

## Product Info

# StarSign<sup>®</sup> Key Fob: Physical and digital security at your fingertips

The StarSign Key Fob is a full featured biometric identity and authentication device. It allows users the one touch ability to:

- ✓ Access
- ✓ Approvals
- ✓ Payments

Small, sleek and stylish!

### Key Benefits

-  Supports multiple connectivity technologies
-  Easy plug and play setup
-  Robust construction for splash and dust resistance
-  Convenient form factor for ultimate portability
-  Offers support for multi-user and multi-account scenarios
-  FIDO enabled for cutting-edge interoperability

# Securing our identities – online and in person

### Convenient and secure

The built-in fingerprint biometrics controller allows user confirmations with one simple touch for quick, easy and secure online transactions. High-performance sensor allows easy fingerprint enrolment and fast fingerprint recognition.

### One device for all your access needs

Same device for both physical and logical access control. Can be customized with further applications based on JavaCard technology, such as payment or ticketing.

### FIDO enabled

FIDO U2F and FIDO2 certified. Can be applied largely across all FIDO enabled websites, service or systems which eliminates the need of any password. First FIDO Security Key in the market which is combined with physical access control and payment applications.

### Security made in Germany

All credentials securely stored in one device in a high security smart card chip from Infineon. The secure boot and end-to-end encryption assures the integrity throughout up to the communication end-points.

### Support of NFC, BLE and USB

Seamless communication through USB, NFC and BLE for different use cases and transaction channels.

### Multi user and broad platform support

Several users can share one device with the support of several fingerprint templates stored on the chip. With multi-pairing support, the device can be connected and used on several platforms at the same time, such as desktop/laptop PC, workstation, tablet/smartphone or smart machine.

### Easy plug and play setup

Can be easily setup and managed by dedicated Mobile App. Compatible to many physical access control standards. Can be used right away on any FIDO enabled browser or system out of the box. The companion middleware allows seamless integration into your business applications.



# StarSign Key Fob: Applications

The key fob has many use cases across both enterprise and consumer environments.

