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| **ONU-4FE-RFW ONU Manual** |
| **ONU-4FE-RFW ONU** |
| ( 4FE+CATV+WIFI) |
| **Brief Views** |
| The ONU is designed mainly for FTTH use and FTTO use as well. It support 1000Base-PX10/PX20 |
| standard with 1:64 maximum optical splitting ratio and 20km distance, and provide 1uplink GE |
| PON port. |
| It work together with OLT could realize flexible network structure and maintenance and provide |
| total FTTx solutions. |
| It built in CATV Receiver to realize the analog or DVB TV signals transmission. |
| It adopts single fiber WDM technology with downlink wavelength 1550nm and 1490nm, uplink |
| wavelength 1310nm . It only needs one-core fiber to transmit data and CATV service. |
| ONU-4FE-RFW has 1 PON port, four10/100BASE-T ports ,one CATV output and support WiFi. |



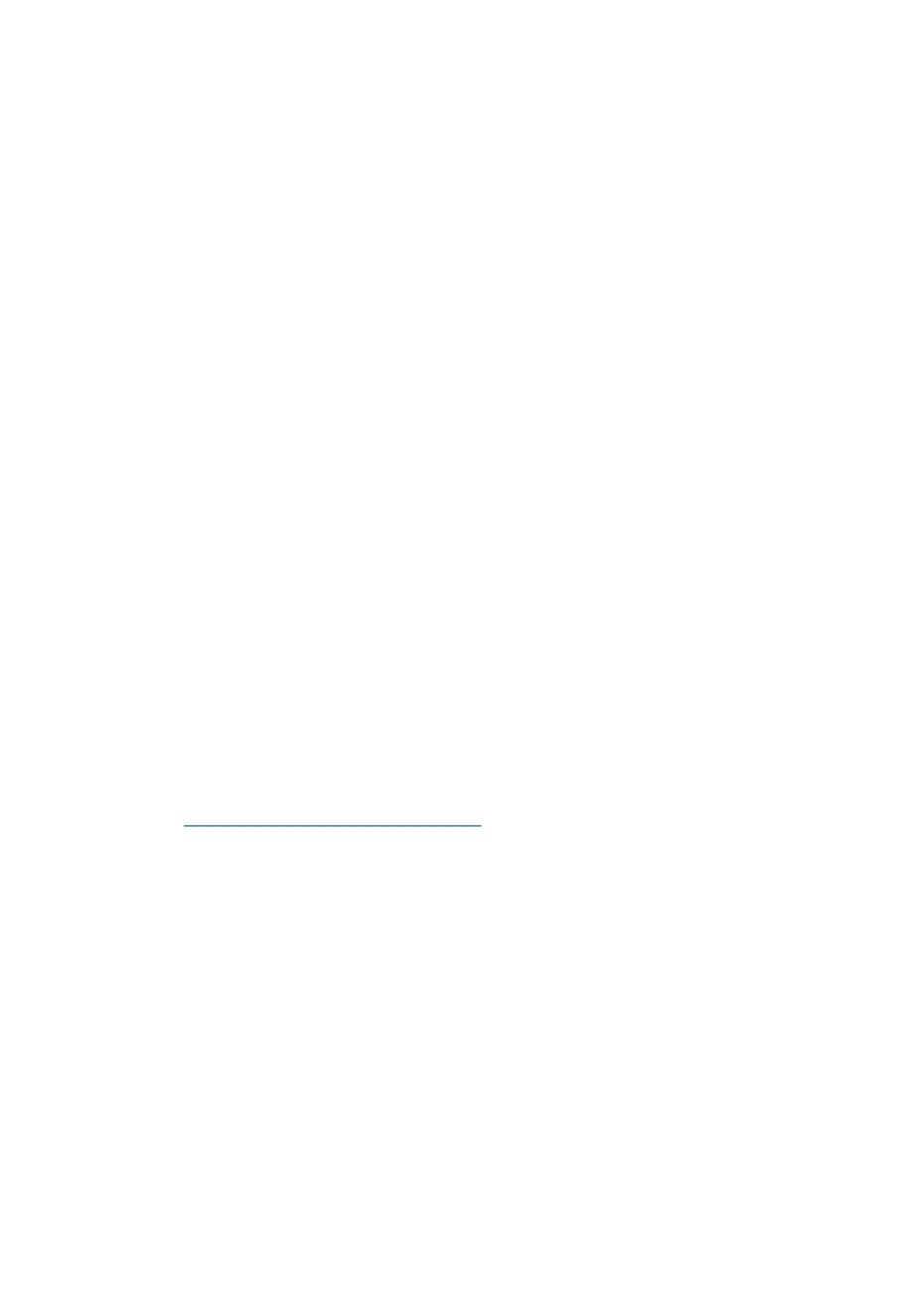
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| **ONU-4FE-RFW ONU Manual** | | | | | | |
| **Functional Feature** | | | | | | |
|  | | In compliant with IEEE802.3ah Standard and CTC2.1/3.0 | | | | |
|  | | Up to 20KM transmission Distance | | | | |
|  | | Support VLAN and IGMP | | | | |
|  | | Support port isolation between different ports | | | | |
|  | | Integrated OAM remote configuration and maintenance function | | | | |
|  | | Plug and play, integrated auto detecting, auto configuration, and auto firmware | | | | |
| upgrade technology | | | | | | |
|  | | EMS network management based on SNMP ,convenient for maintenance | | | | |
|  | | Full speed non-blocking switching. | | | | |
|  | | Support QinQ VLAN, 1:1 VLAN, VLAN reusing, VLAN trunk, etc. | | | | |
|  | | | | | | |
|  | | Integrated port monitoring, port mirroring, port rate limiting, port SLA, etc. | | | | |
|  | | Support auto polarity detection of Ethernet ports (AUTO MDIX). | | | | |
|  | | Integrated IEEE802.1p QoS with four level priority queues. | | | | |
|  | | Support IPv4 IGMP snooping and IPv6 MLD snooping. | | | | |
| **CATV Service Functions** | | | | | | |
|  | | Turn on/off RF output remotely | | | | |
|  | | Wavelength：1550 +/- 10nm | | | | |
|  | | Optical return loss：>45dB | | | | |
|  | | Input opticl power：-8dBm～+2dBm | | | | |
|  | | RF frenquency：47MHz~875MHz | | | | |
|  | | RF output lever：75～80dBuV | | | | |
