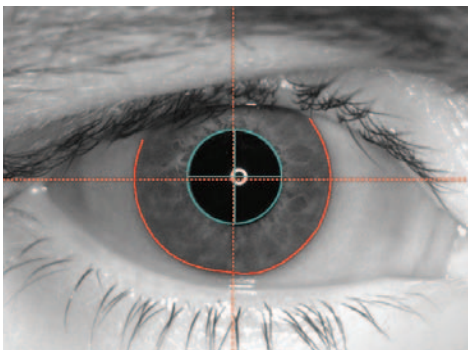
PAPILLON
SYSTEMS

ZIRKON-4

IRIS-BASED BIOMETRIC ACCESS CONTROL

Being unique to every individual, the pattern of a human iris begins its shaping six months after the moment of the child's birth. This process gets completed by the age of one, whereupon the iris pattern remains unchanged for life. More absolute than other biometrics, an iris is unlikely to be imitated.

But the image of it can be easily captured and digitized.



Biometrical identification, being based on the uniqueness of physiologic data of an individual, is more widely used nowadays anywhere that authentication or reliable authorization is needed.

The next generation in identification technology, iris recognition gives you a high level of accuracy and confidence and is compatible with the fingerprint identification recognized as leading among all biometric identification methods.

Among advantages of the iris-based biometric technology offered by PAPILLON ZIRKON-4 is its non-aggressiveness to an individual being verified: an individual just looks into the camera, and the system captures his iris pattern, digitally processes, compares it to enrolled templates and makes the authentication.

SYSTEM CAPABILITIES

- Capture and digital processing of the iris pattern
- Creation of an electronic database where each record contains an encoded iris pattern image, demographic and other descriptive information, and mugshots of a registrant
- Comparison of a coded iris image to those stored in the database in a 1-to-n or in a 1-to-1 identification mode
- Operations in the database: sampling, list sorting, deletion and editing of records, etc.

ZIRKON-4 is capable of being integrated into already operating automated systems of access control. Interaction between ZIRKON-4 and the access control system is provided through physical interfaces such as Ethernet or RS 485.

The minimal configuration of an access control system on the base of ZIRKON-4 includes an iris scanner integrated with a matcher that stores a database of digitized iris images of persons who have legitimate access to the area under control, and performs all comparisons, following which a control response is generated.

Multiple iris scanning terminals can be connected to the server PC through a LAN if a multiple portal or door control is required.

ZIRKON-4 ACCESS CONTROL UNIT

The PAPILLON ZIRKON-4 iris-based access control unit is a point of personal enrollment and recognition by iris patterns.

ZIRKON-4 is developed to capture the iris pattern and to process it digitally either in stand-alone mode (i.e. autonomously) or within an automated access control system for making verification (by comparing "one-to-one") or identification ("one-to-many").

When used in autonomous mode, ZIRKON-4 enables both user enrollment and fast recognition against templates stored locally in its database. It operates in identification mode and, when recognition is complete, opens an electric lock.

Integrated into any existing security system, ZIRKON-4 can be used for identity verification purposes – iris data are registered at an enrollment terminal and stored in the server PC. The access control system interacts with ZIRKON-4 via the protocol defined in its SDK. The individual's iris pattern is compared "one-to-one" to a template by using an additional identifier - a contactless card, key fob or any other type of personal identity cards.

When ZIRKON-4 is integrated into an access control system and is used for identification purposes, the iris pattern of an individual is compared "one-to-many" to those stored in the database locally on ZIRKON-4.

The ZIRKON-4 access control unit is placed at a check-point of the security perimeter. It should be fixed vertically near a gateway, leading to a protected zone.

The iris scanner is fitted with a positioning mirror, light and voice navigation, which provides easy operation and guidance during the recognition procedure.

The procedure starts automatically as soon as an individual just looks into the mirror standing 35-50 cm in front of the camera within its field of view.

The angle of the camera can be adjusted manually by tilting to accommodate users of different height when capturing iris images.

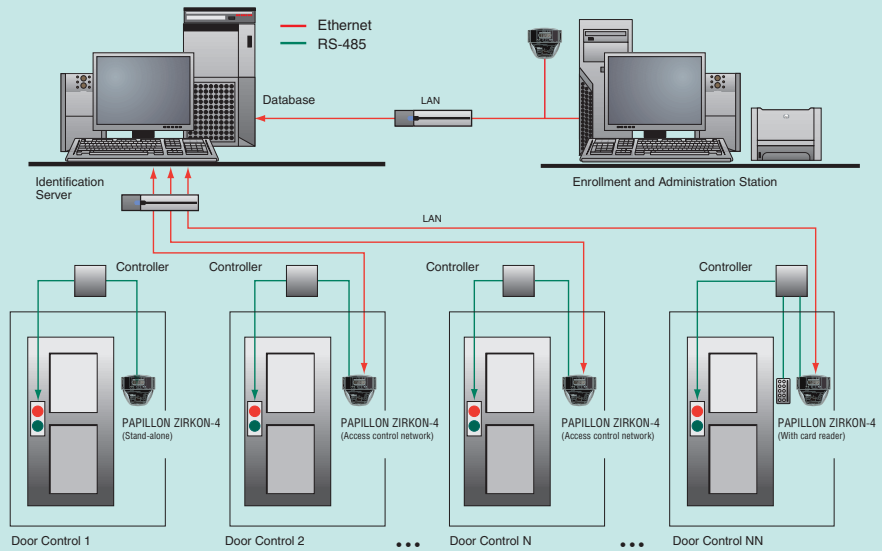
The scanner illumination is harmless to human eyes.

PAPILLON ZIRKON-4

SPECIFICATIONS

Local database capacity	2,000 templates
Recognition reliability:	
False Accept Ratio (FAR)	10^{-7}
False Reject Ratio (FRR)	10^{-2}
Iris recognition time	<2 seconds
Interface	Ethernet, RS-485
Illumination	IR source, 850 μm
Power	12 V
Power consumption	<30 W
Scanning area	350 mm to 470 mm
Swivel angle	–15 to +30 degrees
Weight, kg	1,2
Dimensions (W×D×H)	210 mm×190 mm×80 mm
Protection standard (IP Code)	IP20

SYSTEM CONFIGURATION



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