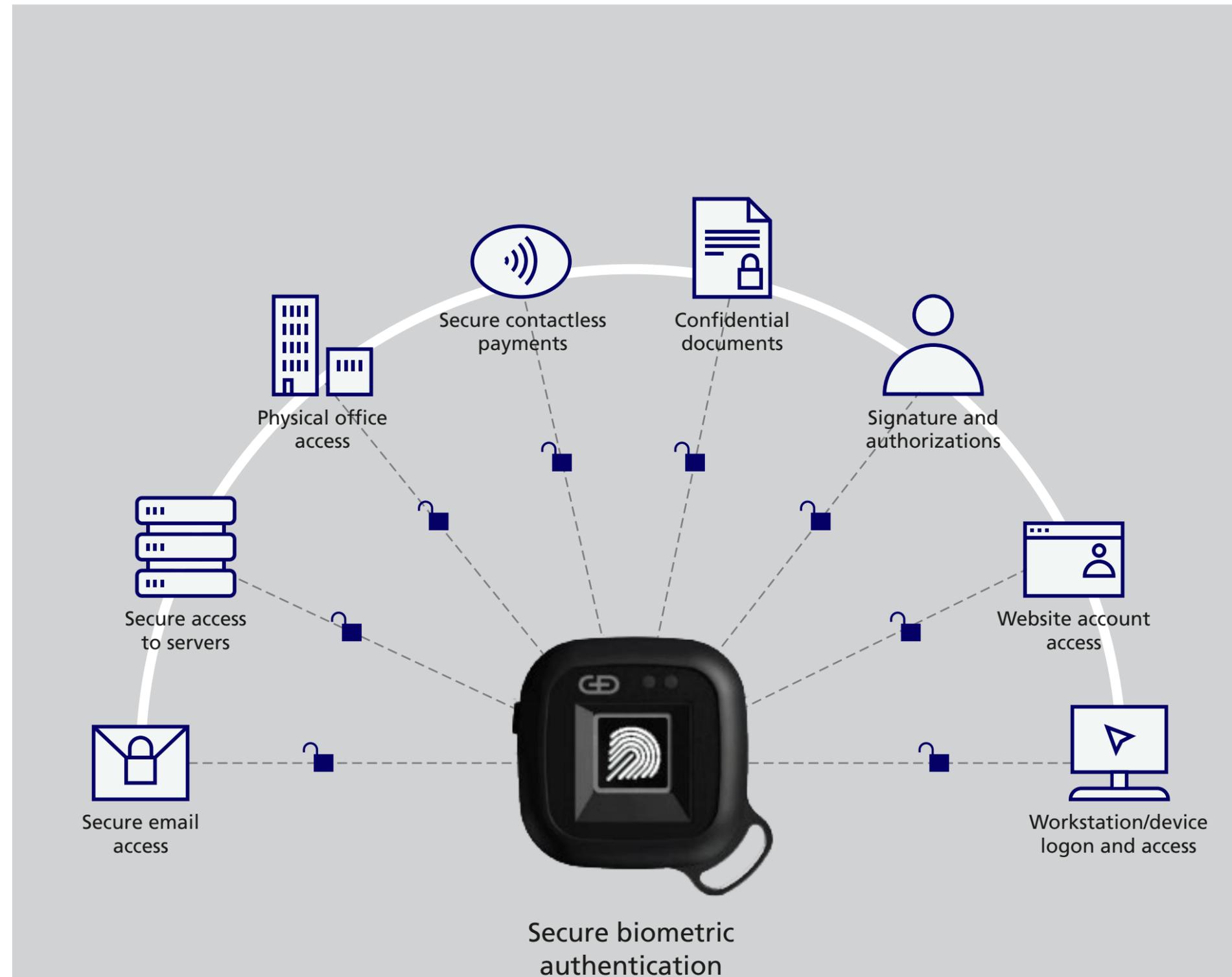
For enterprises, the difficulties that can be overcome with the StarSign Key Fob involve the secure integration of all different employee devices and applications into their network. Existing solutions like company badges do not work on mobiles and are not easy to handle from an enterprise and employee viewpoint.

On the other hand, software-based authentication solutions might not be secure enough and also often cannot satisfy the required security level in an enterprise from a compliance perspective. The key fob allows all use cases and applications to be integrated securely and seamlessly without an increase in costs. At the same time, it will largely improve the efficiency of many co-workers given the great user experience and the fast and easy handling of the device. Specific examples include:

- Logical workstation access (either dedicated workstations per user or a hot desk-style environment)
- Cloud access to secure applications in the office network
- Public Key Infrastructure for application authentication and secure sign-on
- One-touch secure document signatures and approvals
- Physical access to gates, buildings and secure areas
- Encrypting and decrypting documents for secure and convenient transmission

In consumer markets, users can have one device to manage access and authentication for multiple accounts, services and operations. These accounts could potentially exist across multiple providers and still be served all in one place. This eliminates the need to remember multiple passwords or use multiple solutions to access all their services. Users that have been provided a key fob by their employer could use the same technology for both personal and business applications, without compromising the security of either. With its many communications technologies, consumers can use the StarSign Key Fob to access many services with just one touch on the fingerprint sensor:

- Access to membership locations such as gyms or clubs
- Contactless payments with NFC
- Transportation payments and gate access
- Access to digital secure services such as email, social media or online accounts for banking, utilities or other paid-for subscriptions



# Convenient, secure access to all your physical and digital assets

Our fast-moving world depends on digital infrastructure. We are growing used to accessing our personal and business data and applications wherever, and whenever we need.

A LogicMonitor survey predicts that, within the next five years, 95% of all workloads will be in the cloud<sup>1</sup>. In our personal lives, more than 25% of the world's population shop online and by 2040, Nasdaq predict that 95% of all our purchases will be powered in some way by eCommerce<sup>2</sup>. With cloud-based, digital technologies becoming such a huge part of our lives, it becomes increasingly important that our online interactions are protected, with security embedded throughout the entire process. Authenticating our identities, so that only the trusted user can gain access to an application, data store or service is a fundamental part of that security ecosystem. This all serves to protect our sensitive business information, our finances and our personal data.

