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# TOSIBOX® PRODUCTS AND SERVICES

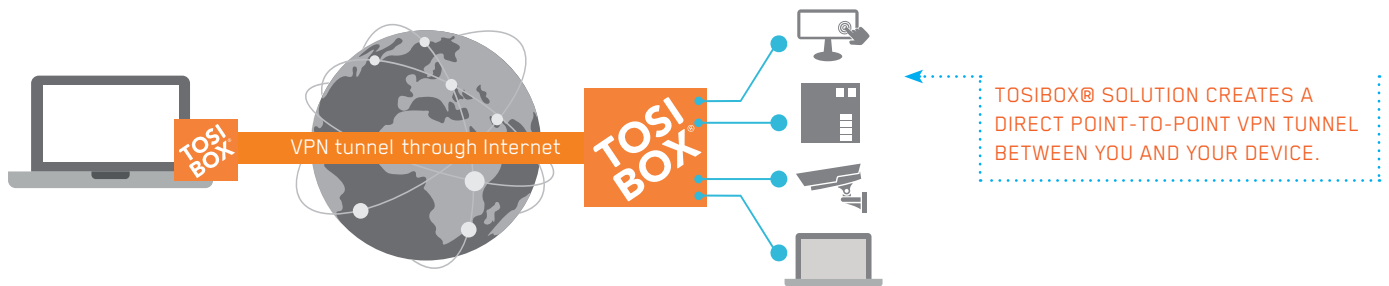Your secure and scalable solution from remote access to global OT networking

**TOSIBOX**®

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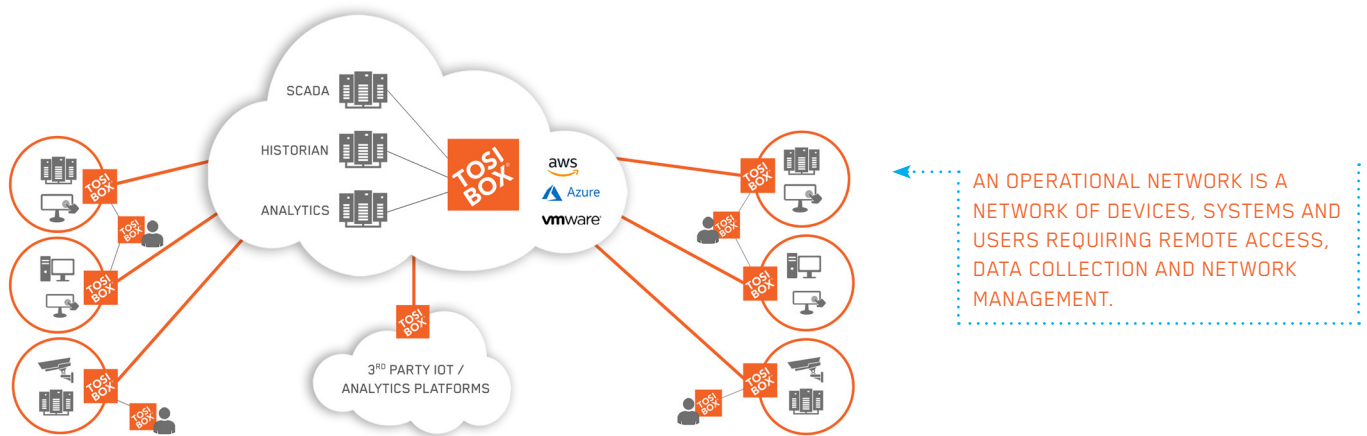# TOSIBOX® SOLUTION GROWS FROM SECURE REMOTE ACCESS TO GLOBAL OT NETWORKING

**Tosibox has automated secure connectivity and made it simple. It is a standardized way of building VPN connections based on a patented connection method. The configuration-free Plug & Go™ implementation easy to carry out even without special IT skills. The unique feature of TOSIBOX® technology is the two-way connectivity that brings the benefits of IP networking plus remote maintenance with one technology.**

The game-changing solution consists of globally patented point-to-point data flow between ends allowing for a secure connection and associated marriage between two modules. The communication is end-to-end encrypted and not decrypted at any point along the way. A third-party cloud service is not included, but you can choose your own cloud or server, wherever you want.

VPN tunnel through Internet

TOSIBOX® SOLUTION CREATES A DIRECT POINT-TO-POINT VPN TUNNEL BETWEEN YOU AND YOUR DEVICE.

