



Fiber Optic Link

Transmission and reception units

DF-FOL-1060

Features

Two different chassis carrying up to 16 modules:

- Optical transmitter modules with bias feeding & RF sensing
- Optical receiver modules with RF sensing
- Manual Gain Control (MGC), Automatic Gain Control (AGC)
- Monitoring output of incoming/outgoing RF signal
- Monitoring of optical transmission in transmitter and receiver module
- Space requirement only 3 RU
- Redundancy switching can be integrated for 1+1 and n+1



Applications



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- Cable head end stations with distant dish farms
- Redundant distributed dish sites
- Extended L-Band transmission over distances up to 60 km
- Satellite ground stations

Technical Specifications

DF-FOL-1060

Link Specifications

- Link gain with no optical cable: +3-+15 dB \pm 3 dB (10-40 km)
- Frequency response 700-2300 MHz: \pm 1 dB @ 6 dB link gain
- Frequency response @ 36 MHz interval: \pm 0.25 dB
- Maximum optical distance: 50 km
- Noise figure for link: 22 dB @ 1 dB loss, 27 dB @ 5 dB loss
- Intermodulation distortion, two tones, separation 10 MHz at -13 dBm: > 40 dBc
- Fiber: Single mode 9/125, Corning SMF28 or equivalent

Optical Transmitter

- Input:
 - Frequency range: 700 - 2300 MHz
 - Damage level: +10 dBm
 - Maximum input level: -10 dBm
- Output:
 - Laser type: DFB
 - Laser class: Class 1M (low risk to eyes, no risk to skin, as per IEC 60 825-1)
 - Wavelength: 1310 \pm 20 nm
 - Optical power: < 7 dBm
 - Connector: SC/APC
- Monitoring Port:
 - Amplitude frequency response: < \pm 1 dB w/respect to input signal
 - Return loss: > 16 dB
 - Connector: SMT (f)
- Bias & Bias Current Alarm:
 - Bias: max 0.5 A; 15 V + 3V per module
 - Adjustable level alarm setting: 50 mA min, 400 mA max
 - Alarm indication: Via LED and microcontroller
- RF Sensing:
 - Adjustable threshold level (THL) for RF sensing: -10 dBm > THL > -55 dBm
 - DEV factory setting: -30 dBm
 - Alarm indication: Via LED and microcontroller
- Low Laser Radiation Alarm:
 - Alarm indication: Via LED and microcontroller
- General Specifications:
 - Power consumption: 16 V, 0.15 A
 - Housing: 3RU (129 mm), 5 HP (25 mm)
 - Weight: ~0.5 kg
 - Environmental conditions: ETS 300019 Part 1-3 Class 3.1

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REV 1.1 NOVEMBER 2008

Technical Specifications

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Optical Receiver

- Output:
 - Frequency range: 700 - 2300 MHz
 - Maximum output level: -6 dBm
- Manual/Automatic Gain Control:
 - Manual gain control / set point control: Via front panel buttons or microcontroller
 - Selection of AGC or MGC: Via microcontroller
- Input:
 - Wavelength: 1150 - 1600 nm
 - Optical sensitivity: <-17 dBm with 36 dB (S+N)/N
 - Connector: SC/APC
- Monitoring Port:
 - Amplitude frequency response: < ± 1 dB w/respect to output signal
 - Return loss: > 18 dB
 - Connector: SMT (f)
- RF Sensing:
 - Adjustable threshold level (THL) for RF sensing: -10 dBm > THL > -55 dBm
 - DEV factory setting: -30 dBm
 - Alarm indication: Via LED and microcontroller
- Low Laser Radiation Alarm:
 - Alarm indication: Via LED and microcontroller
- General Specifications:
 - Power consumption: 16 V, 0.25 A
 - Housing: 3RU (129 mm), 5 HP (25 mm)
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Chassis

- Remote Communication:
 - Interface: Ethernet RJ-45
 - Protocol: HTTP web interface or SNMP
- Alarms: All module alarms are communicated to the built-in chassis CPU
- Capacity: 12 front slots and 4 rear slots
- Bias: Max 2.2 A total per chassis
- Input power: Dual 100 - 260 V AC inputs (two phase compatible)
- Redundant power: Two power supplies supplied, third optional
- Housing: 19", 3 RU, 430 mm depth
- Weight: 5 kg
- Environmental conditions: ETS 300019 Part 1-3 Class 3.1
- MTBF: 50,000 h @ 20°C

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