



Imola 0872-IK2V-IK2F



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Ultra-broadband router dual eVDSL, dual Fiber

IMOLA 0872-IK2V-IK2F

Imola 0872-IK2V-IK2F is an innovative ultra-broadband router designed to offer dual FTTC (eVDSL prodilo V35) and two native FTTH links via SFP.

It features advanced traffic routing and distribution mechanisms that dynamically adapt to network conditions, links and services, thus ensuring optimal performance in every situation. In addition, Imola 0872-IK2V-IK2F is rack-mountable, making it ideal for professional and data centre environments.

ALL-IN-ONE



FTTC and FTTH in a single device for reliable, versatile and scalable connectivity. Our Imola series devices are adaptable to any technology and include the features

- Router and switching
- QoS

KEY FACTORS



Secure by design

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



Always-On

Stable connections anywhere, with multiple links, transparent backup, and quality of service for uninterrupted business.



Certified

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



Rugged and carrier grade

Designed to withstand and operate for long periods in industrial and disturbed environments. Carrier grade reliability.



Smart value

Maximizes business value with an excellent performance-to-price ratio.



Zero Touch Provisioning

Zero Touch Provisioning facilitates remote management and agile configuration of the installed base.



Eco-efficient

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



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.



IMOLA 0872-IK2V-IK2F

The Imola x872-IK2V-IK2F includes, in a robust, all-in-one device, the functionality described in this datasheet:



8 Gigabit
Ethernet ports



2 eVDSL
ports



2 fiber
ports



Zero Touch
Provisioning



Rack-mountable
with optional kit



Desktop
mounting

1U rack mounting
with optional kit



SUGGESTED SCENARIOS AND APPLICATIONS



ISP & Telco Ready

Designed to meet the requirements of service providers, telecom operators, carriers, and system integrators.



Different scenarios

The product is suitable for applications in **business scenarios, banking and insurance, lotteries, gaming, industry, broadband backup.**



Service continuity and Mission Critical applications

Business applications requiring always-on links and quality of service

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 VRRP performs physical backup of both the network and hardware.

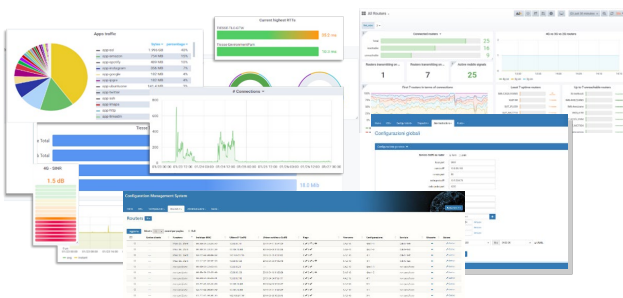
Homogeneous Backup

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.

