








AMG140 SERIES INDUSTRIAL ETHERNET REPEATERS WITH 30/60/90W POE



Industrial Ethernet Solutions

AMG's Extend-Net™ industrial Ethernet repeaters provide 10/100/1000Mb Ethernet extension over UTP cable with support for pass-through 30W or 60/90W PoE. These single channel models feature dual RJ45 ports and provide an additional 100 meter range over standard Cat5/6 cable.



 Gigabit x1 In x1 Out	 Repeater x1	 PoE 30/60/90W	 Temp -40°C~+75°C	 Mounting DIN/Surface	 Protection IP40	 NDAA/TAA Compliant
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[AMG140-1GR Series]

OVERVIEW

Designed in a compact tube style housing that can be DIN rail or wall mounted using the included accessory brackets, the AMG140 Extend-Net™ series industrial Ethernet repeaters are ideally suited for extending standard Ethernet networks over longer distances using Cat5/6 cables.

Each device allows an additional 100 meters of distance to be achieved at full 10/100/1000Mb speeds and multiple units can be used to extend distances further.

The AMG140 series support IEEE802.3at 30W and IEEE802.3bt 60/90W PoE pass-through and are suitable for powering the latest high powered PoE devices over a wide industrial operating temperature range at extended distances. The units can also be configured to operate as a PD device where the edge network equipment does not require PoE.

The advanced model offers additional DIP switch functionality including Link Fault Pass-Through capability to ensure remote faults can be notified to the head end equipment. In addition the extension distance can also be increased up to 250 meters between devices at 10Mb speeds.

FEATURES

- Compact size – ideal for confined spaces, including conduit, camera poles and roadside cabinets
- -40°C to +75°C temperature maintains performance in extreme conditions
- DIP switches for PoE Pass-Through or PD modes
- Increase cable range by 100 meters per unit (up to 250m is also possible on advanced model @ 10Mb)
- Standalone, DIN rail or wall mountable – flexible mounting options are included with every unit
- Powered by PoE (no local power supply required)
- Plug & Play design ensures maximum ease of use
- Supports 15W, 30W, 60W & 90W PoE Pass-Through
- Unicast, Multicast & Jumbo Frames are supported along with full symmetrical bandwidth performance
- Designed in the USA & UK. Manufactured in the UK
- AMG Lifetime Support Warranty

Specifications.

Standards.

IEEE802.3i	10Base-T
IEEE802.3u	100Base-TX
IEEE802.3ab	1000Base-T
IEEE802.3af	15W PoE
IEEE802.3at	30W PoE+
IEEE802.3bt	60 & 90W PoE
IEEE802.3x	Flow Control

Jumbo Frames	9.2Kbytes
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Interface.

LED Indicators	Power Ethernet Link/Activity PoE Fault* Extended Distance Enabled*
RJ45 Ports	2x 10/100/1000T(X) RJ45 with Auto MDI/MDI-X and 1.5 kV Isolation Protection

Switches.

Switch	1 or 2x 2 Position DIP Switches
Switch Functions	PoE Pass-Through Mode PoE PD Mode Link Fault Pass-Through* Extended Distance Mode*
Jumper	2x PoE Jumpers*
Jumper Functions	30W / 60W Type 3 PoE 90W Type 4 PoE

Power.

Power Inputs	None (Powered by PoE)
Operating Voltage	48-56V _{DC} PoE
Power Consumption	1.3W Max
Protection	High Impedance PoE Pass-Through with Start-up Voltage Detection and Current Limiting

Distance.

Standard Model	100 meters @ 10/100/1000Mb
Advanced Model*	100 meters @ 10/100/1000Mb or up to 250 meters @ 10Mb using Extended Distance mode

*Advanced Model Only Features

Packaging.

Shipping Weight	0.22kg / 0.49lb
Dimensions	(W x D x H) 192 x 102 x 35 mm 7.56 x 4.02 x 1.38 in

Mechanical.

Housing	Anodised Aluminium
Dimensions:	(W x D x H) 89 x 35 x 32 mm 3.50 x 1.38 x 1.26 in
Excluding Wall Bracket	113 x 35 x 35 mm 4.45 x 1.38 x 1.38 in
Including Wall Bracket	
IP Rating	IP40
Installation	Wall Mount or DIN-Rail
Weight	0.14kg / 0.31lb

Environmental.

