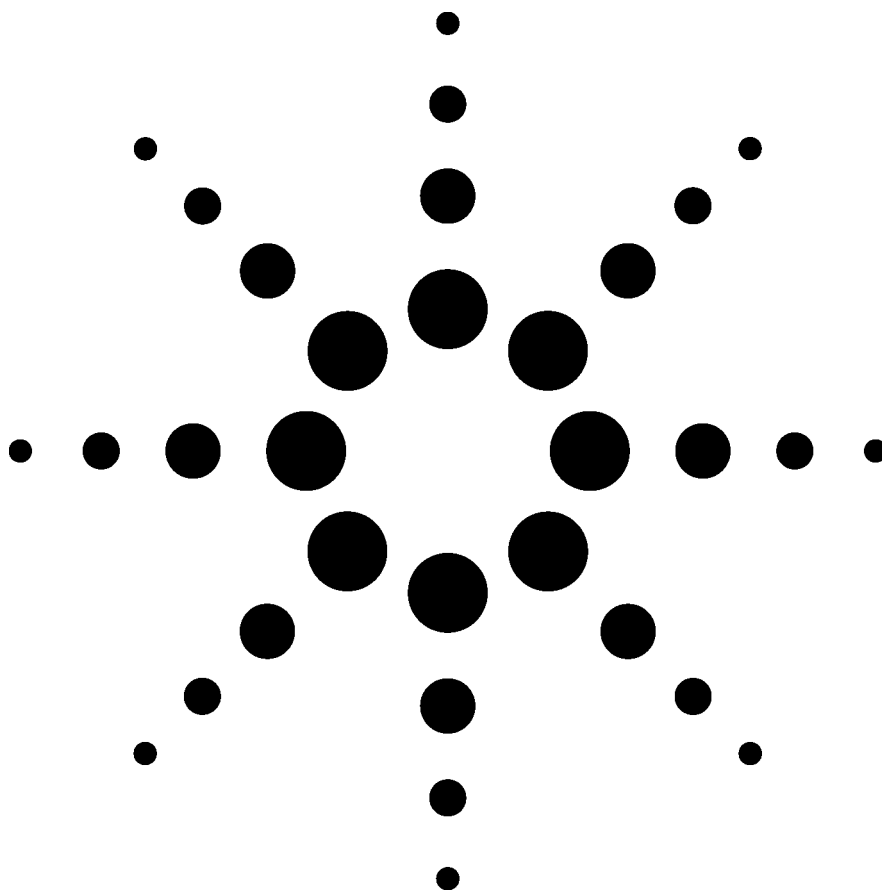


Agilent Lightwave Solution Platform

Configuration Guide
July 2004



This guide provides configuration details for the Agilent 816xB family of mainframes and modules, including options and accessories.



Agilent Technologies

8163B Lightwave Multimeter



Main features:

- Ideal for laboratory and portable usage
- 2 compact module slots
- Built in applications:
Return Loss, Passive Component Test, Stability, Logging
- GPIB Interface for remote control
- Full backward compatibility for 815xx and 816xx series modules.

8164B Lightwave Measurement System



Main features:

- Ideal for laboratory or rack mount usage for state-of-the-art applications
- 1 extended module slot for back-loadable tunable laser sources
- 4 compact module slots
- Built in applications:
Passive Component Test, Stability, Logging
- Integrated floppy disk for direct setup and data access
- GPIB Interface for remote control
- Full backward compatibility for 815xx and 816xx series modules.

8166B Lightwave Multichannel System



Main features:

- Ideal for laboratory or rack mount usage for applications that require high port counts
- 17 compact module slots
- GPIB Interface for remote control
- Backward compatibility for 8156x, 8157x, 8159x and 816xx series modules.

Mainframe and Module Firmware:

➡ For Firmware upgrades and download tools see <http://www.agilent.com/comms/octfirmware>

Module compatibility

		8163B Slots 1 – 2	8164B Slot 0	8164B Slots 1 – 4	8166B Slots 1 – 17
81600B TLS family #200, #160, #150, #140, #130 low SSE #142, #132 high power	page 4 page 4		X X		
81980A compact TLS	page 5	X		X	X
81940A compact TLS	page 5	X		X	X
81989A compact TLS	page 5	X		X	X
81949A compact TLS	page 5	X		X	X
81944A compact TLS	page 5	X		X	X
81662A DFB source module	page 6	X		X	X
81663A DFB source module	page 6	X		X	X
81650A FP source module	page 7	X		X	X
81651A FP source module	page 7	X		X	X
81654A FP source module	page 7	X		X	X
81655A FP source module	page 7	X		X	X
81656A FP source module	page 7	X		X	X
81657A FP source module	page 7	X		X	X
81630B power measurement module	page 8	X		X	X
81634B power measurement module	page 8	X		X	X
81635A power measurement module	page 8	X		X	X
81636B power measurement module	page 8	X		X	X
81618A interface module	page 9/10	X		X	X
81619A dual interface module	page 9/10	X		X	X
81623B optical head	page 9	X		X	X
81624B optical head	page 9	X		X	X
81626B high power optical head	page 9	X		X	X
81628B high power optical head with integrating sphere	page 10	X		X	X
81610A return loss module	page 11	X		X	X
81613A return loss module	page 11	X		X	X
81570A attenuator module (SM)	page 12	X		X	X
81571A attenuator module (SM)	page 12	X		X	X
81573A attenuator module (pigtail)	page 12	X		X	X
81576A attenuator module with p/c	page 12	X (dual)		X (dual)	X (dual)
81577A attenuator module with p/c	page 12	X (dual)		X (dual)	X (dual)
81578A attenuator module (MM)	page 12	X		X	X
81591B optical switch module 1x2	page 13	X		X	X
81594B optical switch module 2x2	page 13	X		X	X
81595B optical switch module 1x4	page 13	X		X	X

