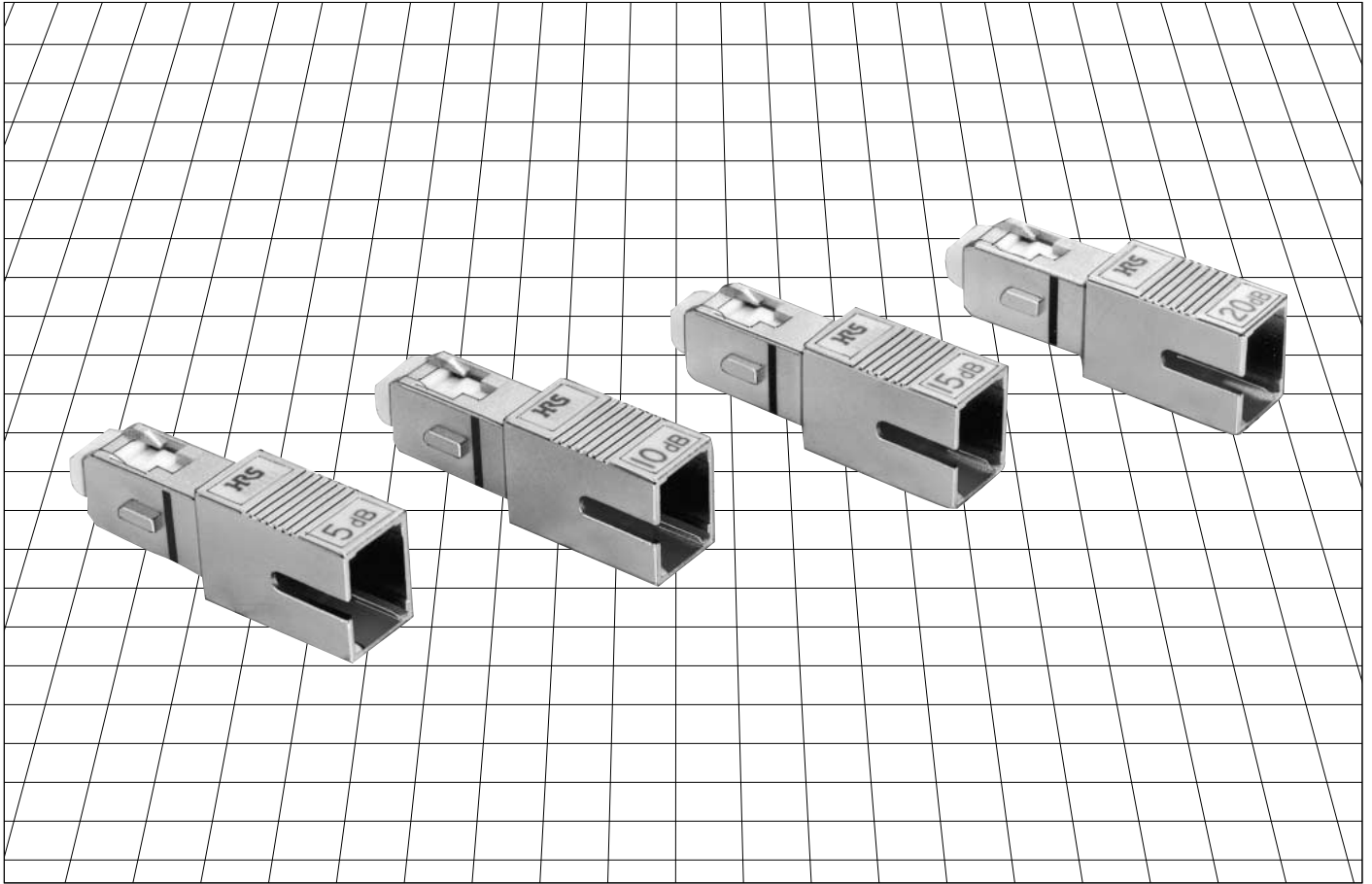


SC Type Fixed Attenuators



■ Features

1. Maximum input power for SM : 250mW
2. Attenuation level : 0,1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,20,25,30 dB
3. Dual wavelengths : 1310 nm and 1550 nm
4. User friendly push-pull mechanism
5. Please contact us if you have any requests. Hirose will offer excellent solutions to meet your requirements.