It is not just digital access that needs to be protected. A large part of maintaining security is managing access to physical locations, whether our computer at work, the office door, our lockers in a gym or our home. ShredIt's user access control report shows that 36% of executives report that employees have had documents lost or stolen because they ignored physical security protocols<sup>3</sup>.

Breaches of security can be expensive, both in terms of impacts to the bottom line and customer trust. The Ponemon Institute report that the average cost of a data breach is \$3.9 million USD<sup>4</sup> and, in a recent consumer survey by FireEye, more than 75% of respondents confirmed that they would not use services from organizations that lost their data in a cyber-attack<sup>5</sup>. Clearly, secure authentication and identity management are critical to the way we live our lives today.

## Two-factor authentication for logical and physical access...

The StarSign Key Fob offers two-factor authentication for physical and logical access ultimately in one device and tremendously improves the security for software, applications and sites, all while maintaining convenience and simplicity for users.

Traditional methods of securing digital and physical assets have relied on items such as passwords and swipe cards, both of which can be easily lost, misremembered or acquired by a third party. According to Verizon's Data Breach Investigations Report, as much as 80% of data breaches result from compromised passwords, so these can be significant security risks<sup>6</sup>.

Two-factor authentication is a process where a digital asset is secured and access is granted only on presentation of two pieces of evidence (or factors). These would be a combination of two of these three pieces of information: Something they know, something they have or something they are. StarSign allows users to easily replace password protection with the key fob (something they have) and the biometric fingerprint (something they are). This means that the balance can be kept between security and convenience. Also, in cases where there is a risk of outbreak or contamination, users remain protected as they only need to touch their own device.

The encryption of the StarSign Key Fob solution is strong enough to secure financial transactions too, complying with security legislation such as the EU's PSD2 requirements.

## Technical specifications

|                             |  |
|-----------------------------|--|
| Certifications              | Bluetooth® 5, RoHS2, REACH, WEEE, CE, UKCA, FCC, RCM, ANATEL, FIDO™, U2F, FIDO™ 2  |
| Card OS                     | Java Card™ 3.0.4 Classic OS Platform, GlobalPlatform® 2.2.1, GP SE Config 1.0, Amend A, C, D, F, Data Authentication Pattern (DAP) verification, Secure Channel Protocol 01, 02, 03 and SCP11c, DSEM |
| Key Fob Mobile Apps and SDK | Key Fob configuration, management, factory reset, Fingerprint enrollment, Fingerprint verification, Fingerprint deletion, APDU communication. Supported platforms: Android, iOS                      |
| Status LEDs                 | Connection status, battery status, verification status   |
| Fingerprint sensor          | Enrollment, user confirmation for transaction  |
| Communication               | USB, Bluetooth® 5, NFC (ISO 14443)   |
| Power supply                | Replaceable 165 mAh Li-Ion battery, charging through USB type C  |
| Battery duration            | ~1 month if the device is in normal use  |
| Size                        | 43 mm x 43 mm x 14.30 mm   |
| Weight                      | 22g  |
| Operating temp              | -25°C / +85°C  |
| Storage temp                | -20°C / +45°C and 85% humidity max, 25+/- 2°C for >3 months  |
| Ingress protection          | IP55   |
| Housing color               | Black, front and back can be customized (logos and colors) with edge-2-edge stickers   |
| Fingerprint sensor          | 360° capacitive sensor 8x8 mm  |

<sup>1</sup> <https://www.logicmonitor.com/press/new-study-reveals-that-87-of-enterprises-will-accelerate-their-cloud-migration-in-a-post-covid-world>

<sup>2</sup> <https://www.nasdaq.com/articles/uk-online-shopping-and-e-commerce-statistics-2017-2017-03-14>

<sup>3</sup> <https://www.shredit.com/en-us/resource-center/original-research/security-tracker-2018>

<sup>4</sup> <https://databreachcalculator.mybluemix.net/>

<sup>5</sup> <https://www2.fireeye.com/rs/848-DID-242/images/rpt-beyond-bottomline.pdf>

<sup>6</sup> <https://enterprise.verizon.com/resources/reports/2019-data-breach-investigations-report.pdf>



# StarSign Key Fob: Features

The StarSign Key Fob is a full featured biometric identity and authentication device. Small, sleek and stylish, yet robust enough to meet the full spectrum of demands.

