



Optical Variable Attenuator AQ3150



High attenuation accuracy and superb repeatability for a wide range of applications

The AQ3150 Optical Variable Attenuator provides high performance and programmable operation, with an attenuation range from 0 to 60 dB in 0.001 dB steps without interrupting the light,

Offering excellent attenuation accuracy and return loss, support for high-power applications and low polarization dependant loss, here is the ideal instrument for development of WDM systems, EDFA and other optical devices, as well as for automated measurement systems on the manufacturing inspection line.

Available in three types: 3150 (0) Basic type

3150 (2) With monitor output

3150 (3) High return loss type

Features

- **0.001 dB step resolution.**
- **± 0.1 dB attenuation accuracy and excellent repeatability (typical ± 0.005 dB0 for reliable measurement)**
- **Low polarization dependant loss (typical 0.05 dB P-P).**
- **High-power input support for measurement of EDFA**
- **Comes with variable back reflector function to control reflected light**
- **High return loss (45 to 65 dB)**
- **Accurate output power control through communication with the AQ2140 & AQ3150 [1]**

Applications

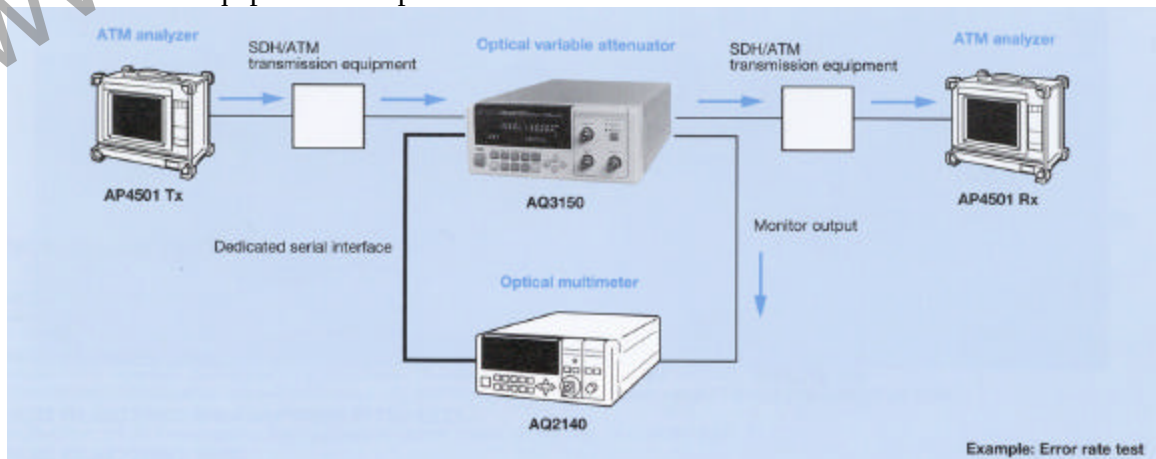
■ High-Precision output power and level adjustment

With low polarization dependency, high attenuation accuracy and excellent repeatability, the required light source output power can be easily obtained



