WESTERMO

MERLIN

Industrial Dual-Radio 450MHz Private Network Cellular Router

Merlin 4600 Series

- **Versatile Dual-Radio Cat 4 LTE router for energy and industrial applications**
  - Zero-touch large scale deployment
  - Multi-service support: Dual Radio 450MHz Private Network, Fast Ethernet, RS-232/485
  - Industrial protocol gateway and conversion
  - Dual-radio LTE offers maximum flexibility for rollout on both public and private networks

- **Best-in-class Cybersecurity**
  - Secure Boot ensures software is authentic and unmodified
  - Trusted Platform Module keeps cryptographic keys secure
  - Cybersecurity suite: 802.1X, IPSec encryption, stateful firewall
  - IEC 62443-4-1 Secure product development lifecycle certified

- **Unrivalled Design and Supply Chain Control**
  - Designed in-house by our R&D team - hardware, operating system, mechanics
  - Manufactured in Ireland - final secure assembly processes completed in-house
  - Factory pre-configured with SIMs or eSIMs installed as an option

CE   UKCA   **EN 61000-6-2** Industrial Immunity   **EN 61000-6-4** Industrial Emission
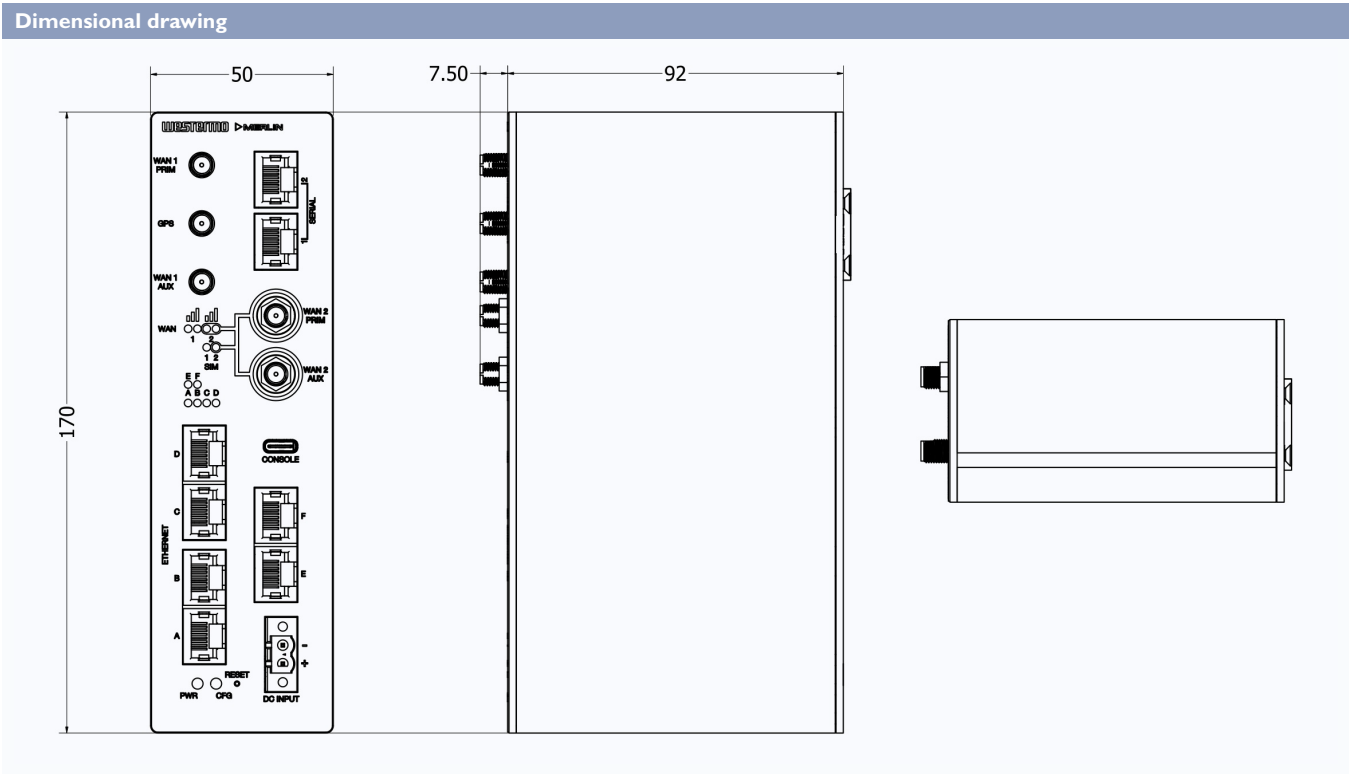
The Merlin 4600 series of versatile cellular routers provide high speed data network connectivity for demanding industrial and smart grid applications. Coupled with the Zero Touch Deployment software Activator, it provides cost-effective, reliable and consistent onboarding of routers in large-scale projects.

