Redundant Ring Ethernet Extender

DDW-225

- Save time and money reusing old cables
  - Up to 15.3 Mbit/s Ethernet over twisted pair cables
  - Up to 15 km between units
  - Easy and quick to configure with WeOS
- Designed for use in harsh industrial applications
  - Dual 16 – 60 VDC power input
  - Extensive line diagnostics and fault I/O contact
  - TBU – transient blocking unit
- Robust for long service life
  - 410,000 hours MTBF to MIL-HDBK-217K
  - –40 to +70°C (–40 to +158°F) with no moving parts
  - Industrial EMC, shock and vibration testing
- Secure and resilient networking
  - Advanced WeOS layer 3 functionality
  - Network IP security and remote access
  - Layer 2 and 3 ring structures

CE EN 50121-4 Railway Trackside | EN 61000-6-1 Residential Immunity | EN 61000-6-2 Industrial Immunity | EN 61000-6-3 Residential Emission | EN 61000-6-4 Industrial Emission

The Wolverine DDW-225 allows effective Ethernet networks to be created over long distances (up to 15 km) at data rates up to 15.3 Mbit/s. The SHDSL technology makes it possible to reuse many types of pre-existing copper cables which can lead to considerable financial savings. Dependent on cable characteristics, distances up to 15 km (9.3 mi) can be achieved. The DDW-225 is powered by the WeOS operating system allowing complex networking functions to be easily configured. For simple applications, no configuration is required making the unit ideal for rapid installation.

With its robust aluminium housing, the DDW-225 is designed for use in heavy duty industrial applications. The wide power range and I/O fault contact make it ideal for easy installation and monitoring in industrial applications.

Only industrial grade components are used which gives the DDW-225 an MTBF of 410,000 hours and ensures a long service life. A wide operating temperature range of –40 to +70 °C (–40 to +158 °F) can be achieved without the need for moving parts or cooling holes in the case. The DDW-225 has been tested both by Westermo and external test houses to meet many EMC, isolation, vibration and shock standards, all to the highest levels suitable for heavy industrial environments and rail trackside applications.

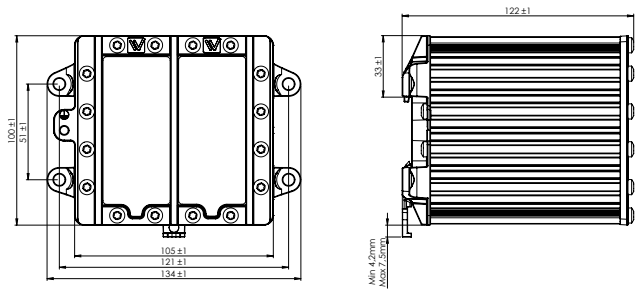
WeOS has been developed by Westermo to allow us to offer cross platform and future proof solutions. WeOS can deliver unique IP security functionality for this class of product e.g. a multiport DMZ can be constructed by utilizing the internal port based firewall function. Remote secure access to a network can be provided using encrypted VPNs. For resilience, a ring of DDW-225s can be created using the FRNT protocol, or by using OSPF, the DDW-225 can form part of an enterprise network. For more details on WeOS functionality, please see the WeOS datasheet.

Ordering Information

Art.no	Description
3642-0250	DDW-225
1211-2027	CLI Cable (Console) (Accessories)
3125-0150	PS-60, Power supply, DIN mounted (Accessories)

Specifications DDW-225

Dimensional drawing



Dimension W x H x D	134 x 100 x 122 mm (5.25 x 3.93 x 4.80 in)
Weight	1.5 kg
Degree of protection	IP40

Speed and Distance

	DDW-225 @ 0.5 mm²	DDW-225 @ 0.4 mm²
Speed bit/s	**Distance metre / miles**	**Distance metre / miles**
192000	10000 / 6.21	6450 / 4.00
1024000	7650 / 4.75	4850 / 3.01
1280000	7050 / 4.38	4700 / 2.92
2304000	5950 / 3.69	4150 / 2.58
3328000	4900 / 3.04	3700 / 2.30
4544000	4250 / 2.64	3150 / 1.95
5696000	3650 / 2.26	2800 / 1.73
6200000	3000 / 1.86	2250 / 1.39
6712000	2500 / 1.55	1875 / 1.1
8760000	2000 / 1.24	1500 / 0.93
10296000	1500 / 0.93	1125 / 0.69
12344000	1000 / 0.62	750 / 0.46
15304000	700 / 0.43	525 / 0.32

Distance is tested without noise.

Power	
Operating voltage	16 to 60 VDC
Rated current	410 mA @ 20 VDC 175 mA @ 48 VDC

Interfaces	
Console	1 x 2.5 mm jack, use Westermo cable 1211-2027
USB	1 x USB 2.0 host interface
Digital I/O	1 x 4-position detachable screw terminal
Ethernet TX	4 x RJ-45, 10 Mbit/s or 100 Mbit/s
DSL	2 x 2-position detachable screw terminal, 32 kbit/s to 15.3 Mbit/s

Temperature	
Operating	–40 to +70 °C (–40 to +158 °F)
Storage & Transport	–40 to +85 °C (–40 to +185 °F)
Maximum surface temperature	135 °C (275 °F) (temperature class T4)

Agency approvals and standards compliance	
EMC	EN 50121-4, Railway signalling and telecommunications apparatus.
	EN 61000-6-1, Immunity for residential, commercial and light-industrial environments..
	EN 61000-6-2, Immunity industrial environments.
	EN 61000-6-3, Emission residential, commercial and light-industrial environments.
	EN 61000-6-4, Emission industrial environments.
Safety	UL 60950-1, IT equipment.
SHDSL	ITU-T G.991.2.