

Industrial LTE Cellular Router

Merlin 4100 Series

- **Versatile LTE router for utility and industrial applications**

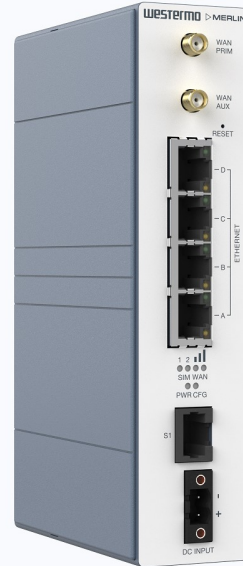
- Compact unit with DIN-rail mounting
- All LEDs and interfaces to the front of unit for easy access
- Multi-service support: LTE, Ethernet, RS-232, Digital Input
- Industrial SCADA protocol gateway and conversion

- **Secure by design**

- Cybersecurity suite: 802.1X, VPN encryption, stateful firewall
- Trusted Platform Module keeps cryptographic keys secure
- Secure zero-touch large scale deployment

- **Robust and resilient**

- Dual SIM card
- High MTBF
- Wide temperature range



EN 61000-6-2
Industrial Immunity

EN 61000-6-4
Industrial Emission

RED
Radio equipment
directive

The Merlin 4100 router is a versatile LTE cellular router suited to a variety of industrial deployments. The compact and rugged design makes it ready for harsh environments that require remote access such as SCADA, CCTV, telemetry, smart grid, digital signage and intelligent traffic systems.

The Merlin series is designed from the ground up to achieve best-in-class Cybersecurity. High security VPNs, stateful inspection firewall, user authentication and 802.1x are just a few of the features available to keep the device secure both locally and when transmitting data over the internet or private network.

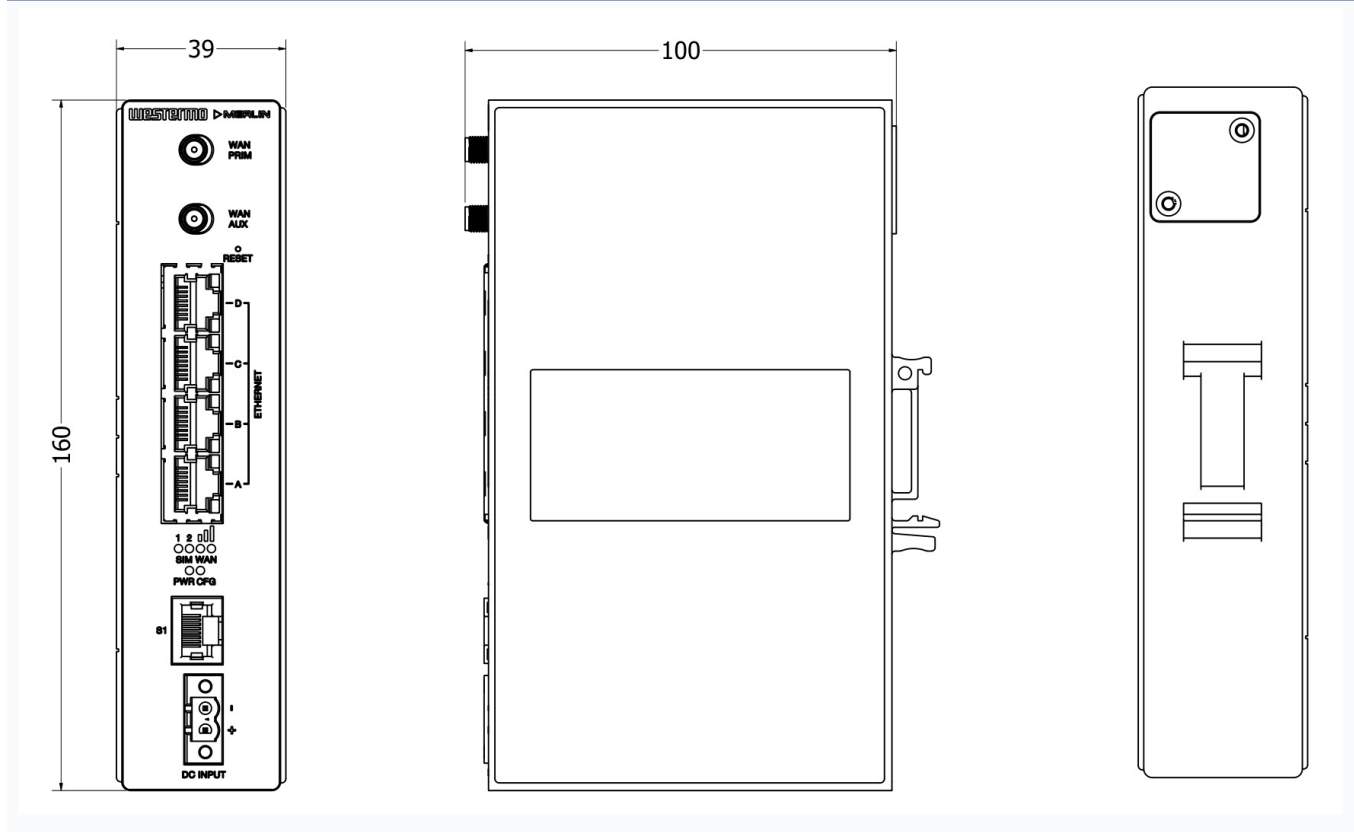
The Merlin 4100 is compatible with the Activator Zero-Touch Deployment software. Activator ensures that configurations are generated and deployed from a central server, reducing configuration mistakes and increasing efficiency during the installation phase of a project.

