

MECHATRONIC SECURITY

TOKOZ ePRO



A UNIQUE SYSTEM COMBINING THE ADVANTAGES OF MECHANICAL AND ELECTRONIC SECURITY

Who has access? When and where? You control that in your building. You may control the access rights mechanically and electronically through safe encrypted communication.

The top level **ePRO** security is ensured by the patented **TOKOZ PRO** mechanical system and the electronic access rights verification.

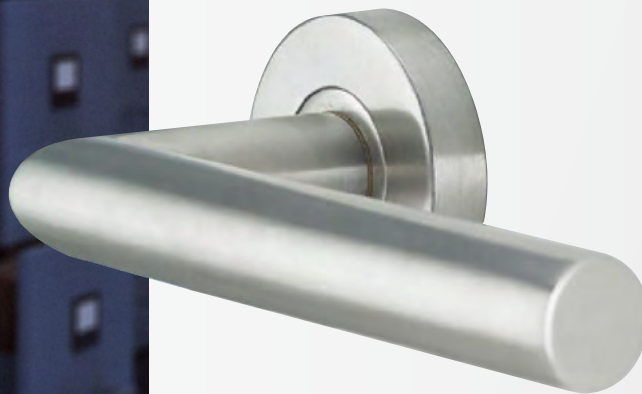
An exceptionally variable and modular system, ideal even for sites without access to electricity.



DUAL AUTHORISATION SECURITY

The user may only access the building if their key:

- has the proper mechanical code
- is electronically authorised to enter the cylinder
- fits into the defined time/date parameters
- the key is updated by the server application



SECURING INDUSTRIAL BUILDINGS, STRATEGIC ONES IN PARTICULAR, REQUIRES PRECISE HIERARCHICAL SECURITY

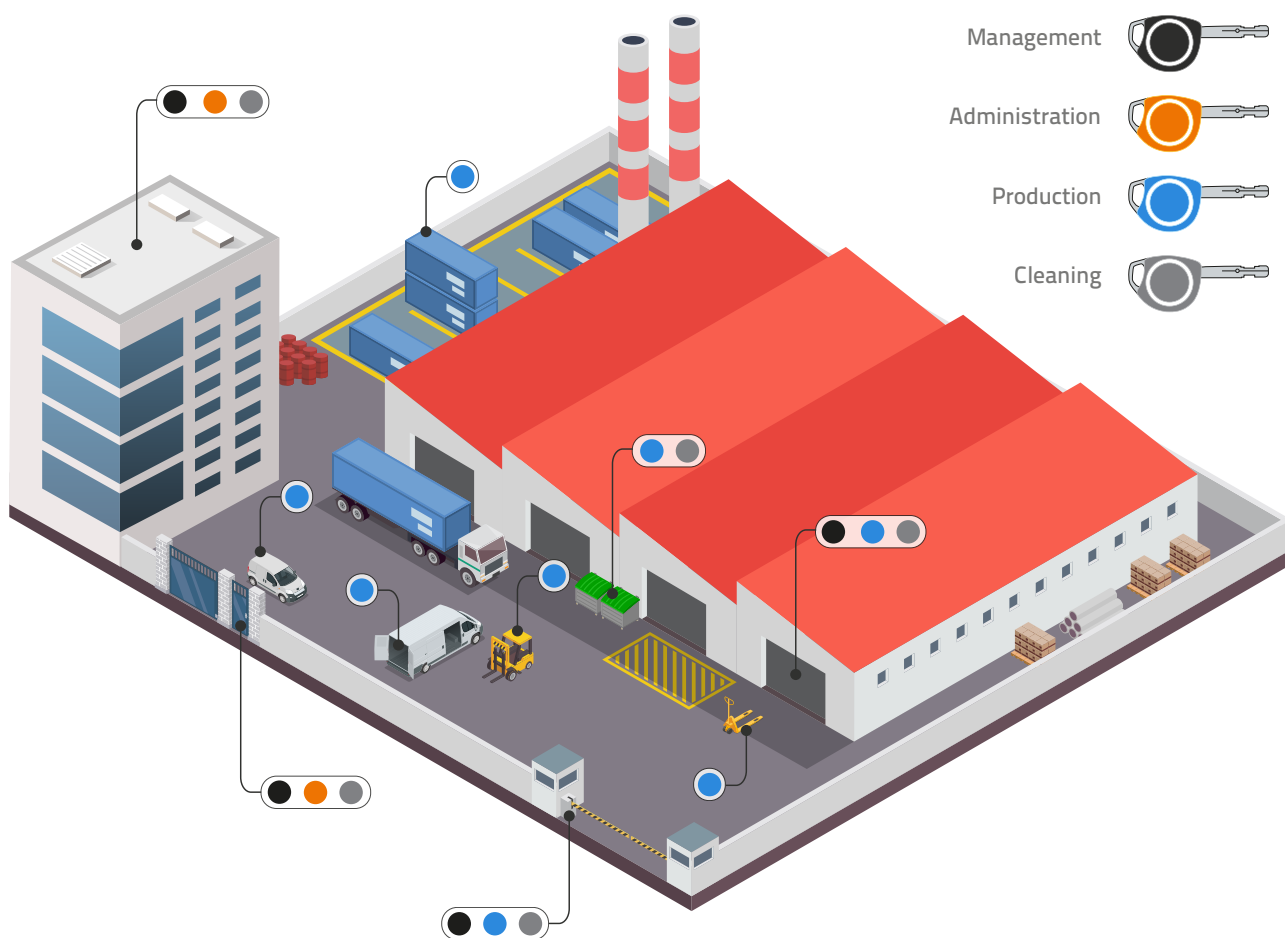
You control who may access and when. We use electronically set access rights to protect your premises from unauthorised access.