|  | | CNR：>46dB，CSO: >58dBc，CTB: | | | >58dBc | |
|  | | RF output return loss： >14dB | | | | |
|  | | RF impedance： 75Ohm | | | | |
|  | | AGC function optional | | | | |
| **Specification** | | | | | | |
|  | **Item** | | | **Parameter** | |  |
|  | | | |
|  | **Interface** | | PON Interface |  | | |
| 1 GEPON optical interface | |  |
| Meet 1000BASE-PX20 standard | |
| Symmetric 1.25Gbps upstream/downstream | |
| SC single-mode fiber | |
| split ratio: 1:64 | |
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| Transmission distance 20KM | | |  |
|  | | User Interface | 4\*10/100Mauto-negotiation | | |
| Full/half duplex mode | | |
| RJ45 connector | | |
| Auto MDI/MDI-X | | |
| 100m distance | | |
| 1 RF output | | |
| Female F-Type Connector | | |
| Power Interface | 12V DC Power supply | | |
| An external 12V 1A AC/DC power supply adapter | | |
|  | |
| **Performance** | | Wavelength: Tx 1310nm, Rx1490nm | | | | |
| PON | TxOptical Power: -1～4dBm | | | |
| Rx Sensitivity: -24dBm | | | | |
| Optical | Saturation Optical Power: -3dBm | | | |
| Parameter | Connector Type: SC | | | |
| Optical Fiber: 9/125 | | ɥ | m single-mode fiber | |
| Data Transmission | PON Throughput: Downstream 950Mbps; Upstream 930Mbps | | |  |
| Ethernet: 100Mbps | | |
| **Parameters** | | Parameter | Packet Loss Ratio: <1\*10E-12 | | |
| latency: <1.5ms | | |
| Business | Layer 2 wire speed switching | | |
| Support VLAN TAG/UNTAG，VLAN conversion | | |
| Support Port-based speed limitation | | |
| Capability | Support Priority classification | | |
| Support storm control of broadcast | | |
| Support RSTP | | |
| Support IEEE802.3 QAM, ONU can be remotely managed by | | | | | | | | |
| **Network** | | Management | | | OLT | | | |
| Mode | | | Support Remote management through SNMP and Telnet | | | |
| **Management** | | Local management | | | | | | |
|  | | | | Management | Status monitor, Configuration management, Alarm | | |  |
| Function | management, | | |
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|  |  | | |  |  | | | Log management | | | | | | | |  |
| **Indicator** | | |  | | LED Indicator | | PWR, SYS,PON, LAN1~LAN4, CATV,WIFI | | | | | | | |
| Shell | | | | | | | Plastic casing | | | | | | | | | |
|  | | | | | | Power | | External 12V 1A AC/DC power supply adapter | | | | | | | |  |