A dual-use port is software-configurable to act either as a RS-232 serial port or as a dry contact digital input. The serial port facilitates applications where it is necessary to migrate from modems to an IP infrastructure. The industrial protocol gateway feature enables several devices using different protocols to be accessed via a common protocol interface.

This compact unit is suited to tight spaces. Its high MTBF, wide temperature range and voltage supply ensure the Merlin 4100 can deal with the demands of industrial and utility applications.

Specifications - Merlin 4100

Dimensional drawing



Housing

Dimensions (W x H x D)	39 x 160 x 100 mm
Housing	ABS
Weight	280 g
Mounting	DIN Rail

Power parameters

Operating voltage	9.6 to 60 VDC isolated
Power consumption	5 W

Environmental

Temperature, operating	-20°C to +70°C
Temperature, storage and transport	-25°C to +70°C
Ingress protection	IP40
Humidity, operating	5-95% relative humidity

Interface

Ethernet	Ethernet 4 x 10/100 Mbit/s, RJ45
Mobile	LTE Cat 4 Optional: Cat-M1 / NB-IoT
SIM cards	2 x Mini-SIM (2FF) card slots to rear, covered by plate
Antenna connectors	2 x SMA compatible connectors
Serial/Digital Input	A RJ45 dual-use port. Software configurable to act either as RS-232 Serial or Digital Input (dry contact)

MTBF hours	
Telcordia	1,700,000 hours

Approvals	
EMC	<ul style="list-style-type: none"> • IEC/EN 61000-6-2, Immunity industrial environments • IEC/EN 61000-6-4, Emission industrial environments
Safety	<ul style="list-style-type: none"> • EN 62368-1, Safety Communication Technology
North American standards/ approvals	<ul style="list-style-type: none"> • UL 62368-1 • FCC, PTCRB, AT&T, FirstNet. Pending: Verizon, T-Mobile

Software Features	
Management	Zero-Touch Provisioning (ZTP) using Activator. Web interface (HTTPS), SMS management support, CLI via console, SSHv2, TFTP, SNMPv1/v2c/v3, Secure Copy (SCP), Flexible alarm and event system, Port monitoring, Firmware-Over-The-Air
Monitoring	Built-in diagnostics and packet tracing, event logging, SNMP Traps, Syslog
APN Setting	Automatic APN / Manual Setting APN
IP Routing	IPv4 and IPv6, IPSec/L2TPv3/GRE/OpenVPN client/server, DMVPN, DHCP, DynDNS, NAT, NAT Traversal, NTP Client, VLAN support, Packet filtering, Port forwarding, BFD, BGPv4, OSPF, RIP (v1 and v2), 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
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 over TCP, MQTT
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	Radio Module Code
EMEA	900/1800	B1, B8	B1, B3, B7, B8, B20, B28	4	No	QFZ
Australia	-	B1, B5, B8	B1, B3, B5, B7, B8, B28	4	No	PFJ
North America	-	B2,B4,B5	B2, B4, B5, B12, B13, B14, B25, B26, B66, B71	4	No	PPF
Global Cat-M1 / NB-IoT	850, 900, 1800, 1900	-	B1, B2, B3, B4, B5, B8, B12, B13, B17, B18, B19, B20, B26, B28	Cat-M1 / NB-IoT	No	QFT

Art.no.	Product	Power Input	Ethernet	Dual-use port	Region
3460-41100	Merlin-4106-T4-S1-DI1-QFZ	9.6 to 60 VDC isolated	4	Serial RS-232 or Digital Input	EMEA
3460-41200	Merlin-4106-T4-S1-DI1-PFJ	9.6 to 60 VDC isolated	4	Serial RS-232 or Digital Input	Australia
3460-41300	Merlin-4106-T4-S1-DI1-PPF	9.6 to 60 VDC isolated	4	Serial RS-232 or Digital Input	North America
3460-41097	Merlin-4106-T4-S1-DI1-QFT	9.6 to 60 VDC isolated	4	Serial RS-232 or Digital Input	Global Cat-M1 / NB-IoT

Warranty	
Validity	5 years

Accessories	
3125-0150	PS-60, power supply. DIN-mounted. Input voltage: 100 to 240 VAC, 50 to 60 Hz or 110 to 250 VDC
1211-2210	Westermo auxiliary serial adapter cable RJ-45/D-sub, 50cm length
Note: antennas not included	