



kloTo 532 series

**4G router for IoT and M2M
applications**



Datasheet

kloTo 532 series



4G router for IoT and M2M applications

kloTo SERIES

kloTo is a compact, small-sized series of routers with mobile radio connectivity, also suitable for installation inside machinery, industrial systems or cabinets

Box and naked version

Like the other models in the series, **kloTo 532** is designed in two versions: one with a chassis and a “naked” version with only the card (–N models).

KEY FACTORS



Robust and reliable

Designed to last: hardware and software offering maximum reliability and durability.



100% factory-tested and factory pre-configurations



We test all our equipment, including SIM cards for models with a cellular radio connection. Factory pre-configurations on your specific customer case



Install them anywhere

Thanks to their compact and small size, they can also be accommodated in small spaces.



Secure by design

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



Smart value

Maximum value for your business thanks to excellent performance/price ratio.



Eco-efficient

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

FEATURES

Equipped with two Ethernet ports, they provide 4G and Wi-Fi connectivity for M2M and IoT applications.

LAN and Wi-Fi networks

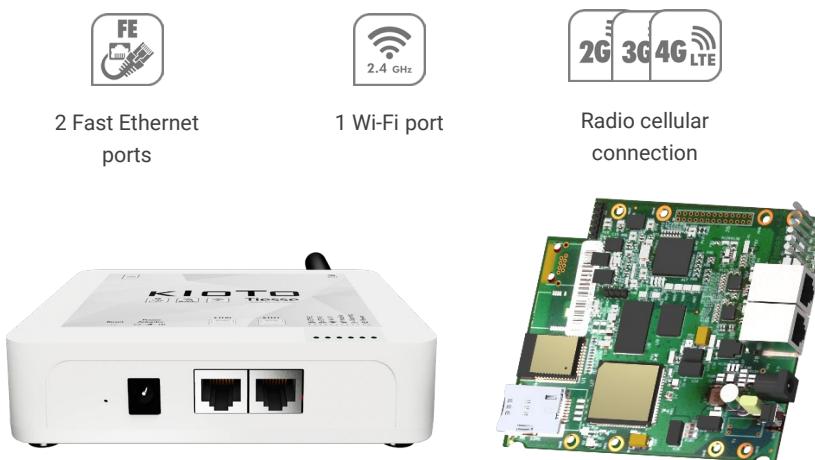
Can be used to:

- configure the equipment locally
- as primary networks for both sending data and reaching a control center (in this case the mobile network will act as a backup if the primary network is unavailable)

VPN tunnel

kloTo supports the creation of VPN tunnels to have secure communications and they are also easily integrated in environments which use custom protocols.

kloTo 532 series



SUGGESTED SCENARIOS AND APPLICATIONS

kloTo is particularly suitable for business applications, especially M2M and IoT, where security and service continuity are of primary importance, as are reliability and durability.

It is designed to meet the requirements and needs in the following scenarios:

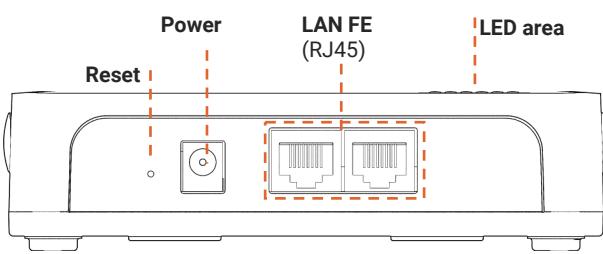
- ✓ Remote control
- ✓ Data collection
- ✓ Industrial automation
- ✓ Diagnostic and predictive maintenance
- ✓ Vending machines
- ✓ Electric charging stations
- ✓ Company assets