Secure your building by the **TOKOZ ePRO** and **TOKOZ PRO** locks which have not been broken without using destructive methods. Even your insurance company and security agency will appreciate the highest level of security.

From entrance doors to warehouses, gates, containers, vans. We produce the widest range of locking solutions on the market.

All of our products are thoroughly tested in a government testing laboratory. You are buying a certified product of adequate resistance class.

The hierarchical systems may contain a combination of the **ePRO** mechatronics with the **TOKOZ PRO** mechanical locks.



THE **ePRO** SYSTEM DUAL AUTHORISATION PROVIDES MAXIMUM LEVEL OF SECURITY

The patented revolving disc technology combined with the AES 128 symmetrical encryption defend unauthorised key duplication. The spaces requested the highest security level are only accessible by authorised key holders.

Remote site buildings are usually secured by quality safety doors and fencing. Power supply is often not possible. The **ePRO** is a solution. The power supply provides the key. The **ePRO** mechatronic cylinders need no supply of electricity. They are reliable in any weather. All information is held encrypted within a stable memory.

The **ePRO** system allows access rights changes and records all events - who, where and when. The memory stores unsuccessful attempts to open as well.



SENSITIVE DATA? HEALTH PROTECTION? FINANCE? WE PROTECT INSTITUTIONS AND PUBLIC BUILDINGS FROM UNAUTHORISED ACCESS

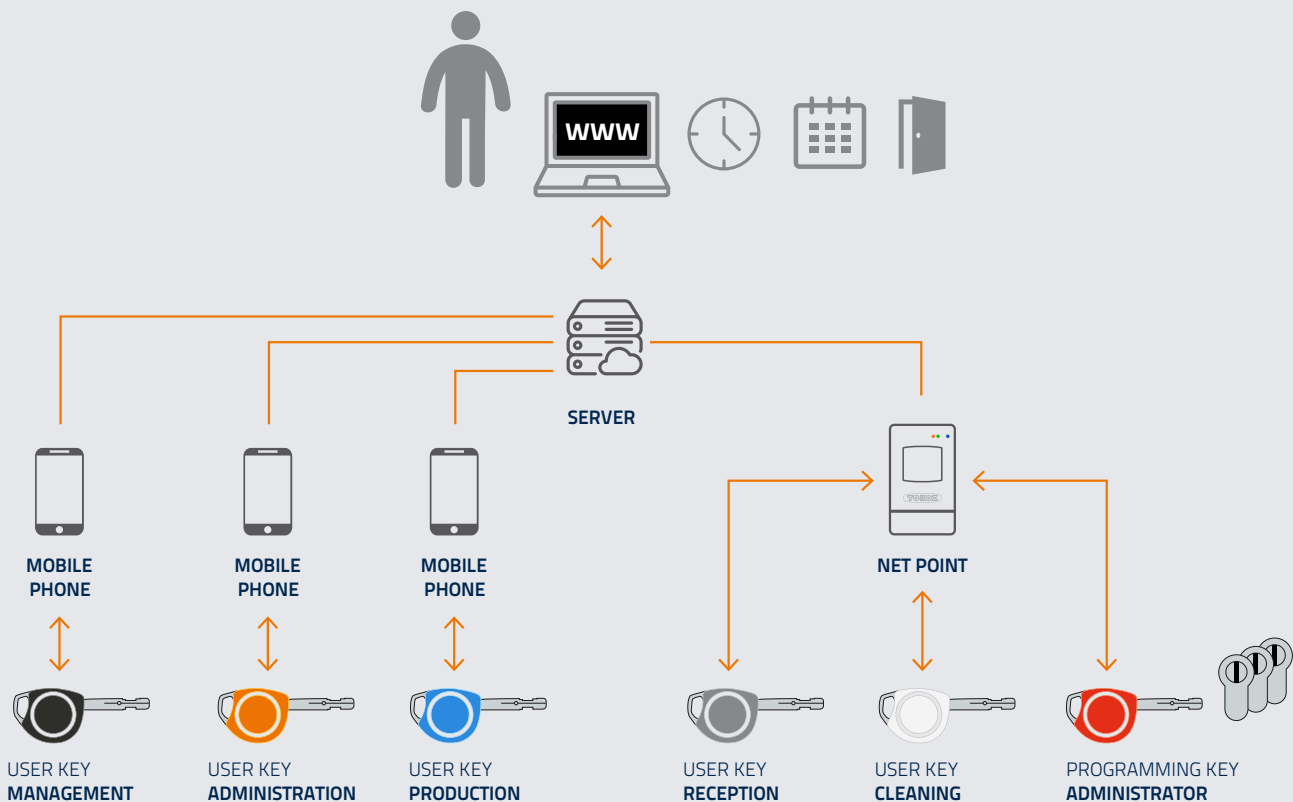
Use it as a standard cylinder.

