Tiesse

Innovation made in Italy

Imola LX

x272-IKW

Ultra broadband router

Giga Ehternet - eVDSL - Wi-Fi - LTE

Datasheet

www.tiesse.com

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Imola LX x272-IKW

Router ultra broadband
Giga Ethernet - eVDSL
Wi-Fi - LTE

The **Imola LX** router series is part of the evolution of the IMOLA line, which are certified routers used in the networks of the main telecommunications operators: the models are particularly suitable to be used in business applications where security, service continuity and network performance are of primary importance.

Imola LX support ultra broadband connectivity both fixed and mobile in a all-in-one device, which integrates routing, switching and modem functionalities.

KEY BENEFITS

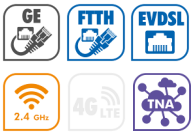
- ⇒ Security
- ⇒ Service continuity (always-on connectivity, multiple backups)
- ⇒ Quality of Service (QoS)
- ⇒ Hardware and software at the highest levels of reliability
- ⇒ Zero touch provisioning
- ⇒ Factory pre-configuration, different for each client
- ⇒ SIMs are installed and tested in factory on each device
- ⇒ 100% of the routers are tested in factory (as well as the SIM cards of the 4G models)
- ⇒ Very low energy consumption

APPLICATIONS

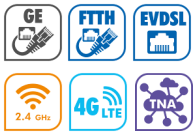
Imola LX models are installed at the client's locations (customer premises), in business scenarios such as:

- Services and offer profiles of Telco operators, internet and digital service providers
- Distributed and secure access to branches and remote locations of banks, insurance companies, dealers, franchises, companies and public administrations
- Backup and redundancy of ultra broadband networks

MODELS

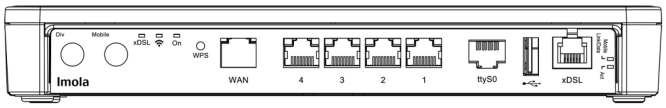


IMOLA LX 0272-IKW

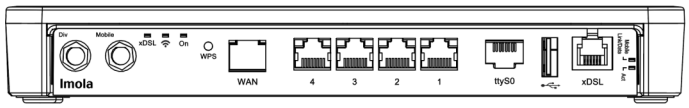


IMOLA LX 5272-IKW

INTERFACES



Imola LX 0272-IKW



Imola LX 5272-IKW

LAN	**GE**	4	10/100/1000 Mbps ports, RJ45 connectors
	Wi-Fi	1	802.11 b/g/n port (2.4 GHz) 2x2
WAN	**GE-WAN**	1	10/100/1000 Mbps port, RJ45 connector (label WAN)
	ADSL 2/2+ **VDSL2** **eVDSL**	1	RJ11 port, Full rate ADSL2/2+ / VDSL2 **ADSL2/2+** Downstream data rate up to 24 Mbps — Upstream data rate up to 3.5 Mbp Standards-compliant 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 **VDSL2** Support for all VDSL2 profiles: 8 MHz to 30 MHz ITU-T G993.2 G.Vector standard-compliant (ITU-T G.993.5) ITU-T G.998.4 G.INP standard-compliant ADSL2 compatible (backward compatibility) **eVDSL2** Support 35 MHz ITU-T G993.2 Annex Q (35b or Vplus) profile with aggregate rates up to 400 Mbps
RADIO CELLULAR	**GSM / GPRS / EDGE**		Frequency band: 900/1800/1900 MHz GPRS multislot 10, EDGE multislot 12
Only LX 5272-IKW models	**UMTS / HSDPA / HSUPA / HSPA+**		Frequency band: 900/2100 Mhz HSDPA data rates up to category 20 HSUPA data rates up to category 6
	DC-HSPA+		DC-HSPA+ (42 Mbps in DL)
	LTE		Frequency band: 800 / 900 / 1800 / 2100 / 2600 Mhz Data rates (category 4, MIMO)* Peek data rates 150 Mbps DL, 50 Mbps UL (actual throughput is dependent on network configuration, bandwidth assigned to the UE, the number of users and RF signal conditions) WCDMA 900/2100 * category 6 and 12 available on request
CONSOLE	**Porta console**	1	RJ45 connector
USB	**Porta USB**	1	USB 3.0 port

Imola LX 5272-IKW

High availability—Mission Critical

Seamless backup

The user doesn't notice any service interruption and the following passage to backup mode.

This passage from Standard mode to backup mode (and viceversa) is accomplished with taking care of operative costs.