**TOSIBOX® solution consists of modular components that offer unlimited expandability and flexibility**. All components are compatible with each other as well as internet connection, operator, and device agnostic. The solution works both in internal and external networks, and you can connect both modern IoT devices and legacy systems.
- TOSIBOX® Lock is an industry router or a software sharing access to devices.
- TOSIBOX® Key is a client used to access the network.
- TOSIBOX® Hub is the platform for OT network and access rights management.
- TOSIBOX® SaaS is a hosted management layer that turns operational applications, machines and their users into a controlled OT network.

SCADA
HISTORIAN
ANALYTICS
aws
Azure
vmware

3RD PARTY IOT / ANALYTICS PLATFORMS

AN OPERATIONAL NETWORK IS A NETWORK OF DEVICES, SYSTEMS AND USERS REQUIRING REMOTE ACCESS, DATA COLLECTION AND NETWORK MANAGEMENT.

**TOSIBOX® is the world's first purpose-designed connectivity solution for creating and managing global operational networks.** It is developed with simplicity as a design principle, and we have automated the creation of secure remote access. Every remote access connection, even if it is just between one user and a connected device, is the foundation for an operational network.

## EMBEDDED CYBER SECURITY

**TOSIBOX® solution is globally audited, patented and performs at the highest security levels in the industry.** The technology is based on two-factor authentication, automatic security updates and the latest encryption technology.

TOSIBOX® not a cloud service, but a direct VPN tunnel between the physical devices. Only trusted devices can access the network. One TOSIBOX® Lock device protects all devices behind it. All users and Keys are managed from a single console, so you can be sure that your network and data will remain encrypted and secure.

**TOSIBOX® LOCK** can be a router with firewall sharing access to devices or a software installed inside a third-party device. As the company grows, more Locks can be added to various locations.

| Functions | TOSIBOX® Lock 150 | TOSIBOX® Lock 210/250 | TOSIBOX® Lock 500 | TOSIBOX® Lock for Container |
|---|---|---|---|---|
| TOSIBOX® Plug & Go™ Technology | Yes | Yes | Yes | N/A |
| Mounting options | DIN rail mounting at bottom | DIN rail attachment at back | DIN rail attachment at back | N/A |
| Power input | 12 – 24V DC, ±25% | 12-48V DC (+/-20%), reverse polarity protected | 12-48V DC (+/-20%), reverse polarity protected | N/A |
| 3G / 4G USB modem support | TOSIBOX® 4G modem** | TOSIBOX® 4G modem ** | TOSIBOX® 4G modem Internal LTE (option) | N/A |
| WAN port | 10/100 Mbit/s | 10/100 Mbit/s | 10/100 Mbit/s | N/A |
| LAN ports | 3 x 10/100 Mbit/s, bridged | 3 x 10/100 Mbit/s | 3 x 10/100 Mbit/s | N/A |
| VPN throughput | Up to 10 Mbit/s | Up to 30 Mbit/s | Up to 70 Mbit/s | Limited only by network connection |
| VPN encryption | Blowfish 128 bit CBC, AES 128/192/256 bit CBC | Blowfish 128 bit CBC, AES 128/192/256 bit CBC | Blowfish 128 bit CBC, AES 128/192/256 bit CBC | Blowfish 128 bit CBC, AES 128/192/256 bit CBC |
| VPN connection authentication | PKI, 3072 bit RSA | PKI, 3072 bit RSA | PKI, 3072 bit RSA | PKI with 4096-bit RSA |
| Concurrent VPN connections | Max 10 | Max 20 | Max 50 | Max 2 |
| TosiOnline™* | Yes | Yes | Yes | N/A |
| WLAN | 802.11b/g/n | Lock 250 only: 802.11b/g/n | 802.11b/g/n | N/A |
| Dual SIM | No | No | Yes | N/A |
| Digital I/O | No | Yes | Yes | N/A |
| Operating temperature | -20 °C … +55 °C / -4 °F … 131 °F | -20 °C … +60 °C / -4 °F … +140 °F | -20 °C … +70 °C / -4°F… 158 °F | Depends on the device |
| Measurements (LxWxH) | 132 mm x 99 mm x 35.5 mm / 5.2” x 3.9” x 1.39” | 110 mm x 58 mm x 127 mm / 4.33” x 2.28” x 5.0” | 110 mm x 58 mm x 127 mm / 4.33” x 2.28” x 5.0” | N/A |
| Power consumption | Max 7.2 W | Max 10 W | Max 10 W | N/A |
| Approvals | CE, UL, FCC, ISED, IMDA, RCM | CE, UL, FCC, ISED | CE, UL, FCC, ISED, PTCRB, AT&T, + IMDA, RCM, depending on the Lock variant | N/A |
| Product codes | TBL15 | TBL21, TBL21PS, TBL25, TBL25PS | TBL5, TBL5PS, TBL5iA, TBL5iAPS, TBL5iB, TBL5iBPS, TBL5iC, TBL5iCPS, TBL5iD, TBL5iDPS | TBLFC1 |