■ High-Stability attenuation light

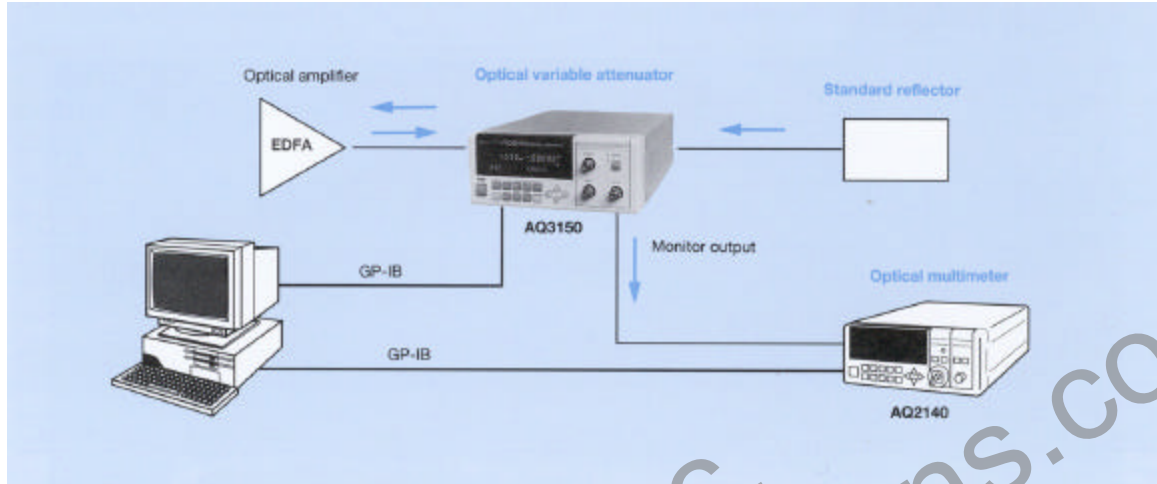
The optical output of the optical variable attenuator can be monitored with an optical multimeter and the data feed back through a dedicated interface to yield high-stability variable-attenuation output. This is invaluable in adjusting the optical transmission and reception levels in optical communication equipment and optical devices.



Example: Error rate test

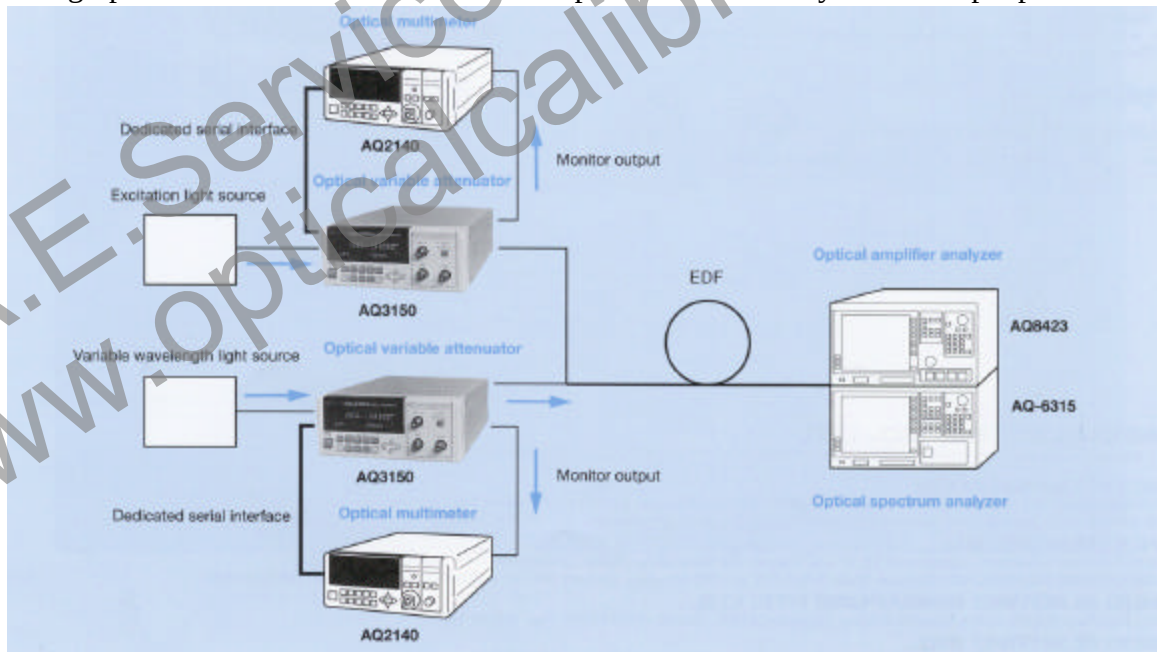
■ EDFA recovery/shut-down test

Can be used as a variable back reflector when combined with a standard reflector. This function allows program control of reflected light with 0.001 dB resolution. The reflected light is returned to the EDFA and the amplifier output level can be monitored with an optical multimeter to observe the recovery/shut-down of EDFA, the data of reflection vs. power can be plotted out as well.



