



Metro-GPS™

Fiber Optic Link

The **ViaLite®** Metro-GPS™ fiber optic link system enables the transport of GPS signals from GPS antenna to receiver in situations where these two points are far apart or inaccessible.

Head End Unit (located with roof-level antennas)



BTS Unit (located within building control room)

The **ViaLite®** Metro-GPS™ product offers a cost effective and simple method for transporting GPS RF signals to locations remote from the GPS antenna. Metro-GPS is offered in single, dual or three channel format with further options of automatic signal switch over for situations where redundancy is required for maximum signal uptime and integrity.

Installation and Operation

Metro-GPS™ comes ready for in-line installation between GPS active antenna and time/frequency receiver. The environmentally sealed head end unit is located close to the antenna and transmits the GPS signal optically over single mode fiber optic cable. The base transceiver station (BTS) recovers the original GPS RF data for output to a standard GPS or time/frequency receiver. Both ends of the system can be specified in AC mains or –48Vdc for a truly plug-and-play installation.

Applications

Metro-GPS™ is used in any application that demands accurate timing, location or mapping information. Cellular BTS sites and public mobile radio networks are examples where synchronised timing control is critical.

Typical Applications

- Communication Network Synchronisation
- Cellular BTS timing in tunnels
- GPS Re-radiation underground/buildings
- Government secure networks
- Military GPS synchronisation & mapping
- Meteorological stations

Benefits

- Low signal loss allowing operation over long distances (>15km)
- Can operate over existing fiber backbone
- No cable leakage
- Signal isolated from EMI fields
- Power supply redundancy as standard
- Remote alarms to indicate failures
- Automatic or fully managed signal redundancy/switchover

ViaLite® Metro-GPS™ system is inherently modular in design, making it easy to select exactly the right system for your particular application.

For more advanced configurations, multiple site installations, or just helpful advice on how to specify and configure your Metro-GPS™ system please contact PPM.

System Specifications

GPS RF Freq' Bands	L1; L2 & Galileo
Optional Bands*	eLoran; DCF, MSF
Delay	8µs per mile of fiber
Power	90 to 264Vac or -48Vdc
Impedance	50 ohms
Power Consumption	15W max. (Each end)
Antenna Connector	N type
Receive End Connector	SMA
Fibre Optic Cable	9/125um Single mode
Operating Temperature	-10 to +50°C

* Please contact PPM

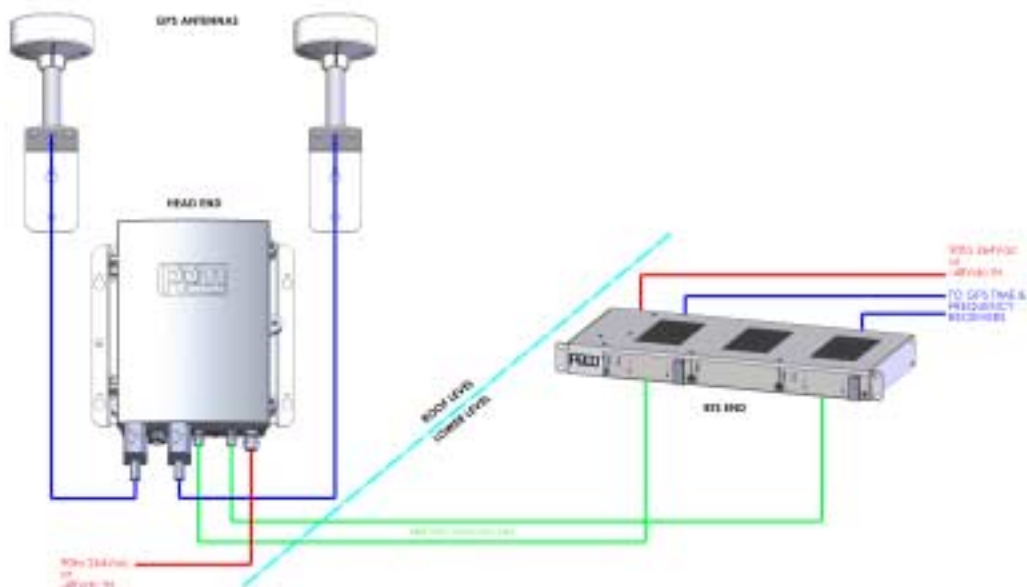
Mechanical Specifications Remote End

Environmental Rating	IP65
Material	LM99 Aluminium
Dimensions	12" x 9" x 4"
Weight	11lbs

Mechanical Specifications Base Station End

Environmental Rating	IP40
Dims (single, flange mount)	1U x 6.3" x 7.4"
Dims (dual/triple, 19" case)	1U x 19" x 7.4"
Weight	11lbs

Schematic of Typical **ViaLite**[®] Metro-GPS[™] Layout



ViaLite[®] Metro-GPS[™] Product Ordering Information

Description	Model Number
Single GPS FO link incl. head end outdoor housing & base station flange mount case	Metro-GPS101
Dual GPS FO link including head end outdoor housing & base station 1U 19" shelf	Metro-GPS102
Triple GPS FO link including head end outdoor housing & base station 1U 19" shelf	Metro-GPS103

Options	Description
A1* A2** A3***	Antenna(s), cable(s) & antenna mounting kit(s)
L1* L2** L3***	Lightning surge arrestor(s)
Mn	Pre-terminated cross-site optical fiber cable assembly, length <i>n</i> metres [^]
S1	Sunshield (fit where ambient is greater than 40°C)
Pn	Pole mount kit for remote end housing, <i>n</i> is your pole diameter in mm (from 15-168mm)
V48A	-48Vdc operation at head end
V48B	-48Vdc operation at BTS end

* for Metro-GPS101 ** for Metro-GPS102 *** for Metro-GPS103

[^] Cable lengths are available from 25m - 2000m in increments of 5 metres. (1metre = 3.28 feet)

Example Part Number: Metro-GPS102-A2-L2-M300-S1-V48A-V48B = 2 Channel Fibre Optic Link system supplied with 2 GPS Antennas; 2 Lightning arrestors, 300 metre fibre cable, Sunshield and 48Vdc power at both ends.