



Imola 0286-RPS



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EDGE router

IMOLA 0286-RPS is a next-generation multifunction EDGE router designed to deliver multi-gigabit fiber connectivity up to 10 Gigabit Ethernet, ensuring high performance, continuous availability, and scalability for complex network environments.

Thanks to its carrier-grade hardware and rack-mountable form factor, it is ideally suited for professional and industrial applications.

The IMOLA 0286-RPS features a dual power supply. A DC/DC-powered variant is also available.

The product integrates advanced routing, switching, security, and traffic management capabilities, supporting high-capacity LAN and WAN networks.

With Layer 7 (L7) traffic classification, machine learning-based Network Anomaly Detection algorithms, and edge computing capabilities, it represents an ideal solution for data centers, medium and large offices, telecommunications networks, and industrial environments

KEY FACTORS



Robust and carrier grade

Designed to withstand and operate for a long time in industrial and noisy environments. Carrier grade reliability.



EDGE computing and combo ports

Supports third-party applications that need to operate at the EDGE of the network.
Ethernet/Fiber combo ports



Secure by design

Right from the design phase for robust and natively secure solutions.



Fast connections

Fast connections with multi-fibre up to 10GE



Certified

Validated for inclusion in business offering profiles and use within the networks of major telecom operators.



Future proof

Safeguarding the investment with future technologies



Factory pre-configurations

Receive your product pre-configured according to your specific case.



100% factory-tested

We test all our equipment, including SIM cards for models with a cellular radio connection.



Zero Touch Provisioning

For remote management and agile configuration of installed equipment, with Tiesse's TNA suite.



IMOLA 0286-RPS



Combo Port: 4 Gigabit Ethernet and 4 Fiber 1000 Mbps



2 ports for 2.5GE/10GE fiber optics



Variant with dual power supply



Zero Touch Provisioning



Rack-mountable with optional kit



Imola 0286-RPS - Desktop Mounting



Imola 0286-RPS – Back view

RECOMMENDED SCENARIOS AND APPLICATIONS



ISP and Telco Ready

Designed to meet the needs of Internet digital service providers, Telco operators, carriers, system integrators and their networks



Distributed Access and FTTO

- Distributed and secure access to branches and remote offices of banks, insurance companies, dealers, franchises, companies and public administrations
- FTTO Logins



Uninterrupted service and mission-critical applications

Business applications that require always-on links, network performance and quality of service, backup and redundancy of ultra-broadband networks.

BACKUP: high availability mission critical

Seamless backup

The user does not perceive service interruptions and the transition to backup. Transitions from normal to backup mode and vice versa are performed considering the operational costs.

Multiple Backup

A pair of routers in a redundant configuration protect the network and hardware with a physical backup that is always available, ensuring high reliability.

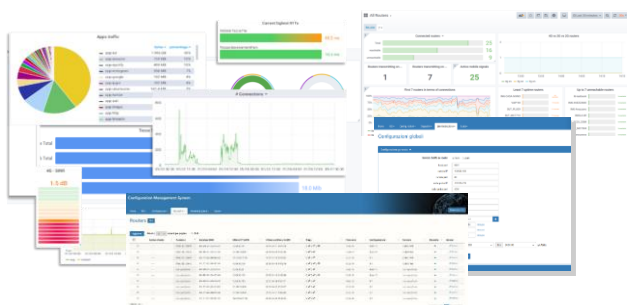
Homogeneous Backup

A single router integrates all ports, wired and mobile.

Heterogeneous backup

An installed base can be upgraded by adding a mobile router and using the VRRP (Virtual Router Redundancy Protocol).

ZERO TOUCH PROVISIONING



Tiesse's router are integrated in the **TNA (Tiesse Network Architecture)** suite.

TNA is the modular software suite that enables Zero Touch Provisioning network architecture, including monitoring, remote and automated web-based management of configurations and firmware releases of the installed fleet; it enables traffic engineering, network overlays, and many other functionalities.

