

# VDSL 5G Cellular Router

## Merlin 4750 Series

- **Versatile VDSL 5G cellular router**
  - Zero-touch large scale deployment
  - Multi-service support: 5G, GbE Ethernet, VDSL, Digital I/Os, RS-232/485
  - Industrial protocol gateway and conversion
  - Support for WeConnect
- **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



**EN 61000-6-2**  
Industrial Immunity

**EN 61000-6-4**  
Industrial Emission

**MCT-Pass**

**RED**  
Radio equipment  
directive

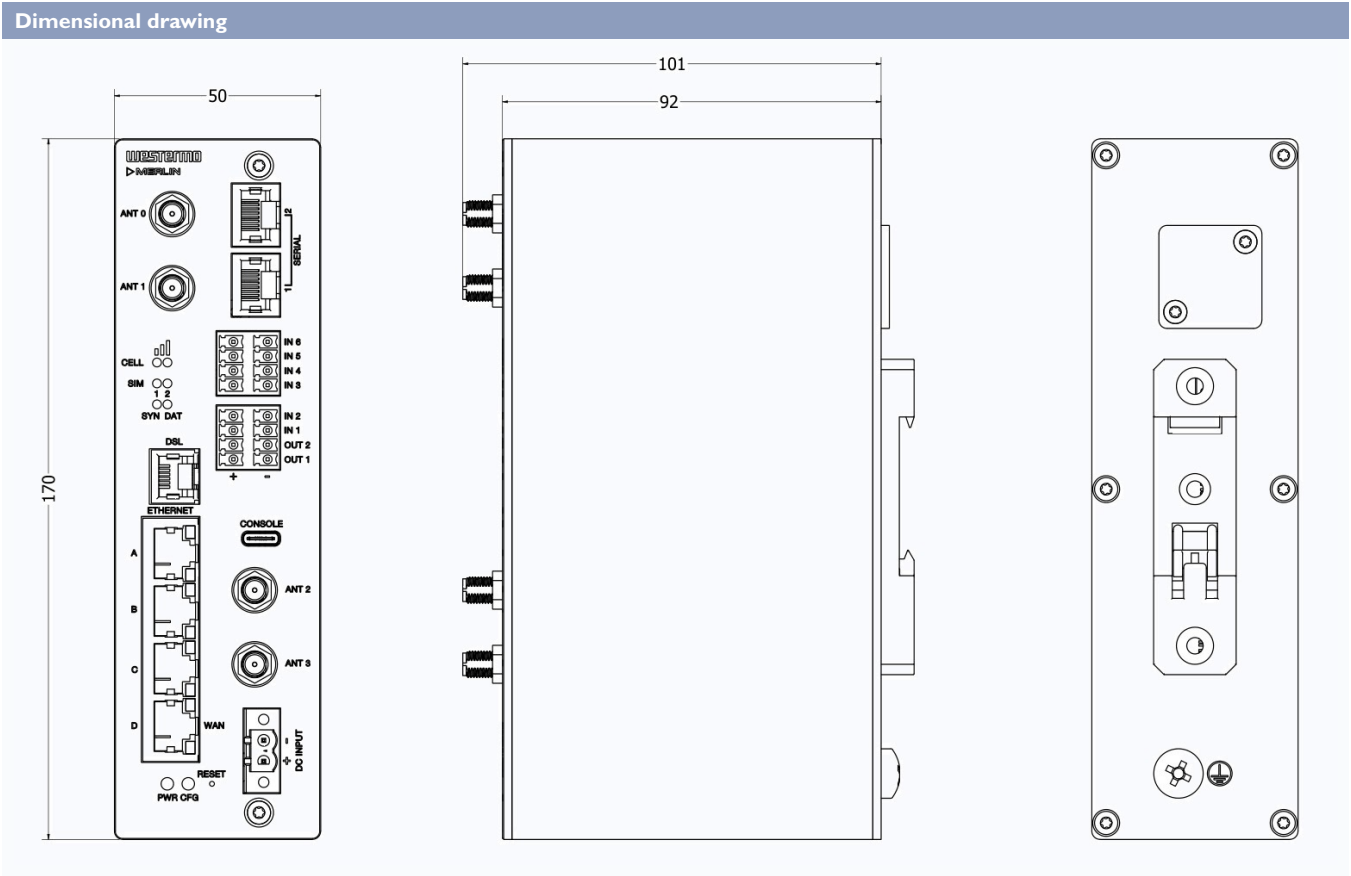
The Merlin series of versatile cellular routers provide high speed data network connectivity for demanding industrial and smart grid applications. Coupled with the Zero Touch deployment software Activator, it provides cost-effective, reliable, and consistent onboarding of routers in large-scale projects.