Legacy Module compatibility

The discontinued 8163A, 8164A and 8166A mainframes are functionally compatible with the B versions.

		8163B Slots 1 – 2	8164B Slot 0	8164B Slots 1 – 4	8166B Slots 1 – 17
814xxA/B backloadable TLS modules			X		
816xxA/B backloadable TLS modules			X		
816xxA/B compact TLS modules		X		X	X
Other 816xx series modules		X		X	X
8156xA attenuator modules		X		X	X
8159xA/S switch modules		X		X	X
All other 815xx series modules		X		X	

81600B Tunable Laser Source family

OPTIONAL

MANDATORY AND MUTUALLY EXCLUSIVE

For Laser Safety information see page 14



Tunable Laser Sources Low SSE modules

81600B #200:
1440 nm – 1640 nm
81600B #160:
1495 nm – 1640 nm
81600B #150:
1450 nm – 1590 nm
81600B #140:
1370 nm – 1495 nm
81600B #130:
1260 nm – 1375 nm

Tunable Laser
Sources

Outputs:
Low SSE and
High Power

Tunable Laser
Sources

Outputs:
High Power
only

Tunable Laser Sources High Power modules

81600B #142:
1370 nm – 1495 nm, +8.5 dBm
81600B #132:
1260 nm – 1375 nm, +9 dBm

81600B-003
with built-in
attenuator
(81600B #142 only)

81600B-071
PMF Straight
contact connector

81600B-072
PMF Angled
contact connector

Connector Interfaces for straight connectors

2 ea required for 81600B
#200, 160, 150, 140, 130.
1 ea required for 81600B
#142, 132.

Connector Interfaces
for straight
connectors

Connector Interface for angled connectors

2 ea required for 81600B
#200, 160, 150, 140, 130.
1 ea required for 81600B
#142, 132.

Connector Interfaces
for angled
connectors

81000FI FC/PC
81000HI E-2000/PC
81000KI SC/PC
81000LI LC/PC
81000MI MU/PC
81000SI DIN 47256/PC
81000VI ST/PC



81000FI FC/APC key width 2.2 mm
81000NI FC/APC key width 2.0 mm
81000HI E-2000/APC
81000KI SC/APC
81000LI LC/APC
81000MI MU/APC
81000SI DIN 47256/APC

Note: 81600B - 072 is highly recommended over 81600B - 071 to reduce front-panel reflections, which will greatly reduce interference noise and spectral ripple in the test setup.

High Power Compact Tunable Laser Source modules

OPTIONAL

MANDATORY AND MUTUALLY EXCLUSIVE

For Laser Safety information see page 14



High Power
Compact
Tunable Laser Source
module

High Power Compact Tunable Laser module

81980A Compact Tunable Laser 1465 nm – 1575 nm
81940A Compact Tunable Laser 1520 nm – 1630 nm
81989A Compact Tunable Laser 1465 nm – 1575 nm
81949A Compact Tunable Laser 1520 nm – 1630 nm

81944A Compact Tunable Laser 1525 nm – 1625 nm for PMD tester system N3909A

819xxA-071
PMF
Straight contact
connector

819xxA-072
PMF
Angled contact
connector

Connector Interfaces for straight connectors

1 ea required

81000FI FC/PC
81000HI E-2000/PC
81000KI SC/PC
81000LI LC/PC
81000MI MU/PC
81000SI DIN 47256/PC
81000VI ST/PC

Connector
Interfaces for
straight connectors



Connector
Interfaces for
angled connectors



Connector Interfaces for angled connectors

1 ea required

81000FI FC/APC key width 2.2 mm
81000NI FC/APC key width 2.0 mm
81000HI E-2000/APC
81000KI SC/APC
81000LI LC/APC
81000MI MU/APC
81000SI DIN 47256/APC
81000VI ST/APC