The **ePRO** mechatronic cylinders can be used like any conventional euro profile cylinders.

They can also be installed into padlocks and other mechanical locking solutions with euro profile.

The **ePRO** system has all the benefits of a common masterkeyed cylinder:

- Increased level of defense due to the combination mechanical/electronic security elements.
- Lost key's access rights can be easily deleted without having to change cylinders and replace other keys in the system.
- Authorisations can be easily altered without changing the cylinder or having access to the keys.
- Usage history of cylinders and keys can be checked.





A FLEXIBLE SYSTEM WHICH ADAPTS TO INDIVIDUAL REQUIREMENTS

Access requirements often change during the life, and the **ePRO** system can reflect this quickly and at any time through an intuitive web application that can be controlled from any internet browser. Comparing to mechanical locking systems, the **ePRO** mechatronic allows flexible change of access rights.

- Time/date control can be added to existing access rights.
- Electronic access rights can be changed or extended regardless of the mechanical combination limits.
- Lost or stolen keys are not a problem for the **ePRO** system as they can simply be deleted from the system. Avoid the expenses of cylinder or system replacement.
- Access rights are distributed to the keys from a web application, by updating the keys via NET Point or by using a mobile phone.

The **ePRO** mechatronic system is not only suitable for industrial or administrative buildings, but even for residential properties.