Homogeneous Backup

One single router is equipped with both wired and mobile ports.

Heterogeneous Backup

You can upgrade the devices installed base with a mobile router and use the VRRP protocol (Virtual Router Redundancy Protocol).

Multiple backup

Two routers connected with VRRP creates the physical backup of both network and hardware.

eVDSL

Support of the new generation networks (NGN) and ensuring:

- Support for VDSL2 profiles: from 8 MHz up to 35 MHz, in accordance with ITU-T G993.2 Annex Q standard (35b profiles or Vplus) capable of aggregating rates up to 400 Mbps
- G.Vector standard-compliant (ITU-T G.993.5)
- ITU-T G.998.4G.INP standard-compliant (impulse noise protection)
- ADSL2 compatible (backward compatibility)

Imola LX

(vertical mounting)

Imola LX (wall mounting)

4G ANTENNAS

- Multiple Input / Multiple Output (MIMO) support
- 2 removable antennas (SMA male)
- Outdoor high gain antennas are also available (omnidirectional and directional) for outdoor installation

4G

Frequencies

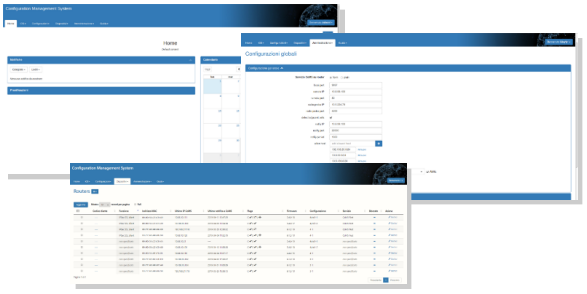
- LTE 800 / 900 / 1800 / 2100 / 2600 Mhz
- WCDMA 900 / 2100 Mhz
- EDGE / GPRS / GSM 900 / 1800 / 1900

Radio interfaces

- LTE with 150 Mbps downlink data rate and 50 Mbps uplink data rate
- HSPA+, with 21.1 Mbps in Downlink data rate and 5.7 in Uplink data rate with fallback EDGE / GPRS
- Support of Dual Cell HSPA mode
- Multiple Input/Multiple Output (MIMO) support included
- It is possible to activate and configure two APN simultaneously

Zero Touch Provisioning

IMOLA LX routers, are integrated in the **TNA (Tiesse Network Architecture)** suite, which is used for the remote and automated management via WEB of the configurations and firmware releases of the installed device park.



SOFTWARE

Note: the list below is purely indicative; the features depend on the NoS version and update.

NETWORKING

- TCP-UDP IPv4
- IPv6
- PVC Bonding

LAYER 2 features

- LAN Bridging
- VLAN support on LAN interface 802.1q in Access mode, Trunk, native VLAN and Hybrid mode
- Layer 2 Protocol Tunneling (L2PT)

ROUTING & MULTICAST

- Static, Policy routing, RIPv1, RIPv2
- BGP-4, BGP-4+
- OSPFv2
- VRF Lite, Routing redistribution e 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

- Traffic classification based upon source IP, based on a combination of source IP, destination IP, protocol (UDP, ICMP, TCP, etc), upon DSCP/IP precedence, ToS or Port
- DiffServ
- CoS on VLAN
- QoS on classi ATM
- Shaping with guaranteed allocated bandwith and redistribution of bandwith excess
- Committed Access Rate e Multicast rate Limit
- Mechanisms of traffic prioritization, ability to define an arbitrary number of priority classes
- Link aggregation IEEE 802.3ad

SECURITY

- NAT/PAT
- ACLs, Stateful Firewall
- SSL Tunnelling
- L2TP
- GRE Tunnelling with keep alive and key sequence numbering (radio mobile network optimization)
- VPN con IPSEC/ESP o IPSEC/AH IKEv1/IKEv2
- 3 DES Encryption

SERVICES

- DHCP client, DHCP server with antispoofing functions, DHCP Layer Discovery Protocol IEEE 802.1ab, DHCP relay
- Intelligent DNS Proxy, both local and remote
- Traceroute
- NTP Client and Server support
- Easy VPN
- DDns (Flex IP)