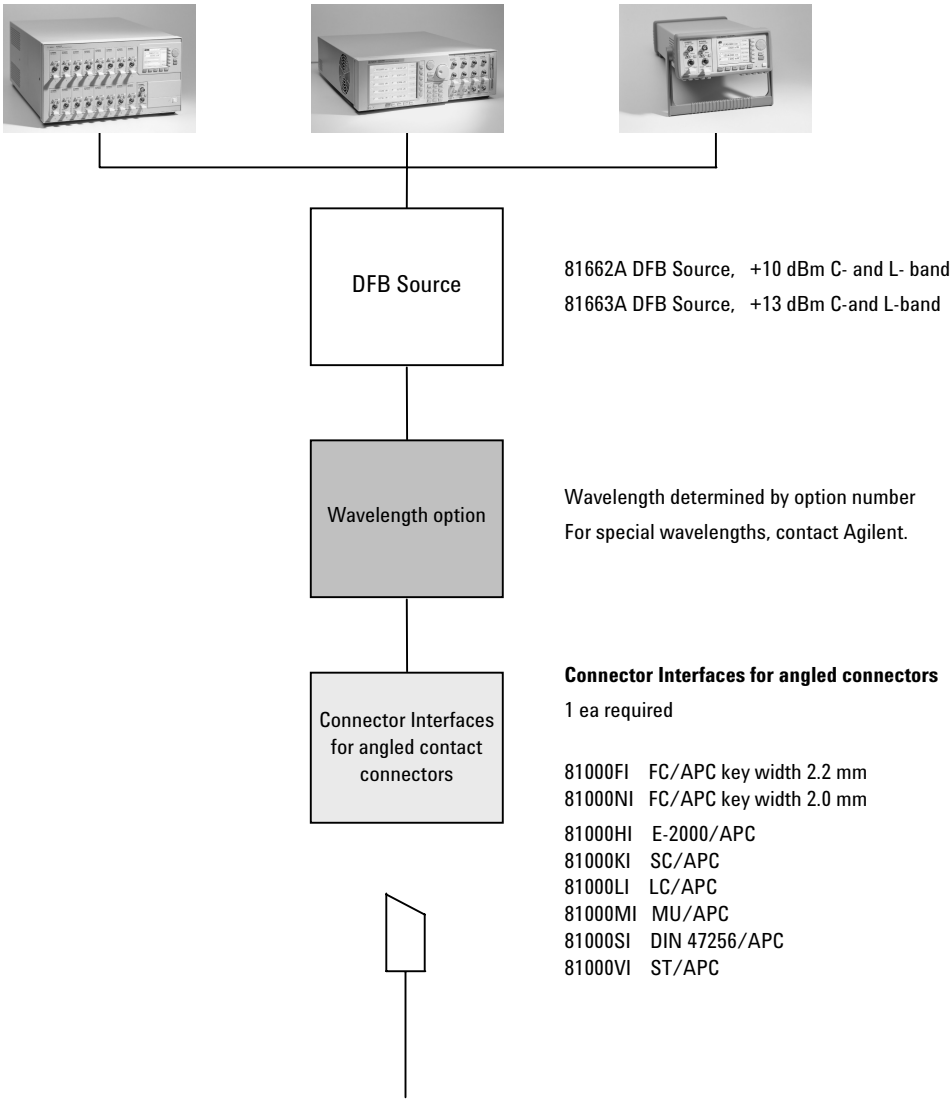
Note: 819xxA - 072 is highly recommended over 819xxA - 071 to reduce front-panel reflections, which will greatly reduce interference noise and spectral ripple in the test