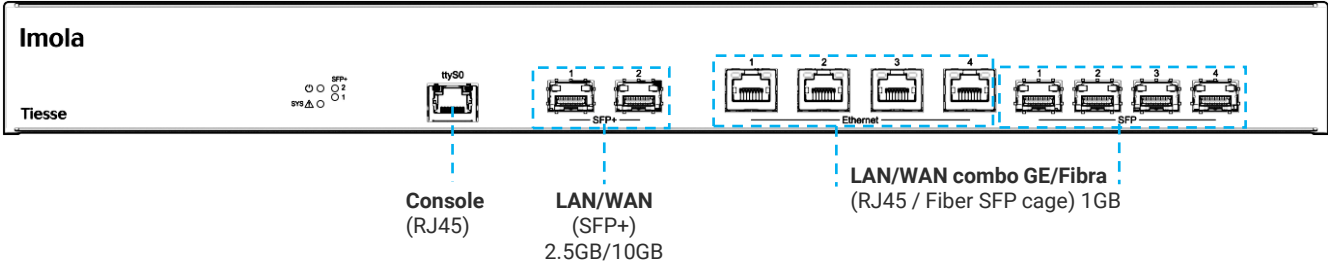
A complete datasheet of the solution is available at www.tiesse.com.



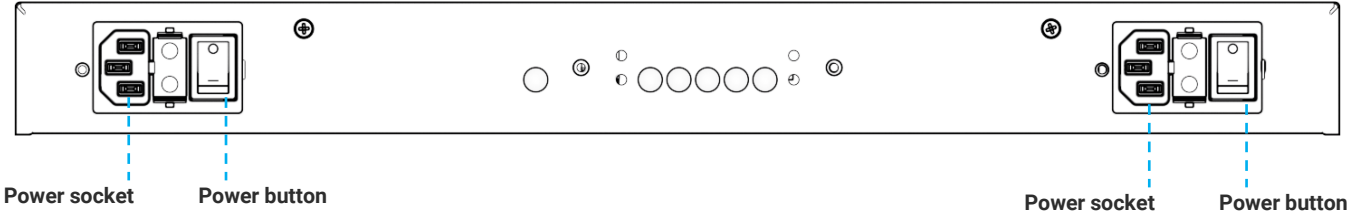
HARDWARE INTERFACES

Port	N°	Type	Details
LAN/WAN	4	GE	10/100/1000 Mbps ports (RJ45 connector) combo with 4 x 1000 Mbps SFP ports
	4	Fiber	Fiber ports combo with the 4 Ethernet ports – SFP 1000 Mbps (SFP transceiver modules not included)
	2	Fiber / 10GE	2.5GB/10GB ports via SFP cages (transceiver modules not included)

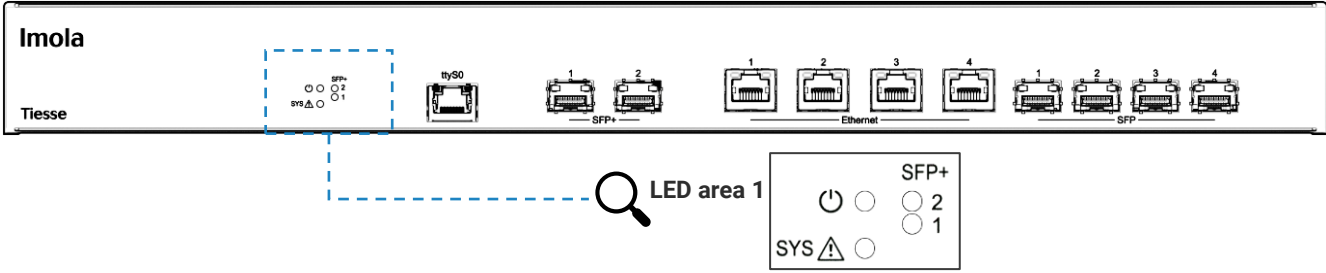
Front view



Back view



LEDs DESCRIPTION



LED	Color	PosiTION	Details
Power supply	Green	LED area	Indicates main board power operating status
SYS	Red	LED area	Indicates hardware system issues
LAN	Yellow	On LAN port	One for each ETH port, indicates 1Gbps connection operational status
	Green	On LAN port	One for each ETH port, indicates connection operational status at up to 100 Mbps
Fibra	Green	LED area	SFP+ port connection status (1 and 2)