■ EDFA system development

An optical variable attenuator with a high permissible input power is best for evaluating EDFA gain and NF. And if the system is constructed with an optical multimeter, the through-power function can be used to control power and accurately set EDF input power.



Specifications

Model	AQ3150 (0):standard	AQ3150 (1): w/ monitor output	AQ3150 (2): high-return loss
Wavelength range [1]	1200 to 1650nm		
Insertion loss [2]	2.5dB or less	3.3dB or less	2.5 or less
Maximum attenuation level	60dB		
Attenuation accuracy [3]	±0.1dB		
Repeatability	±0.01dB		
Typ. Repeatability	±0.005dB		
Minimum attenuation step	0.001dB		
Switching time	500ms		
Return loss [3]	45dB or more [4]	60dB or more [5]	
Typ. Polarization dependant loss [6]	0.05dB P-P	0.1dB P-P	0.1dB P-P
Maximum input power	+23dBm		
Typ. Monitor output [7]	—	13.8dB (optical output/monitor output)	—
Shutter isolation	100dB		
Applicable fiber	SM 10/125μm		
Optical connector	Aq9334 [*] Universal Adapter (option) [8]		SC-Angled PC [9]
GP-IB	Complies with IEEE-488		
Power requirements	AC 100 to 240V, 50/60Hz, 60VA or less		
Environmental conditions	Operating temperature, 0 to +50°C; Storage temperature, -25 to +70°C; Humidity, 85% RH or less		
Dimensions and mass	Approx. 214 (W) × 88 (H) × 349 (D) mm, approx. 3kg		
Accessories	Power supply cord (approx. 3m), 1 ea.; connection cord, 1 ea.; instruction manual, 1 ea		

Options

AQ9434 [*] Universal Adapter.

Note:* is connector type. Specify FC, SC, ST, DIN or HMS-10.

Notes: 1-5 with master fiber cord.

[1] Range for which insertion loss is assured to be +1dB or less

[2] Wavelength 1310/1550 nm, at 23 ± 1°C.

[3] Wavelength 1310/1550 nm, at constant temperature.

[4] Dependant on connector used (using Angled PC connector with return loss of 48dB or more).

[5] Dependant on connector used (using Angled PC connector with return loss of 63dB or more).

[6] Wavelength 1550nm

[7] Wavelength 1310nm

[8] * Is connector type. AQ3150 (0) requires two and AQ3150 (1) requires three connectors of types FC, SC, ST, DIN or HMS-10.

[9] Seikoh giken manufacture.

Specifications are subject to change without notice.

ANDO ELECTRIC CO.,LTD.

19-7, KAMATA 4-chome, Ota-ku, Tokyo, 144 japan Phone: (03) 3733-1151 Fax (03) 3739-7310

ANDO CORPORATION

HEADQUARTERS: 2021 N. Capital Avenue, San Jose, CA 95132, U.S.A. Phone: (408) 941-0100 Fax: (408) 941-0103

EAST OFFICE: 7617 Standish Place, Rockville, MD 20855, U.S.A. Phone: (301) 294-3365 Fax: (301) 294-3359

ANDO EUROPE B.V.

HEADQUARTERS: "Vijverdam", Dalsteindreef 57, 1112XC Diemen, The Netherlands Phone: 020-6981441 Fax: 020-6998938

NIEDERLASSUNG DEUTSCHLAND: Dachauer StraBe 340,1. OG, D-80993 Muchen, Germany Phone: 089-1438150 Fax: 089-14381555

ANDO ELECTRIC SINGAPORE PTE.LTD.

19 Kim Keat Road #05-03, Jumbo Industrial Building, Singapore 328804 Phone: 251-1391 Fax: 251-1987

ANDO ELECTRIC INCORPORATION

5F-2, No 81, Nan-ta Road, Hsin-chu City, Taiwan Phone: (35) 614131 Fax: (35) 614130