The StarSign Key Fob is the first biometrics enabled FIDO Security Key in the market which combines FIDO with physical access control applications and payment applications, all in one smart device.

- **Stylish convenience:** Round shape and coin-like dimensions for convenient carry on a key chain or neckband. The front and rear side of the housing can be customized with logos, colors and special styles. The USB type C slot on the side allows to charge the built-in battery.
- **Easy-access fingerprint sensor:** The integrated fingerprint sensor placed on the top side of the device can be used to quickly switch on the device and confirm transactions by pressing a finger on the sensor surface. The device fingerprint sensor performs the matching directly in the built-in chip with pre-enrolled fingerprint templates stored in the chip.
- **Efficient connectivity:** The Bluetooth® 5 module in the StarSign Key Fob allows seamless and long-range communication with all smart phones, tablets, desktop workstations and machines and supports multi-pairing with several devices. As a multi-interface device, all communications can be also alternatively performed via USB. The embedded ISO 14443 compliant NFC antenna can be used on any contactless reader and performs secure transactions e.g. at physical access gates with one easy tap.
- **Long-lasting power management:** The Bluetooth® 5 module of the StarSign Key Fob supports enhanced Bluetooth® low energy functionality. This balances the power consumption of the device in a highly efficient manner. With a simple touch on the power button on the side, the device wakes up and switches off automatically after transactions. Transactions via NFC are even possible without battery charge.
- **Integrated security:** All StarSign Key Fob hosts all security credentials and applications in a Common Criteria EAL 6+ certified smart card chip of Infineon. It supports hardware based cryptographic operations at highest level with RSA up to 4096 bits, ECDSA up to 512 bit and AES up to 256 bit. The Integrity Guard of the Infineon smart controller assures a full error detection, signal protection and encryption for the full data path, memory and processing which hinders
- **Attackers from manipulating or eavesdropping.** The secure boot and end-to-end encryption of the Bluetooth® 5 module assures the integrity throughout up to the communication end-points.
- **All-purpose foundation for multiple applications:** All StarSign Key Fobs come with a wide range of applications for a true multi-purpose device. It implements the FIDO™ U2F and FIDO™ 2 protocol and can be used as security key at any FIDO enabled website and browser for strong and convenient user authentications supporting these protocols. The GlobalPlatform® compliant JavaCard™ operating system allows the installation of 3rd party applications. The installation may be performed even in the field on the fly and securely through the DESM service of the platform.



