

MANUAL
***AirLight* (ME100) SERIES**



ComoTech Corporation

■ Specification (ME100C)

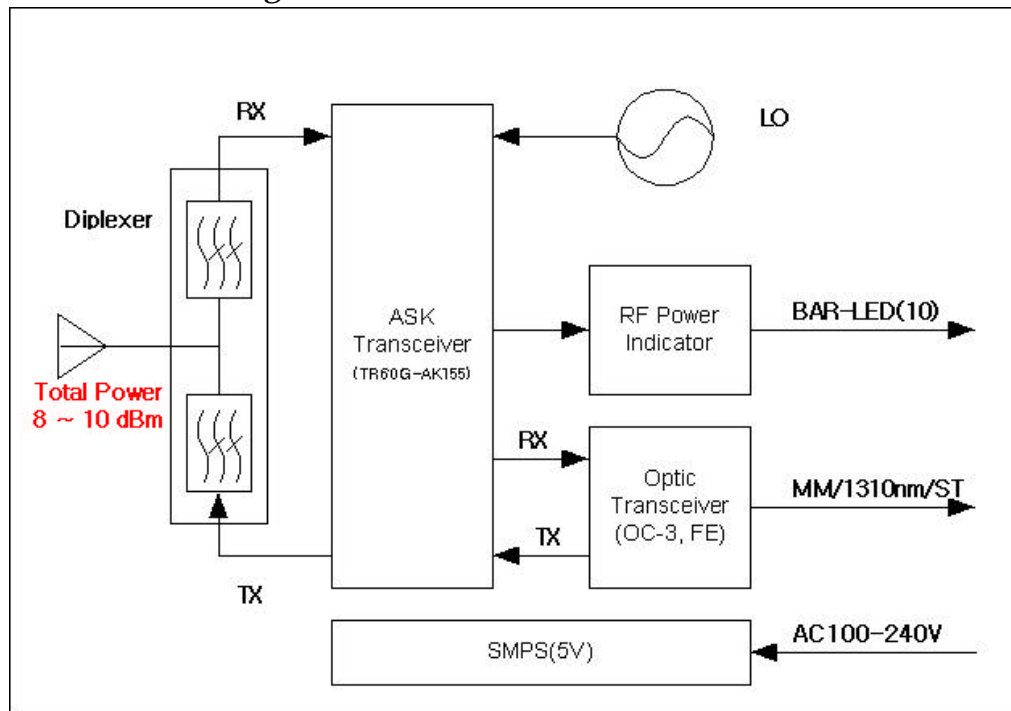
Item	Unit	Description
Frequency Range	GHz	59 ~ 64
Output Power	dBm	+10(max)
Modulation		ASK
Main Power		AC100 240V, 50 60Hz
Interface		Optic(Fast Ethernet, OC-3) Connector(ST, Multi Mode 1310nm)
Operating Temperature	°C	-20 50
Body Size	Mm	180 X 280 X 100
Weight	Kg	6.5
Antenna Type		Cassegrain 12"

* Option: a sighting telescope on the picture in front of this page.

