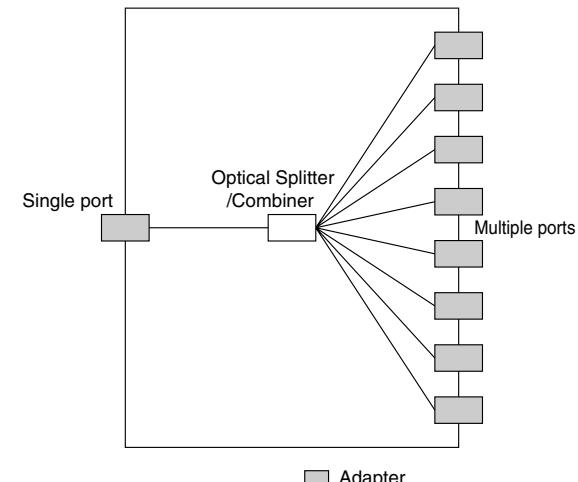


# Waveguide Type Optical Splitter/Combiner

## WS-U Series



\* Shown with 1 port x 16 ports.



Optical Path Outline

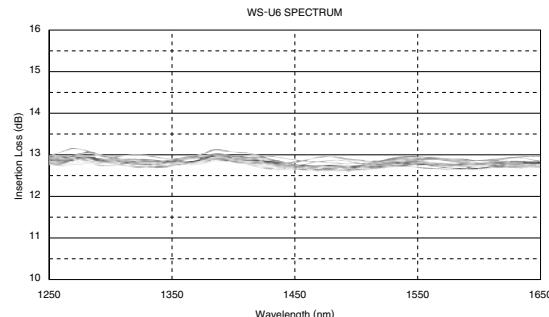
### ■ Overview

The device splits single input line into several output lines or combines several input lines into a single output line.

### ■ Features

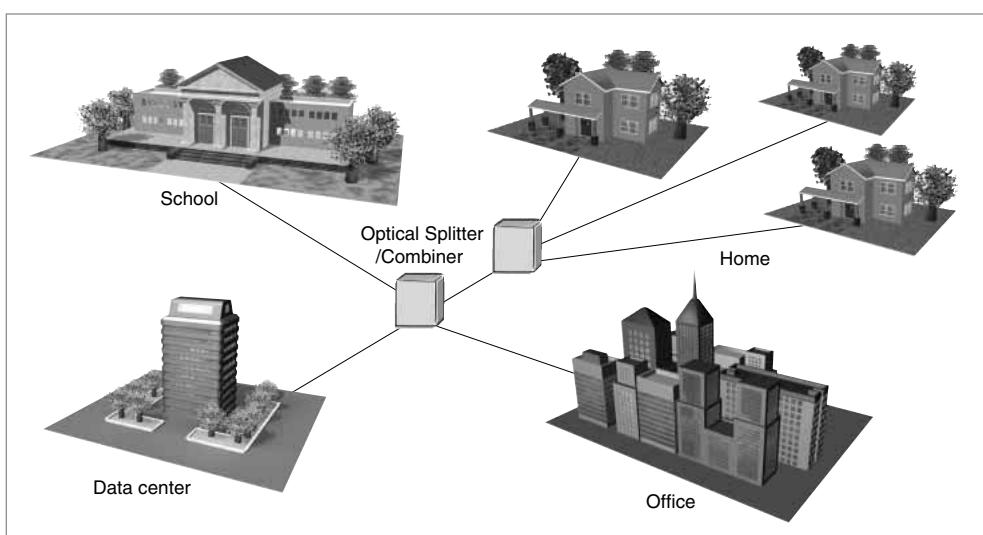
1. Low insertion loss
2. Flat insertion loss
3. High reliability
4. Ease of connections with standard fiber optic connectors
5. Meets requirements of Telcordia GR-1209-CORE.
6. Can be made in different outer case configurations, different number or type of input / output ports and fiber polishes.

### ■ Wave length characteristic



### ■ Applications

Branch component of a fiber-optic communications network, experimental fiber-optic devices and any other application requiring highly reliable splitting or combining of optical lines.