*Automatic connection recovery functionality          **See all supported modems **here**

| Feature | TOSIBOX® Lock | TOSIBOX® Lock for Container |
|---|---|---|
| Operating environment | Hardware device | Sortware running on Docker |
| Internet connectivity | 4G, WLAN, ethernet | - |
| Layer 3 | Yes | Yes |
| Layer 2 (Sub Lock) | Yes | - |
| 1:1 NAT | Yes | - |
| LAN access | LAN access and device scanner for LAN network | LAN access, device scanner for DOCKER network |
| Matching | Physical and remote | Remote |
| Open firewall ports from internet | - | - |
| End-to-end VPN | Yes | Yes |
| SW auto-update | Yes | Yes |

# TOSIBOX® Lock 150



CE FC IC c(UL)us LISTED

Compliance with
IMDA Standards
DB107332

TOSIBOX® Lock 150 is an industrial router with firewall and secure Plug & Go™ connectivity. It serves as an endpoint for secure remote connections.

IoT devices connected to the Lock can be securely accessed over the Internet and most LAN and WAN networks through an encrypted VPN connection. TOSIBOX® Lock 150 is compatible with all existing TOSIBOX® products.

## Technical data

**Product codes**
TBL15

**Ports**
- 1 x USB 2.0, type A
- 1 x RJ-45 WAN connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)
- 3 x RJ-45 LAN connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)
- x RJ-45 Service connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)

**Connections**
- 10-30V DC ±10% (reverse polarity protected)
- 2 x Wireless network antenna connector, RP-SMA Female
- DIN rail attachment (bottom), angle bracket available as an accessory (TBMBD1)

**WAN connection features**
- Independent of operating systems
- Works in all Internet connections (operator independent)
- Supports HTTP proxy servers with and without authentication
- Firewall friendly
- Works with dynamic, static and private IP addresses
- Built-in firewall, NAT
- Up to 10 concurrent VPN connections
- VPN throughput 10 Mb/s

**Mobile connection features**
- Supported 4G USB modems: TOSIBOX® 4G modem
- TosiOnline™ Automatic network recovery that recovers from most mobile operator and modem problems

**WLAN**
- IEEE 802.11 b/g/n, max. 150 Mbps
- WEP, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK Mixed encryption
- Frequency 2.412 – 2.462 GHz, 11 channels
- Output power 20 dBm max

**Included accessories**
- RJ-45 Cat6 Ethernet cable, USB extension cable
- 2 x WLAN antennas, 2 dBi
- AC Adapter: Input 100 – 240V AC, frequency 47 – 63 Hz, Output 24.0 V, 0.8 A, max 7.2 W. EU, UK, AU or US Power Socket
- DC input plug
- DIN rail mounting bracket

**Physical properties**
- 132 mm x 99 mm x 35.5 mm / 5.2" x 3.9" x 1.4" (L x W x H)
- Weight 593 g / 1.31 lbs (net weight article)
- Cast aluminium casing
- Operating temperature -20 °C … +55 °C / -4 °F … 131 °F
- Operating humidity: 20 – 80% RH, non-condensing
- Storage temperature -40 °C … +70 °C / -40 °F … 158 °F
- Protection class IP20

# TOSIBOX® Lock 250

# TOSIBIOX® Lock 210

TOSIBOX® Lock 250 is an efficient and robust industrial router with an integrated WiFi. TOSIBOX® Lock 210 works in all LAN networks. Both devices serve as endpoints for secure remote connections in operational (OT) networks. Lock 250 and Lock 210 are compatible with all existing TOSIBOX® products.

## Technical data

### Product codes
TBL25, TBL21

### Ports
- 1 x USB 2.0, type A
- 1 x RJ-45 WAN connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)
- 3 x RJ-45 LAN connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)
- LAN3 can be assigned as Service connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)
- Ethernet port isolation: 1500 Vrms 1 minute (when device frame connected to system ground potential)

### Connections
- 12-48V DC (+/-20%), reverse polarity protected
- Device frame connector
- 2 x WiFi antenna connector, RP-SMA Female (Lock 250 only)
- 2 x Digital Input, 2 x Digital Output, 24V DC out
- DIN rail attachment (back)
- Maximum power consumption 10W