DFB Source modules

OPTIONAL

MANDATORY AND MUTUALLY EXCLUSIVE

For Laser Safety information see page 14



For Laser Safety information see page 14



Source Modules

SMF,
Straight contact
interface

Connector
Interfaces for
straight
connectors



FP High Power Source Modules 13 dBm

- 81655A 1310nm
- 81656A 1550 nm
- 81657A 1310/1550 nm

FP Standard Source Modules 3 dBm

- 81655A #E01 850 nm

FP Standard Source Modules 0 dBm

- 81650A 1310 nm
- 81651A 1550 nm
- 81654A 1310/1550 nm

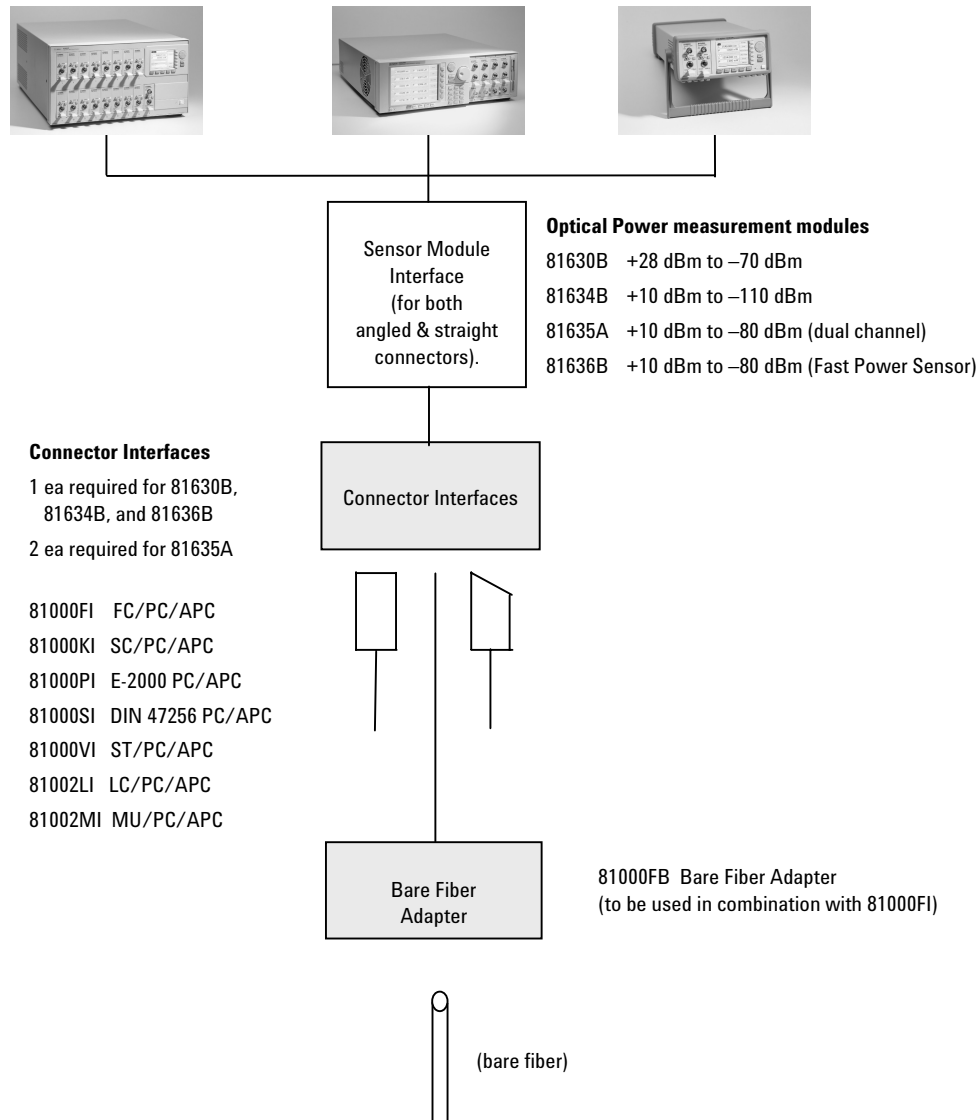
Connector Interfaces for straight connectors

1 ea required

- 81000FI FC/PC
- 81000HI E-2000/PC
- 81000KI SC/PC
- 81000LI LC/PC
- 81000MI MU/PC
- 81000SI DIN 47256/PC
- 81000VI ST/PC

