



PPC-10G-HP Series

10 Gigabit Ethernet MM-wave Link

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HIGH-POWER RADIO APPLICATIONS

New PPC-10G-HP 10 Gigabit Ethernet radio with higher output power is intended to cover longer distance, primary at regions with rare rains. This include Arctic and desert areas of Middle East or similar regions. PPC-10G-HP model provides output power of 24.7 dBm and 3 dB noise figure to ensure high availability.

Main point-to-point applications of PPC-10G-HP link are 5G/4G/LTE+ backhaul, industry area networks, car-based TV studios which provides wireless 4K UHD video streaming to TV Center and temporary 10 Gbps connections at exhibitions and other high-traffic events.

RAPID AND LOW COST 10 GBPS DEPLOYMENT

ELVA-1 PPC-10G-HP is a fully-outdoor radio, designed for temperatures -50°C (-58°F) to $+60^{\circ}\text{C}$ (140°F), and humidity up to 100%. Delivery kit for each radio contains tuning panel to indicate RSL level for fast antenna alignment. Link installation can be done within a day.

The PPC-10G platform is based on state-of-the-art MMIC chips, which support Quadrature Amplitude Modulation in digital data radio communications. Using QAM 128, PPC-10G-HP requires only 2 GHz bandwidth at 70/80 GHz for 10Gbps rate. For Q-band, ELVA-1 has pioneered the implementation of QAM 256 technology to achieve the best spectrum efficiency in the industry.

FEATURES

- Frequency bands: 71-76/81-86 GHz or 40.5-43.5 GHz
- Up to **24 km (15 miles)** at clear sky
- True 10Gbps Full Duplex Operation (E-band)
- High output power: 24.7 dBm
- Noise Figure: 3 dB
- Encryption AES-128
- SNMP v.1; v.2; SNMPv2-MIB; Enterprise-MIB; WEB; Telnet; CLI
- Hitless adaptive bandwidth, coding and modulation
- Solid reliability with Fiber-like Performance
- Easily installed, zero-footprint
- EMI interference free

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PPC-10G-HP SPECIFICATION

Model	PPC-10G-E-HP				PPC-10G-Q-HP			
Frequency range	71-76/81-86 GHz (E-band)				40.5-43.5 GHz (Q-band)			
Throughput	Up to 10 Gbps Full duplex							
Channel Bandwidths Available	250/ 500/ 750 /1000 /1250 /1500 /2000 MHz							
Modulation	QAM-256 to BPSK Adaptive to weather with hitless adaptive bandwidth, coding and modulation							
MTBF	150 000 hours							
Max distance at max throughput	up to 24.0 km (15 miles) at clear sky with 2ft antennas							
Max output power	24.7 dBm (295 mW) at QPSK/BPSK							
Link budget with 2ft antennas, BPSK modulation @ 10 ⁻⁹ BER	208 dB @250 MHz 205 dB @500 MHz 203 dB @750 MHz 202 dB @1000 MHz 201 dB @1250 MHz 200 dB @1500 MHz 199 dB @2000 MHz				190 дБ @250 MHz 187 дБ @500 MHz 185 дБ @750 MHz 184 дБ @1000 MHz 183 дБ @1250 MHz			
Max throughput	1330Mbps @250MHz	2660Mbps @500MHz	3750Mbps @750MHz	5200Mbps @1000MHz	7200Mbps @1250MHz	7630Mbps @1500MHz	9980Mbps @2000MHz	
Management	SNMP v.1; v.2; SNMPv2-MIB and proprietary MIB; WEB GUI; Telnet; CLI							
Encryption	AES 128							
Ethernet Interface	1 × SFP/SFP+ slot (1000Base-X, 10GBase-LR/SR)							
Ethernet	Transparent for Ethernet services, Flow Control 802.3x PTP IEEE 1588v2 (TC) support							
Management Port	100 Base-Tx (RJ – 45)							
Forward Error Correction	LDPC; Reed Solomon							
Polarization	Vertical / Horizontal							

Antenna

Antenna Type	Cassegrain type antenna with radio-transparent radome							
Antenna Gain/Beamwidth 1ft antenna - 2ft antenna	45 dB/0.7° - 51 dB/0.35°				38 dB/1.5° - 44 dB/0.7°			

Power / Environment

Power Supply AC	Input 88-132 / 176-264 Volts, 50/60 Hz							
Transceiver Power Consumption	45 W (+60 W when heater is switched ON)							
DC Power	36 to 60 Volts DC							
Power Connection	IP-67							
Operational Temperature	-50°C to +60°C / -58°F to 140°F							
Humidity	Up to 100%							