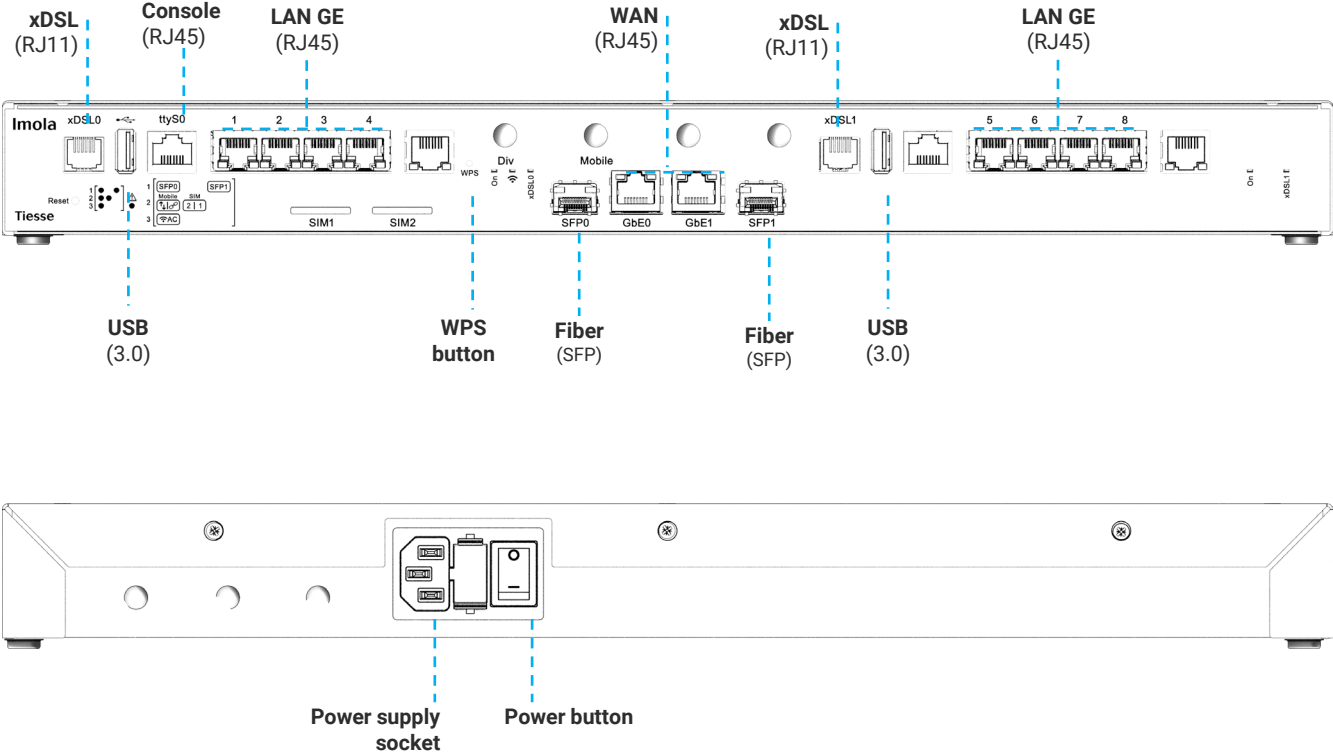
TNA is the modular software suite that enables Zero Touch Provisioning network architecture, including monitoring, remote and automated web-based management of configurations and firmware releases of the installed fleet; it enables traffic engineering, network overlays, and many other functionalities.