Optical Power Measurement modules

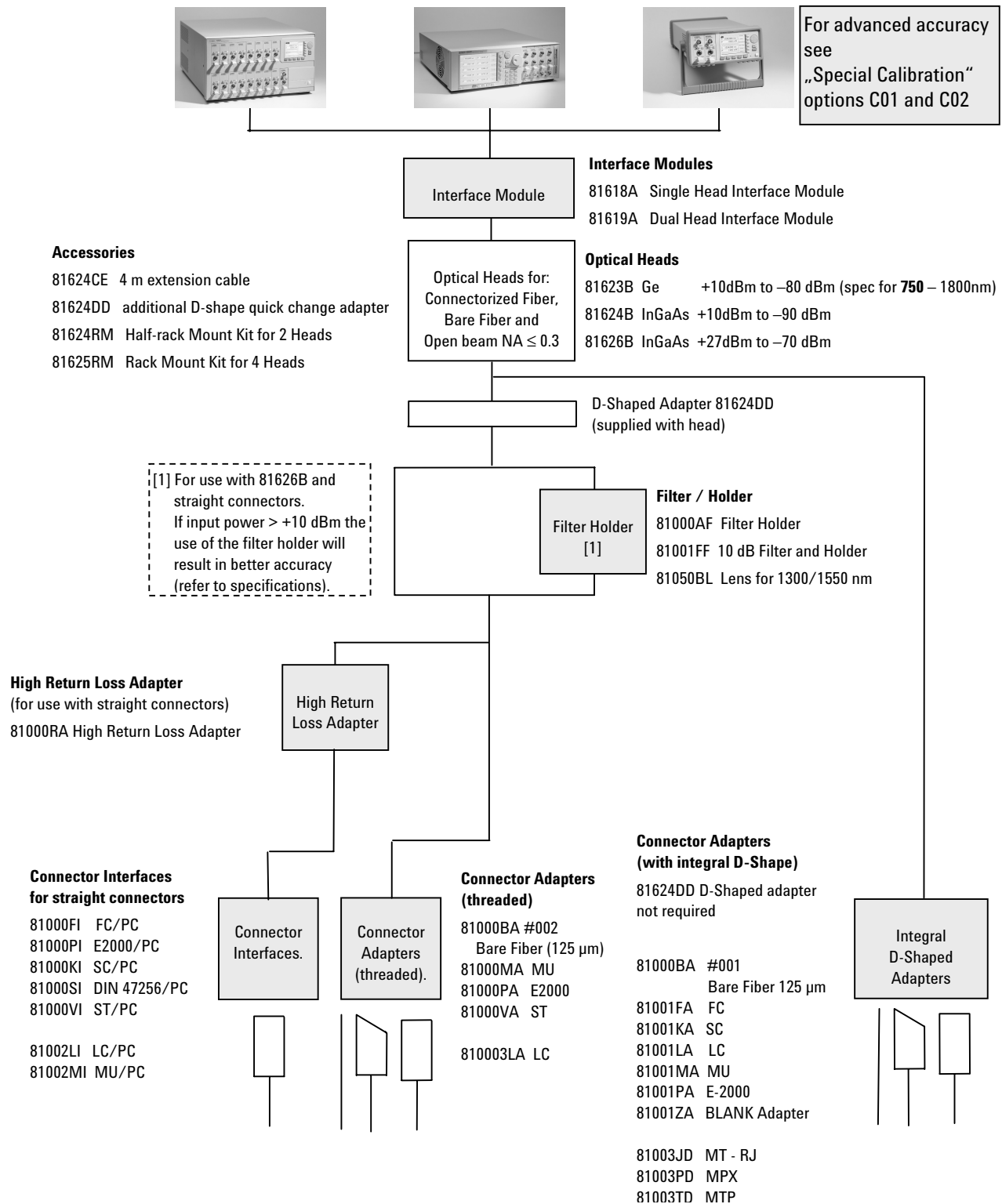
OPTIONAL



Note: All sensor inputs are non-contact and accept both straight and angled connectors.

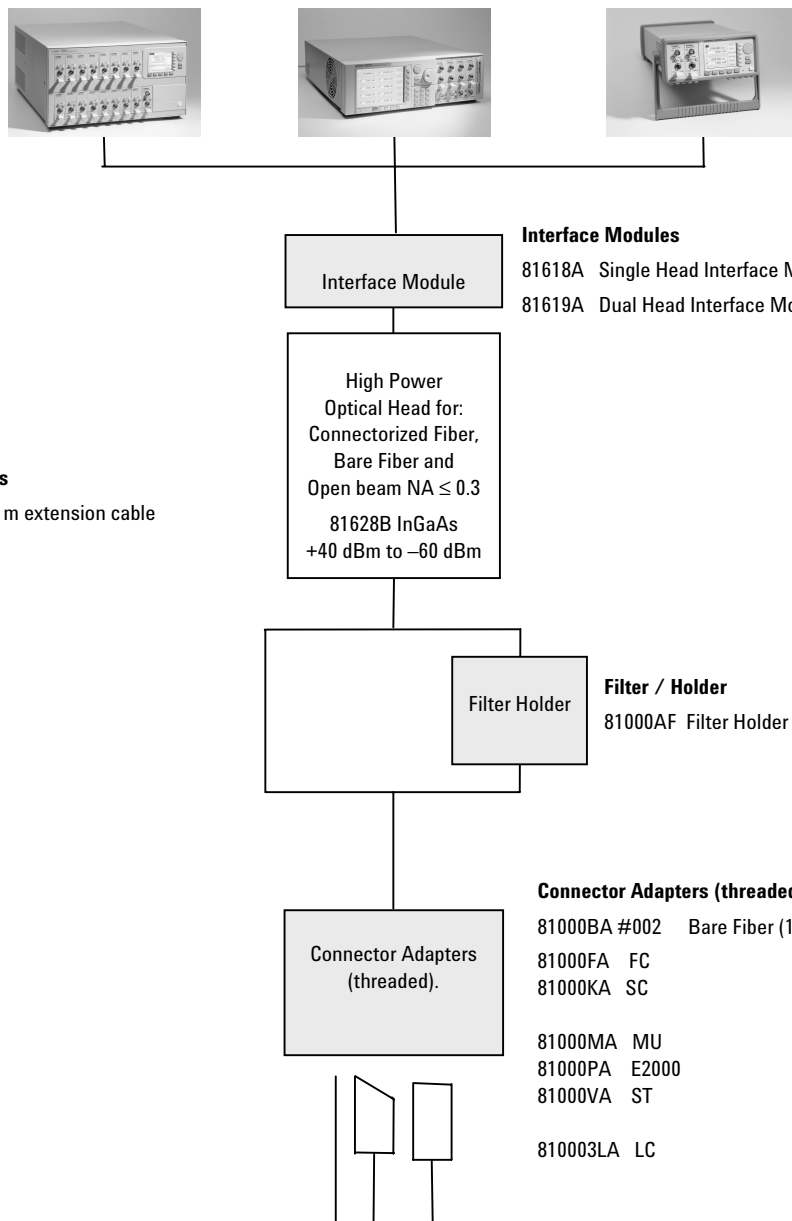
Optical Heads (5 mm sensor)