PROGRAMME WHO GOES WHERE, WHEN AND FOR HOW LONG

System programming

The system is controlled by a web application, accessible from any browser. The **web application** allows the user to define his project, including the definition of the number of cylinders and keys and access rights between them.

Through the web application can the user activate the project and control user rights settings and system status reporting. Furthermore, the customer can use the web application to expand his project by adding new keys and cylinders.

Operation of the locking system

Cylinders are put into operation when a programming key is inserted into each of them.

The user can verify the key using a mobile application or the NET Point.

When the user key is inserted in to the cylinder it reads cylinder's name and decides whether to unlock. Successful opening is indicated by flashing (green LED).





AN EXCEPTIONALLY VARIABLE AND MODULAR SYSTEM

From entrance doors to warehouses, gates, containers, vans. We produce the widest range of locking solutions on the market.

You will only need one key for all the locks in your company.

All of the products are manufactured by skilled Czech hands in our plant in Žďár nad Sázavou.



The ePRO cylinder range can be used in all types of timber, metal or plastic internal and external doors fitted with mortice locks. We produce a range of locking solutions which can be used with the ePRO cylinders and combined within the same system.

Typical applications include:

- Entrance doors
- Gates and fences
- Garages, bike shelters and lock-ups
- Kiosks and cage enclosures
- Bins and construction equipment
- Van vehicle doors

The **OMEGA PADLOCK** is customisable and suitable for security usage.

The **X SAFETY BOX I** is an innovative alternative to a hasp and padlock suitable for double doors/gates.

The **X SAFETY BOX II** is an innovative alternative to a hasp and padlock suitable for overhead doors, single doors and gates.

The **KONTI PRO** is a security product suitable for securing bins or other containers or being used as an anchor point for free standing objects.

The **VANLOCK** is an additional lock for increasing security of van vehicles.



TECHNICAL SPECIFICATION

The ePRO mechatronic cylinder

- Authorised key memory size - 2 048 items
- Operating voltage (powered by key, without own source) - 2.6 to 3.3V
- Response time (key designation processing and access right assessment) - 150ms
- Operating temperature range -20 °C to +60 °C
- Encrypted communication between insert and key
- Encryption key length - 16B
- Number of encryption keys - 2
- Encrypting - symmetric AES128

The ePRO user keys

- Memory size - 2 048 cylinders with access rights
- Memory size of events logs - 29 667 records
- Operating voltage (for DPS key and cylinder charging) - 2.6 to 3.3V
- Battery life for unlocking - 20 000 unlocking cycles or 1 year
- Timestamp
- Minimum necessary time correction in key - 1 x a year
- Time information retention without battery - 90 sec.
- Time information renewal - automatically upon successful connection to server
- System information retention (key designation, encryption key) without battery - unlimited
- Status indication - LED, various colours (green-red) and flashing
- Operating temperature range -15 °C to +60 °C

The ePRO programming key - admin

- Memory size - (1 Mb) 20 900 logs
- Operating voltage (for system information entries into cylinder) - 3.0 to 3.3V
- Number of system information entries per battery - 150 entries
- Operating voltage (for system information download from cylinder) - 2.6 to 3.3V
- Number of system information downloads per battery - 1 000 download cycles
- Minimum necessary time correction in key - 1 x a year
- Time information retention without battery - 60 sec.
- Time information renewal - automatically upon successful connection to server
- System information retention (key designation, encryption key) without battery - unlimited
- Status indication - LED, various colours (green-red) and flashing
- Operating temperature range -15 °C to +60 °C
- Timestamp

NET Point

- Power supply - USB (5 V)
- Status indication - LED, two colours and flashing
- Wire connection - LAN/WiFi
- Communication transmission (key - server) - 5 sec.
- Operating temperature range -20 °C to +60 °C