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.

The built-in industrial protocol gateway enables several devices using different protocols to be accessed via a common protocol interface. The unit supports up to 6 digital inputs and 2 outputs for local control or monitoring. Support for more digital inputs and outputs is possible using external modules.

# Specifications - Merlin 4750 Series



| Housing                |                   |
|------------------------|-------------------|
| Dimensions (W x H x D) | 50 x 170 x 101 mm |
| Housing                | Full metal        |
| Weight                 | 760 g             |

| Power parameters  |  |
|-------------------|--|
| Operating voltage | 9.6 to 60 VDC                              |
| Power consumption | 12 W                                       |
| Hold up time      | 100 msec                                   |
| Isolation         | 4.0 kVrms galvanic isolation on power port |

| Environmental                      |   |
|------------------------------------|---|
| Temperature, operating             | -20 to +65°C  |
| Temperature, storage and transport | -30 to +70°C  |
| Ingress protection                 | <ul style="list-style-type: none"><li>• IP30 as standard</li><li>• IP31 when fitted with accessory part 432-00078</li></ul> |
| Humidity, operating                | 5-95% relative humidity   |

| Approvals |   |
|-----------|---|
| EMC       | <ul style="list-style-type: none"><li>• EN/IEC 61000-6-2, Immunity industrial environments</li><li>• EN/IEC 61000-6-4, Emission industrial environments</li></ul> |
| Safety    | <ul style="list-style-type: none"><li>• EN 62368-1, Safety Communication Technology</li></ul>   |
| VDSL      | <ul style="list-style-type: none"><li>• BT Openreach MCT (pending)</li></ul>  |

| Interface          |  |
|--------------------|--|
| Ethernet           | Ethernet 4 x 10/100/1000 Mbit/s, Ethernet TX, RJ45               |
| DSL                | VDSL2 / ADSL2+ Annex A, Annex B, RJ11                            |
| Mobile             | 5G   |
| SIM cards          | 2 x Mini-SIM (2FF) card slots to rear, covered by metal plate    |
| Antenna connectors | 4 x SMA compatible connectors                                    |
| Console            | USB type-C. Router acts as device                                |
| Serial             | Up to 2 serial ports, each software configurable for RS232/RS485 |
| Digital inputs     | Up to 6 digital inputs for detecting remote contact open/close   |
| Digital outputs    | Up to 2 relay contact outputs.                                   |

| MTBF hours |               |
|------------|---------------|
| Telcordia  | 815.000 hours |

| Software Features                |   |
|----------------------------------|---|
| <b>Management</b>                | Web interface (HTTPS), SMS management support, CLI via console, SSHv2, TFTP, SNMPv1/v2c/3, Secure Copy (SCP), Flexible alarm and event system, Port monitoring  |
| <b>Monitoring</b>                | Built-in diagnostics and packet tracing, event logging, SNMP Traps, Syslog  |
| <b>IP Routing</b>                | 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 |
| <b>Firewall</b>                  | Stateful inspection firewall, RADIUS, TACACS+   |
| <b>IPSec VPN</b>                 | IKE Version 2, X.509 certificates, ECC, SHA2_512 support, AES_CBC (256), PFS, SCEP, DH_8192   |
| <b>SCADA Protocol Conversion</b> | 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   |
| <b>RTU Functionality</b>         | 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                 | 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 | No   |

| Warranty |         |
|----------|---------|
| Validity | 5 years |

| Art.no.    | Product                             | Ethernet | Serial | VDSL2/ ADSL2+ | USB Console | Digital Inputs | Digital Outputs | Region |
|------------|-------------------------------------|----------|--------|---------------|-------------|----------------|-----------------|--------|
| 3460-47501 | Merlin-4758-V-T4G-S2-DI6-DO2-LV-PFO | 4        | 2      | Yes           | Yes         | 6              | 2               | Global |
| 3460-47502 | Merlin-4757-T4G-S2-DI6-DO2-LV-PFO   | 4        | 2      | No            | Yes         | 6              | 2               | Global |

| Accessories                 |  |
|-----------------------------|--|
| 3125-0150                   | PS-60, power supply. DIN-mounted. Input voltage: 100 to 240 VAC, 50 to 60 Hz or 110 to 250 VDC |
| 432-00078                   | End Cap for Merlin 4700 Series and Merlin 4600 Series routers                                  |
| 1211-2210                   | Westermo auxiliary serial adapter cable RJ-45/D-sub, 50cm length                               |
| Note: antennas not included |  |