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



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
- Layer 2 protocol Tunneling (L2TP)
- 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 – 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:
 - 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 VRF Support
- VRRP (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



SOFTWARE

QoS

- 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

VPN and TUNNELLING

- IPsec VPN (site-to-site and remote-access):
 - Supports IKEv1/IKEv2.
 - Policy-based and route-based IPsec.
- 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

SECURITY

- Access Control Lists (ACLs):
 - IPv4/IPv6 L2-L4 filtering with permit/deny actions.
 - Applied on ingress/egress per interface or globally.
- Stateful Firewall:
 - 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.

SERVICES

- DHCP client, DHCP server with anti-spoofing functions, DHCP relay
- Intelligent DNS Proxy, local and remote
- Traceroute
- NTP Client and Server support
- DynDNS

MANAGEMENT and CONFIGURATION

- SNMPv2, SNMPv3
- Netflow
- Telnet server with multiple simultaneous sessions
- SSH server with multiple simultaneous sessions (SSHv2)
- Fault management Syslog /Trap
- Radius Support, TACACS+
- Netconf and YANG Models
- 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) suite for self-provisioning and automated remote management
- Management of an unlimited number of configurations

SD-WAN with TNA Suite



high-performance and scalable solution. The TNA solution has at its base the usability of the product and emphasizes the effectiveness and easy realizability of an SD-WAN solution without having to implement complex and expensive architectures and for this adoptable by few and structured end customers.

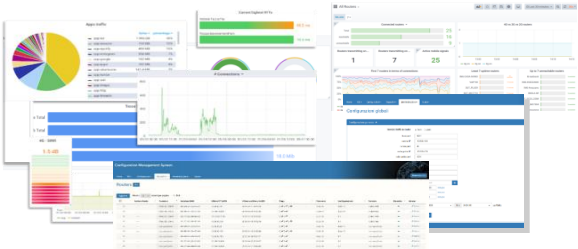
With highly established and robust use cases, the TNA suite has integrated, with a modular architecture, innovative features to realize a concrete SD-WAN solution that is responsive to market needs.

The TNA is a **modular All-In-One** solution composed of separate entities: **CoS**, **MoS**, and **NAD** that work together organically to handle all aspects of managing a network in both IP and Overlay architectures. In this case, the suite is complemented by an additional module called OVN.

At the heart of Tiesse's SD-WAN solution is **Intelligent Routing**, which enables the network, whether in overlay scenarios or not, to react to changes in state, being able to operate autonomously at its best even in the presence of congestion, saturation or abnormal traffic.

TNA Suite DASHBOARD

Through a flexible dashboard, which can also be customized, the SD-WAN can be administered and managed.



* Note: Available features may vary by product model.

