Figure 4.7 – BIU front panel Outer Look

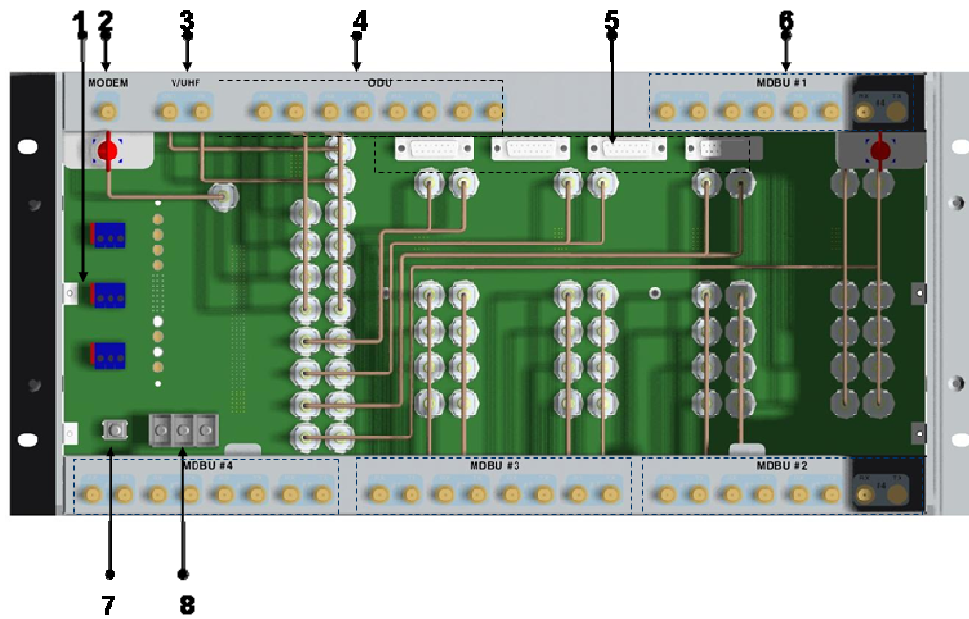| Item	Description
1. MDBU LED	LED to show whether MDBU is installed and gets faulty
2. RF Monitor Port	20Db Coupling compared with TX Input Level 20Db Coupling compared with RX Output Level
3. Alarm LED & Reset	Communication state with devices, alarm status of the system and reset switch
4. NMS(RS-232C port)	RS-232C port for communication and diagnosis of devices through PC/laptop
5. NMS(Ethernet port)	Ethernet port for upper network This equipment is indoor use and all the communication wirings are limited to inside of the building
6. Pwr Test Port & ALM	Output DC power test port and ALM LED to show abnormal state, if any
7. Power switch	Power ON/OFF switch

2) Rear panel

Figure 4.8 – Rear panel Outer Look

Item	Description
1. External ALM Port	Input/output terminal for dry contact
2. GSM Modem Port	GSM Modem terminal for upper network (Optional)
3. V/UHF I/O Port	RF signal interface terminal of VHF&UHF
4. ODU I/O Port	RF signal interface terminal for ODU
5. ODU signal Port	Power and signal interface terminal for ODU
6. BTS/BDA I/O Port	Input/output interface terminal of BTS/BDA
7. GND Port	System ground terminal
8. DC Input Port	Input terminal for DC -48V

4.2 ODU (Optic distribution Unit)

ODU receives TX RF signals from upper BIU and converts them into optical signals. The optical signals are sent to ROU through optical cables. This unit converts optical signals from ROU into RF signals and sends the converted signals to BIU.

For each shelf of the ODU, up to two DOUs (Donor Optic Unit) can be installed in it.

One DOU is supported with four optical ports. Therefore, one ODU can be connected with eight ROUs.

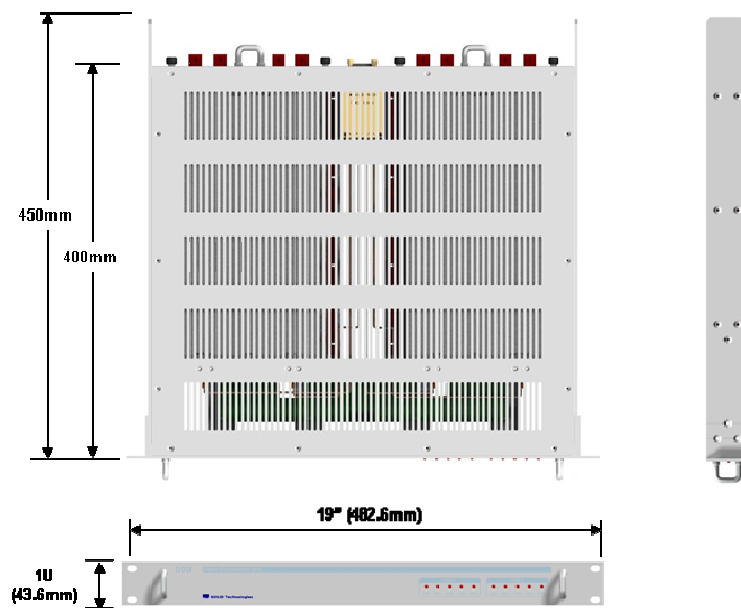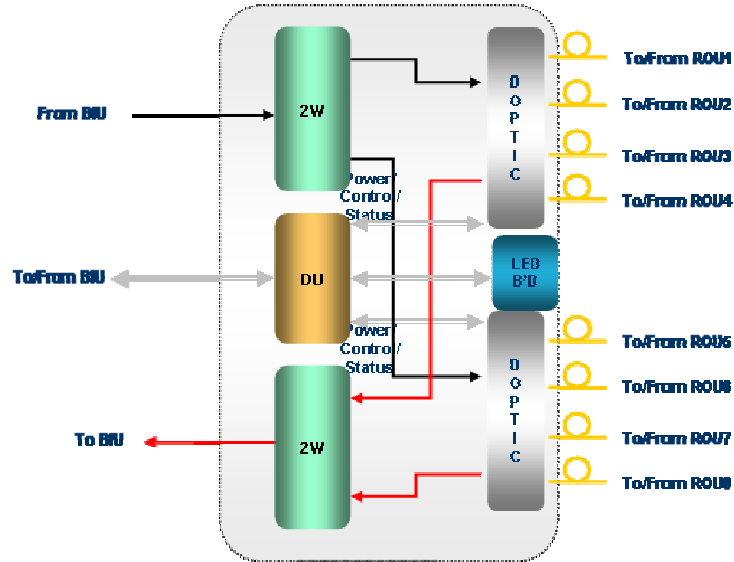Up to four ODUs can be connected with BIU.