Specifications for the kloTo 532 and 532-N radio cellular interface port

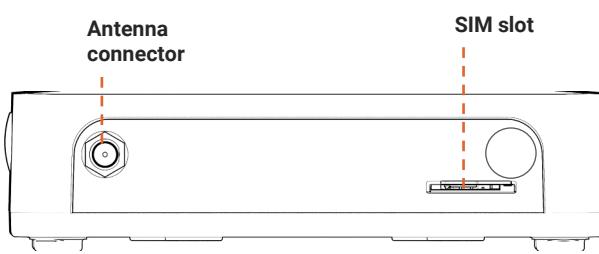
| | | |
|----------------------------|-----------------------------|--|
| EU Region CAT 1 | LTE | <ul style="list-style-type: none"> - Penta-Band LTE: frequency bands 1, 3, 8, 20, 28 (700, 800, 900, 1800, 2100 MHz) - LTE Cat.1 - Data rates: download max 10.2 Mbps / upload max 5.2 Mbps |
| | UMTS / HSPA+ | <ul style="list-style-type: none"> - Dual-Band UMTS/HSPA+: frequency bands 8, 1 (900, 2100 MHz), - HSPA - Data rates: download max 7.2 Mbps / upload max 5.76 Mbps |
| | GSM | <ul style="list-style-type: none"> - Dual-Band GSM 900 and 1800 MHz: 850/900 MHz, GSM; Class 1 (1W): 1800/1900 MHz, GSM - Dual-Band GSM 900 and 1800 MHz: 850/900 MHz, GSM; Class 1 (1W): 1800/1900 MHz, GSM |
| | GPRS | <ul style="list-style-type: none"> - GPRS Classe 12 - Data rates: download max 85.6 kbps / upload max 85.6 kbps |
| WW Region CAT 1 | LTE | <ul style="list-style-type: none"> - LTE frequency bands (twelve in total): 700 (Bd12 <MFB1 Bd17>, Bd28) 800 (Bd18, Bd19, Bd20) 850 (Bd5) / 900 (Bd8) / AWS (Bd4) / 1800 (Bd3) / 1900 (Bd2) / 2100 (Bd1) / 2600 (Bd7) - LTE CAT 1 supported - Data rates: download 10.2 Mbps / upload 5.2 Mbps |
| | UMTS / HSPA+ / HSDPA | <ul style="list-style-type: none"> - UMTS frequency bands (seven in total): 800 (BdXIX) / 850 (BdV) / 900 (BdVIII) / AWS (BdIV) / 1800 (BdIX) / 1900 (BdII) / 2100MHz (BdI) - HSPA : 3GPP Release 6, 7 - Data rates: download 7.2 Mbps / 5.7 Mbps upload - HSDPA Cat.8 / HSUPA Cat.6 data rates - Compressed mode (CM) supported according to 3GPP TS25.212 - UMTS: 3GPP Release 4 PS data rate – Data rates: 384 kbps download / 384 kbps upload - CS data rate – Data rates: 64 kbps download / 64 kbps upload |
| | GSM | <ul style="list-style-type: none"> - GSM quad-band: 850/900/1800/1900 MHz |
| | GPRS | <ul style="list-style-type: none"> - GPRS: Multi-slot Class 12; EGPRS: Multi-slot Class 12 |



HARDWARE INTERFACES

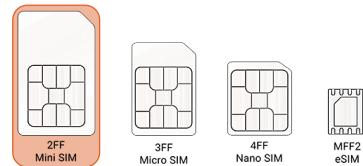


Side view of the ports area

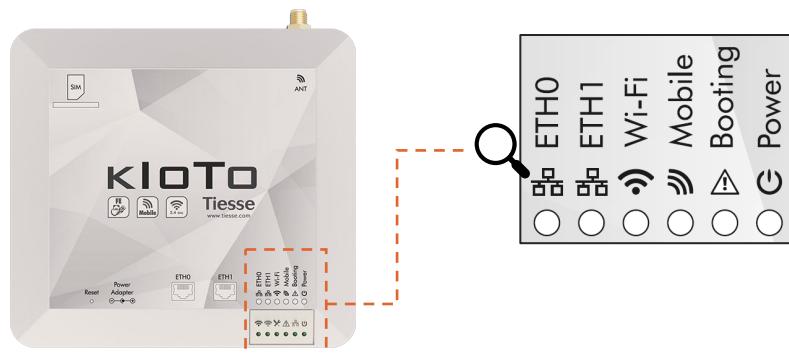


Side view with SIM and antenna

| Ports | N° | Type | Details |
|-----------------|----|---------|---|
| LAN | 2 | FE | Porte 10/100 Mbps base T |
| | 1 | Wi-Fi | <ul style="list-style-type: none"> - 802.11 b/g/n (2.4 GHz) 2x2, funzionamento mode Station o SoftAP - Antenna interna «on board» |
| | 1 | LTE | <ul style="list-style-type: none"> Disponibile LTE cat. 1 sia con frequenze EU che World Wide, a seconda del modello - Antenna removibile - Connettore SMA maschio <p>Antenne opzionali:</p> <ul style="list-style-type: none"> - Sono disponibili diversi modelli di antenna per esigenze specifiche. - Supporto antenne esterne sia direzionali che omnidirezionali ad alto guadagno (opzionali), collegabili tramite cavo con connettore SMA maschio. - E' disponibile sul sito www.tiesse.com il datasheet completo degli accessori. |
| RADIO CELLULARE | 1 | ANTENNA | |
| | 1 | SIM | 1 SIM slot per mini SIM card ad accesso esterno |



LED



| LED | Color | Description |
|----------------|-------|--|
| Power | | Green Indicates the operating status of the product's power supply |
| System | | Green Indicates device boot status |
| LAN | | Green Indicates operating status of connection at up to 100 Mbps on ports ETH0 and ETH1 |
| | | Green Operating status Wi-Fi b/g/n (2.4 GHz) |
| Radio Cellular | | Mobile radio connection operating status and data activity |



