

Managed Ethernet Switch Lynx-EX Series



- **Global approval for hazardous area use**
 - Type tested and certified by third party
 - IECEx, International EX standard
 - ATEX 2014/30/EU, EU directive
- **Compact Industrial Ethernet switch design**
 - Flexible SFP transceiver design
 - Advanced WeOS Layer 3 functionality
 - Low power consumption
- **Robust and reliable for long service life**
 - Up to 667,000 hours MTBF (MIL-HDBK-217K)
 - Industrial temperature specifications
 - Industrial EMC, shock and vibration testing
- **Unique future proof industrial networking solutions**
 - 20 ms network ring recovery time
 - Fast reconnect for multicast protocols
 - Easy to use



The Lynx-EX series consists of layer 3 industrial Ethernet switches, powered by WeOS, the Westermo network operating system. Independently tested for IECEx and ATEX by SGS Baseefa, Lynx is the perfect solution for hazardous area applications in any part of the world.

The Lynx-EX switches are the most compact switches on the market, available with up to ten Ethernet ports, whereof two are 100 Mbit or Gbit SFP transceivers. The Lynx-EX series is designed for simple use in industrial applications, from the robust DIN rail clip solution to the configurable fault contact and the industrial level of dual power inputs.

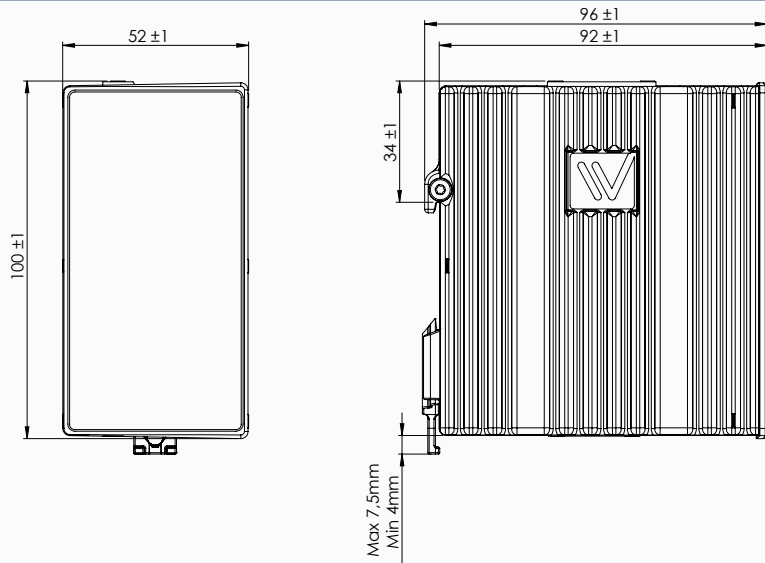
Only industrial grade components are used which gives the Lynx an MTBF of 677,000 hours and ensures a long service life. A wide operating temperature range -40 to +70°C (-40 to +158°F) can be achieved with no moving parts or cooling holes in the case.

The Lynx-EX series 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 application.

WeOS has been developed by Westermo to allow us to offer cross platform and future proof solutions. WeOS can deliver 20 ms ring recovery performance even for networks with video or EtherNet/IP traffic. For EX approved transceivers and more WeOS functionality, please see the transceiver and WeOS datasheets.

Specifications - Lynx-EX Series

Dimensional drawing



Housing

Dimensions (W x H x D)	52 x 100 x 101 mm (2.04 x 3.93 x 3.97 inches)
Housing	Full metal
Weight	0.7 kg

Environmental

Temperature, operating	-40 to +70°C (-40 to +158°F)
Temperature, storage and transport	-50 to +85°C (-58 to +185°F)
Ingress protection	IP40
Humidity operating	5-95% relative humidity
Corrosive gases	IEC 60068-2-60
Altitude	2000 m/70 kPa
EX marking	Ⓔ II 3G EX nA IIC T3 Gc (-40°C ≤ Ta ≤ +70°C)

Model	L206-F2G-EX	L210-F2G-EX	L205-S1-EX	L206-S2-EX	L208-F2G-S2-EX
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MTBF hours

MIL-HDBK-217-F	615,000	630,000	677,000	593,000	517,000
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Interfaces

Interface	L206-F2G-EX	L210-F2G-EX	L205-S1-EX	L206-S2-EX	L208-F2G-S2-EX
Copper ports	4	8	4	4	4
Fibre ports (SFP)	2	2			2
RS-232			1	1	1
RS-232 or RS-485				1	1
USB	1		1	1	1
I/O Digital input	1	1	1	1	1
I/O Digital output	1	1	1	1	1
Console	1	1	1	1	1

Approvals	
EMC	EN 61000-6-1, Immunity residential environments
	EN 61000-6-2, Immunity industrial environments
	EN 61000-6-3, Emission residential environments ^a
	EN 61000-6-4, Emission industrial environments
	EN 50121-4/IEC 62236-4, Railway and telecommunications apparatus
Safety	UL 62368-1, Safety Communication Technology
Marine	DNV GL rules for classification - Ships and offshore units
ATEX/IECEX	Explosive atmosphere EN/IEC 60079-0, General requirements EN/IEC 60079-15, Equipment protected by type of protection "n"

^aValid for all except Lx10-F2G-EX

Model	L206-F2G-EX	L210-F2G-EX	L205-S1-EX	L206-S2-EX	L208-F2G-S2-EX
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Approvals RFE					
FCC Part 15.105 class A	◆	◆			
FCC Part 15.105 class B			◆	◆	◆

Power parameters					
Galvanic isolation	to all ports				
Rated voltage	24 to 48 VDC				
Operating voltage	19 to 60 VDC				
Rated current at 24 VDC	180 mA	240 mA	140 mA	150 mA	250 mA
Rated current at 48 VDC	90 mA	120 mA	70 mA	80 mA	120 mA