This compact, rugged unit is suited to tight spaces. The power supply and Ethernet ports benefit from a high level of galvanic isolation. Its high MTBF and wide temperature range support maximum service life.

To achieve best-in-class cybersecurity, the Merlin series is equipped with a TPM (Trusted Platform Module) chip that keeps cryptographic keys secure. Secure Boot ensures that the unit boots using only software that is signed and trusted by manufacturer. A set of cybersecurity tools is available as standard including VPN and stateful Firewall support for data security and user authentication.

The built-in industrial protocol gateway enables several devices using different protocols to be accessed via a common protocol interface.

Specifications - Merlin 4600 Series

Dimensional drawing

Housing	
Dimensions (W x H x D)	50 x 170 x 100 mm
Housing	Full metal
Weight	750 g

Power parameters	
Operating voltage	9.6 to 60 VDC
Power consumption	7 W typical, 10 W maximum
Hold up time	100 msec

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

Interface	
Ethernet	Ethernet 6 x 10/100 Mbit/s, Ethernet TX, RJ45
Mobile	LTE Cat 4. Dual radio option
GNSS	GPS, GLONASS, BeiDou, Galileo
SIM cards	2 x Mini-SIM (2FF) card slots to rear, covered by metal plate
Antenna connectors	5 x SMA compatible connectors
Console	USB type-C. Router acts as device
Serial	2 serial ports, each software configurable for RS232/RS485

MTBF hours	
Telcordia	825.000 hours (to be confirmed)

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Approvals

EMC	• EN/IEC 61000-6-2, Immunity industrial environments • EN/IEC 61000-6-4, Emission industrial environments
Safety	• EN 62368-1, Safety Communication Technology

Software Features

Management	Web interface (HTTPS), SMS management support, CLI via console, SSHv2, TFTP, SNMPv1/v2c/3, Secure Copy (SCP), Flexible alarm and event system, Port monitoring
Monitoring	Built-in diagnostics and packet tracing, event logging, SNMP Traps, Syslog
IP Routing	IPv4 and IPv6, DHCP, DynDNS, NAT, NAT Traversal, NTP Client, VLAN support, Packet filtering, Port forwarding, BFD, BGPv4, OSPF, RIP (v1 and v2), IPSec/L2TP/GRE, DMVPN, SNMP v1/v2/v3, TLS 1.2, 802.1x authentication, IEC104, QoS, VRRP, VRF
Security	Stateful inspection firewall, RADIUS, TACACS+
IPSec VPN	IKE Version 2, X.509 certificates, ECC, SHA2_512 support, AES_CBC (256), PFS, SCEP, DH_8192, FlexVPN
SCADA Protocol Conversion	Control of I/O from SCADA master, IEC 60870-5-104, IEC 60870-5-101, IEC 61850, Modbus RTU, Modbus TCP, Modbus RTU to TCP conversion, DNP3, Serial to Ethernet, MQTT protocol translation
RTU Functionality	Monitoring and Control of I/O from SCADA master, Protocol conversion, Basic PLC functions

Mobile Frequency Bands

Region	2G Bands	3G Bands	LTE Bands	LTE Category	GNSS
EMEA	900/1800	B1, B8	B1, B3, B7, B8, B20, B28	4	Yes
Europe / Private Network Band 72	-	-	B3, B7, B20, B72	4	Yes
Private Network Bands 31 and 40	-	-	B3, B7, B20, B31, B40	4	Yes

Warranty

Validity	5 years

Art.no.	Product	Ethernet	Serial	Digital Inputs	Digital Outputs	GNSS	Region
3460-00041	Merlin-4610-T6-S2-LV-QFZ-PFN	6	2	-	-	Yes	Dual radio EMEA + Europe/Private Network Band 72
3460-00043	Merlin-4610-T6-S2-LV-QFZ-PFT	6	2	-	-	Yes	Dual radio EMEA + Private Network Bands 31 and 40

Accessories

3125-0150	PS-60, power supply. DIN-mounted. Input voltage: 100 to 240 VAC, 50 to 60 Hz or 110 to 250 VDC

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