### WAN connection features
- Independent of operating systems
- Works in all Internet connections (operator independent)
- Supports HTTP proxy servers with and without authentication
- Firewall friendly
- Works with dynamic, static and private IP addresses
- Built-in firewall, NAT
- Up to 20 concurrent VPN connections
- VPN throughput up to 30 Mbit/s

### Mobile connection features
- Supported External USB modems: TOSIBOX® 4G modem (TB4GM2EU, TB4GM8EU, TB4GM2AU)
- TosiOnline™ – Automatic network recovery that recovers from most modem problems

### WLAN (for Lock 250 only)
- IEEE 802.11 b/g/n, max. 150 Mbps
- WEP, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK Mixed, WPA-EAP, WPA2-EAP TKIP/AES encryption
- Frequency 2.412 – 2.462 GHz, 11 channels
- Output power 20 dBm max

### I/O specifications
- 2 x digital inputs, galvanic isolation, current limited to $\leftarrow$5mA, Voltage 0 - 32V nom. $\rightarrow$12V is interpreted as '1', 0-5V is '0'
- 2 x digital outputs, 24V DC, 50 mA current shared by the outputs and 24V DC out
- 1 x 24V DC out, 50 mA current shared by 24V DC out, output 1 and output 2
- Software Configurable I/O state

### Physical properties
- 110 mm x 58 mm x 127 mm / 4.33" x 2.28" x 5.0" (L x W x H)
- Weight 495 g / 1.09 lbs (net weight article)
- Operating temperature -20 °C … +60 °C / -4 °F … +140 °F
- Storage temperature -40 °C … +70 °C / -40 °F … +158 °F
- Protection class IP20

### Included accessories
- RJ-45 Cat5e Ethernet cable
- 2 x WiFi antennas, 2 dBi (for Lock 250 only)
- I/O connector plug
- Power connector plug
- AC adapter - Input 100 – 240 V AC, frequency 47 – 63 Hz, Output 12.0 V, 1.6 A, max 19.2 W.
- EU, UK, AU and US power socket

# TOSIBOX® Lock 500

CE   FC   IC   c (UL) us LISTED

Compliance with
IMDA Standards
DB107332

## PTCRB   AT&T   VERIZON   T-MOBILE
Verizon and T-Mobile pending for Lock 500iD

TOSIBOX® Lock 500 is a high-end connectivity device bringing unprecedented possibilities for customers to manage their operations and to build new IoT solutions. The Lock 500 is ideal for demanding industrial environments and opens up new opportunities in security and office networking sectors. The Lock 500 is compatible with all existing TOSIBOX® products.

## Technical data

### Product codes
TBL5, TBL5PS, TBL5iA, TBL5iAPS, TBL5iB, TBL5iBPS, TBL5iC, TBL5iCPS, TBL5iD, TBL5iDPS

### Ports
- 1 x USB 2.0, type A
- 1 x RJ-45 WAN connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)
- 3 x RJ-45 LAN connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)
- LAN3 can be assigned as Service connection, 10/100 Mb/s, auto-negotiation (MDI / MDI-X)
- Ethernet port isolation: 1500 Vrms 1 minute (when device frame connected to system ground potential)

### Connections
- 12-48V DC (+/-20%), reverse polarity protected
- Device frame connector
- 2 x WiFi antenna connector, RP-SMA Female
- (TBL5i*) 2 x LTE antenna connectors, SMA Female
- 2 x Digital Input, 2 x Digital Output, 24V DC out
- DIN rail attachment (back)
- Maximum power consumption 10W

### WAN connection features
- Independent of operating systems
- Works in all Internet connections (operator independent)
- Supports HTTP proxy servers with and without authentication
- Firewall friendly
- Works with dynamic, static and private IP addresses
- Built-in firewall, NAT
- Up to 50 concurrent VPN connections
- VPN throughput up to 70 Mbit/s

### Mobile connection features
- Supported External USB modem: TOSIBOX® 4G modem (TB4GM2EU, TB4GM2AU).
- TosiOnline™ Automatic network recovery that recovers from most mobile operator and modem problems

TBL5iA*
- Region: EMEA
- LTE Cat-6
- Up to 300 Mbps DL, 50 Mbps UL
- Frequency Bands (4G LTE): B1, B2, B3, B4, B5, B7, B12,
- B13, B20, B25, B26, B29, B41
- Dual SIM

TBL5iB*
- Region: APAC
- LTE Cat-6
- Up to 300 Mbps DL, 50 Mbps UL
- Frequency Bands (4G LTE): B1, B3, B5, B7, B8, B18, B19, B21, B28, B38, B39, B40, B41
- Dual SIM

