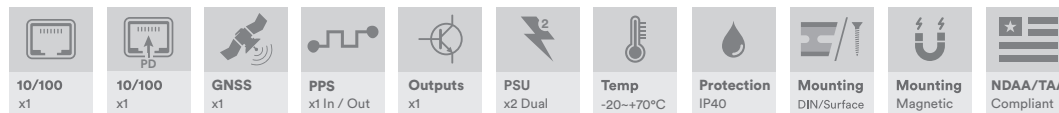


AMG810 SERIES INDUSTRIAL GNSS NTP TIME SERVER WITH OPTIONAL POE PD



Industrial Ethernet Solutions

AMG's NTP time servers provide highly accurate Stratum 1 time information to devices within a network that support the NTP/SNTP protocol. Featuring dual redundant DC inputs and an optional PoE PD input ensure maximum device reliability and uptime.



[AMG810-1F-PD]

/ OVERVIEW

Designed in a compact DIN rail or wall mount housing, the AMG810 series Stratum 1 network time servers are ideally suited for providing a highly accurate and easy to configure time source for networks without the need for any online access or subscription services.

The integrated GNSS receiver supports multiple user configurable satellite constellation sources including: GPS, Galileo, GLONASS and BeiDou with 33 tracking channels and 99 acquisition channels.

The AMG810 generates a reference PPS output which can provide time information to other AMG NTP or 3rd party devices. If the GNSS signal is lost to the AMG810 the integrated PPS input can accept a reference from another AMG NTP or 3rd party device server and/or use other NTP servers over the network as backup sources providing Stratum 2+ NTP during the outage.

Available with dual or triple power inputs along with an integrated real time clock with super-capacitor and battery backup ensures the maximum available uptime of the AMG810 series NTP server is maintained.

GNSS antenna is required and are sold separately.

/ FEATURES

- Compact size – ideal for confined spaces, including building risers, server and roadside cabinets
- -20°C to +70°C temperature maintains performance in challenging environmental conditions
- DIN rail or wall mountable - quick to install and remove for maintenance (an optional magnetic mount is also available)
- GNSS receiver supports 4 satellite constellations including GPS, Galileo, GLONASS & BeiDou
- PPS Input & Output support 3rd party devices with NTP time data for backup purposes
- Dual redundant DC power inputs and integrated real time clock with super-capacitor and battery backup ensure maximum system uptime
- Supports optional IEEE 802.3af PoE PD power input
- Designed in the USA & UK. Manufactured in the USA
- AMG Lifetime Support Warranty

Specifications.

Standards.

IEEE802.3i	10Base-T
IEEE802.3u	100Base-TX
IEEE802.3af	15W PoE PD
IEEE802.3x	Flow Control
IEEE 802.3AB	LLDP
RFC4250 - 4254	SSH
RFC5246	TLS1.2 / HTTPS
RFC854	Telnet
RFC5905/2030	NTP v4 / SNTP v4
RFC2131	DHCP

Hardware Features.

CPU	Dual Cortex-A7 @ 1.2Ghz
RAM	128MB
Flash	512MB
User Storage	MicroSD
GNSS	Quectel L76-L
GNSS Accuracy	100ns Typical
GNSS Backup	6-12 Hours (Super-Capacitor)
NTP Accuracy	±1ms (Network Dependent)
NTP Clients:	
With Tracking	100,000 Unique IPs
Without Tracking	1,000,000 Unique IPs
NTP Requests	>10,000 Requests per Second
RTC	XO (~ ±1.7 to ±3.5s/day Accuracy Without GNSS)
RTC Backup	≥5 Years (CR1220 Lithium Battery)

Management.

DHCP	Client (IPv4 & IPv6)
Management Access	Telnet SSH v2.0 CLI Web GUI (Read Only)
SNMP	v1/v2c (Read Only With Limited MIB Support)
Software Update	Auto or Manual Online or Offline
Configuration	IPv4 & IPv6
LLDP	Advertisement Neighbour Display
Prometheus Graphs	Compatible Metrics Endpoint GNSS (7 Days) NTP (7 Days) System Status (7 Days)

Interface.

