



Levanto 5518

Industrial gateway and 5G router



Levanto 55 18



Industrial 5G router and gateway

Dual SIM router

Levanto Industrial series

The **Levanto Industrial series** is designed for use in industrial environments and applications requiring a high level of security, with open-source or third-party software hosted directly on the hardware platform.

The 5xx8 Industrial models are the latest additions to Tiesse's industrial gateway series and are part of the well-known Levanto family, which is highly appreciated and widely used in the industrial and energy sectors, where safety and continuity of service are of primary importance, as well as reliability and durability for installations in harsh environments.

KEY FACTORS



Always-On

Stable connections wherever they are, with multiple cellular links, transparent backup, and quality of service for uninterrupted business.



Secure by design

Right from the design phase for robust and natively secure solutions. State-of-the-art security framework designed to protect data, communications, and network infrastructure



Third party applications

Secure Docker-based hosting of lightweight third-party applications for customized edge computing and optimized bandwidth usage.



Rugged, robust and reliable

Designed for reliable long-term operation in industrial and utility environments, with enhanced EMC immunity, Class A emissions compliance for critical infrastructure deployments.



Zero Touch Provisioning

Minimize on-site installation and configuration activities, enable remote management and agile configuration of installed equipment with Zero Touch Provisioning suite.



Easy to install, anywhere

Compact dimensions and a tool-minimized installation process allow rapid deployment even in confined spaces.



Eco-efficient

Minimal consumption, lower environmental impact and higher operating cost savings.

LEVANTO 5518

4 GE ports



2 Fiber ports



Dual SIM



5G port

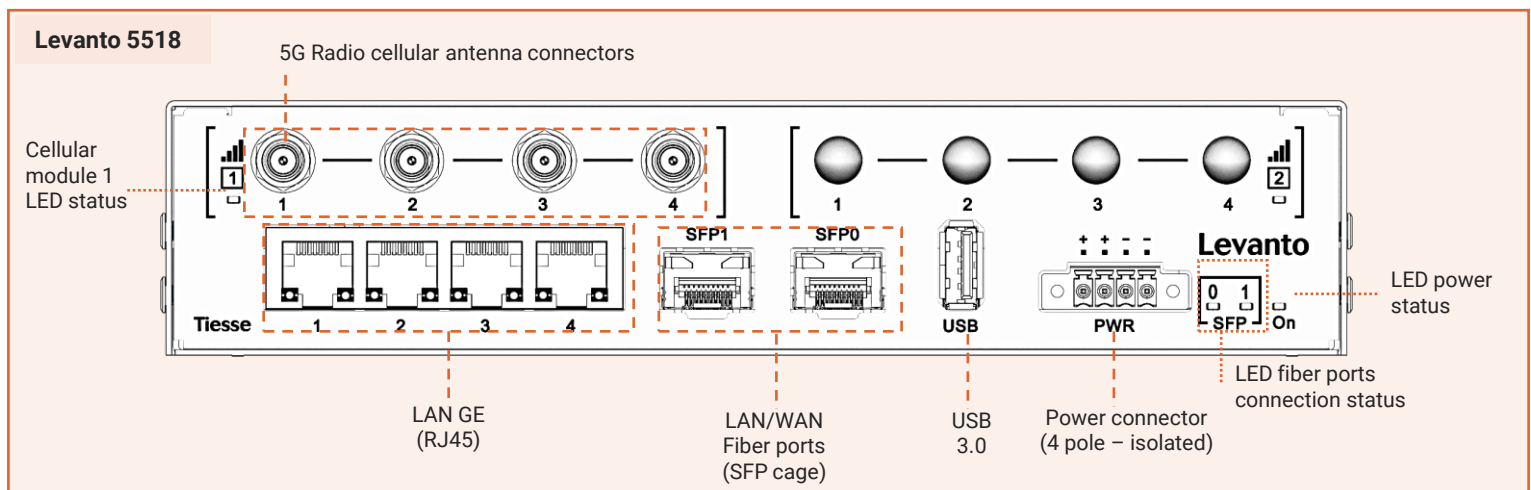


Levanto 5518





HARDWARE INTERFACES

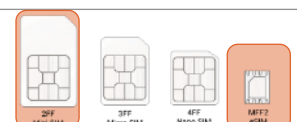


Levanto 5518 have a robust and reliable hardware by design, without moving parts (like cooling fans).