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



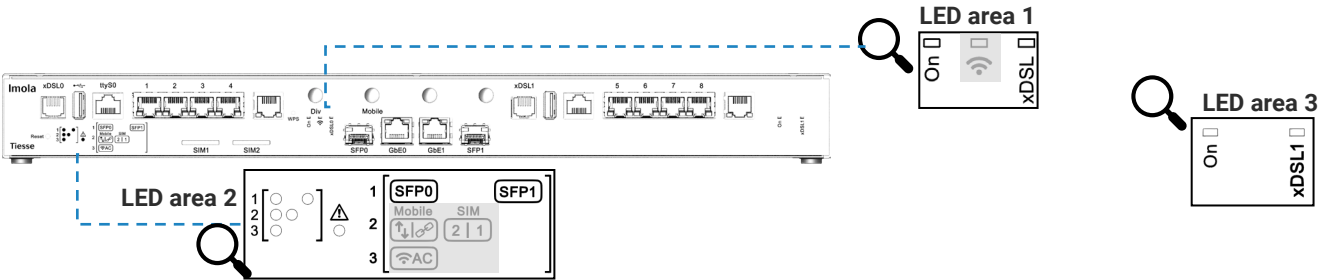
HARDWARE INTERFACES



Port	N°	Type	Details
LAN	8	GE	10/100/1000 Mbps
	2	GE	10/100/1000 Mbps WAN, RJ45 connector (label WAN)
	2	Fiber	<ul style="list-style-type: none">- SFP port for WAN access with fibre optic cable- GPON connection support- Support of different models of SFP transceiver modules (not included)<ul style="list-style-type: none">- Maximum data rate 1000 Mbps (SX, BX, LX, ZX)- Supported connectors LC simplex, LC duplex
		xDSL	Full rate ADSL2/2+ / eVDSL
		ADSL2/2+	<ul style="list-style-type: none">- Downstream data rate up to 24 Mbps and upstream data rate up to 3.5 Mbps- Compliant with Standard G.992.1 annex A, B, C & I, G.992.2-g.Lite, G.992.3 annex A, B, I, J, M, G.992.4-g.Lite.bis, G.992.5 annex A, B, C, I, J, M, ANSI T1.413 issue2, ETSI TS 388- ADSL-over-ISDN, ITU T-I361, ITU T-I.363.5, ITU T-I.432, ITU T-I610, ITU T-I731
WAN	2	VDSL2	<ul style="list-style-type: none">- Support for all VDSL2 profiles: 8 MHz up to 30 MHz ITU-T G993.2- Compliant with G.Vector standard (ITU-T G.993.5)- Compliant with ITU-T G.998.4 G.INP standard- Compatible with ADSL2 (backward compatibility)
		eVDSL	<ul style="list-style-type: none">- Support for all VDSL2 profiles: 8 MHz up to 35 MHz, in compliance with ITU-T G993.2 Annex Q (35b or Vplus profiles), capable of aggregate rates of up to 400Mbps- G.Vector support (ITU-T G.993.5)- Compliant with ITU-T G.998.4 G.INP standard (impulse noise protection)- Compatible with ADSL2 (backward compatibility)- Excellent connection stability in case of line disturbances





LED DESCRIPTION



LED	Color	Position	Details	
Power	Verde	LED area 1	On	Indicates the power supply status of the primary board
	Verde	LED area 3	On	Indicates the power supply status of the secondary board
xDSL	Verde	LED area 1	xDSL	Operating status xDSL0 connection (primary board)
	Verde	LED area 3	xDSL1	Operating status xDSL1 connection (secondary board)
Fibra	Verde	LED area 2	<div>SFP0</div> <div>SFP1</div>	SFP0 and SFP1 port operational status
LAN	Giallo	On LAN port		One for each ETH port, indicating operational status 1Gbps connection
	Verde	On LAN port		One for each ETH port, indicating operational connection status at up to 100 Mbps
Fault	Rosso	LED area 2		Indicates hardware issues

ADD-ONS

Optional accessories such as antennas for both indoor and outdoor omnidirectional and directional installations, 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

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



MONITORING AND PERFORMANCE MEASUREMENT FUNCTIONALITIES

IP SLA / Active Probing support for quality measurements	Active measurement of link quality using test packages	Data collection and supervision
<ul style="list-style-type: none"> - One-Way Delay - Round-Trip Delay - Jitter - Packet Loss 	<ul style="list-style-type: none"> - 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 	<ul style="list-style-type: none"> - SNMPv2/v3 – Polling and status traps - Syslog – System event and alarm logs - NetFlow / IPFIX – Traffic flow analysis - TNA MOS Tiesse

SOFTWARE

Note: the following list is purely indicative, active features depend on version and software update (NOS).