Figure 4.9 – ODU Outer Look

4.2.1 Specifications of ODU

Item	Spec.	Remark
Size	482.6(19") x 43.6(1U) x 450	Mm
Weight	5.7 Kg	Full Load
Power consumption	27 W	

4.2.2 Block Diagram of ODU

4.2.3 ODU parts

Figure 4.10 – ODU Inner Look

No.	Unit	Description	Remark
1	DOU	**DOU** Convert TX RF signals into optical signals; Convert RX optical signals into RF signals; Provide up to four optical ports per DOU	Max 2ea
2	2W	**2Way Divider** Divide TX RF signals into two; Combine two RX RF signals into one	
3	DU	**Distribution Unit** Distribute power and signals to DOU	
4	Shelf	19" rack, 1U	
5	Accessories	15PIN DSUB, Male to female 1pcs RF Coaxial Cable Assembly 2pcs	

4.2.4 Function by unit

1) Donor Optic Unit (DOU)

DOU makes electronic-optical conversion of TX signals and makes optical-electronic conversion of RX signals.

With an optic splitter in it, this unit divides optical signals from Laser Diode into four and then distributes them to each optical port. With a total of four Photo Diodes in RX, DOU makes optical-electronic conversion of signals received from each optical port. In addition, the unit is equipped with ATT for optical compensation made in case of optical cable loss.

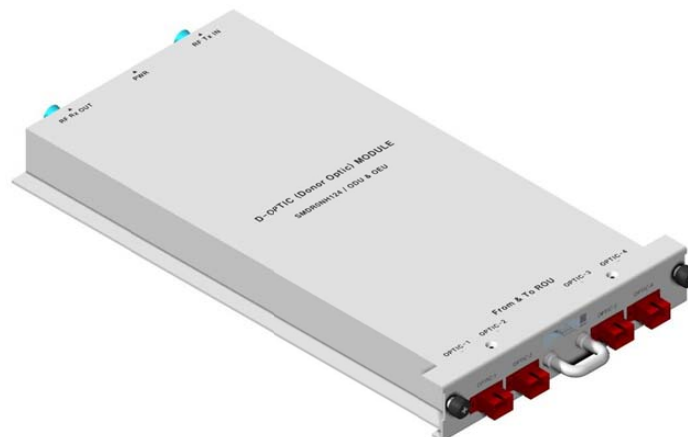With internal WDM, it uses only one optical cable to be connected with ROU.

Figure 4.11 – MDBU Outer Look

2) 2Way Divider (2W)

2W is equipped with two 2-way splitters in a one-module form and the splitters work for TX/RX signals, respectively.

Designed in broadband type, the divider combines and divides 2GHz or higher of signals from FSK modem signals.
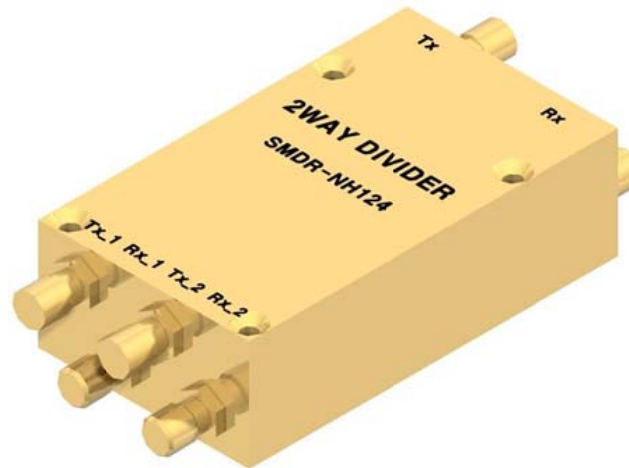

Figure 4.12 – 2Way Divider Outer Look

4.2.5 Front/rear panels of ODU

1) **Front panel**

Figure 4.13 – ODU front panel Outer Look

Item	Description
1,2	LED indicator to check DOU module state to see if it is abnormal

2) Rear panel