TBL5iC*
- Region: US/CAN
- LTE Cat-6
- Up to 300 Mbps DL, 50 Mbps UL
- Frequency Bands (4G LTE): B1, B2, B3, B4, B5, B7, B12, B13, B20, B25, B26, B29, B41
- Dual SIM

TBL5iD*
- Region: US/CAN
- CBRS
- LTE Cat12 / carrier aggregation
- Up to 600 Mbps DL, 100 Mbps UL
- Frequency Bands (4G LTE): B1, B2, B3, B4, B7, B8, B9, B12, B13, B14, B18, B19, B20, B5, B42, B43, B26, B29, B41, B30, B66, B32, B46, B48
- Dual SIM

**WLAN**
- IEEE 802.11 b/g/n, max. 150 Mbps
- WEP, WPA-PSK, WPA2-PSK, WPA-PSK/WPA2-PSK Mixed, WPA-EAP, WPA2-EAP TKIP/AES encryption
- Frequency 2.412 – 2.462 GHz, 11 channels
- Output power 20 dBm max

**Included accessories**
- RJ-45 Cat5e Ethernet cable
- 2 x WiFi antennas, 2 dBi
- I/O connector plug
- Power connector plug
- TBL5*PS: AC adapter - Input 100 – 240 V AC, frequency 47 – 63 Hz, Output 12.0 V, 1.6 A, max 19.2 W. EU, UK, AU and US power socket
- TBL5*PS: DC feed cable
- TBL5iA*: EMEA Modem
- TBL5iB*: APAC Modem
- TBL5iC*: US/CAN modem
- TBL5i*: 2 x LTE antennas

**I/O specifications**
- 2 x digital inputs, galvanic isolation, current limited to ⟵5mA, Voltage 0 - 32V nom. →12V is interpreted as '1', 0-5V is '0'
- 2 x digital outputs, 24V DC, 50 mA current shared by the outputs and 24V DC out
- 1 x 24V DC out, 50 mA current shared by 24V DC out, output 1 and output 2
- Software Configurable I/O state

**Physical properties**
- 110 mm x 58 mm x 127 mm / 4.33" x 2.28" x 5.0" (L x W x H)
- Storage temperature -40 ˚C … +70 ˚C / -40 ˚F … +158 ˚F
- Protection class IP20

TBL5*
- Weight 495 g / 1.09 lbs (net weight article)
- Operating temperature -20 ˚C … +60 ˚C / -4 ˚F … +140 ˚F

TBL5i*
- Weight 505 g / 1.11 lbs (net weight article)
- Operating temperature -20 ˚C … +60 ˚C / -4 ˚F … +140 ˚F

# TOSIBOX® Lock
# for Container

With TOSIBOX® Lock for Container, services running on the connected device can be securely accessed over the Internet and most LAN and WAN networks through highly encrypted VPN connection.

TOSIBOX® Lock for Container is suitable for demanding and hazardous applications such as medical, marine, transport and oil industries. In these scenarios TOSIBOX® Lock for Container brings secure connectivity to hardware devices designed to meet demanding requirements.

TOSIBOX® Lock for Container is also perfect for developers, device manufacturers, and integrators who are innovating new ecosystem technology.

## Technical data

**Product code:**
TBLFC1

**Recommended software requirements**
- Any 64-bit Linux OS supported by Docker software (such as CentOS, Fedora, Ubuntu or Debian) and Docker Engine - Community v19 or later installed and running
- Any 64-bit WindowsOS with WSL2 enabled (Windows Subsystem for Linux v2) and Docker Desktop for Windows v2.1 or later installed and running
- Installation requires sudo or root level user rights

**Recommended system requirements**
- 50 MB RAM
- 50 MB hard disk space
- ARM 32-bit or 64-bit, Intel or AMD 64-bit dual core processor
- Internet connectivity

**Security**
- Patented TOSIBOX® connection method
- PKI with 4096-bit RSA key
- Compatible with all TOSIBOX® devices and products
- Uses Remote Matching for including to your TOSIBOX® secured network
- Uses device firewall for security
- TOSIBOX® software separated from system software

**WAN connection features**
- Serves as an endpoint for TOSIBOX® secure VPN tunnel
- VPN connections to/from Virtual Central Lock
- VPN connection from TOSIBOX® Key
- Works in all Internet connections (operator independent)
- Supports HTTP proxy servers with and without authentication
- Works with dynamic, static and private IP addresses
- Up to 2 concurrent VPN connections
- VPN throughput limited only by network connection
- Layer 3 connections
- LAN access if supported by the device