OPTIONAL



High Power Optical Head (with integrating sphere)

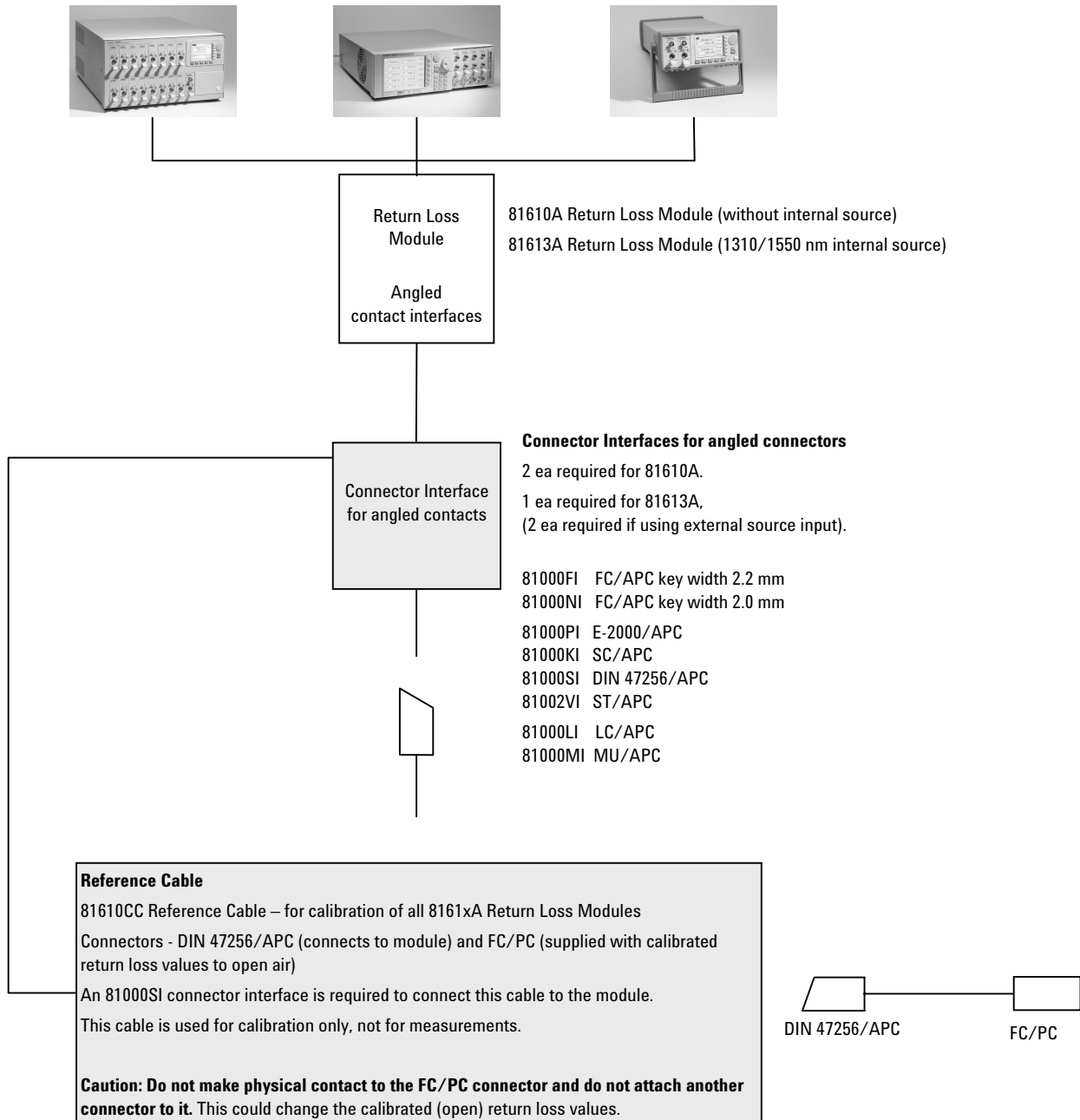
OPTIONAL



Return Loss modules

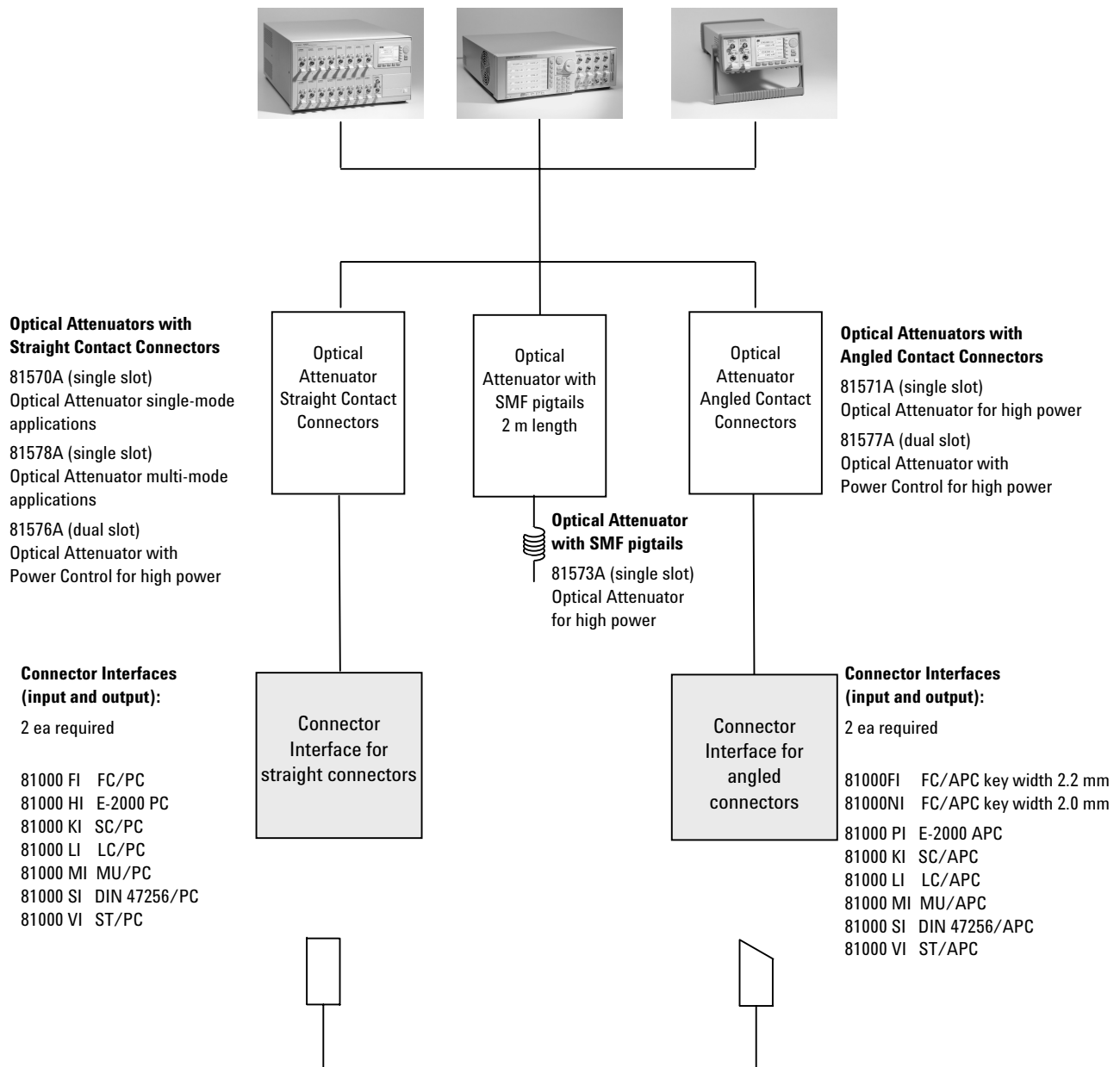
OPTIONAL

For Laser Safety information see page 14



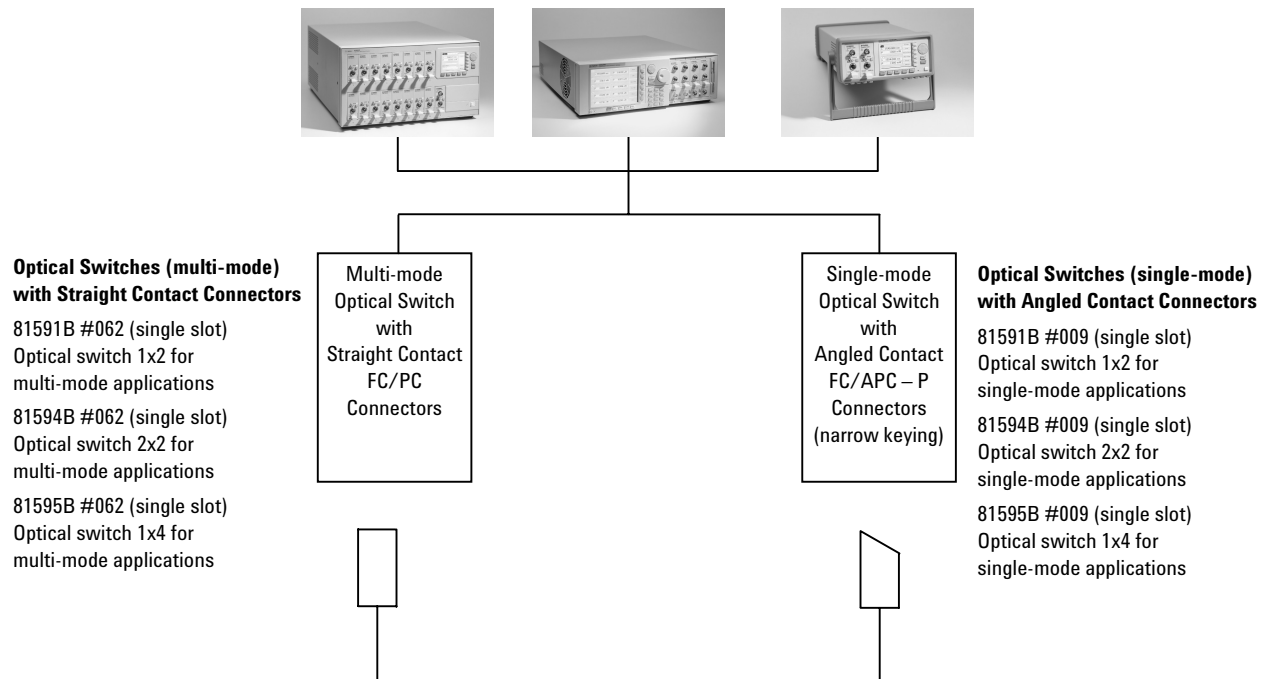
Optical Attenuator modules

OPTIONAL



Optical Switch modules

OPTIONAL



Laser Safety Information

81613A 1310/1550nm RL

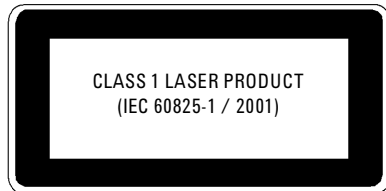
81650A 1310 nm FP

81651A 1550 nm FP

81654A 1310/1550 nm

The laser sources listed directly above are classified as Class 1 according to IEC 60825-1 (2001).

All laser sources comply with 21 CFR 1040.10 except for deviations pursuant to Laser Notice No. 50, dated 2001-July-26.



81655A #E01 850 nm FP

81655A 1310 nm FP

81656A 1550 nm FP

81657A 1310/1550 nm FP

81662A C- and L-Band DFB

81663A C-band DFB

81600B #200 1440 nm – 1640 nm All-band TLS

81600B #140 1370 nm – 1495 nm low SSE TLS

81600B #150 1450 nm – 1590 nm low SSE TLS

81600B #160 1495 nm – 1640 nm low SSE TLS

81600B #130 1260 nm – 1375 nm low SSE TLS

81600B #132 1260 nm – 1375 nm high power TLS

