IDCRAFT

RFID & NFC EXPERTS

HF | NFC - Stationary Reader

Digital Logic - µFR Zero Online

- ISO14443 A/B, ISO15693, ISO7816
- Integrated Ethernet, Wi-Fi, BLE, USB
- Up to 100 mm read range
- ESP32-S3 platform with built-in cryptographic acceleration
- Firmware fully upgradeable (OTA & USB)

HF | NFC - Stationary Reader
Network Multi-Protocol Reader

µFR Zero Online is a series of advanced smart devices that combine the functionality of our feature-rich NFC devices based on Digital Logic's API and communication protocol with well-known and powerful ESP32 microcontrollers.

µFR Zero Online features a wide range of connectivity options including WiFi, BLE, Ethernet, USB (CDC, HID, NCP), UART, GPIO, and SPI, ensuring seamless integration into any environment.

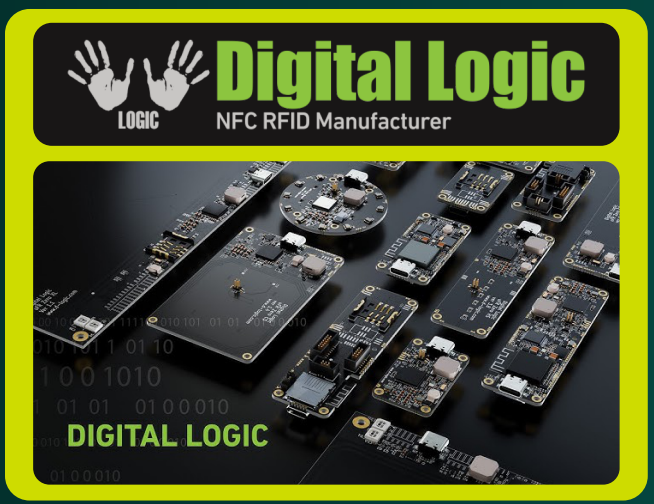
These devices are a great choice for anyone looking to deploy advanced technology in smart homes, industrial settings, or any project needing robust and reliable smart solutions.

The µFR Zero Online NFC readers are compact, versatile, and modular solutions for NFC development. These multi-ISO NFC devices operate at a 13.56MHz frequency and support ISO15693 and ISO14443 A/B standards. µFR Zero Online NFC readers result from 19 years of dedicated experience in NFC technology, incorporating valuable customer feedback and the latest advancements in NFC modules.

Designed with IT companies, system integrators, and individual developers in mind, µFR Zero Online NFC devices serve as professional tools for those involved in RFID NFC solution development. Featuring free NFC SDK with source code examples, cross-platform libraries, upgradeable firmware, and comprehensive API and communication protocol, the µFR Zero Online NFC devices ensure seamless NFC software integration.

Common Applications

- Access control & time-attendance systems
- Industrial automation
- Smart vending & kiosk authentication
- Loyalty & membership solutions
- Asset & inventory tracking



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TECHNICAL SPECIFICATIONS

	µFR Zero Online	µFR Zero Online Ethernet	µFR Zero Online Controller
Size H x W x D (mm & inches)	84 x 25 x 8mm 3.31 x 0.98 x 0.31 inches		50 x 25 x 8mm 1.97 x 0.98 x 0.31 inches
Net Weight (g & oz)	N/A		
ISO15693 Reading Range (mm & inches)	100 mm / 3.94″		N/A
ISO14443 Reading Range (mm & inches)	75 mm / 2.95″		N/A
Data & Power Connection Interface	USB (CDC, HID, NCP), UART, SPI, Wi-Fi, BLE, Ethernet, GPIO		
Embedded Signalization	RGB LED, Beeper		RGB LED
Advanced Features	Anti-collision, Dynamic Power Control, Low Power Card Detection, Battery Charger		
Optional Upgrades	RTC, EEPROM, SAM Card Slot, Access Control Module, Cryptographic Coprocessor/Accelerator, RGB LED Ring Display, OLED Display, Touch Button, Micro SD Card Slot, F-RAM		RTC, EEPROM, Access Control Module, Cryptographic Coprocessor/Accelerator, Micro SD Card Slot, F-RAM
Operating Frequency	13.56 MHz		
Supported Standards	ISO14443 A & B, ISO15693, ISO7816		N/A
Communication Speed	6.62/26.48/106/212/425 kbps		N/A
Operating Current	180-500 mA		
Sleep Current	<50 µA		
Operating Voltage	5 V		
Operating Temperature	N/A		
Encryption	Crypto-1, AES128, AES256, AES-GCM, DES/3DES, ECC, ECDH, ECSA, RSA		N/A
ESP32 S3 Built-in functions	Cryptographic hardware acceleration: AES128/256 (FIPS PUB 197), Hash (FIPS PUB 180-4), RSA, Random Number Generator (RNG), HMAC, Digital signature		N/A
Supported Tag Type	ICODE® (SLI, SLIX SLIX 2, SLIX-L, SLIX-S, DNA, ILT, ILT-M), MIFARE Mini®, MIFARE Classic® (1K, 4K, EV1), MIFARE Ultralight®, MIFARE Ultralight C®, MIFARE Plus® (2K, 4K, S, X, EV1), MIFARE DESFire® (Light, 2K, 4K, 8K, EV1, EV2, EV3), NXP NTAG® 21x (210, 213, 215, 216, Tag Tamper), NXP NTAG® 4xx DNA (413, 424), NXP JCOP® Java Card (J3A040, J3A081, J3H145, JC30M48CR).		N/A
Free SDK Projects	Java, Java Applet, JavaScript, Node JS, React, PHP, Lazarus, Delphi, C, C++, Microsoft® Visual .NET package (C#, C++, VB), Python, Arduino IDE		
Supported OS	Microsoft® Windows™, Linux®, macOS, Android, iOS		
Supported Platforms	Windows x86/x64, Windows ARM/UWP, Linux x86/x64, Linux ARM/ARM64/ARMHF, macOS x64, iOS x64, Android, ESP32, Raspberry Pi, BeagleBoard, Arduino, MIPS boards, PLCs		