

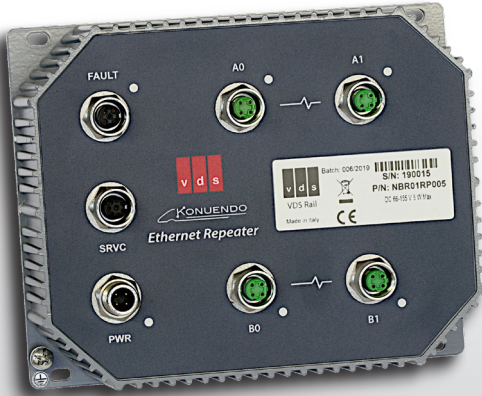
Ethernet Repeater

KONUENDO NETWORKING



VDS Rail

The onboard networking company



The Ethernet Repeater is a device able to regenerate the Ethernet frame data and the electrical parameters to overcome the 100m maximum Ethernet segment limit imposed by the standard. It provides two independent Ethernet lines protected with hardware bypasses to guarantee the physical link in case of power failure. It is completely transparent to all Ethernet protocols and offers full speed connectivity on both lines. The device is available as FE (100 Mbps) or as GbE (1 Gbps). The internal PSU can be powered by 2 separate power sources for added reliability. Moreover, the device is equipped with a fault relay, triggerable by loss of power or Ethernet physical errors detection.

Designed to operate in harsh environmental conditions typical of rolling-stock applications, the Ethernet Repeater is fully EN 50155 compliant and provides the highest level of reliability and robustness required by the railway industry.

Technical specifications

- Two (2) Fast Ethernet (10/100Mbps) or Gigabit Ethernet (10/100/1000Mbps) lines repeated
- Four (4) M12 circular connectors (4-ways for Fast Ethernet / 8-ways for Gigabit Ethernet)
- Hardware bypass on each line for maximum reliability
- Fault indication: Normally open and Normally closed contacts of a mechanical relay protected by a 0.5A non-resettable/ non-replaceable internal fuse
- Insulated power supply

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Technical specifications

PHYSICAL DATA

System status indicators:	1 green LED (Power OK)				
Fast Ethernet connectors:	M12, female, 4-ways, D-coding				
Gigabit Ethernet connectors:	M12, female, 8-ways, X-coding				
Fault Connector:	M12, female, 4-ways, A-coding				
Power supply connector:	M12, male, 4-ways, A-coding				
Power supply voltage range (insulated):	24 ÷ 110 Vdc nominal 16,8 Vdc ÷ 137,5 Vdc, according to EN 50155				
Power supply class:	S2, according to EN 50155				
Power consumption:	7 W max				
Overall dimensions:	133 x 175 x 47 mm				
Weight:	1 Kg				
Operating temperature:	<table border="0"> <tr> <td>Standard</td> <td>25 ÷ +70 °C (+85 °C for 10 min.) according to EN-50155 class OT3 with extended operating temperature ST1</td> </tr> <tr> <td>Optional</td> <td>-40 ÷ +70 °C (+85 °C for 10 min.) according to EN 50155 class OT4 with extended operating temperature ST1</td> </tr> </table>	Standard	25 ÷ +70 °C (+85 °C for 10 min.) according to EN-50155 class OT3 with extended operating temperature ST1	Optional	-40 ÷ +70 °C (+85 °C for 10 min.) according to EN 50155 class OT4 with extended operating temperature ST1
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Optional	-40 ÷ +70 °C (+85 °C for 10 min.) according to EN 50155 class OT4 with extended operating temperature ST1				
Relative humidity (non-condensing):	0 ÷ 95 %				
Storage temperature:	-40 ÷ +85 °C				
Colour codes:	<table border="0"> <tr> <td></td> <td>Pantone 430 / RAL 7045 (frame)</td> </tr> <tr> <td></td> <td>Black (front panel)</td> </tr> </table>		Pantone 430 / RAL 7045 (frame)		Black (front panel)
	Pantone 430 / RAL 7045 (frame)				
	Black (front panel)				
Degree of protection:	IP65				

APPROVALS / COMPLIANCE

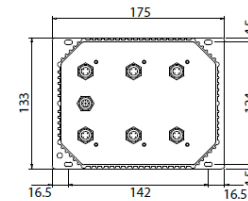
EN 50124-1	Insulation coordination
EN 45545-2	Fire & Safety standard

INTERNETWORKING STANDARDS

IEEE 802.3u	Fast Ethernet
IEEE 802.3ab	Gigabit Ethernet

Wall Mounting

Dimensions only for reference



FRONT VIEW



SIDE VIEW



TOP VIEW

H*: see overall dimensions specification

APPROVALS / COMPLIANCE

EN 50155	Railway Applications (Electronic equipment used on rolling stock)
EN 50121-3-2	Electromagnetic compatibility rolling stock apparatus
IEC 60068-2-1	Environmental testing: Tests - Test Ad: Cold
IEC 60068-2-2	Environmental testing: Tests - Test Bd: Dry heat
EN 60068-2-30	Environmental testing - Test Db variant 2 - Damp heat
EN 61373	Shock & Vibration - Category 1 class B