

UC2

The UC2 module, which adopts the Centum Form-factor Pluggable 2 (CFP2) packaging, is designed for the high-speed and bidirectional telecommunication system.

The UC2 module supports up to 100 Gbit/s and OTU4 signal transmission with a distance up to 10 km (UC2-100G/LR4), 40 km (UC2-100G/ER4), 1200 km (UC2-200G/DCO (A), UC2-200G/DCO-E (A), and UC2-200G/DCO-E (B)), or 2400 km (UC2-100G/DCO (A), UC2-100G/DCO (B), and UC2-100G/DCO-E (A)).

The UC2 module complies with ITU-T and IEEE standards, and refers to the specifications of Multi Source Agreement (MSA). It adopts the standard Little Connector (LC) interface, electrical connector, and shielding shell, thus improving EMI performance.



Features

- Low power consumption, stable performance, high efficiency, and energy conservation
- Maximum power consumption in normal working conditions: 7.5 W (UC2-100/ER4), 6 W (UC2-100/LR4), 24 W (UC2-100G/DCO (A), UC2-100G/DCO (B), UC2-100G/DCO-E (A), UC2-200G/DCO (A), UC2-200G/DCO-E (A), and UC2-200G/DCO-E (B))
- Maximum power consumption in low power consumption mode: 2 W
- Standard LC connector
- Single +3.3 V power supply
- Metal packaging, with outstanding EMI performance
- Support the commercial operating temperature (altitude: 0–1800 m) of 0°C to 70°C for the UC2-100G/DCO (B) and UC2-200G/DCO-E (B), and -5°C to 70°C for other models. At an altitude of 1800 m to 5000 m, the maximum operating temperature of the UC2 module reduces by 1°C for every 220 m increase in altitude. The storage temperature is -40 to 85°C. The relative humidity is 5%–85% (non-condensing, non-icing inside)
- Provide stronger monitoring feature (complying with CFP MSA Management Interface Specification).
- Comply with Class 1 laser safety standards.

Typical scenarios

- MAN, AN, and high-speed data communication devices
- Ethernet 100GE and OTN OTU4

Technical specifications

| Model | Rate (Gbit/s) | Tx optical power (dBm) | Overload point (dBm) | Rx optical power (dBm) | Target distance (km) |
|----------------------------------|---------------|-------------------------|----------------------|--------------------------|----------------------|
| UC2-100G/LR4 (100GE services) | 103.1 | -4.3 to 4.5 (each lane) | > 5.5 (each lane) | -10.6 to 4.5 (each lane) | 10 |

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| Model | Rate (Gbit/s) | Tx optical power (dBm) | Overload point (dBm) | Rx optical power (dBm) | Target distance (km) |
|-------------------------------|-------------------------|-------------------------|----------------------|--|----------------------|
| UC2-100G/LR4 (OTU4 services) | 111.8 | -0.6 to 4.0 (each lane) | > 5.5 (each lane) | -6.9 to 4 (extinction ratio: 4-7 dB) (each lane) -8.8 to 2.9 (extinction ratio: > 7 dB) (each lane) | 10 |
| UC2-100G/ER4 (100GE services) | 103.1 | -2.9 to 2.9 (each lane) | > 5.5 (each lane) | -20.9 to 4.5 (each lane) | 40 |
| UC2-100G/ER4 (OTU4 services) | 111.8 | -2.7 to 2.9 (each lane) | > 5.5 (each lane) | -23.2 to 4.5 (each lane) | 40 |
| UC2-100G/DCO (A) | 103.1 and 111.8 | > -5 | > 0 | Input power range: -18 to 0 Input power sensitivity: > -30 (SD-FEC, OSNR > 35 dB) | 2400 |
| UC2-100G/DCO (B) | 103.1 and 111.8 | -8 to 2 | > 0 | Input power range: -18 to 0 Input power sensitivity: > -32 (OFEC, OSNR > 35 dB) | 2400 |
| UC2-100G/DCO-E (A) | 103.1 and 111.8 | -15 to 1 | > 0 | Input power range: -18 to 0 Input power sensitivity: > -30 (SD-FEC, OSNR > 35 dB) | 2400 |
| UC2-200G/DCO (A) | 103.1 × 2 and 111.8 × 2 | > -10 | > 0 | Input power range: -18 to 0 200G 8QAM input power sensitivity: > -24 (SD-FEC, OSNR > 35 dB) 200G 16QAM input power sensitivity: > -22 (SD-FEC, OSNR > 35 dB) | 1200 |
| UC2-200G/DCO-E (A) | 103.1 × 2 and 111.8 × 2 | -15 to 1 | > 0 | Input power range: -18 to 0 200G 8QAM input power sensitivity: > -24 (SD-FEC and OSNR > 35 dB) 200G 16QAM input power sensitivity: > -22 (SD-FEC and OSNR > 35 dB) | 1200 |
| UC2-200G/DCO-E (B) | 103.1 × 2 and 111.8 × 2 | -8 to 5 | > 5 | Input power range: -18 to 5 Input power sensitivity: > -21 (OFEC and OSNR > 35 dB) | 1200 |