**User Interface**
Packed with TOSIBOX® web UI for remote configuration

**Required open firewall ports**
- Outbound TCP: 80, 443, 8000, 57051
- Outbound UDP: random, 1-65535
- Inbound: none

# KEY

**TOSIBOX® KEY** is a client used to access the network. The network can have several admins and numerous users using physical TOSIBOX® Keys, TOSIBOX® Mobile Client app or TOSIBOX® SoftKey software licenses.

| Functions | TOSIBOX® Key | TOSIBOX® SoftKey | TOSIBOX® Mobile Client |
|---|---|---|---|
| TOSIBOX® Plug & Go™ Technology | Yes | Yes | Yes |
| Key role | Master Key, Backup Key, Sub Key | Sub Key | Sub Key |
| Cryptographic key size and type | 2048 bit RSA, hardware-based | 4096 bit RSA | 2048 bit RSA |
| Data encryption | TLS, Blowfish-128-CBC, AES-128-CBC, AES-256-CBC | TLS, Blowfish-128-CBC, AES-128-CBC, AES-256-CBC | TLS, Blowfish-128-CBC, AES-128-CBC, AES-256-CBC |
| VPN connection type | Layer 2 / Layer 3 (OpenVPN) | Layer 2 / Layer 3 (OpenVPN) | Layer 3 (OpenVPN on Android, IPsec/IKEv2 on iOS) |
| Mobile Client for Android and iOS | Yes (1 license incl.) | No | N/A |
| Two-factor authentication | Yes | Yes | Yes |
| Product code | TBK2 | TBSKL1 TBSKL5 TBSKL10 | TBMC1 TBMC5 TBMC10 |

# TOSIBOX® Key

TOSIBOX® Key is an intelligent cryptoprocessing device that enables a secure connection between your computer and one or more TOSIBOX® Locks, giving you full visibility and control over the network devices connected to the Lock.

Connections are established through a secure, encrypted VPN tunnel over the Internet or other common WANs and LANs, and permissions can be easily granted, revoked and configured in an unlimited number of ways. TOSIBOX® Key comes with a durable light metal alloy casing.

Starting from the ID "EF" TOSIBOX® Key conforms to the FIPS 140-2 level 3 regulations. The ID is the first two letters of the serial number found on the nameplate.

**Physical properties**
- 83 mm x 22 mm x 10 mm / 3.27" x 0.87" x 0.39" (L x W x H)
- Weight 27 g / 0.06 lbs
- Casing aluminium and plastic
- Operating temperature 0 °C … +70 °C / +32 °F … +158 °F
- Storage temperature -20 °C … +80 °C / -4 °F … +176 °F
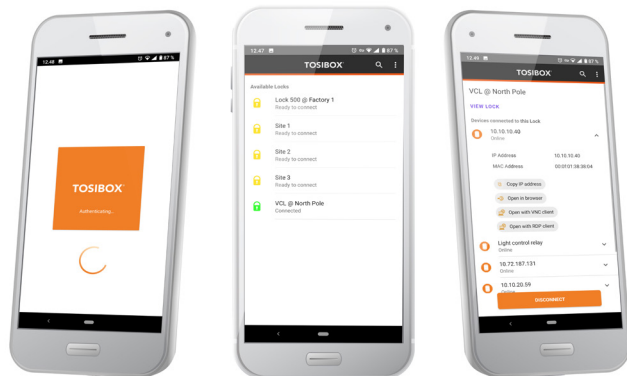
# TOSIBOX® Mobile Client

TOSIBOX® Mobile Client gives you secure and easy remote access on the go by enabling secure VPN connections to matched TOSIBOX® Lock devices, using the mobile device's Wi-Fi or mobile data connection.

TOSIBOX® Mobile Client is built on the physical security foundation of TOSIBOX® products: the access rights are granted and controlled from the physical TOSIBOX® Key, after which the Mobile Client remains bound to it. The access rights are device-specific and non-transferrable.

# TOSIBOX® SoftKey

TOSIBOX® SoftKey is a computer software that enables a secure connection between your computer and one or more TOSIBOX® Locks, giving you full visibility and control over the network devices connected to the Lock.

The SoftKey works without a physical TOSIBOX® Key device. The SoftKey corresponds a Sub Key that is controlled via a physical Master Key, and therefore it cannot be used to create more keys or Mobile Clients. The access rights are granted and controlled from the physical TOSIBOX® Key, after which the SoftKey remains bound to it. The access rights are device-specific and non-transferrable.