Port	N°	Type	Details
	4	GE	- 10/100/1000 Mbps
LAN/WAN	2	SFP cage	- SFP port for LAN/WAN access with fibre optic cable - Support of different models of SFP transceiver modules (not included) - Maximum data rate 1000 Mbps (SX, BX, LX, ZX) - Support for SFP GPON
USB	1		- USB 3.0

RADIO CELLULAR INTERFACES

	N°	Type	Details
5G RADIO CELLULAR	1	Features	- RF performance in 5G, LTE and WCDMA radio access technologies conforms to 3GPP specifications. - Supports FR1(Sub 6G), Rel 16
		Frequency bands	- 5G: n1/n2/n3/n5/n7/n8/n12/n13/n14/n18/n20/n25/n26/n28/n29(SDL)/n30/n38/n40/n41/n48/n66/n71/n75(SDL)/n76(SDL)/n77/n78/n79 - 4G: B1/B2(B25)/B3/B4(B66)/B26(B5,B18,B19)/B7/B8/B12(B17)/B13/B14/B20/B28/B29(SDL)/B30/B32(SDL)/B34/B38/B39/B40/B41/B42/B43/B46(SDL)/B48/B71/B106 - 3G: B1/B2/B4/B5/(B6,B19 Japan)/B8
		Data Rate	- NSA up to: 4.1Gbps on DL, 0.55Gbps on UL - SA up to: 4.1Gbps on DL, 0.9Gbps on UL - 4G: CAT. 20 (2Gbps) on DL, CAT. 18 (211Mbps) on UL, Rel 16 - 3G: HSPA+ Rel9 up to 42/5.7Mbps in DL/UL
		MIMO	- 1Tx / 4Rx (4x4 DL MIMO) 5G: n1/n2/n3/n7/n25/n30/n38/n40/n41/n48/n66/n75/n77/n78/n79 4G: B1/B2/B3/B4/B7/B25/B30/B32/B34/B38/B39/B40/B41/B42/B43/B48/B66 - 2Tx (2x2 UL MIMO) / 4Rx (4x4 DL MIMO): 5G: n38/n41/n48/n77/n78/n79 - 1Tx / 1Rx (2nd Rx Diversity): 3G/4G all operating bands
		Receiver Sensitivity	- 5G NR Sub-6 Throughput >95% - 4G LTE Throughput >95% - 3G WCDMA BER <0.1% 12.2 Kbps
	4	Antenna connectors	SMA female connector
	2	SIM cards	- SIM form factor: 2FF mini SIM card - SIMs cards are mutually exclusive - Optionally, SIM n. 2 can be replaced with a SIM-on-chip - E-SIM supported





Levanto 5518 – 5G industrial gateway and router

Dual SIM product – Modular and field-upgradable (dual-active)



LEVANTO UPGRADE KIT: SECONDARY 4G/5G MODULE EXPANSION

Levanto 5518 can be upgraded to a dual radio cellular module, dual-SIM solution through a dedicated add-on kit, which adds a second module, providing two independent radio cellular connections.

Each module supports dual-SIM functionality, with both 2FF Mini-SIM / sim-on-chip and eSIM technology, ensuring maximum flexibility and connectivity resilience.

The add-on kit can be installed directly in the field, enabling:

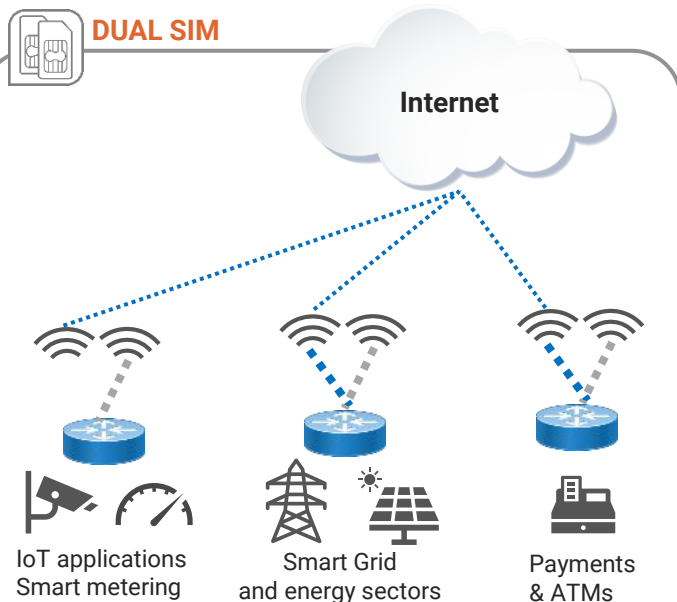
- Automatic carrier failover
- Load balancing across multiple connections
- Increased bandwidth potential (where supported)

The result is maximum service availability and enhanced network resilience.

KEY FACTOR of a DUAL RADIO MODULE VERSION



DUAL SIM



Key benefits

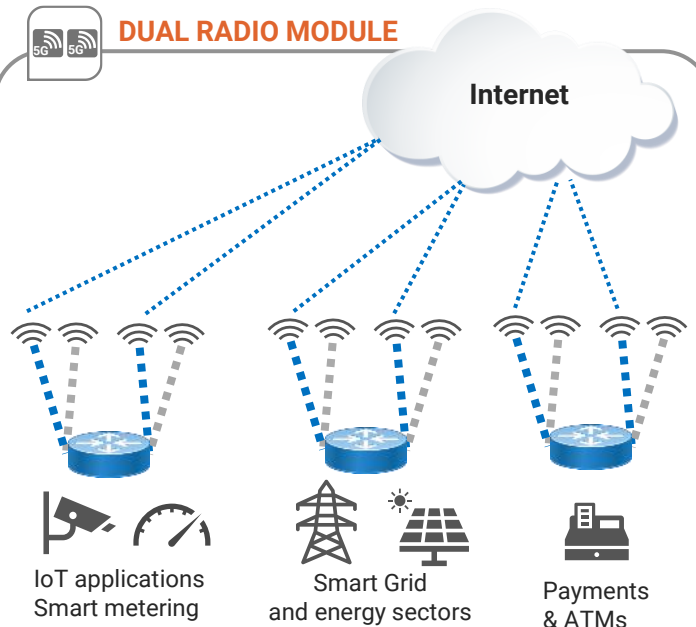
- **Carrier redundancy & Business continuity**
If one operator experiences an outage or poor performance, the router automatically switch to the second SIM.
Downtime is minimized thanks to the availability of the second SIM as a backup
- **Improved coverage**
The best available network can be chosen depending on the location and on the signal quality
- **Cost optimization**
One SIM can be used for the primary connection, while the second can be used as a backup for additional data capacity

Notes

- One SIM active at a time
- Overall bandwidth is not increased simply by having two SIM Cards and two different operators.



DUAL RADIO MODULE



Key benefits

- **Concurrent connections**
Both radio cellular connections are active at the same time
- **Load balancing**
Traffic can be distributed across two concurrent connections to improve performance and capacity
- **Instant failover**
Having two connections, if one fails, the second radio cellular module maintains the network operation with minimal or zero interruption
- **Higher reliability**
Ideal for mission-critical applications such as industrial automation, video surveillance, retail, POS systems, and remote monitoring

Notes

- All SIMs active at a time
- Overall bandwidth is increased



Levanto 5518 – 5G industrial gateway and router

Dual SIM product – Modular and field-upgradable (dual-active)



LEVANTO UPGRADE KIT: SECONDARY 4G/5G MODULE EXPANSION

Levanto 5518, thanks to its modular internal architecture, can be upgraded in the field using an add-on kit to add a second radio cellular module (4G or 5G). Together, these features make the product **field-upgradable, modular, and dual-active**.