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- The input power range of the UC2-100G/DCO (A), UC2-100G/DCO-E (A), UC2-200G/DCO (A), and UC2-200G/DCO-E (A) is -18 to 0 dBm, which makes the system reach the optimal state. When SD-FEC is enabled, OSNR > 35 dB, and the minimum input power sensitivity of the aforementioned optical modules meets the requirements of post-FEC, the BER < 10^{-15} .
- The input power range of the UC2-100G/DCO (B) is -18 to 0 dBm and that of the UC2-200G/DCO-E (B) is -18 to 5 dBm, which makes the system reach the optimal state. When OFEC is enabled, OSNR > 35 dB, and the minimum input power sensitivity of the aforementioned optical modules meets the requirements of post-FEC, the BER < 10^{-15} .
- Within the target distances of the UC2-100G/DCO (A), UC2-100G/DCO (B), UC2-100G/DCO-E (A), UC2-200G/DCO (A), UC2-200G/DCO-E (A), and UC2-200G/DCO-E (B), dispersion compensation is not required.
- The actual transmission distance of customer services is affected by optical signal insertion loss, SNR, and other factors. Therefore, it is generally smaller than the target distance.

Ordering information

| Model | Description |
|--------------------|--|
| UC2-100G/LR4 | CFP2 packaging, compatible with 103.1 Gbit/s and 111.8Gbit/s, 10 km, dual fibers, LC interface, with wavelength of 1295.56/1300.05/1304.58/1309.14nm, commercial, DDM, RoHS |
| UC2-100G/ER4 | CFP2 packaging, compatible with 103.1 Gbit/s and 111.8 Gbit/s, 40 km, dual fibers, LC interface, with wavelength of 1295.56/1300.05/1304.58/1309.14nm, commercial, DDM, RoHS |
| UC2-100G/DCO (A) | CFP2 packaging, compatible with 103.1 Gbit/s and 111.8 Gbit/s, 2400 km, dual fibers, LC interface, with wavelengths ranging from 1528.77 (196.10 THz) to 1567.54 (191.25 THz), commercial, DDM, RoHS |
| UC2-100G/DCO (B) | CFP2 packaging, compatible with 103.1 Gbit/s and 111.8 Gbit/s, 2400 km, dual fibers, LC interface, with wavelengths ranging from 1528.77 (196.10 THz) to 1565 (191.3 THz), commercial, DDM, RoHS |
| UC2-100G/DCO-E (A) | CFP2 packaging, compatible with 103.1 Gbit/s and 111.8 Gbit/s, 2400 km, dual fibers, LC interface, with wavelengths ranging from 1528.77 (196.10 THz) to 1567.54 (191.25 THz), commercial, DDM, RoHS |
| UC2-200G/DCO (A) | CFP2 packaging, compatible with 103.1 × 2 Gbit/s and 111.8 × 2 Gbit/s, 1200 km, dual fibers, LC interface, with wavelengths ranging from 1528.77 (196.10THz) to 1567.54 (191.25THz), commercial, DDM, RoHS |
| UC2-200G/DCO-E (A) | CFP2 packaging, compatible with 103.1 × 2 Gbit/s and 111.8 × 2 Gbit/s, 1200 km, dual fibers, LC interface, with wavelengths ranging from 1528.77 (196.10 THz) to 1567.54 (191.25 THz), commercial, DDM, RoHS |
| UC2-200G/DCO-E (B) | CFP2 packaging, compatible with 103.1 × 2 Gbit/s and 111.8 × 2 Gbit/s, 1200 km, dual fibers, LC interface, with wavelengths ranging from 1528.77 (196.10 THz) to 1565 (191.3 THz), commercial, DDM, RoHS |

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