**TOSIBOX® SoftKey**

# HUB

**TOSIBOX® HUB** is the platform for OT network and access management. You can limit access, add new users and objects simply by drag and drop.

| Functions | TOSIBOX® Central Lock | TOSIBOX® Virtual Central Lock |
|---|---|---|
| TOSIBOX® Plug & Go™ Technology | Yes | Yes |
| Mounting options | 19" rack mounting, rails included | N/A |
| Power input | 90 - 264 V AC | N/A |
| 3G / 4G USB modem support | No | N/A |
| WAN port | 1 Gbit/s | One required, dependent on virtual platform |
| LAN ports | 4 x 1 Gbit/s, independent | One required, dependent on virtual platform |
| VPN throughput | Up to 700 Mbit/s | Dependent on virtual platform |
| VPN encryption | Blowfish 128 bit CBC, AES 128/192/256 bit CBC | Blowfish 128 bit CBC, AES 128/192/256 bit CBC |
| VPN connection authentication | PKI, 3072 bit RSA | PKI, 3072 bit RSA |
| Concurrent VPN connections | Max 4000 | Dependent on virtual platform and license |
| Supported platforms | N/A | VMWare ESXi, Microsoft, Hyper-V, Linux KVM |
| WLAN | No | N/A |
| Operating temperature | | N/A |
| Measurements (LxWxH) | 570 mm x 430 mm x 43 mm / 22.44" x 16.93"  x 1.69" | N/A |
| Power consumption | Max 250W | N/A |
| Approvals | CE, FCC, UL | N/A |
| Product codes | TBCL1 | TBVCL1 TBVCL1LP100 Licence Package required |

# TOSIBOX® Virtual Central Lock

TOSIBOX® Virtual Central Lock turns your TOSIBOX® ecosystem into a controlled OT network of always-on VPN connections for remote maintenance, continuous monitoring, real-time data collection and data logging.

The Virtual Central Lock cuts centralized access management work time from days into minutes, enabling easy management of big networks without special IT skills.

## Access groups
With Virtual Central Lock, you can create access groups and add relevant members (Keys, Locks, IP addresses, network ranges or MAC addresses) by drag and drop. Members of the same access group can communicate freely, and members can belong to several access groups.

## Network monitoring
The Virtual Central Lock has some very interesting features for a controlled network, such as audit log data collection and connection monitoring. You can see log data about the events of connected TOSIBOX® Locks, always tracking who were using the TOSIBOX® VPN at a certain time. The Virtual Central Lock can also be set to send email alerts for connections for any or all serialized TOSIBOX® Locks being established and closed.

## Virtual LAN
Virtual Central Lock supports Virtual LANs enabling adding workstations or servers from one or more networks connected to the VCL LAN into an access group. You may have different networks defined per customer, or you may want to separate your office network from production network, and arrange remote access to these networks differently.

## Unlimited expandability
TOSIBOX® Virtual Central Lock is infinitely scalable. The free LITE license includes max. 5 VPN connections.

## Properties
- With Virtual Central Lock and always-on VPN connections you can easily enable applications like data logging, continuous monitoring or remote maintenance.
- Possibility to collect audit log data from connected TOSIBOX® Locks
- Monitoring service for VPN connections
- Improved and scalable access management that is enterprise-ready.
- With virtual platforms, it is possible to achieve a very high level of redundancy and fault-tolerance where failover time is measured in seconds.
- Because it's virtual, it can be deployed in your office network, in your favorite cloud infrastructure, or anywhere else where you prefer.
- Supports up to thousands concurrent VPN connections from Keys, Locks or Mobile Clients. The free LITE license includes max. 5 VPN connections.

## Technical requirements
- A supported virtualization platform based on one of the following:
  - VMWare ESXi
  - Microsoft Hyper-V
  - Linux KVM
  - Microsoft Azure Cloud
  - Amazon AWS Cloud
- x86-64 processor architecture, two or more CPU cores
- Minimum of 4 GB of RAM
- Minimum of 16 GB of permanent storage (HDD or SSD)
- Two or more network interfaces for the virtual machine
- One non-firewalled public IP address
- At least 10/10 Mbit/s Internet connection

**Product codes**
TBVCL3
TBVCL3LP25

# TOSIBOX® Central Lock

TOSIBOX® Central Lock is the hub for your TOSIBOX® VPN connections. It enables a wide range of process improvements and new business opportunities. Scalable concurrent VPN connections can easily be created and managed for remote maintenance, continuous data monitoring and data logging purposes.

TOSIBOX® Central Lock offers completely new ways of providing service business. It brings all remote sites to a single point, and centrally manages user and access rights across the entire network in real-time. Scaling from single up to thousands of connections is possible at any time.

