

Industrial LTE/5G Cellular Router

Merlin 3400 Series

- **Versatile Dual-Radio Cellular Router for Industrial Applications**

- Zero-touch large scale deployment
- Multi-service support: LTE Cat-4, 5G, Gigabit Ethernet, Wi-Fi-6, Digital Input/Outputs, Analog/Digital Input, Serial
- Industrial protocol gateway and conversion

- **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

- **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



EN 61000-6-2
Industrial Immunity

EN 61000-6-4
Industrial Emission

RED
Radio equipment
directive

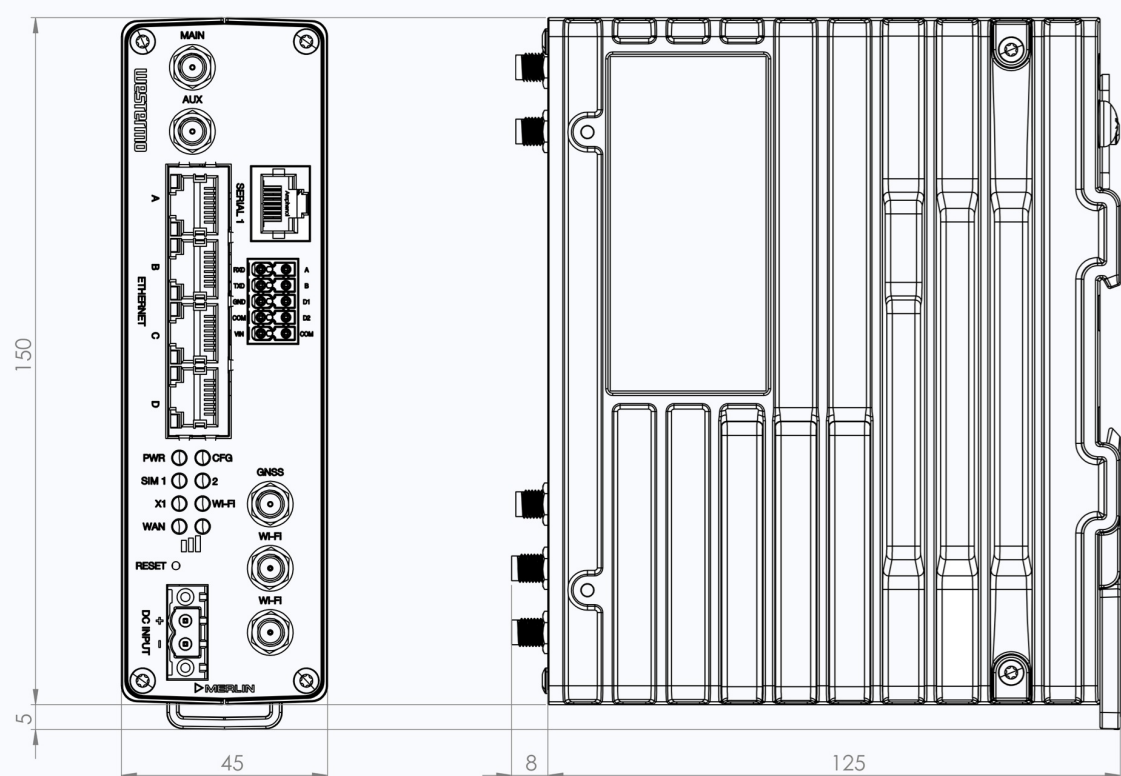
The Merlin series of versatile cellular routers provide high speed data network connectivity for demanding industrial and smart grid applications. Coupled with the Zero Touch deployment software Activator, it provides cost-effective, reliable, and consistent onboarding of routers in large-scale projects.

This compact, rugged unit is suited to tight spaces. 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.

