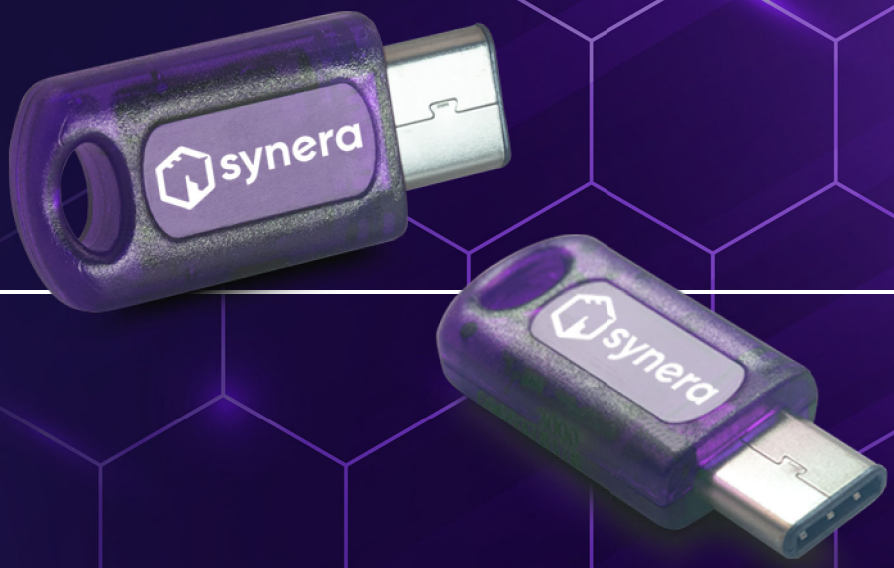
synera
Innovations that shape future

Synera F2 Key
Type-C



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1.1 The Synera F2 Key product line

The Synera F2 Key product line comprises user authentication devices for web applications, operating on the FIDO technology stack (FIDO2 version, CTAP 2.1). These are the first domestically produced devices utilizing both technologies. The device features a touch-sensitive button and an LED indicator.

The security key serves as a unified authenticator for protecting online service accounts. The first authentication factor is possession of the physical device. The second factor is knowledge of a PIN-code.

User presence confirmation is achieved by pressing the touch-sensitive button on the device case. The devices maintain backward compatibility with the U2F protocol (CTAP 1.2). They are compatible with any service supporting the WebAuthn specification.

The devices require no driver installation and are recognized by the system as an HID device. All support is implemented natively through modern browsers and operating systems.

Despite the simplicity of user authentication, the devices implement a full security technology stack, including:

- Asymmetric cryptography;
- Protection against Man-in-the-Middle (MitM) attacks;
- Server impersonation defenses.

The server performs authenticity verification of the security key to prevent substitution or copying.

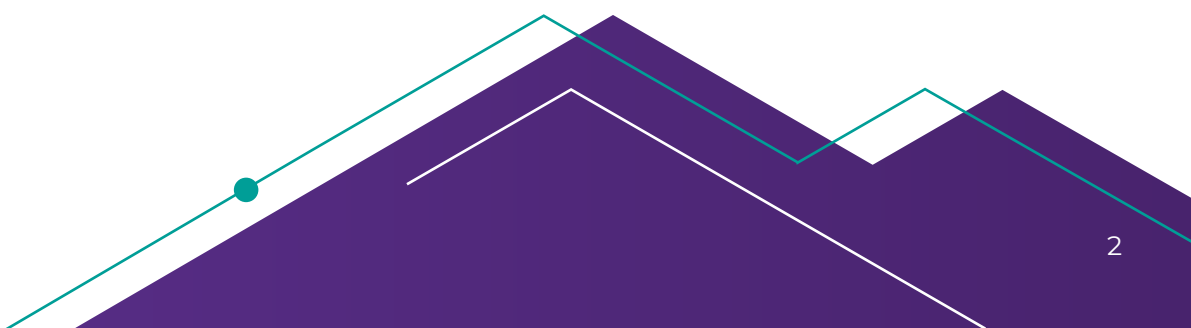
Unlike the legacy U2F standard, FIDO2 devices support passwordless authentication. This mode eliminates username/password entry by storing user credentials and corresponding cryptographic keys securely on the device. Thus, passwordless authentication replaces passwords rather than supplementing them.

1.2 Key specifications for the product line

- FIDO2 protocol support (latest FIDO 2.1/CTAP 2.1 implementation);
- ES256 signature algorithm (ECC P256);
- U2F protocol support (CTAP 1.2);
- Passwordless authentication for 16 accounts per authenticator;
- Supports all major operating systems: Windows, Linux, macOS, iOS, iPadOS, Android;
- Operates in browsers: Edge MS (Chromium), Chrome, Firefox, Safari, Edge for MacOS, Samsung Internet browser.

1.3 The Synera F2 Key Nano Electronic Identifier device

The Synera F2 Key Nano Electronic Identifier device is an unprogrammed semiconductor storage device in a plasticcase. It operates as a solid-state semiconductor storage medium and is not an encryption or cryptographic device. It requires subsequent programming to perform application-specific tasks. The device is not intended for military use.



1.4 Technical characteristics

Base structural element	Printed circuit board with electronic integrated circuits
Power supply	USB Port
Connector type	USB Type C
Operating voltage, V	5 V (± 5%)
Operating ambient temperature, °C	0 – 45°C
Operating humidity, %	0 – 85% (Non-Condensing)
Storage/transport temperature, °C	-40°C – +70°C
Weight, g	Approximately 3 g
Dimensions, mm	29.5 x 13 x 6 mm

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