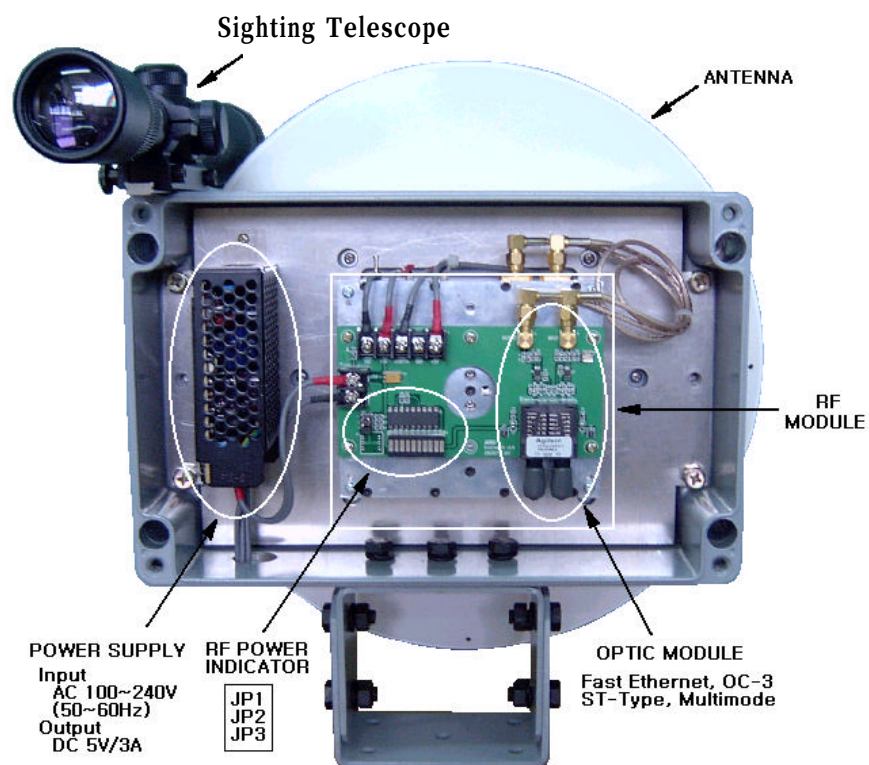
■ Range

Model		ME100C-05	ME100C-12	ME100C-24
Antenna	Size[inch]	5.1	12	24
	Gain[dBi]	35	43	47
	HPBW[°]	3.5	1.2	0.5
Distance[m]	Clear(Max)	750	1500	1900
	Rain(5mm/h)	720	1350	1650
	Rain(25mm/h)	530	1000	1370
	Rain(50mm/h)	380	800	1100
	Rain(100mm/h)	170	450	650

■ Internal Block Diagram



■ The name of main part



■ Installation & equipment

► Installation

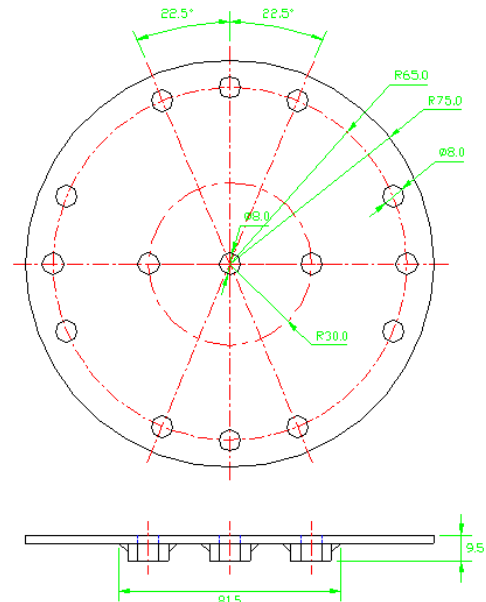
- Built the fixed stand directly after selecting reasonable place without obstacles (building, trees, etc) between two points for the communication.

The right side drawing is the bottom board of alignment consists of total 12 fixed holes that is using M8 bolts & nuts. The three holes in the center are for the right and left control of alignment.

The fixed stand has to manufacture it with considering that the nuts on the holes and up & down control are $\pm 10^\circ$.

The distance between two points is recommended approximately max. 1 km for rainfall consideration.

Ref) the recommended distance will be changed by rainfall.



- Connect the alignment to the fixed stand.

Decide a direction with considering the right & left control is $\pm 10^\circ$, and connect to the fixed stand using M8 bolt & nut each 8 – 12 pcs.

- Unscrews (+/-) 4 screws on the rear side and open the cover.
- Connect case with flexible tube to avoid an expose of the power and optic cable. The dimension of the flexible tube is about the inside diameter $\Phi 26$ and outside diameter $\Phi 32$,

Fix the equipment with the flexible tube on the fixed stand to avoid directed load pressure

- Connect the power and optic cable.

Connect terminal power cable, which consists of 3 wires including ground connection, to the power supply and connect optic cable to the TX, RX terminal.

The power is AC 100 – 240 V, 50-60Hz and the optic cable is the connector of ST-type.

Terminal must use inside diameter over $\Phi 3.0$ and outside diameter under $\Phi 6.2$.

- Test communication between two points through Alignment control (refer to the direction setting & communicating test process)
- Screw up & down and right & left side control bolts and nuts when the direction fixed.
- Attend to deviate from settled direction when the cover closes.
- Completion

♠ Note) HPBW is different according to Antenna type, so please attend to it when the direction choose.

► RF Power Level Meter

- RF Power Level (dBm): LED

LED	1	2	3	4	5	6	7	8	9	10
JP1	-51.0	-50.8	-50.3	-49.9	-49.1	-48.2	-47.0	-45.5	-43.8	-41.8
JP2	-49.6	-48.9	-47.9	-46.7	-45.2	-43.5	-41.5	-39.2	-36.7	-34.1
JP3	-46.8	-45.5	-44.0	-42.1	-40.0	-37.7	-35.2	-32.5	-29.7	-26.9

- According to distance, Jumper Settings are as below;
 - short distance (400 ~ 700m): Jumper 2 or 3
 - middle distance (650 ~ 950m): Jumper 1 or 2
 - long distance (900 ~ 1500m): Jumper 1 or Sighting-telescope (recommendation)

► The direction setting & communicating test

- Less than 400m between two points
The equipment has to be a little bit deviation of direction, and LED has to avoid all bright state because it became saturation of the signal in this distance.
- The short distance(400 ~ 700m) between two points
The equipment has to be setting a jumper JP2, and fix the direction when RF Power Level Meter is the most high level LED through up & down and right & left control. Move to JP3 when all LEDs bright on the setting JP2.
- The middle distance (650 ~ 950m) between two points
The equipment has to be setting a jumper JP1, and fix the direction when RF Power Level Meter is the most high level LED through up & down and right & left control. Move to JP2 when all LEDs bright on the setting JP1.
- The long distance (900-1500m) between two points
The equipment has to be setting a jumper JP1, and fix the direction when RF Power Level Meter is the most high level LED through up & down and right & left control. In case of less than 2 level LED, use the sighting telescope or

Oscilloscope for the confirming Eye Pattern.