Conceptual application in a communication network

MU

SC

FC

Harsh Environment

Attenuators

Terminators

Splitter

## Specifications

Ratings	Operating temperature range Applicable optical cable	-25°C to +70°C SSMA-9.5/125	Storage temperature range	-25°C to +70°C
Structure	Item		Test Method (Telcordia GR-1209-CORE)	
	Appearance, construction and dimensions		Verify visually and with measuring instruments.	
Indication		Check visually.		Must comply with applicable drawings.
Optical Performance	Insertion Loss	Measured with a stable light source having a center wavelength of 1310 ±30 nm and 1550 ±30 nm.	14.0 dB max. (16 ports)	
		Measurement method		
	Uniformity (flatness)	Difference between maximum and minimum insertion loss values of each port. (Wavelength of 1310 nm and 1550 nm)	1.0 dB max. (16 ports)	
Return Loss	Return Loss	Measured with an LD having a center wavelength of 1310 ±30 nm and 1550 ±30 nm.	40 dB min.	
		Measurement method (Coupler)		
	PDL	Amount of fluctuation when the polarization of the light source is changed with a measurement system equivalent to the insertion loss. (Wavelengths of 1310 and 1550 nm)	0.3 dB max. (16 ports)	
Directivity	Directivity	Measured with an LD having a center wavelength of 1310 ±30 nm and 1550 ±30 nm.	55 dB min.	

	Item	Test Method (Telcordia GR-1209-CORE)	Standard
Mechanical Performance	Durability (input/output port connectors)	Mating / unmating 500 cycles (JIS C 5961)	① Insertion loss fluctuation after the test: 0.2 dB or less ② There shall not be any damage, cracks, or part looseness.
	Vibration	Frequency: 10 to 55 Hz, 0.75 mm single amplitude, 20 minutes in each of 3 directions.	① Insertion loss fluctuation after the test: 0.5 dB or less ② There shall not be any damage, cracks, or part dislocation.
	Shock	Acceleration of 490 m/s <sup>2</sup> (50 G), 11 ms operation time, sine half-wave, twice in both directions of each of the 3 axes (12 times). (Conditions: 0.225 kg < product mass < 1 kg)	② There shall not be any damage, cracks, or part dislocation.
Environmental Performance	Humidity (Steady state)	168 hours (7 days) at a temperature of 85°C and humidity of 85% RH.	① Insertion loss fluctuation after the test: 0.5 dB or less ② There shall not be any damage, cracks, or part dislocation.
	Humidity (Temperature / humidity, cycles)	42 cycles (total of 336 hours) at a temperature of -40°C to 85°C and humidity of 25 to 85% RH.	
	Temperature Cycles	Temperature of -40°C to 70°C, 10 cycles.	
	Low-temperature	Temperature of -40°C for 240 hours.	
	Immersion	Temperature of 43°C in distilled water for 168 hours. (Test with internal splitter single unit)	

## Materials

Parts	Material
Outer case/internal components	Steel / synthetic resin
Optical splitter (internal)	Stainless steel, quartz and silicon resin
Optical connectors	Synthetic resin and zirconia

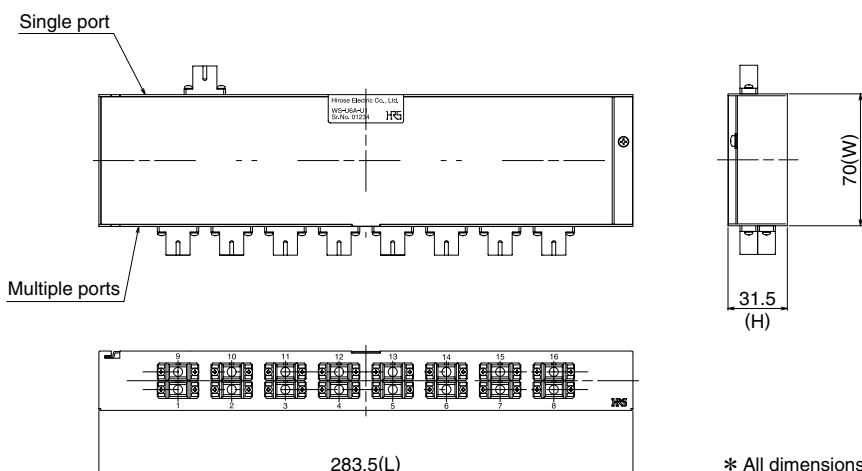
\* Materials are subject to change depending on the outer case and connector specifications.

## Ordering information

WS - U 6 A - U 1

① Series name	WS-U
② Number of ports	6: 16
③ Outer case size(H x L x W)	A: 31.5 × 283.5 × 70
④ Connector	U: SC
⑤ Fiber end polishing:	1: AdPC 2: UPC

Part number	CL No.	Number of ports	Insertion Loss	Return Loss	RoHS
WS-U6A-U1	830-0100-2	16	≤14.0dB	≥40dB	YES



\* All dimensions in mm.

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