Specifications - Merlin 3400 Series

Dimensional drawing



Housing	
Dimensions (W x H x D)	45 x 150 x 125mm
Housing	Full metal
Weight	Approx 700 g

Power parameters	
Operating voltage	9.6 to 60 VDC isolated
Power consumption	5 to 20 Watts depending on model

Environmental	
Temperature, operating	-40 to +70°C
Temperature, storage and transport	-50 to +85°C
Ingress protection	IP30
Humidity, operating	5-95% relative humidity

Approvals	
EMC	- EN/IEC 61000-6-2, Immunity industrial environments (pending) - EN/IEC 61000-6-4, Emission industrial environments (pending)
Safety	EN 62368-1, Safety Communication Technology (pending)

Interface	
Ethernet	Ethernet 4 x 10/100/1000 Mbit/s, Ethernet TX, RJ45
Mobile	LTE 4G, 5G (supports both NSA and SA modes)
GNSS	Where model supports GNSS: GPS, GLONASS, BeiDou, Galileo
WLAN	Wi-Fi 6 optional
SIM cards	2 x Mini-SIM (2FF) card slots to rear, covered by metal plate. Dual radio has a third Mini-SIM card slot to front
Antenna connectors	Up to 7 x SMA female connectors. Optional Wi-Fi has 2 x SMA RP female
Serial	- Optional - 1 x RS-232 with flow control and hand-shaking on RJ-45 port - Optional - 1 x RS-232, 3-wire - Optional - 1 x RS-485, 2-wire
Digital Input/Outputs	Up to two digital input/outputs, each software-configurable to operate either as a digital input or as a digital output
Analog/Digital Input	Optional: 1x Analog/Digital input

MTBF hours	
Telcordia	1,300,000 hours

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
RTU Functionality	Monitoring and Control of I/O from SCADA master, Protocol conversion, Basic PLC functions

Mobile Frequency Bands				
Region	3G Bands	LTE Bands	5G NR	GNSS
Global LTE Cat-4	B1, B2, B4, B5, B6, B8, B19	B1, B2, B3, B4, B5, B7, B8, B12, B13, B18, B19, B20, B25, B26, B28, B38, B39, B40, B41	-	Yes
Global 5G	B1, B2, B4, B5, B8, B19	B1, B2, B3, B4, B5, B7, B8, B12, B13, B14, B17, B18, B19, B20, B25, B26, B28, B29, B30, B32, B34, B38, B39, B40, B41, B42, B43, B48, B66, B71	n1/ 2/ 3/ 5/ 7/ 8/ 12/ 13/ 14/ 18/ 20/ 25/ 26/ 28/ 29/ 30/ 38/ 40/ 41/ 48/ 66/ 70/ 71/ 75/ 76/ 77/ 78/ 79	Yes. Passive antenna only
Europe / Private Network Band 72	-	B3 ,B7, B20, B72	-	No
Private Network Bands 31 and 40	-	B3, B7, B20, B31, B40	-	No

Warranty	
Validity	5 years, optional extension available

Art.no.	Product	GbE	WiFi	RS-232 (RJ45)	RS-232 3-wire	RS-485	Digital Input/ Output	Analog/ Digital Input	SMA's	GNSS	Region
3460-34000	Merlin-3405-T4G-QFR-G-DCi1060	4	No	-	-	-	-	-	3	Yes. Active antenna supported	Global LTE Cat-4
3460-34004	Merlin-3408-T4G-S3-DIO2-AI1-QFR-G-DCi1060	4	No	1	1	1	2	1	3	Yes. Active antenna supported	Global LTE Cat-4
3460-34007	Merlin-3406-T4G-QFR-QFR-G-DCi1060	4	No	-	-	-	-	-	5	Yes. Active antenna supported	Dual radio: Global LTE Cat-4 + Global LTE Cat-4
3460-34012	Merlin-3406-T4G-QFR-PFO-G-DCi1060	4	No	-	-	-	-	-	7	Yes. Active antenna supported	Dual radio: Global LTE Cat-4 + Global 5G
3460-34006	Merlin-3406-T4G-QFR-PFN-G-DCi1060	4	No	-	-	-	-	-	5	Yes. Active antenna supported	Dual radio: Global LTE Cat-4 + Europe / Private Network Band 72
3460-34003	Merlin-3408-T4G-S3-DIO2-AI1-PFT-DCi1060	4	No	1	1	1	2	1	2	No	Europe / Private Network Bands 31 and 40

These models available by special order:

Art.no.	Product	GbE	Fibre SFP	SMA's	GNSS	Region
3490-00097	Merlin-3407-F2G-T4G-PFO-DCi1060	4	2	4	Yes. Passive antenna supported	Global 5G
3490-00098	Merlin-3407-F2G-T4G-QFR-DCi1060	4	2	2	No	Global LTE Cat-4

Accessories	
3125-0150	PS-60, power supply. DIN-mounted. Input voltage: 100 to 240 VAC, 50 to 60 Hz or 110 to 250 VDC
Note: antennas not included	