■ Applications

Power level adjustment of optical fiber communication networks.

Product Specifications

High Power SC-Type Fixed Attenuator (Max. input power: 250mW)

| Ratings | | Operating temperature range | -40°C to +75°C | Storage temperature range | -40°C to +85°C |
|---|--|--|------------------|---|----------------|
| | | Max. Input Power | 250mW | Fiber type | SM |
| Item | | Test Method | | Requirements | |
| Optical Characteristics | Attenuation | Measurement at a point within wavelength of 1310 ± 30 nm and a point within wavelength of 1550 ± 30 nm. | | 0+0.4db | |
| | | | | 1,2±0.5dB | |
| | | | | 3,4,5,6±0.6dB | |
| 7,8,9,10,11,12,13,14±ATT×10%dB | | | | | |
| 15,16,20,25±1.5dB | | | | | |
| Mechanical Characteristics | Return Loss | | | ≥40dB | |
| | Power test | Power : 250mw, Laser : LD(wavelength : 1470nm) | Time : 100 hours | Change in attenuation : ±0.2dB | |
| | Engagement and separation forces | Engagement and separation forces at 50mm/s. | | Engagement force: ≤19.6 N Separation force: ≤19.6 N | |
| Environmental Characteristics | Gauge retention force | Zirconia gauge at φ2.499 ± 0.0005 mm. | | 2.0N to 3.9N | |
| | Mating durability | Insertion and extraction number : 500 | | 1) Attenuation and return loss shall be satisfied before and after the test. 2) No breakage, crack or looseness on components. | |
| | Vibration | 3 hours at an amplitude of 1.5mm.with the frequency range 10 to 55Hz. In each of three mutually perpendicular plane. | | | |
| | Flex test | 8.82N load,100 cycles Telcordia GR-910-CORE | | | |
| | Twist test | 13.23N load,10 cycles Telcordia GR-910-CORE | | | |
| | Side test | 12.25N load,90° angle,active Telcordia GR-910-CORE | | | |
| | Impact test | 3 times in each of three mutually perpendicular axis with the Acceleration 981m/s ² | | | |
| Composite Temperature-humidity Cyclic test | Humidity : 90% to 96% Temperature : -10°C to 65°C, Time : 480 hours(20 Cyclic) | | | | |
| Temperature cycling | Temp : -40→-40→80→80→80 to -40°C Time : 60→ 180 →60→ 180 min Cyclic : 100 cycles | | | | |
| Dry heat-high Temperature endurance | Temperature : 85°C | Time : 500 hours | | No significant corrosion. | |
| Cold | Temperature : -40°C | Time : 500 hours | | | |
| Salt Mist | Salt Mist : 5% | Time : 48 hours | | | |

Materials

| Part | Material |
|--------------|------------|
| Body | Zinc alloy |
| Ferrule | Zirconia |
| Split sleeve | Zirconia |

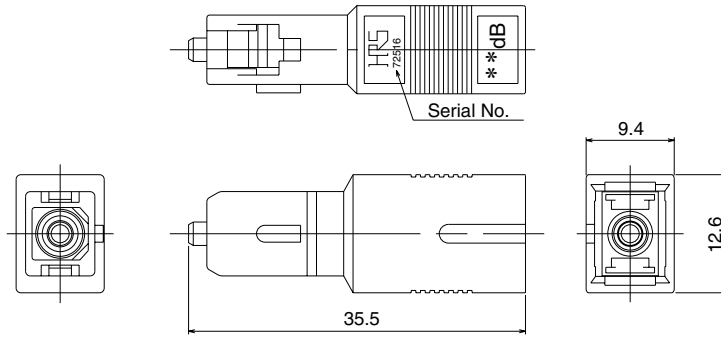
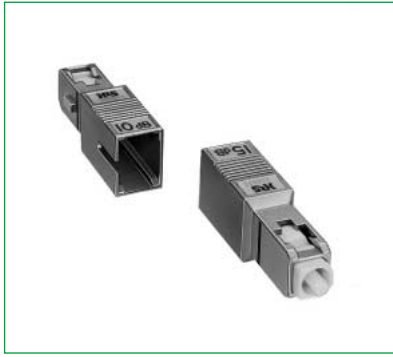
Ordering Information