81600B #142 1370 nm – 1495 nm high power TLS

81940A 1520 nm – 1630 nm compact TLS

81944A 1525 nm – 1625 nm compact TLS

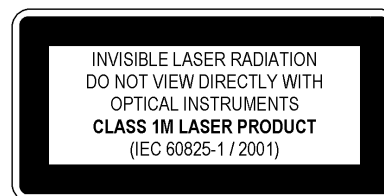
81949A 1520 nm – 1630 nm compact TLS

81980A 1465 nm – 1575 nm compact TLS

81989A 1465 nm – 1575 nm compact TLS

All laser sources specified directly above are classified as Class 1M according to IEC 60825-1 (2001).

All laser sources comply with 21 CFR 1040.10 except for deviations pursuant to Laser Notice No. 50, dated 2001-July-26.



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Agilent Technologies' Test and Measurement Support, Services, and Assistance

Agilent Technologies aims to maximize the value you receive, while minimizing your risk and problems. We strive to ensure that you get the test and measurement capabilities you paid for and obtain the support you need. Our extensive support resources and services can help you choose the right Agilent products for your applications and apply them successfully. Every instrument and system we sell has a global warranty. Support is available for at least five years beyond the production life of the product. Two concepts underlie Agilent's overall support policy: "Our Promise" and "Your Advantage."

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Your Advantage means that Agilent offers a wide range of additional expert test and measurement services, which you can purchase according to your unique technical and business needs. Solve problems efficiently and gain a competitive edge by contracting with us for calibration, extra-cost upgrades, out-of-warranty repairs, and on-site education and training, as well as design, system integration, project management, and other professional engineering services. Experienced Agilent engineers and technicians worldwide can help you maximize your productivity, optimize the return on investment of your Agilent instruments and systems, and obtain dependable measurement accuracy for the life of those products.

By Internet, phone, or fax, get assistance with all your test & measurement needs

Online assistance:

www.agilent.com/comms/lightwave

For related literature, please visit:

www.agilent.com/comms/octmainframes

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