| Power consumption: <6W | | | | | | | |
| **Physical Features** | | |  | | | Dimension and Weight | | Item Dimension | | | | ：200mm(L) x 140mm(W) x 28mm (H) | | | |
| Item weight | | ： | 0.4kg | | | | |
|  | | | | | | Environmental | | Operating temperature: | | | | | 0 to 50 ºC | | |
| Storage temperature: -40 to 85 ºC | | | | | | | |
| Specifications | | Operating humidity: 10% to 90% (Non-condensing) | | | | | | | |
| Storage humidity: 5% to 95% (Non-condensing) | | | | | | | |
| **WIFI Specification** | | | | | | | | | | | | | | | | |
|  | | **Performance** | Operating Mode | | | | Router or bridge | | | | | | | |  | |
| Throughput | | | | IEEE 802.11b: 11Mbps | | | | | | | |
| IEEE 802.11g: 54 Mbps | | | | | | | |
| IEEE 802.11n: 135Mbps | | | | | | | |
| Frequency | | | | 2.412 ~ 2.472 GHz | | | | | | | |
| Channel | | | | 13\*Channel, configurable to meet the standard of USA, | | | | | | | |
| CCanada, Japan and China | | | | | | | |
| Modulation | | | | DSSS , CCK and OFDM | | | | | | | |
| Coding | | | | BPSK, QPSK, 16QAM and 64QAM | | | | | | | |
| RF receive sensitivity | | | | 802.11b: -82dBm @ 1 Mbps; -80dBm @ 2 Mbps; | | | | | | | |
| -78dBm @ 5.5 Mbps; -76dBm @ 11 Mbps | | | | | | | |
| **parameters** | 802.11g: -82dBm @ 6 Mbps; -81dBm @ 9 Mbps; | | | | | | | |
| -79dBm @ 12 Mbps; -77dBm @ 18 Mbps; | | | | | | | |
| -74dBm @ 24 Mbps; -70dBm @ 36 Mbps; | | | | | | | |
| -66dBm @ 48 Mbps; -65dBm @ 54 Mbps | | | | | | | |
| RF output lever | | | | 802.11b: | | 16.5 ±1dBm | | | | | |
| 802.11g: | | 13 ± 1dBm @ 54 Mbps; 14 ± 1dBm @ 48 Mbps; 15 ± | | | | | |
| 1dBm @ 6 ~ 36 Mbps | | | | | | | |
| 802.11n: | | 13 ± 1dBm @ 54 Mbps; 14 ± 1dBm @ 48 Mbps; 15 ± | | | | | |
| 1dBm @ 6 ~ 36 Mbps | | | | | | | |
| Encryption Mode | | | | 802.11i security: | | | | | WEP-64/128, TKIP (WPA-PSK) and | | AES |
| (WPA2-PSK) | | | | | | | |
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| **Application** | | | | | | | | | | | | | | | | | |
|  | Typical Solution | ： | | FTTx | | 、 | PON+EOC | | | | | | | | | | |
|  | Typical Business | | ： | | INTERNET | | | 、 | CATV | 、 | IPTV | 、 | VOD | 、 | IP Camera | 、 | WIFI |
| **Network Construction** | | | | | | | | | | | | | | | | | |
| **●Figure: ONU-4FE-RFW Application Diagram** | | | | | | | | | | | | | | | | | |