HSC - AT 11 K - A **

①
②
③
④
⑤
⑥

| | |
|------------------------|---|
| ① Series name : HSC | ④ Polishing code K : AdPC (≥40dB) |
| ② Attenuator | ⑤ Optical fiber type A : Single Mode |
| ③ Specification series | ⑥ Attenuation : 00,01,02,03,04,05,06,07,08,09, 10,11,12,13,14,15,16,20,25,30 |

●High Power SC-Type Fixed Attenuator (Max. input power: 250mW)

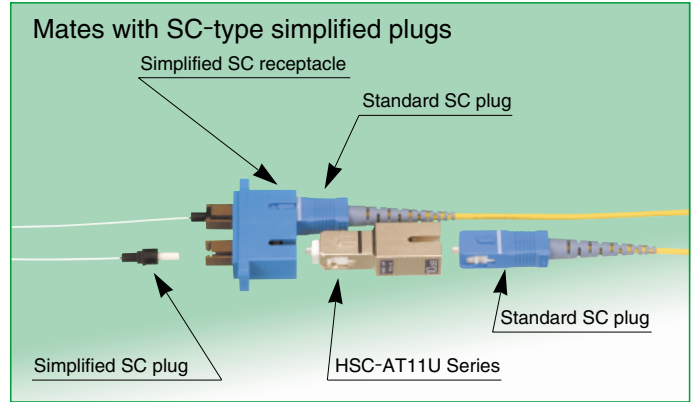
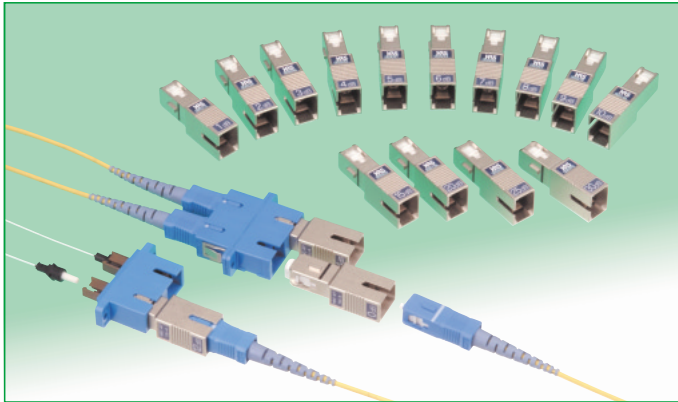


| Part Number | CL No. | Attenuation | Attenuation Tolerance | Return Loss | Wavelength | Split Sleeve | Fiber type |
|---------------|------------|-------------|-----------------------|-------------|------------------|--------------|------------|
| HSC-AT11K-A00 | 820-6001-6 | 0dB | +0.4dB | ≥40dB | 1310nm 1550nm | Zirconia | SM |
| HSC-AT11K-A01 | 820-6002-9 | 1dB | ±0.5dB | | | | |
| HSC-AT11K-A02 | 820-6003-1 | 2dB | ±0.5dB | | | | |
| HSC-AT11K-A03 | 820-6004-4 | 3dB | ±0.6dB | | | | |
| HSC-AT11K-A04 | 820-6005-7 | 4dB | ±0.6dB | | | | |
| HSC-AT11K-A05 | 820-6006-0 | 5dB | ±0.6dB | | | | |
| HSC-AT11K-A06 | 820-6007-2 | 6dB | ±0.6dB | | | | |
| HSC-AT11K-A07 | 820-6013-5 | 7dB | ±0.7dB | | | | |
| HSC-AT11K-A08 | 820-6014-8 | 8dB | ±0.8dB | | | | |
| HSC-AT11K-A09 | 820-6015-0 | 9dB | ±0.9dB | | | | |
| HSC-AT11K-A10 | 820-6008-5 | 10dB | ±1.0dB | | | | |
| HSC-AT11K-A11 | 820-6016-3 | 11dB | ±1.1dB | | | | |
| HSC-AT11K-A12 | 820-6017-6 | 12dB | ±1.2dB | | | | |
| HSC-AT11K-A13 | 820-6018-9 | 13dB | ±1.3dB | | | | |
| HSC-AT11K-A14 | 820-6019-1 | 14dB | ±1.4dB | | | | |
| HSC-AT11K-A15 | 820-6009-8 | 15dB | ±1.5dB | | | | |
| HSC-AT11K-A16 | 820-6020-0 | 16dB | ±1.5dB | | | | |
| HSC-AT11K-A20 | 820-6010-7 | 20dB | ±1.5dB | | | | |
| HSC-AT11K-A25 | 820-6011-0 | 25dB | ±1.5dB | | | | |
| HSC-AT11K-A30 | 820-6012-2 | 30dB | ±2.5dB | | | | |