Switch properties	
Number of VLAN	64
Priority queues	4

Software	
WeOS	https://www.westermo.com/solutions/weos
WeConfig	https://www.westermo.com/solutions/weconfig

Warranty	
Validity	5 years

Art.no.	Product
3643-5235	L206-F2G-EX
3643-5105	L210-F2G-EX
3643-5215	L205-S1-EX
3643-5225	L206-S2-EX
3642-5205	L208-F2G-S2-EX

Accessories	
1211-2027	CLI Cable (Console)
1211-2210	RJ-45 to DB9 cable
100 Mbit transceivers	https://www.westermo.com/products/accessories/sfp-transceivers/100m-sfp-transceivers
Gbit transceivers	https://www.westermo.com/products/accessories/sfp-transceivers/1gbit-sfp-transceivers
WeConfig	https://www.westermo.com/products/software/weconfig

Specification WeOS 4

The WeOS operating system has been developed by Westermo for its current as well as future range of Ethernet hardware products. This layer 2 and layer 3 switching solution enables Westermo to create complex multimedia ring networks and routing solutions. WeOS not only provides solutions to many challenging industrial networking issues, but also helps to protect investments by ensuring the future availability of fully compatible solutions. WeOS is the core of our latest ranges of Ethernet hardware allowing complex multimedia ring networks and routing solutions to be created.

Westermo has many years of experience developing products for industrial applications. At the heart of all Westermo networking solutions is the need for ease of use. By standardising on a single operating system for all Westermo Ethernet products this helps to simplify the installation, operation and maintenance of individual devices and complete networks. Once a user is familiar with a Westermo product, that knowledge can be readily applied to all our other devices. A web screen simplifies the configuration of many functions, whilst a command line interface allows for fine tuning.

WeOS incorporates unique functions that allow Westermo solutions to provide integration paths for legacy equipment. WeOS also enables Westermo to deliver a range of unique network security solutions, utilising elements such as stateful inspection firewalls and the IEEE 802.1X standard. Remote secure access can be provided using encrypted VPN tunnels. The WeOS Management Guide, 6101-3201, explains how many of these functions can be set up.

WeOS Standard - Layer 2 protocols and functionality
Resilience and High Availability FRNTv0/v2 flexible ring topologies (multiring, subrings and ring coupling), Multilink dual homing, IEC 62439-2 Media Redundancy Protocol (MRP) ^a , IEEE 802.1AX/802.3ad Link Aggregation (LACP and static), IEEE 802.1D Spanning Tree Protocol (STP) and IEEE 802.1w Rapid Spanning Tree Protocol (RSTP)
Layer 2 Switching IEEE 802.1Q Static VLAN and VLAN Tagging, VLAN Q-in-Q tunnelling, VLAN transparency, IEEE 802.3x Flow Control, IGMPv2/v3 Snooping, AVT Dynamic VLAN (Adaptive VLAN Trunking), Management VLAN (Management Interface concept), Static Multicast MAC filters, IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
Layer 2 QoS IEEE 802.1p Class of Service, Ingress/inbound rate limiting, Egress/outbound traffic shaping
Layer 2 Security IEEE 802.1X Port Access Control, MAC Authentication, IP/MAC address conflict detection, Port Auto-Disable
Serial Port Technologies Serial over IP (Serial Extender and Virtual Serial Port), Modem replacement, Modbus Gateway, Microlok II Gateway
Manageability WeConfig, Web interface (HTTP and HTTPS), Command Line Interface (CLI) via console port, (SSHv2 and Telnet), Local and central user authentication (RADIUS and TACACS+), SNMPv1/v2c/v3, Secure Copy (SCP), USB configuration and backup, BOOTP client, flexible alarm/event handling system, Syslog (log files on RAM/USB and remote syslog server), Digital I/O, Persistent Port Monitoring, NTPv4 Client/Server, DHCP client (including options 60 and 61), DHCP server (including options 1, 3, 6, 7, 12, 15, 42, 61, 66, 67, 82, 121 and 249), DHCP relay agent (including options 54 and 82), DDNS
SNMP MIB Support RFC1213 MIB-2, RFC 2819 RMON MIB, RFC 2863 Interface MIB, RFC 3411 SNMP Framework MIB, RFC 3433 Entity Sensor MIB, RFC 3635 Ethernet-like MIB, RFC 4133 Entity MIB, RFC4188 Bridge MIB, RFC4318 RSTP MIB, RFC4363 Q-BRIDGE MIB, RFC4836 MAU MIB, IEEE 802.1AB LLDP MIB, IEEE 802.1AX LAG MIB, IEC 62439-2, MRP ^a , UCD SNMP MIB, WESTERMO-WEOS MIB, WESTERMO-FRNT MIB, WESTERMO-INTERFACE MIB

^aAvailable as add-on-function. Please see your local Westermo sales contact to purchase a license for your product.

WeOS Extended - Layer 3 protocols and functionality ^a
IP Routing, Cyber Security and VPN Static IP routing, Floating Static Routes, Dynamic IP routing (OSPFv2, RIPv1/v2), VRRPv2/v3, Static Multicast Routing, Stateful Inspection Firewall, NAT, 1-1 NAT, Proxy ARP for 1-1 NAT, Port Forwarding, DSCP/TOS modification, IPsec VPN (IKEv1 certificates and PSK, ESP, VPN failover), SSL VPN (Client and Server, Local and central authentication with RADIUS, address pool and address per CN, TLS authentication, WeConnect), GRE, Multinetting
Serial Port Technologies PPP dial in/dial out
SNMP MIB Support

^aProducts with software level WeOS Extended include all functionality listed for WeOS Standard