Levanto 5518 + 1 4G module KIT

4 GE ports 2 Fiber ports Dual SIM 5G port



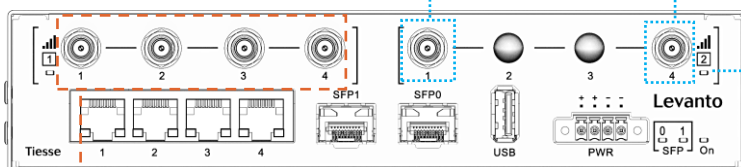
factory mounted



+ Add-on kit

1x 4G module

Mounted in field



Module 2 (add-on kit) - 4G Radio cellular antenna connectors

Module 1 - 5G Radio cellular antenna connectors

Cellular module 2 LED status



Levanto 5518 + 1 5G module KIT

4 GE ports

2 Fiber ports

Dual SIM

Primary 5G port



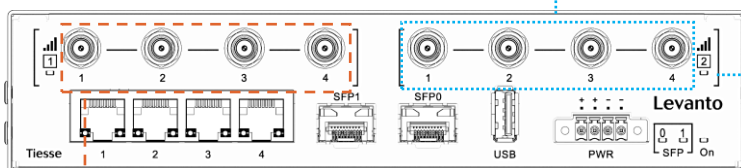
factory mounted



+ Add-on kit

1x module 5G

Mounted in field



5G Radio cellular antenna connectors – module 2

5G Radio cellular antenna connectors – module 1

Cellular module 2 LED status



Levanto 5518 – 5G industrial gateway and router
Dual SIM product – Modular and field-upgradable (dual-active)

PRODUCT IMAGE

Levanto 5518 1x 5G radio cellular module - factory mounted



Front view



Side view



Levanto 5518 + ADD-ON 1x 5G radio cellular module - factory mounted + 1 4G module add-on kit



Front view



Side view



Levanto 5518 + ADD-ON 1x 5G module - factory mounted + 1 5G module add-on kit



Front view



Side view

Levanto 5xx8 – all models



Back view



Bottom view

MTNOS SOFTWARE

NETWORKING

- IPv4 / IPv6 Dual Stack advanced forwarding, filtering, and dual-stack policies
- VXLAN (RFC 7348): L2 over IP/UDP with per-tenant VNI encapsulation
- SRv6 Native SID Support:
 - Implements End, End.X, End.DT6, End.B6 behaviors
 - Integrated with BGP SR Policy for flexible traffic engineering
- High Availability: ECMP, VRRP, BFD, fast convergence via EVPN multihoming

LAYER 2 features

- IEEE 802.1Q VLANs: iTagged VLAN support with configurable trunks and access ports
- Ethernet Bridging: hardware/software bridge domains with MAC learning and filtering
 - Virtual Bridged Local Area Networks
- Layer 2 protocol Tunneling (L2TP / L2TPv3)
- 802.1Q-in-802.1Q
- EVPN (RFC 7432):
 - L2/L3 VPN overlay over IP/MPLS
 - MAC/IP route advertisement (Type-2), IP Prefix routes (Type-5)
 - Ethernet Segment Identifier (ESI) for multihoming and redundancy
- Spanning Tree Protocols (optional): support for RSTP/MSTP
- VXLAN + EVPN Integration:
 - EVPN as the control plane for VXLAN overlays
 - Seamless tenant segmentation and MAC mobility

ROUTING & MULTICAST

- BGP v.4 – Border Gateway Protocol:
 - Full IPv4/IPv6 support with route-maps, prefix-lists, communities
 - Route Reflector, Confederation, Add-Path, Route Refresh
 - BGP-LU for MPLS/SRv6 integration
 - BGP EVPN and SR-TE extensions
 - RPKI for route origin validation
- OSPF / IS-IS for IPv4 and IPv6:
 - Dynamic IGP support for underlay routing
 - SRv6 SID advertisement via IGP extensions
- RIP, RIPNG
- Static Routing with route distance, and route tagging
- Route Redistribution
- Policy Based Routing
- Full VPN/VRF support, enabling advanced network segmentation through multiple isolated routing tables with overlapping IP address spaces
- VRR (Virtual Routing Redundancy Protocol)
- Multicast routing with PIMv2 sparse-mode and PIMv2 dense-mode, MSDP
- IGMP v1-v2-v3, IGMP snooping, IGMP Proxy
- MPLS Support
 - Native MPLS Forwarding
 - Support for LDP for label Distribution
- Multihoming and Failover:
 - BGP multipath, BFD fast detection, graceful restart
- Tunnel and interface monitoring with latency and availability measurement for automated traffic rerouting and failover.