NEW

SC-Type Optical Fixed Attenuators

HSC-AT11U Series



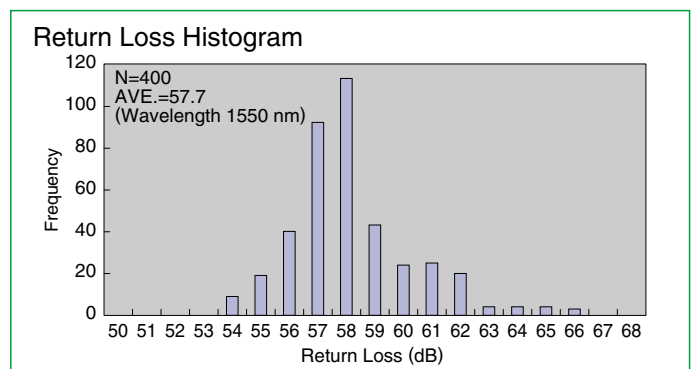
Features

1. Low return loss, 50 dB min.*
2. Complies with Telcordia GR-910-CORE.
3. SC-type simplified plugs
Mates with the spring-less (ferrule-fastened) SC-type simplified plugs.
4. In-line mating with a standard SC connectors
5. High input power (250 mW max.)
6. Variety of fixed attenuation levels.
1 to 16 dB (in 1 dB increments), 20, 25, and 30 dB

Applications

Optical communication and data transfer equipment requiring in-line fixed power level adjustment.

* Standard return loss. Contact Hirose Electric sales representative if better return loss is required.



Ordering Information

HSC-AT-11-U-A--****

| | |
|------------------------|--|
| ① Series name: HSC | ④ Polishing code U: UPC (>=50dB) |
| ② Attenuator | ⑤ Optical fiber type A: Single Mode |
| ③ Specification series | ⑥ In-line mating with a standard SC connectors :00, 01, 02, 03, 04, 05, 06, 07, 08, 09, 10, 11, 12, 13, 14, 15, 16, 20, 25, 30 |

| Part Number | CL No. | Attenuation | Attenuation Tolerance | Return Loss | Wavelength | Split Sleeve | Fiber Type |
|---------------|------------|-------------|-----------------------|-------------|------------------|--------------|------------|
| HSC-AT11U-A00 | 820-9500-2 | 0dB | +0.4dB | ≥50dB | 1310nm 1550nm | Zirconia | SM |
| HSC-AT11U-A01 | 820-9501-5 | 1dB | ±0.5dB | | | | |
| HSC-AT11U-A02 | 820-9502-8 | 2dB | ±0.5dB | | | | |
| HSC-AT11U-A03 | 820-9503-0 | 3dB | ±0.6dB | | | | |
| HSC-AT11U-A04 | 820-9504-3 | 4dB | ±0.6dB | | | | |
| HSC-AT11U-A05 | 820-9505-6 | 5dB | ±0.6dB | | | | |
| HSC-AT11U-A06 | 820-9506-9 | 6dB | ±0.6dB | | | | |
| HSC-AT11U-A07 | 820-9507-1 | 7dB | ±0.7dB | | | | |
| HSC-AT11U-A08 | 820-9508-4 | 8dB | ±0.8dB | | | | |
| HSC-AT11U-A09 | 820-9509-7 | 9dB | ±0.9dB | | | | |
| HSC-AT11U-A10 | 820-9510-6 | 10dB | ±1.0dB | | | | |
| HSC-AT11U-A11 | 820-9511-9 | 11dB | ±1.1dB | | | | |
| HSC-AT11U-A12 | 820-9512-1 | 12dB | ±1.2dB | | | | |
| HSC-AT11U-A13 | 820-9513-4 | 13dB | ±1.3dB | | | | |
| HSC-AT11U-A14 | 820-9514-7 | 14dB | ±1.4dB | | | | |
| HSC-AT11U-A15 | 820-9515-0 | 15dB | ±1.5dB | | | | |
| HSC-AT11U-A16 | 820-9516-2 | 16dB | ±1.5dB | | | | |
| HSC-AT11U-A20 | 820-9517-5 | 20dB | ±1.5dB | | | | |
| HSC-AT11U-A25 | 820-9518-8 | 25dB | ±1.5dB | | | | |
| HSC-AT11U-A30 | 820-9519-0 | 30dB | ±2.5dB | | | | |

