GENUS Compact Outdoor Unit

With Internal 10 MHz reference source.

The GENUS compact outdoor unit (ODU) is a weatherproof (IP65 rated) enclosure with a modular design which can house any combination of compatible GENUS modules within the unit, supplying operators with a flexible and scalable solution, that reduces spare parts and space requirements.

The ODU chassis houses up to 8 RF modules including Amplifiers, BUC/LNB Power Supplies, Frequency Converters, Matrices, RF over Fibre and Test Loop Translators, which can be mixed. It has additional space for a 1+1 redundancy switch module.

The RF modules are field-serviceable and can be inserted whilst the ODU is in service, giving excellent levels of flexibility and resilience. With additional reliability from field serviceable RF modules and CPU, and fitted with 10MHz internal reference source.

ETL can offer AC to DC outdoor power supplies. Please enquire with ETL if required.

Remote control & monitoring

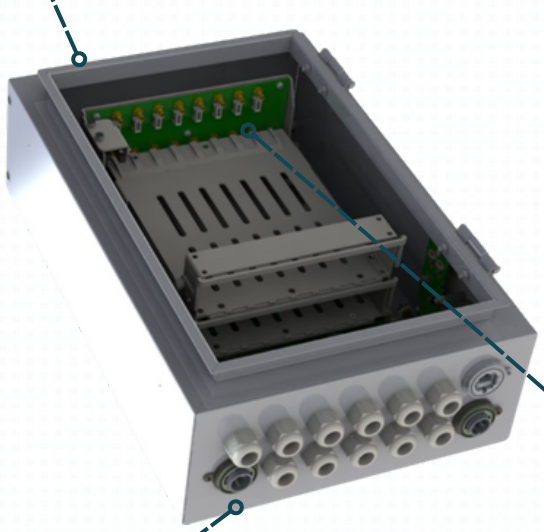
via RJ45 Ethernet via RJ45, 10BaseT/100BaseTx, ETL TCP/IP protocol, SNMPv3 & Web Browser Interface

Compact & flexible

ODU chassis holding up to 8 RF modules, which can be mixed.

Secure Communications

with SNMPv3, HTTPS



10MHz reference source

User replaceable internal and external 10MHz reference & distribution source.

Resilience

from hot-swap & field serviceable RF modules & CPU

Flexible signal distribution

Frequency converters, Redundancy Switches (N+1), RF Over Fibre, Matrices and LNB Power Supply Modules are available.

General Specifications		
Capacity		Up to 8 RF modules Note: Actual number dependent upon module type fitted. 1+1 redundancy configurations, please enquire.
Dimensions		450mm high x 300mm wide x 175mm
Weight		<10 kg
Colour		RAL9003 White (Semi-Matte)
AC Consumption		100W (max consumption at steady state)
DC Input		Dual 12VDC power inputs. (ETL can offer AC to DC outdoor power supplies. Please enquire with ETL if required)
Tech Spec Version		0.3
Reliability		
MTTR		15 minutes to replace. Assumes spares at hand. Applies to LRUs only and assumed in house stock.
MTBF	Chassis	> 250 000
	CPU	> 250 000
Hot-swap / Field-serviceable Components		RF modules, CPU, internal 10MHz reference source
Control & Monitoring		
Local Control		HMI, capacitive touchscreen (option)
Remote Control & Monitoring		Ethernet via RJ45, 10BaseT/100BaseTx ETL TCP/IP protocol SNMPv3 & HTTPS Built-in Web Server
Environmental		
Operating temperature		-25˚C to 60˚C (Upper temperature may be derated dependant on module selection and loading. Max air ambient 55˚C. Solar spot heating temperatures up to 60˚C).
Storage temperature		-40˚C to +80˚C (Not Powered)
Location		Outdoor or Indoor use, IP65
Humidity		20% - 100% non-condensing, Relative Humidity
Altitude	Operational	10,000 ft AMSL (Above Mean Sea Level)
	Storage	30,000 ft AMSL (Above Mean Sea Level)

RF Module Options						
Amplifier	BUC/LNB Power Supply	Frequency Converter	Matrices	Redundancy Switch	RF Over Fibre	Test Loop Translator (TLT)

Internal 10MHz reference and distribution module for ODU GENUS chassis

The integrated 10MHz card has full control and monitoring via the parent chassis HMI or RJ45. The 10MHz reference source is switchable between this on-board ovenised 10MHz oscillator or the customer supplied external reference, connected to the EXT input connector.

Internal 10 MHz - High Stability Oscillator		
Frequency Setting	10±0.000001 MHz	
Output Type	Sinewave	
Output Power Range	-10 dBm to +10dBm	±2 dBm
Harmonic Rejection (at 0dBm power out) 2nd 3rd 4th 5th	 >40 dBc >50 dBc >60 dBc >60 dBc	
SSB Phase Noise (typical, dBc/Hz) 10 Hz 100 Hz 1000 Hz 10 000 Hz 100 000 Hz	 <-120 <-140 <-145 <-155 <-155	
Frequency Stability: Over operating temperature Short-term (per second) Load change (±5%) Power supply variations (±5%)	 $<\pm5 \times 10^{-9}$ $< 5 \times 10^{-12}$ $< \pm5 \times 10^{-10}$ $< \pm2 \times 10^{-8}$	
Frequency Aging Per Day Per Year	 $\pm5 \times 10^{-10}$ $\pm5 \times 10^{-8}$	
Alarms	10MHz source RF power level. Card operational status	User settable auto switchover for reference source (Int/Ext)
Hot-Swap	Field replaceable by user.	

Note 1: The specification is subject to regular reviews and will be updated from time to time as part of our continuing product development and improved spec accuracy.
Note 2: Operation beyond the quoted limits stated above may cause instantaneous and permanent damage.

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