MTNOS SOFTWARE

QoS

- Support of more than 4 Class of Services (DSCP / IEEE802.1p marking)
- Priority queue and three WFQ (Weighted Fair Queueing) support
- Traffic classification based on source IP, destination IP, protocols (UDP, ICMP, TCP, etc.) and ports, and their combinations, on application recognition, on IP Precedence and DSCP
- DiffServ
- Remarking of IP Precedence, DSCP and CoS
- Shaping with guaranteed bandwidth allocation and redistribution of excess bandwidth
- Committed Access Rate and Multicast rate limit
- Traffic prioritisation mechanisms, definition of an arbitrary number of priority classes
- IEEE 802.3ad link aggregation
- QoS for radio cellular interfaces (4G/5G RedCap/5G)

VPN and TUNNELLING

- IPsec:
 - IPsec tunnels (ESPv3)
 - VPN (site-to-site and remote-access)
 - Supports IKEv1/IKEv2.
 - Policy-based and route-based IPsec
 - IPsec Authentication based on Pre-Shared Keys and certificates
- GRE / GRE over IPsec:
 - Simple L3 tunneling or secure encapsulation.
 - NHRP (Next Hop Resolution Protocol) for DMVPN Architecture
- L2TP / L2TPv3:
 - Layer 2 VPN over IP
 - Optional pseudowire emulation with static or dynamic control
- OpenVPN Support client and server
- Multiple Packet Data Network (Multi-PDN)
- Segregated traffic via MPLS tag over IPsec tunnels

SECURITY

- Access Control Lists (ACLs) for granular traffic filtering and policy enforcement:
 - IPv4/IPv6 L2-L4 filtering with management (permit/deny actions)
 - Applied on ingress/egress per interface or globally
- Stateful Firewall:
 - Comprehensive firewall filtering capabilities, enabling granular traffic control based on network and transport layer parameters (OSI).
 - Connection tracking with session-based filtering
 - Inspection of TCP/UDP/ICMP flows with dynamic port handling
 - Protection against SYN floods and malformed packets
- NAT / PAT Support:
 - Source NAT, Destination NAT, Port Address Translation
 - Useful for IPv4-to-IPv6 interworking and traffic isolation
- 802.1x
 - Access port authentication using EAP with RADIUS backend
- Hardware Root of Trust and Secure Boot for protection against unauthorized firmware modifications and verification of software authenticity.
- Next-generation security with post-quantum cryptography (PQC) / Quantum Key Distribution (QKD) support
- IEEE 802.1X port-based network access control on Ethernet access ports
- User profile management with strict login controls and scoped command authorization
- Secure file transfer through SFTP, SCP and HTTPS

MTNOS SOFTWARE

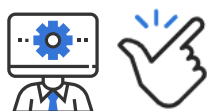
SERVICES

- ICMP – IPv4/IPv6 full support
- DHCP client, DHCP server with anti-spoofing functions, DHCP relay (IPv4 / IPv6 full support)
- Intelligent DNS Proxy, local and remote
- Traceroute
- NTP v.4 Client and Server support – with authentication
- DynDNS