LED Indicators	Power System PPS NTP RJ45 Link & Activity
RJ45 Ports	1x 10/100TX RJ45 with Auto MDI/MDI-X and 2 kV Isolation Protection
GNSS Serial Console Power PPS & Aux I/O User Storage	SMA (Female) with 3.3V _{DC} Output USB Type C 4-way Screw Terminal 4-way Screw Terminal MicroSD Card Slot

PPS I/O & Aux.

PPS Input	2.3V to 5.5V Wide-Range
PPS Output	5V @ 8mA Rising Edge 100msec Pulse Width
Aux Output	Digital Output 5V @ 8mA

Power.

Power Inputs	2 or 3 (Model Dependent)
Operating Voltage:	
DC (All Models)	11-27V _{DC}
PoE PD Models	IEEE 802.3af Class 3 Device
Power Consumption	1W Typical (5W Max)
Protection	Reverse Polarity Overload Current

Mechanical.

Housing	Anodised Aluminium
Dimensions:	(W x D x H)
(Excluding Wall Brackets)	37 × 88 × 107 mm 1.46 × 3.46 × 4.21 in
IP Rating	IP40
Installation	Wall Mount or DIN-Rail Optional Magnetic Mounts
Weight	0.45kg / 0.99lb

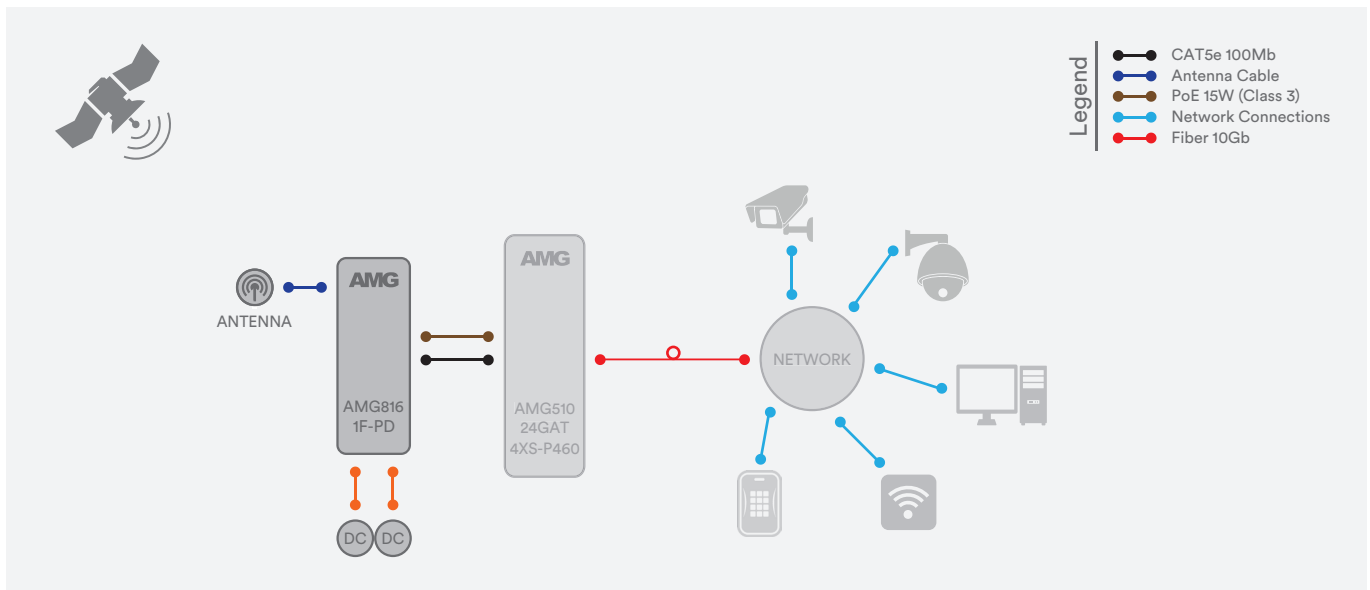
Specifications.