*. In case of the setting of the sighting telescope, the most importance thing is the sighting array between the equipment and the sighting telescope.

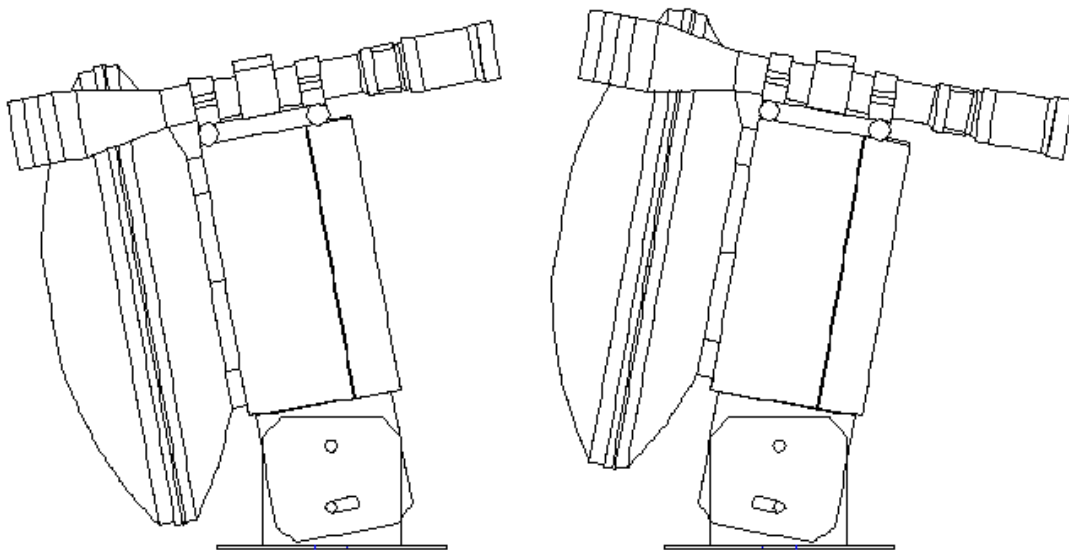
After sighting array between the equipment and the sighting telescope, you have to array a sighting of transmitter and transceiver through the sighting telescope.

♠ If you can not communication between two spots even though the equipment was settled Alignment through the sighting telescope, it should be wrong sighting array between the equipment and the sighting telescope. Please use the oscilloscope to array an alignment because the settings of sighting array of people are different.

- When the installation was completed, you can confirm it through communication test of real applied system or PC (Personal Computer),

► Alignment

- Up & down $\pm 10^\circ$, Right & Left $\pm 10^\circ$ control
- Color: Soft gray (RAL 7001), Powder Coating - Material: steal



► Sighting telescope (Option)

- 3 9 × 40 WIDE,
- Use it in case of the distance between two points is over 1 Km.

■ Case specification

► Body

- Cast Aluminum Al Si 12(DIN 1725), Cover and Base will be combined by the

session prevented stainless screw (+/-).

- Color: Soft gray (RAL 7001), Powder Coating
- Dimension: 180×280×100(mm)

► **Gasket**

- Polyurethane(PUR), -40°C to 100°C

FCC NOTICE

NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment of and on, the user is encouraged to try to correct the interference by one or more of the following measures

:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

NOTE: The manufacturer is not responsible for any radio or TV interference caused by unauthorized modifications to this equipment. Such modifications could void the user's authority to operate the equipment.

■ Main products

► Products

ME100, ME1000, MC Series

► Transceiver

TR38G-UD, TR60G-AK, TR60G-UD Series

► MMW Components

Amplifier, Oscillator, Mixer, Band-pass Filter

Diplexer, Antenna, Other Components



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Wireless Notices

In some environments, the use of wireless devices may be restricted. Such restrictions may apply aboard airplanes, in hospitals, near explosives, in hazardous locations, etc. If you are uncertain of the policy that applies to the use of this device, please ask for authorization to use it prior to turning it on.

U.S. Regulatory Wireless Notice

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

This product emits radio frequency energy, but the radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact with the antenna during normal operation is minimized.



Warning: Exposure to Radio Frequency Radiation

The radiated output power of this device is far below the FCC radio frequency exposure limits. Nevertheless, the device should be used in such a manner that the potential for human contact during normal operation is minimized. In order to avoid the possibility of exceeding the FCC radio frequency exposure limits, human proximity to the antenna should not be less than 20 cm (8 inches) during normal operation.