MANAGEMENT and CONFIGURATION

- SNMPv2, SNMPv3
 - Comprehensive SNMPv2/v3 management with customizable MIB support for monitoring, configuration, and operational control.
- Advanced cryptographic protection for user and control plane traffic (AES-128/AES-256)
- SHA-256, SHA-384 and SHA-512 authentication and integrity protection
- Netflow
- Telnet server with multiple simultaneous sessions
- SSH server with multiple simultaneous sessions (SSHv2)
- Fault management Syslog /Trap
- Radius Support, TACACS+
 - AAA client method (Authentication, Authorization and Accounting)
 - AAA redundancy through local user authentication fallback (RADIUS/TACACS+ failover)
- Netconf and ITTF YANG models, enabling open programmability, enabling automation and orchestration workflows
- Tracking for backup management, scheduled commands and events
- Software update via TFTP, FTP, sFTP, HTTP, HTTPS, SCP
- Configuration via Command Line Interface (CLI), Text/Menu oriented and Telnet
- TNA (Tiesse Network Architecture) platform suite enabling Zero-Touch Provisioning self-provisioning, automated remote management and minimizing on-site installation activities.
- Automatic bootstrap allowing devices to self-register, connect to the management plane and retrieve their configuration upon power-up after SIM installation
- Management of an unlimited number of configurations
- In-band and out-of-band management support
- NMS integration via SNMPv2/v3 for centralized monitoring, diagnostics, configuration, and firmware management

THIRD PARTY APPLICATIONS



Thanks to Docker container support, products in the Levanto Industrial series enable the deployment of light-weight third-party applications.

MONITORING AND PERFORMANCE MEASUREMENT FUNCTIONALITIES

IP SLA / Active Probing support for quality measurements

- One-Way Delay
- Round-Trip Delay
- Jitter
- Packet Loss

Active measurement of link quality using test packages

- BFD – Rapid detection of connectivity faults
- ICMP Echo / Ping – RTT and reachability
- UDP/TCP Probe – Verification with real transport protocols
- HTTPS Probe – Application service availability check
- TWAMP/OWAMP – Standardised measurement of delay, Jitter and loss

Data collection and supervision

- SNMPv2/v3 – Polling and status traps
- Syslog – System event and alarm logs
- NetFlow / IPFIX – Traffic flow analysis
- TNA MOS Tiesse



SYSTEM SPECIFICATIONS

PROCESSOR	Quad Core Arm Cortex-A53 1.8 Ghz with Integrated NPU	CHASSIS	Black metal material
MEMORY	1 or 2 GB	FORM FACTOR	- Desktop - Rack (1U) - DIN rail (many placement options)
FLASH MEMORY	8 GB		

PLACEMENT OPTIONS

Levanto 55x8 is a compact router designed to support a variety of installation options.

In addition to standard horizontal desktop placement, its compact size allows it to be easily installed in a 1U rack using a suitable mounting bracket or shelf.

The device can also be mounted on a DIN rail, with orientation adapted to specific installation requirements.

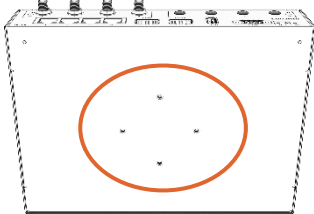
Mounting with KIT114

With four possible mounting orientations, the bracket allows the connector side to face the most suitable direction for easy access and cable management. Some examples below.



KIT 114
1 bracket
2 screws

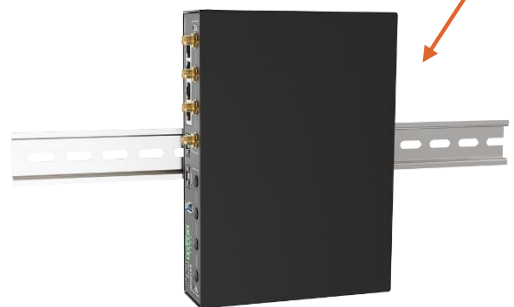
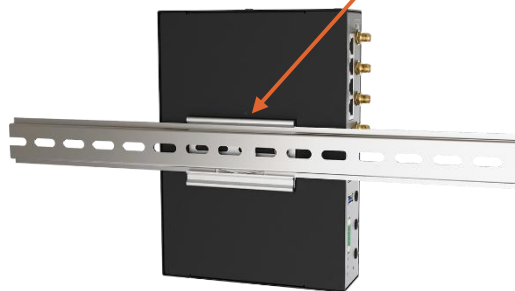
Bottom view, highlighting
the four mounting holes for
bracket installation.



Back side view, where
the mounting bracket
can be seen.