Physical dimensions

Outdoor unit size w/o antenna	246 x 246 x 110mm							
Weight (ODU w/o antenna)	4 kg max							
Delivery set	2 radios with antennas + 2 indoor power supplies							



PPC-10G-HP Part Numbering

PPC - 10G-HP - E - X ft

Q - 40.5 - 43.5 GHz
E - 71-76/81-86 GHz

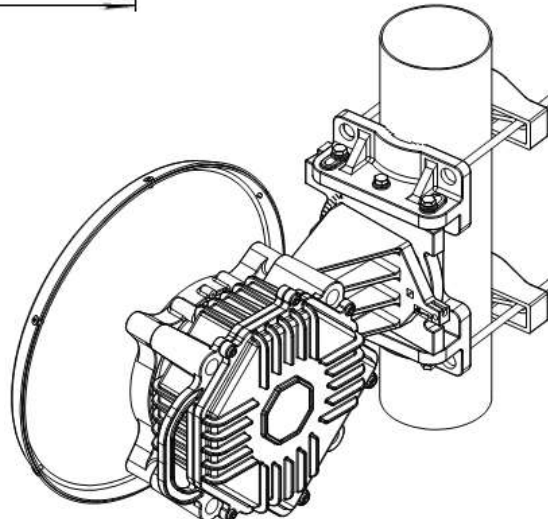
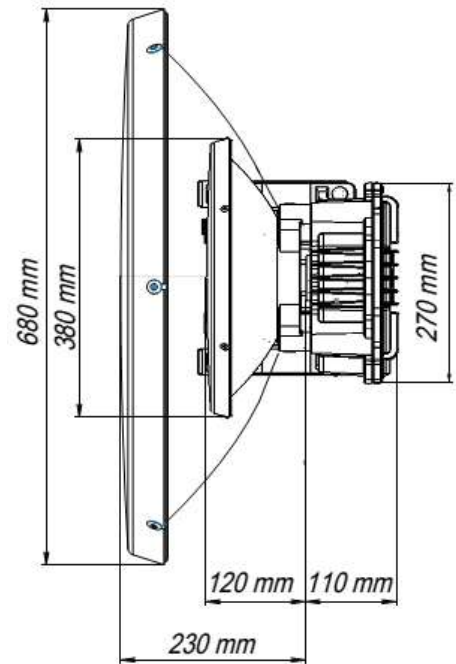
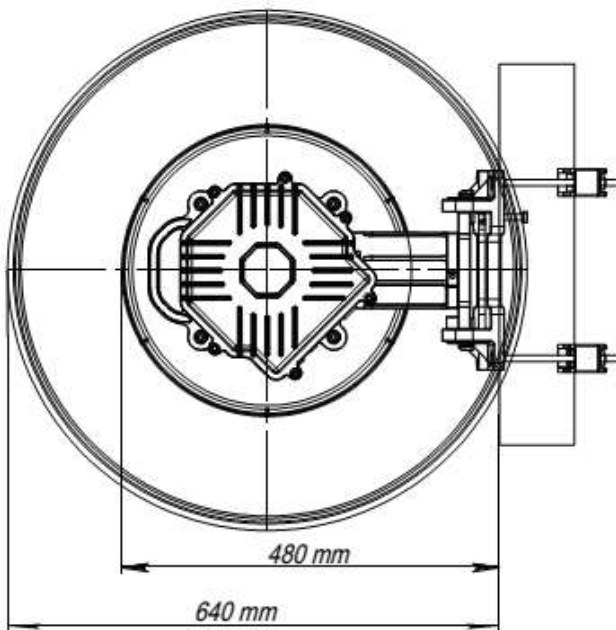
1 or 2

To choose the right model by its product code, please use the following encoding schema:

For example, PPC-10G-HP link with 2ft antennas, 71-76/81-86 GHz frequency band has product code PPC-10G-HP-E-2ft.

Attention: radio central frequency is fabric preset (not tunable by user), please advise its value at order time.

PPC-10G-HP DIMENSIONS WITH 1 FT OR 2 FT ANTENNA





ITU RAIN RATE ZONES TO DETERMINE LINK AVAILABILITY

USE [HTTP://LINKBUDGETCALC.ELVA-1.COM](http://LINKBUDGETCALC.ELVA-1.COM) FOR PPC-10G RADIOS