Standards

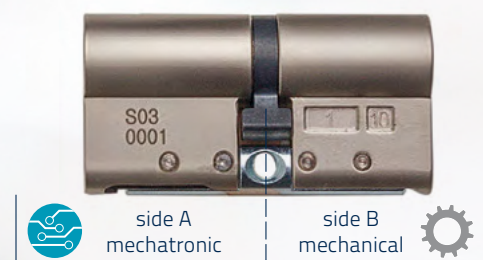
The TOKOZ PRO security cylinder locking system is protected under several Czech patents CZ303062, CZ302949, CZ303063, CZ304066 and European patents EP 2 453 084 and EP 2 458 115. The cylinder is certified to EN 1303 and EN 1627. The TOKOZ ePRO cylinder is based on the TOKOZ PRO cylinder and is protected under another Czech patent CZ 306 921 and European patent EP 3 299 554. The cylinder has also been thoroughly tested to EN 15 684.

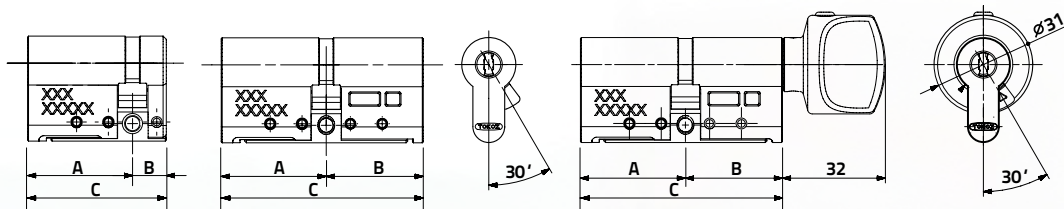
Category of use	Durability	Fire resistance	Environmental resistance
1	6	0	1
Mechanical key-related security	Electronic key-related security	Management system	Attack resistance
F	F	3	2


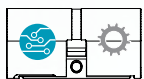
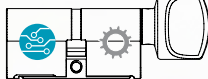
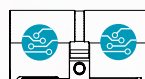


Dimensions and lengths

The ePRO mechatronic cylinders are available in various configurations and size options to suit majority of applications. Double cylinders are available with thumbturn operation on the inside, mechanical key operation on the inside or with mechatronic key from both sides. The ePRO mechatronic cylinders are also available in half-cylinder versions.





dimensions (mm) [side]					
A outer	B inner	single cylinder	double cylinder ePRO/PRO 300	cylinder and turn ePRO/PRO 300	double mechatronic cylinder
33	10	296330330100301			
38	10	296330380100301			
43	10	296330430100301			
48	10	296330480100301			
53	10	296330530100301			
58	10	296330580100301			
63	10	296330630100301			
68	10	296330680100301			
73	10	296330730100301			
78	10	296330780100301			
33	30		296110330300301	296430330300301	
33	35		296110330350301	296430330350301	
33	40		296110330400301	296430330400301	
33	45		296110330450301	296430330450301	
33	50		296110330500301	296430330500301	
33	55		296110330550301	296430330550301	
38	30		296110380300301	296430380300301	
38	35		296110380350301	296430380350301	
38	40		296110380400301	296430380400301	
38	45		296110380450301	296430380450301	
38	50		296110380500301	296430380500301	
38	55		296110380550301	296430380550301	
43	30		296110430300301	296430430300301	
43	35		296110430350301	296430430350301	
43	40		296110430400301	296430430400301	
43	45		296110430450301	296430430450301	
43	50		296110430500301	296430430500301	
43	55		296110430550301	296430430550301	
33	33				296210330330301
33	38				296210330380301
33	43				296210330430301
33	48				296210330480301
33	53				296210330530301
33	58				296210330580301
38	33				296210380330301
38	38				296210380380301
38	43				296210380430301
38	48				296210380480301
38	53				296210380530301
38	58				296210380580301
43	33				296210430330301
43	38				296210430380301
43	43				296210430430301
43	48				296210430480301
43	53				296210430530301
43	58				296210430580301
48	33				296210480330301
48	38				296210480380301
48	43				296210480430301
48	48				296210480480301
48	53				296210480530301
48	58				296210480580301

Further dimensions will be provided upon request.



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