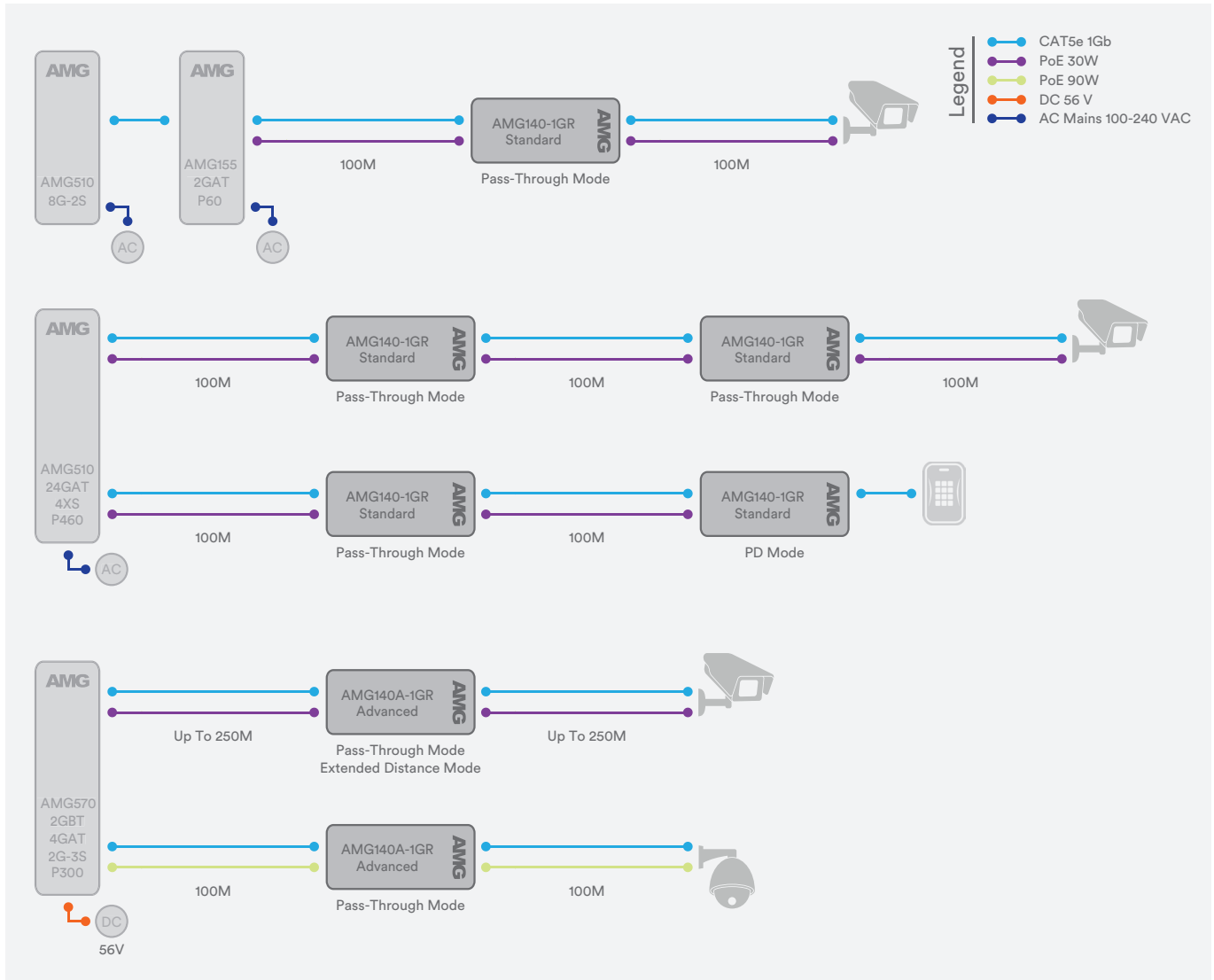
Operating Temp.	-40°C to +75°C
Storage Temp.	-40°C to +85°C
Humidity	5% to 95% (non-condensing)
MTBF	>500,000 hours
MTBF Standard	Telcordia SR-332 GF 30°C
Heat Dissipation	5 BTU/h (No PoE Pass-Through) 107 BTU/h (30W PoE Pass-Through) 210 BTU/h (60W PoE Pass-Through) 312 BTU/h (90W PoE Pass-Through)
Cooling	Passive Cooling
Noise Level	0 dBA

Regulatory.

Safety	IEC/EN 62368-1
EMI	EN 55032 Class A CISPR 32 FCC Part 15B Class A
EMS	EN 61000-4-2 (ESD) EN 61000-4-3 (RS) EN 61000-4-4 (EFT) 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

Designed to meet NEMA TS2 & EN 50121-4

Application Diagram.



PoE Available.

PoE Source	Maximum Power Available	
	at 200m (1 x AMG140 Used)	at 300m (2 x AMG140 Used)
IEEE 802.3af 15W PoE Switch or Injector	12W	9W
IEEE 802.3at 30W PoE Switch or Injector ¹	25W	20W
IEEE 803.3bt 90W PoE Switch or Injector ²	71W	42W

¹ Assumes that the PoE voltage output is >50 VDC.
² Assumes that the PoE voltage output is >55 VDC.

It is possible to use the AMG140-1GR series beyond 300M by utilising additional units to achieve distances of 800M or above however beyond 300M it is recommended that the AMG160 series would be used provided that 10/100Mb data rates are enough as this will provide a more cost effective solution and requires only a single pair of devices.

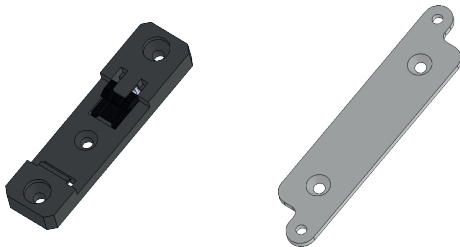
Part Numbers.

Extend-Net™ Single Channel Industrial Ethernet Repeaters

AMG140-1GR	Standard Model 1 × 10/100/1000BaseT(x) RJ45 In, 1 × 10/100/1000BaseT(x) RJ45 Out, 30W PoE
AMG140A-1GR	Advanced Model 1 × 10/100/1000BaseT(x) RJ45 In, 1 × 10/100/1000BaseT(x) RJ45 Out, 30/60/90W PoE

Included Accessories.

DIN Rail Adapter	Rear Mounted Plastic DIN Rail Clip & Screws For DIN Rail Mounting AMG140 Series Products (Black)
Wall Mount Adapter	Rear Mounted Aluminium Wall Mounting Plate & Screws For Wall / Surface Mounting AMG140 Series Products (Silver)



Notes.

Distance figures are based on specific PoE power sources and voltages as shown. Distance figures are obtained using in-house testing mirroring installations. Factors such as copper cable quality, the number of connectors and joints in the cable run, the use of PoE, and environmental conditions encountered within the installation might affect the actual transmission distance and should be taken into consideration.

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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