Environmental.		Regulatory.	
Operating Temp.	-20 to +70°C / -4 to +158°F	Safety	IEC/EN 62368-1
Storage Temp.	-40 to +85°C / -40 to +185°F	EMI	EN 55032 Class A
Humidity	5% to 95% (non-condensing)		CISPR 32
MTBF	>250,000 hours		FCC Part 15B Class A
MTBF Standard	Telcordia SR-332 GF 30°C	EMS	EN 61000-4-2 (ESD)
Heat Dissipation	3.4 BTU/h Typical (17 BTU/h Max)		EN 61000-4-3 (RS)
Cooling	Passive Cooling		EN 61000-4-4 (EFT)
Noise Level	0 dBA		EN 61000-4-5 (Surge)
			EN 61000-4-6 (CS)
			EN 61000-4-8 (PFMF)
		Shock	IEC 60068-2-27
		Free Fall	IEC 60068-2-32
		Vibration	IEC 60068-2-6
		Environmental	Reach
			RoHS
			WEEE
		Supply Chain	NDAA & TAA Compliant

Packaging.

Shipping Weight: 0.60kg / 1.32lb
 Dimensions: (W x D x H)
 220 x 170 x 40 mm
 8.66 x 6.69 x 1.57 in

Application Diagram.



Part Numbers.

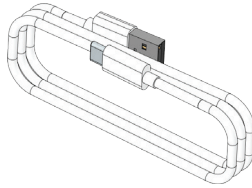
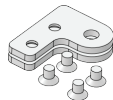
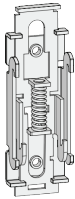
Industrial NTP Stratum 1 GNSS Time Servers

AMG810-1F	1 x 10/100BaseT(x) RJ45, 1 x GNSS Input, 1 x PPS Input/Output*
AMG810-1F-PD	1 x 10/100BaseT(x) RJ45 with PoE PD Class 3 Input, 1 x GNSS Input, 1 x PPS Input/Output*

* Requires a suitable GNSS antenna which are sold separately (see recommended antenna part codes below)

Included Accessories.

DIN Rail Adapter	Rear Mounted Metal DIN Rail Clip & Screws For DIN Rail Mounting AMG810 Series Products
Wall Mounting Brackets	2x Wall Mounting Brackets & Screws For Wall / Surface Mounting AMG810 Series Products
USB Console Cable	USB Type A to Type C Console Cable (1.5M)



Recommended Antennas.

AMGANT-G1-ODA5-4.5B	360° Omni-Directional Antenna, 1x GNSS 5dBi Gain SMA-Type Male Connector, 4.5M (15ft) RG174 Cable, IP65, Surface Mount, Black^
AMGANT-G1-ODA5-4.5W	360° Omni-Directional Antenna, 1x GNSS 5dBi Gain SMA-Type Male Connector, 4.5M (15ft) RG174 Cable, IP65, Surface Mount, White^
AMGANT-G1-ODA2.5-5B	360° Omni-Directional Antenna, 1x GNSS 2.5dBi Gain SMA-Type Male Connector, 5M (16ft) RG174 Cable, IP65, Surface Mount With Double Sided Adhesive Pad, Black^

^ Antenna extension cables and wall/pole mounting kits are also available. Maximum cable extension length depends on the antenna selected. Contact AMG Technical Services for advice and support.

Recommended PSUs.

AMGPSU-W12-P25	Plug Top Mounting Lite Industrial Grade PSU, 0 to +70°C, 12VDC, 25W, UK/EU/US Plug Heads Included
AMGPSU-I12-P24A	DIN-Rail Mount Industrial Grade PSU, -25 to +70°C, 12VDC, 24W*

* Also available in kit form including mains line cord, DC cable and DIN rail. Order with -K at the end of the part code (AMGPSU-I12-P24A-K).

Optional Accessories.

AMGMNT-MAG-04	4x Rear Mounted Magnets & Screws Kit For AMG810 Series, need to be ordered separately
AMG2035	Side Mounted Wall Bracket Adapter Kit For DIN Rail Mounting AMG810 Series Products In Depth Restricted Installations. Adapter Kit Can Be Extended Using The Included Extension Kit To Also Mount Additional Products or Power Supplies.

In a continuing effort to improve and advance technology, product specifications are subject to change without notice. Please visit www.amgsystems.com for the latest product specifications.

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