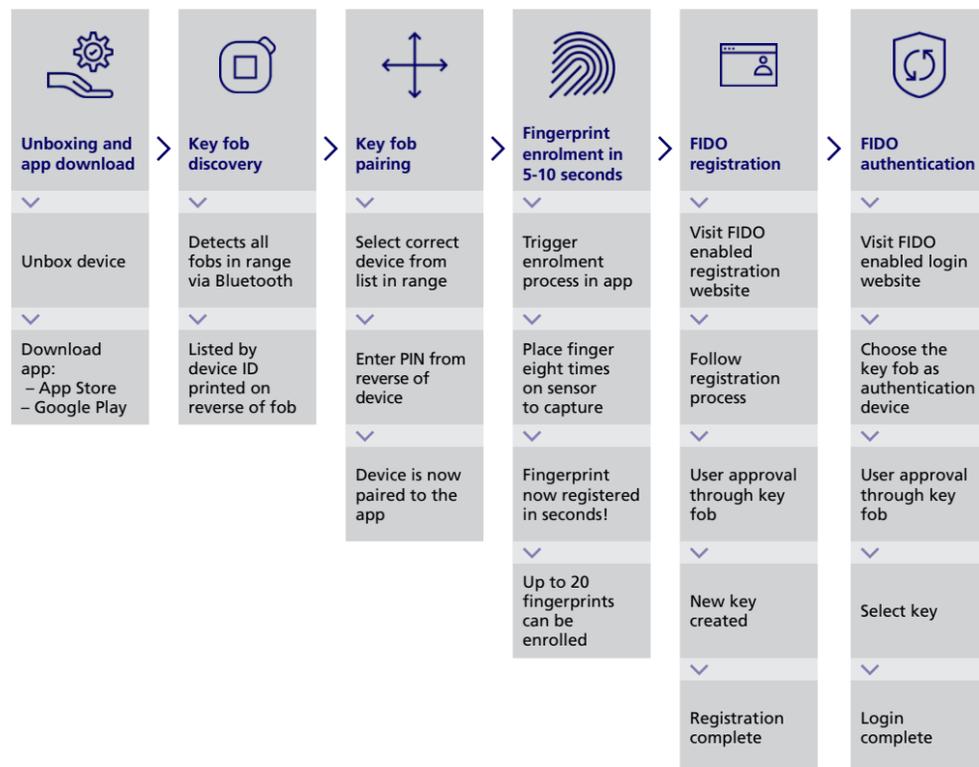
# The customer journey

With its easy-to-use mobile application, The StarSign Key Fob can be set up, configured, activated and managed in seconds.

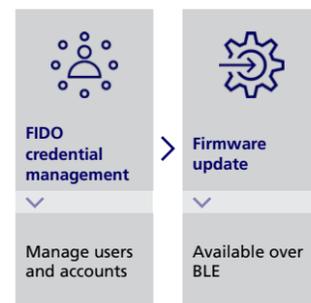
It is simple to view, add or remove applications governed by the fob, as well as authorizing, adding or removing fingerprints. The fingerprints and applications can be managed in an extremely sophisticated manner, with specific fingerprints being assigned to specific applications for optimum convenience and control.



## Onboarding



## In-life management



## Why choose G+D for identity management and secure access solutions?

With global presence and in-depth expertise, an unrivalled network of relationships with industry bodies, standards agencies and research groups, G+D is your perfect partner for the future. We offer truly flexible solutions and a collaborative hands-on approach to standards and roadmaps for the future. Our solutions enable seamless user experiences that deliver the reliable security, privacy, performance and convenience your customers demand, at scale. These solutions are secure and some of the most trusted authentication solutions available on the market.

In today's connected world, our digital identities have become the new currency. G+D can help secure your company's assets, information and data to make sure that in changing industries new business models are supported. As a leading global provider of physical and digital authentication and payment solutions G+D helps enterprises to implement solutions in a secure and reliable way, enabling your digital transformation.

## What is FIDO?

FIDO authentication enables password-only logins to be replaced with secure and fast login experiences across websites and apps. Its protocols use standard public key cryptography techniques to provide stronger authentication. Future-proofed and widely adopted, the FIDO standards ensure interoperability and security across multiple devices and multiple applications. Designed to enable both digital experiences and the Internet of Things (IoT), FIDO enables secure, reliable connections between people, devices and data.

The FIDO Alliance's authentication standards provide a scalable way for the European financial ecosystem to meet PSD2 requirements for strong authentication of user logins and cryptographically signed transactions — while also meeting organizational and consumer demand for transaction convenience.



# About Giesecke+Devrient

Giesecke+Devrient (G+D) is a global security technology group headquartered in Munich. As partner to organizations with highest demands, G+D engineers trust and secures essential values with its solutions. The company's innovative technology protects physical and digital payments, the connectivity of people and machines, the identity of people and objects, as well as digital infrastructures and confidential data.

G+D was founded in 1852. In the fiscal year 2020, the company generated a turnover of 2.31 billion euros with around 11,500 employees. G+D is represented by 74 subsidiaries and joint ventures in 32 countries. Further information: [www.gi-de.com](http://www.gi-de.com).



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