Dashboard	Description	Parameters
ROUTER	Monitoring and visualization of key resources for each device (Router, CPE, IoT)	– Reachability and connectivity to a target network/internet (primary/backup or other) – Uptime and number of reboots – Round Trip Time last mile or to target Internet – CPU utilization, memory, router load based on current and queued activities – Number of active connections – Throughput inbound/outbound and traffic generated/received by individual interface – Traffic classification by type of application for specific device – Number of devices connected to active Wi-Fi networks – GPON optical connections: uptime, optical power input/output, SFP temperature – Cellular network connections: signal strength for each connection type (5G/4G/3G/2G and SINR, RSRP, RSSI, RSCP, EC/IO), SIM in use – xDSL connection: uptime, signal status and attenuation, noise margin (SNR), redundancy errors (CRC)
GENERAL	Aggregate monitoring and visualizations	– Total number of apparatus: – connected, reachable, and unreachable as a function of uptime – transmitting on a specific interface – with an active mobile connection – active grouped by connection type (primary, backup, other) – connected over 5G, 4G, 3G, and 2G networks – Reachable and unreachable devices, by uptime, over a specified time range – Device classification/sorting: – top 5 (active) by number of connections – time order of last connected routers and routers no longer reachable – by response time (highest and lowest RTT) to a given destination
OVN	Monitoring and visualizations of data related to the Overlay Network	– Total number of apparatus: – connected, reachable, and unreachable as a function of uptime – with an active mobile connection – broadcasting on a specific interface – active grouped by connection type (primary, backup, other) – Reachable and unreachable devices, by uptime, over a specified time range – Device classification/sorting: – top 5 (active) by number of connections – time order of last connected routers and routers no longer reachable – by response time (highest and lowest RTT) to a given destination

SYSTEM FEATURES

PROCESSOR	- Architecture Arm® Cortex® A72 CPUs - Integrated Security Engine - Hardware packet acceleration
MEMORY	RAM: 4GBytes
FLASH MEMORY	8GBytes eMMC (expandable with SATA M.2 disk with capacity over 1 TBytes)
CHASSIS	Metal material, black color
FORM FACTOR	Desktop Rack (optional kit)



Imola 0286-RPS – Back view

ADD-ONS

Optional accessories such as SFP transceiver modules and rack-mount kits are available.
Please check the add-ons datasheets, which can be downloaded from www.tiesse.com.



Images for illustrative purposes



Imola 0286-RPS – View of the product with the brackets for rack mounting (1U)

OTHER INFORMATION AND SUPPORT

SUPPORT0.TIESSE.COM	- Technical documentation, installation instructions, quick start guide, first access data - Firmware updates - Declaration of conformity EMC, RED, RoHS, ... - Technical support request - End of sale and end of product support information - Warranty repair and product reconditioning
WIKI.TIESSE.COM	- Website dedicated to software documentation - User manuals - First access guides - Case studies, tutorials and other useful resources for product use



SUSTAINABILITY

SYSTEM

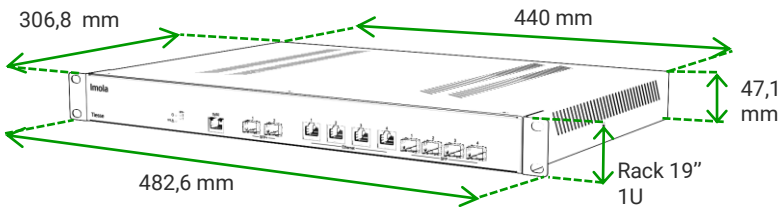
Power	- Power supplies: 2x 50W – AC/DC - Vin: 2 x110-230Vac - Connectors: 2 x standard IEC - Loud max : 50W
Cooling	Fanless
Consumption (full functions)	≈ 25W
EEE (Energy-Efficient Ethernet)	Tiesse products comply with the EEE (802.3az) standard, which saves energy by automatically reducing the consumption 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.
Mean Time Between Failure (MTBF)	≈ 215.496 hours

ENVIRONMENTAL DATA

Protection grade	IP30
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SIZE and WEIGHT

Machine body	440 x 245,7 x 47,1 (L x P x A mm)
Total weight	≈ 4.530 gr (maximum weight including packaging and accessories)
Product	≈ 3818 gr
Accessories	≈ 305 gr
Packaging	≈ 407 gr



OTHER INFORMATION

Packaging and wrapping	The packaging material of this product is ≈91% paper/cardboard, and the incidence of plastic packaging is about 9% or less. 100% of the packaging material is recyclable
RAEE waste	For the correct disposal of Waste Electrical and Electronic Equipment (WEEE), pursuant to Article 26 of Legislative Decree No. 49 of 14 March 2014 'Implementation of Directive 2012/19/EU': 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 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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