MANAGEMENT and CONFIGURATION

- SNMP v1, SNMPv2, SNMPv3
- Telnet server with multiple simultaneous sessions
- SSH server with multiple simultaneous sessions (SSHv2)
- Netflow
- IP SLA support for: One Way Delay, Round Trip Delay, Jitter, Packet Loss
- SAA (Service Assurance Agent)
- Fault management Syslog /Trap
- Radius Support, TACACS+
- Tracking for backup management, commands and events scheduled
- Software update via TFTP and FTP
- Configuration via command Line Interface (CLI), Text/Menu oriented and Telnet
- TNA (Tiesse Network Architecture) suite per auto-provisioning e gestione automatizzata remota
- Possibility to keep an arbitrary number of configuration

SYSTEM FEATURES

POWER	12 V AC/DC Adapter Power Switch ON/OFF
CONSUMPTION	< = 12 W (Full configuration)
ENVIRONMENT	**Operating temperature**: –5° C / +50° C **Storage temperature**: –40° C / +70° C **Max operating humidity**: 93% (non condensing)

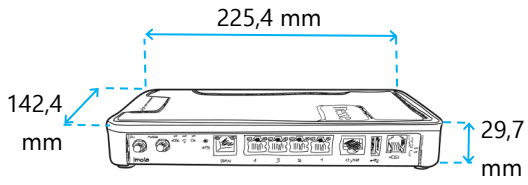
PROCESSOR	RISC Network processor
MEMORY	256 MB - DDR3
FLASH MEMORY	256 MB

LED INDICATORS

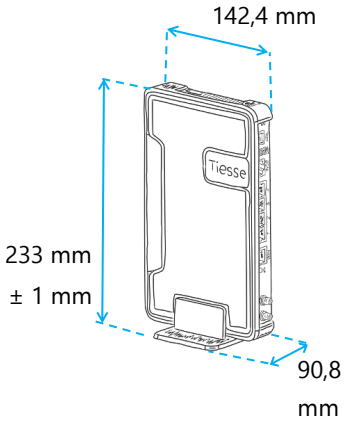
Status LED	1 x power / operative status
Ethernet	2 x operative status - for each port
xDSL	1 x connection status
Wi-Fi	1 x radio signal activity
Radio cellular (5272 model)	1 x radio-cellular connection status 1 x radio-cellular data activity

SIZE

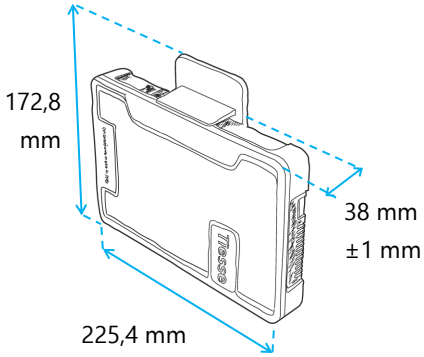
Orizontal positioning
On a horizontal surface, without bracket.



Desktop vertical mounting
with bracket



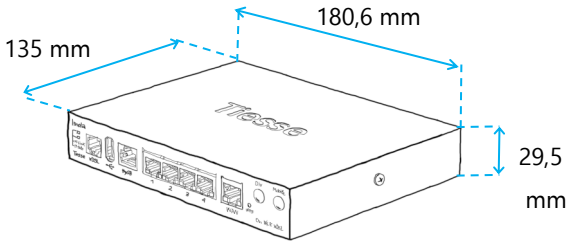
Wall mounting
with bracket



STANDARD WEIGHT	Imola LX 0272-IKW: 520 gr ±10% Imola LX 5272-IKW: 620 gr ± 10%

METAL CHASSIS VERSION

Metal chassis variant available (for mass production or industrial projects) with extended operating temperature range (-25° C /+70° C).



STANDARD WEIGHT	660 gr ± 10%

Technical support

Tiesse provides the user with two sites that are constantly updated:

Support.tiesse.com: the site with technical documentation, assembly instructions, software updates, and how to request technical support.

Wiki.tiesse.com: the site with manuals, instructions for installation, case studies, scenarios, FAQs, etc.

ADD ONS

For the LX 5272-IKW models are available accessories such as omni-directional and directional antennas, which can also be used outdoors.

Refer to the specific documentation, available on the company website www.tiesse.com

Tiesse

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Tiesse is a 100% italian company which has more than 20 years of expertise in designing, developing, and manufacturing M2M/IoT and network devices. The products series IMOLA, LIPARI and LEVANTO, which are innovative, competitive and certified, are present in the largest distributed national networks (from gas stations to large retailers, insurance companies and banks) as well as in the largest networks of the main gaming operators and energy sector.

www.tiesse.com

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