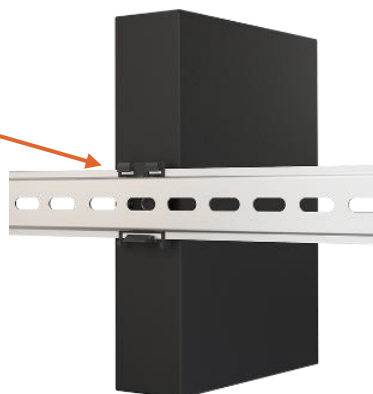
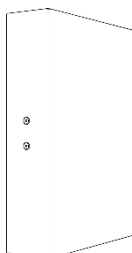


Front view



Mounting with KIT219

Rear side view, in which the mounting
bracket can be seen.



Front view

MORE INFORMATION AND SUPPORT

SUPPORTO.TIESSE.COM



- Technical documentation, assembly instructions, quick start guides, first access data
- Firmware updates
- EMC, RED, RoHS, ...
- Technical support request
- End-of-sale and end-of-support information
- Warranty repair and product reconditioning

WIKI.TIESSE.COM



- Software documentation site
- User manuals
- First-time access guides
- Case studies, tutorials and other resources to help you use the products



SUSTAINABILITY

SYSTEM

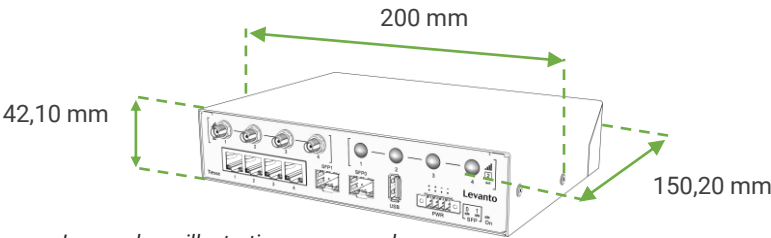
Power supply	10–60 VDC input voltage (12–48 VDC nominal)
Cooling	Fanless
Consumption (full functions)	< 30 W
Protection grade	IP30

ENVIRONMENTAL DATA

Operating Temperature	–40° C / +70° C
Storage Temperature	–40° C / +85° C
Maximum Operating Relative Humidity	5% to 95% (non-condensing)

DIMENSIONS and WEIGHT

Overall dimensions (W × D × H)	200 x 150,20 x 42,10 mm, measured including all body parts (connectors, screws).
Product weight	≈ 1.100 gr



Images have illustrative purpose only

EEE (Energy-Efficient Ethernet)	Tiesse products comply with the EEE (802.3az) standard, which saves energy by automatically reducing the consumption of Ethernet ports during periods of low traffic, without altering their performance.
Dynamic Power Scaling	Tiesse products use control mechanisms to automatically reduce power consumption by lowering the CPU clock frequency when the load is low.

OTHER INFORMATION

Packaging and wrapping	On average, 98% of the packaging is made of paper and cardboard, while the plastic content accounts for 2% or less. 100% of the packaging and wrapping material is recyclable
RAEE waste	For the proper disposal of Waste Electrical and Electronic Equipment (WEEE), in accordance with Article 26 of Italian Legislative Decree No. 49 of 14 March 2014 implementing Directive 2012/19/EU, please contact: raee@tiesse.com



TIESSE S.p.A. has earned a Silver Medal, a recognition awarded to the Top 15% of companies assessed by EcoVadis in the 12 months prior to the medal issue date. It reflects the quality of the company's sustainability management system and demonstrates a commitment to promoting transparency throughout the value chain.

➔ [Tiesse's recognition](#)

➔ [Learn more about EcoVadis Medals & Badges](#)

Tiesse

Innovation made in Italy

Tiesse is a totally Italian company with more than 25 years of experience in the design, development and production of network equipment and IoT devices, suitable for use in mission-critical and industrial scenarios. Tiesse's most successful series, Imola, Lipari and Levanto, are innovative, competitive and certified, and are present in the networks of the major telecommunications operators, in the energy sector, large-scale distribution and vertical sectors, both in the Italian and foreign markets.

Further information on Tiesse solutions can be found on the company website www.tiesse.com.



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Where we are

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