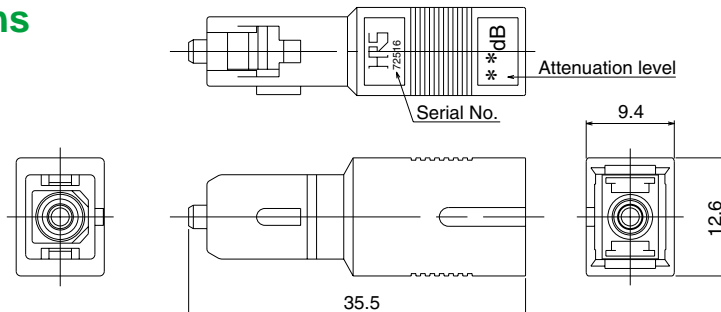
■ Specifications

| | | | | |
|--------|-----------------------------|----------------|------------------|--------|
| Rating | Operating temperature range | -40°C to +75°C | Max. input power | 250 mW |
| | Storage temperature range | -40°C to +75°C | Fiber type | SMF |

| Characteristic | Test Method (Conforms with Telcordia GR-910-CORE) | Specification |
|------------------------------|---|--|
| Optical characteristic | Attenuation | Measurement at a point within the wavelength of 1310 ±30 nm and a point within the wavelength of 1550 ±30 nm. |
| | Return loss | |
| Optical characteristic | Rated input power | Power : 250mW(LD) Wavelength : 1470nm Duration : 100 hours |
| | Controlled Operating Environment | Temperature : -5°C to 50°C Duration : 182.5 hours Humidity : 15% to 90% |
| Environmental characteristic | Uncontrolled Operating Environment | Temperature : -40°C to 75°C Period of 1 cycle : 8 hours Number of cycles : 21 |
| | Non-Operating Environment | Low-Temperature Exposure and Thermal Shock Temperature : 23°C → 40°C → -40°C → 23°C Duration : 2.1h 72 h 4 min. minimum |
| | | High-Temperature Exposure and Thermal Shock Temperature : 23°C → 70°C → 70°C → 23°C Duration : 1.6h 72 h 5 min. minimum |
| | | High Relative Humidity Exposure Temperature : 23°C → 40°C → 40°C → 23°C Duration : 0.6h 96 h 0.6h Humidity : 90% to 95% |
| | Humidity/Condensation Cycling Test | Temperature : -10°C to 65°C Period of 1 cycle : 12 hours Humidity : 90% to 100% Number of cycles : 14 |
| Water Immersion | Temperature : 43°C Duration : 168 hours Solution : PH 5.5 | |
| Mechanical characteristics | Vibration | Vibration frequency range : 10 to 55 Hz Maximum amplitude: 1.52 mm Duration : 2 hours in each of 3 directions |
| | Side Pull Load | Bend angle : 90° Load : 1.25 kg |
| | Cable Retention | Load : 2 kg |
| | Durability | Insertion/withdrawal cycles : 200 |
| | Impact Test | Drop onto a concrete floor from a height of 1.8 m. Cycles: 8 times in each of 3 directions |

■ Materials and Dimensions

| Component | Material |
|--------------|------------|
| Body | Zinc alloy |
| Ferrule | Zirconia |
| Split sleeve | Zirconia |



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