NETWORKING	<ul style="list-style-type: none"> - TCP-UDP IPv4, IPv6 - ARP; CMP, IPv4 Path MTU Discovery - ICMPv6, IPv6 Path MTU Discovery, IPv6 Neighbor Discovery, IPv6 Stateless Address Auto Configuration
LAYER 2	<ul style="list-style-type: none"> - LAN Bridging - VLAN on 802.1Q LAN interfaces in Access mode, Trunk, native VLAN and Hybrid mode - Layer 2 Protocol Tunneling (L2PT) - 802.1Q-in-802.1Q
ROUTING & MULTICAST	<ul style="list-style-type: none"> - Static, Policy routing, RIPv1, RIPv2 - BGP-4, BGP-4+ - OSPFv2 - VRF Lite, Routing redistribution and tagging - VRRP (Virtual Routing Redundancy Protocol) with IPv4-IPv6 authentication - IGMP v1-v2-v3, IGMP snooping, IGMP proxying - Multicast routing with PIMv2 sparse-mode and PIMv2 dense-mode, MSDP - IEEE 802.1d (Spanning Tree Protocol)
QoS	<ul style="list-style-type: none"> - 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 - CoS on VLAN - QoS on ATM classes - IPSLA based on QoS - 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
SICUREZZA	<ul style="list-style-type: none"> - NAT/PAT - ACL, static firewall - SSL tunneling - L2TP - GRE Tunneling with keep alive and key sequence numbering (optimisation of cellular networks) - VPN with IPSEC/ESP or IPSEC/AH IKEv1/IKEv2 - 3 DES encryption
SERVIZI	<ul style="list-style-type: none"> - DHCP client, DHCP server with anti-spoofing functions, DHCP Layer Discovery Protocol IEEE 802.1ab, DHCP relay - Intelligent DNS Proxy, local and remote - Traceroute - NTP Client and Server support - Easy VPN - DDns
GESTIONE e CONFIGURAZIONE	<ul style="list-style-type: none"> - SNMP v1, SNMPv2, SNMPv3 - Telnet server with multiple simultaneous sessions - SSH server with multiple simultaneous sessions (SSHv2) - IP SLA support for: One Way Delay, Round Trip Delay, Jitter, Packet Loss - Fault management Syslog /Trap - Radius Support, TACACS+ - 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 - Support of Network Configuration Protocol (NETCONF) - Support of YANG Data Modeling Language for NETCONF

SYSTEM FEATURES

PROCESSOR	Dual core ARM A9 - 1 GHz	CHASSIS	Metal material, black color
MEMORY	Default 256 MB DDR2	FORM FACTOR	Desktop
FLASH MEMORY	Da 32 MB fino a 1 G		Rack (optional kit)



SUSTAINABILTY

SYSTEM

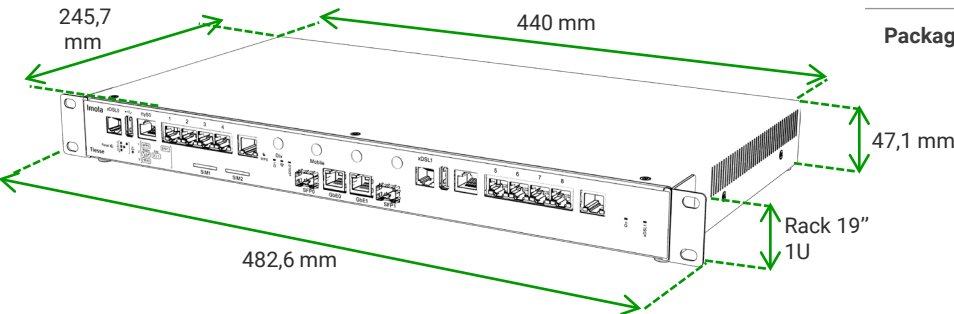
Power	<ul style="list-style-type: none">- Internal 100-240 VAC (IEC socket)- On/Off button
Power (optional version)	DC/DC converter with extended input range (18-75Vdc)
Cooling	Fanless
Consumption (full functions)	≈ 13,5W
EEE (Energy-Efficient Ethernet)	Tiesse products comply with the EEE (802.3az) standard, 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.

ENVIRONMENT DATA

Operating temperature	-25° C / +70° C (96 hours)
Storage temperature	-40° C / +70° C (4 hours)
Maximum relative operating humidity	93% (non condensing)

SIZE and WEIGHT

Machine body	440 x 245,7 x 47,1 (L x P x A mm)
Total weight	≈ 3735 gr (maximum weight including packaging and accessories)
Product	≈ 3150 gr
Accessories	≈ 240 gr
Packaging	≈ 345 gr



OTHER INFORMATION

Packaging and wrapping	The packaging material of this product is ≈92% paper/cardboard, and the incidence of plastic packaging is about 2% 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

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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