## Properties

- With Central Lock and always-on VPN connections you can easily enable applications like data logging, continuous monitoring or remote maintenance.
- Possibility to collect audit log data from connected TOSIBOX® Locks
- Monitoring service for VPN connections
- Improved and scalable enterprise-ready access management
- Supports up to thousands concurrent VPN connections from Keys, Locks or Mobile Clients

## Technical Data

### Product codes
TBCL1EU, TBCL1US

- One 1 Gbit/s WAN port
- Four 1 Gbit/s LAN ports
- Over 700 Mbit/s encryption throughput
- 1000 concurrent remote connections per LAN network
- Encryption and authentication PKI, 3072 bit RSA
- Data encryption TLS, AES-256-CBC / Blowfish-128-CBC

- Mirrored hard disks (RAID 1)
- Remote connection
- Layer 2 or Layer 3 level OpenVPN connection
- Strongly encrypted PKI method used in connection establishment
- 256/192/128-bit AES or 128-bit Blowfish data encryption (configurable)
- Connection authentication and key exchange using 1024/2048/3072 bit RSA encryption
- End-to-end encryption between TOSIBOX® devices

### Connections
- Input voltage 90 … 264 V AC
- Input frequency 47 … 63 Hz
- Power consumption max 250 W
- 1U (rack unit) for 19" rack cabinet (rack rails included)
- Requires one non-firewalled public IP address for Internet access

### Included accessories
- Ethernet cable 1 m x 2
- Power cord (EU Power plug)
- Extension power cord

### Physical properties
- 570 mm x 430 mm x 43 mm / 22.44" x 16.93" x 1.69" (L x W x H)
- Net weight, article + accessories: 12,0 kg / 26.46 lbs
- Operating temperature 10˚C … 30 ˚C / 50 ˚F … 86 ˚F
- Operating humidity: 20% … 80% non-condensing

## TOSIBOX® SaaS – WE HOST, YOU USE

TOSIBOX® SaaS is the management layer that turns your operational applications, machines and their users connected by TOSIBOX® into a controlled OT network.

TOSIBOX® SaaS includes a hosted OT network management platform. The solution provides a multitude of benefits:

**DEDICATED SaaS**
Use TOSIBOX® SaaS for remote maintenance, continuous monitoring, real-time data collection and data logging. Manage and grant access rights to your operational systems from a single point.

**DIGITAL TRANSFORMATION**
Unlimited expandability and flexibility from remote access to real-time monitoring and data collection. Get accurate real-time data, available regardless of time and place.

**EMBEDDED CYBER SECURITY**
The OT network secures your sites, identifies the users, and encrypts all the traffic within the network. Security updates are always kept up to date.

**SCALING WITH PRESENT AND FUTURE BUSINESS OPPORTUNITIES**
Unlimited scalability makes it possible to continue to add sites, devices and users to your OT network as your business grows.

## ADDITIONAL SERVICES FOR TOSIBOX® SaaS – WE OPERATE, YOU SUCEED

Additional Services for TOSIBOX® SaaS turn your TOSIBOX® OT network into a turnkey solution for your operational networking.

In addition to the benefits that come along with the TOSIBOX® SaaS solution, the Additional Services will bring you

**DEDICATED OT NETWORK**
TOSIBOX® OT network is by default a dedicated network. There are no shared components. Only you can decide who has access to your OT network, and only you can choose if you want to transfer data to or from an IT network.

**BETTER COST CONTROL**
There is no need for large initial investments or resources for IT skills. Monthly invoicing allows you to anticipate the costs and transparent pricing helps with budgeting. The costs stay in control even if the size of your OT network multiplies as your business grows.

**FULL FOCUS ON YOUR CORE BUSINESS**
Running secure OT networks is usually not part of a companies' core expertise. It is our expertise. We will take care of setting up and hosting your OT network, so you can focus on your core business more efficiently.

| | TOSIBOX® Plug & Go™ devices | TOSIBOX® Virtual Central Lock | TOSIBOX® SaaS | TOSIBOX® SaaS + Additional Services |
|---|---|---|---|---|
| Installation | Customer | Customer | **TOSIBOX®** | **TOSIBOX®** |
| Hosting | N/A | Customer | **TOSIBOX®** | **TOSIBOX®** |
| Maintenance | Customer | Customer | **TOSIBOX®** | **TOSIBOX®** |
| Access management | Customer | Customer | Customer | **TOSIBOX®** |
| Reporting | N/A | Customer | Customer | **TOSIBOX®** |

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