SOFTWARE

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

| | | |
|-------------------------------------|--|--|
| NETWORKING | - IPv4 | - IPv6 |
| SECURITY | - SSID broadcast disable feature - WPA-PSK e WPA2-PSK, WEP data encryption - NAT/PAT | - ACL Firewall - OpenVPN |
| SERVICES | - DHCP - Intelligent DNS Proxy, Dynamic DNS | - Tracking for backup management, commands, and scheduled events |
| MANAGEMENT and CONFIGURATION | - SNMP - SSH | - Telnet - Configurazione mediante Command Line Interface (CLI) |

SYSTEM FEATURES

| | | | |
|---------------------|----------------------------|--------------------|--|
| PROCESSOR | Network processor @400 Mhz | CHASSIS | - Plastic chassis - Signal white color (RAL 9003) |
| MEMORY | DRAM 128 MB | FORM FACTOR | Desktop |
| MEMORY FLASH | 256 MB | | - Can be wall-mounted - Can be mounted on a DIN rail with optional kit. |

ADD ONS



Images for illustrative purposes only

Optional accessories are available, such as antennas for both indoor and outdoor omnidirectional and directional installations, wall mounting kits or DIN rail mounting kits.

Please refer to the relevant datasheets, which can be downloaded from www.tiesse.com.



KIT115

DIN rail mounting kit



Bottom view with wall mounting bracket / DIN rail kit



Example of mounting on a DIN rail

FURTHER INFORMATION AND SUPPORT

SUPPORT.TIESSE.COM



- Technical documentation, assembly instructions, quick start guides, initial access data
- Firmware updates
- EMC, RED, RoHS compliance declarations, etc.
- Technical support requests
- Information on end-of-sale and end-of-support products
- Warranty repairs and product reconditioning

WIKI.TIESSE.COM



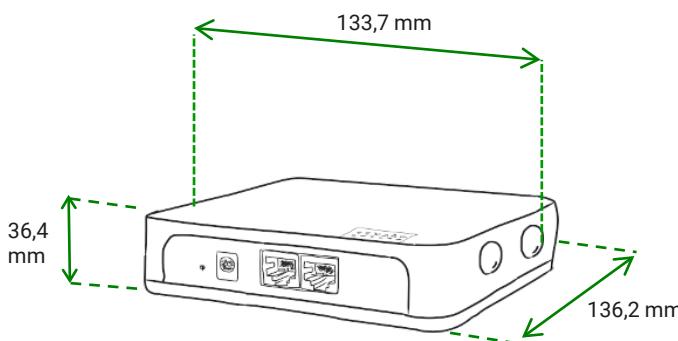
- Website dedicated to software documentation
- User manuals
- First-time access guides
- Case studies, tutorials and other useful resources for using the products



SUSTAINABILITY

SYSTEM

| | |
|---|---|
| Power | <ul style="list-style-type: none"> - 100-240 VAC (con 12 V adapter) - Power 9-30 Vdc |
| Cooling | Fanless |
| Consumptions (full functions) | < 3 W |
| 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. |

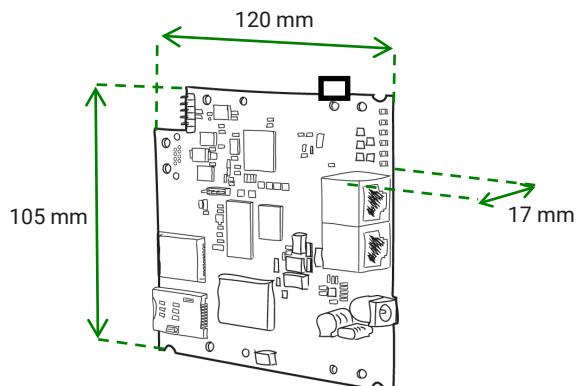


ENVIRONMENTAL DATA

| | |
|------------------------------|-----------------|
| Operating temperature | -10° C / +55° C |
|------------------------------|-----------------|

SIZE

| | |
|---------------------|--|
| kloTo 532 | 133,7 x 136,2 x 36,4 (L x P x A mm) Plastic chassis version |
| Machine body | kloTo 532-N 105 x 120 x 17 (L x P x A mm) Naked version, SMA connector excluded |



OTHER INFORMATION

| | |
|-------------------------------|---|
| Packaging and wrapping | 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 |

ORDERING CODES *(AVAILABLE FOR VOLUMES)*

| | | | |
|------------------|---------------|-------------------|----------------------------------|
| K0532N1EU | - kloTo 532-N | - EU CAT 1 region | - Naked version |
| K0532C1EU | - kloTo 532 | - EU CAT 1 region | - Box version in plastic chassis |
| K0532N1WW | - kloTo 532-N | - WW CAT 1 region | - Naked version |

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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