



# Sentinel Series – ST10-MEK

## All-Weather Outdoor Multi-Tech Smart Reader

- Designed for Advanced Security
- Supports Various RFID Credential Types
- Touch Keypad / QR Code Scanner



### Slim Design & Modern Design



The ST10-MEK reader is a cutting-edge device designed with a slim profile and tailored for mullion mount installation. This sleek design is well-suited for most architectural and narrow doorframes, providing an unobtrusive and seamless integration. The ST10-MEK boasts a durable metal enclosure infused with a tempered glass panel, ensuring sturdiness and elegance in one package. Its modern and refined aesthetics allow it to seamlessly blend into any environment, making it the ideal choice for various usage scenarios.

### Unrivalled Strength, Durability, and Aesthetics



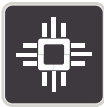
The ST10-MEK features a robust construction using high-quality materials that outperform in strength and durability. The ST10-MEK model utilizes an aluminium casing that provides exceptional corrosion and oxidation resistance, making it perfect for challenging environments, including coastal regions, medical facilities, food processing plants, and chemical factories.

### Advanced Security



At Defendas, our dedicated design team ensures the Sentinel Series exceeds the highest security expectations.

### Protection Against SPA/ DPA/ EMA/ DEMA Attacks



Protects against external malicious attacks and safeguards all communication and client data.

### Compact RFID Reader with Touch Keypad



The ST10-MEK is a compact and versatile multi-tech RFID solution. With support various card types, mobile NFC, and Bluetooth (Low Energy), it adapts seamlessly to diverse installation environments. Additionally, its embedded touch keypad offers users the flexibility to opt for password authentication, catering to individual preferences.

### Multi-tech Card & Mobile Credentials



Experience focused versatility with the ST10-MEK. It provides dedicated support for various 125 kHz and 13.56 MHz card types. With seamless integration of Defendas mobile credentials via Bluetooth, our solution caters to a wide array of user needs, providing high flexibility for multi-card scenarios.

### Designed for Advanced Security



The ST10-MEK series reader uses OSDP (v2.2 Secure Channel) over RS-485 communication, offering protection against interleaving and replay attacks through AES-128 encryption. For mobile (NFC (Android OS Only) / Bluetooth) and reader communication, AES256 encryption standards are strictly adhered to, further enhancing the level of data security.

### Secured Data Storage: Certified EAL6+ encryption



Advanced encryption elevates data protection to the highest security level.

### Superior Protection Level: IP66 and IK07



Certified with IP66 Water & Dustproof ratings, our readers are designed to withstand dust, dirt, and rain, ensuring reliable performance in challenging environments. Additionally, with a certified IK07 Vandal-proof rating, they offer enhanced protection against tampering and vandalism.

## Versatile Mobile Identification with Sentinel Series Readers and Defendas Mobile App



### Card Mode

Present your smartphone to the reader like an access card



### Remote Mode

Verify on the reader by clicking a button in the Defendas ID app



### QR Code Mode

Present your QR Code and get access



## Key Features

### Mobile Credential Capability

The Defendas mobile app offers a consistent user experience across iOS and Android platforms. Open doors by presenting your smartphone to the reader or scanning a QR code. Use your phone's Face & TouchID functions for even more secure authentication. It supports both NFC (Android OS Only) and Bluetooth communication methods, extending mobile access functions to almost all smartphone users.

### Compact Design with Touch Keypad & QR Code Scanner Options

Experience seamless compatibility with mullion mount installation, ideal for various architectural settings. Enjoy the flexibility of a touch keypad for password authentication, along with a QR code scanner for recognizing static and dynamic QR codes.



### Enhanced Security

Ensure secure communication with the support of OSDP (Open Supervised Device Protocol) between control panels and readers. Advanced data protection is achieved through certified crypto chips with EAL6+ certification. AES128 end-to-end encryption guarantees that all communications between the control panel and reader remain fully secure.

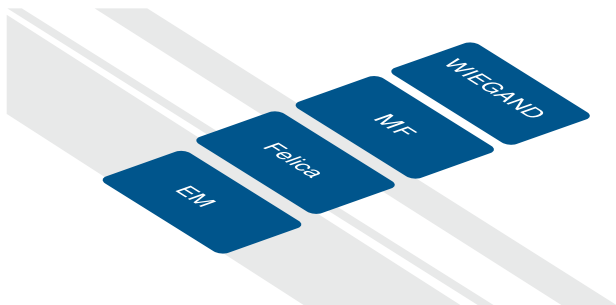
### Ultimate Protection (IP66 & IK07)

With IK07 Vandal-proof and IP66 Water & Dustproof protection, the ST10-MEK is designed to operate efficiently in any installation environment. The IK07 Vandal-proof level enhances its ability to withstand malicious physical attacks, ensuring robust security.



### Multi-Tech Credential Reading Supported

Supports 125 kHz, 13.56 MHz, and 2.4 GHz frequency credentials. Supports various card types, covering most of the common card formats in the market.





## Key Features

### Compact RFID Reader with Touch Keypad

Enhanced flexibility with embedded touch keypad for user authentication.



### Unrivalled Strength, Durability, and Aesthetics

The ST10-MEK features a robust construction using high-quality materials that outperform in strength and durability. It utilizes an aluminium casing that provides exceptional corrosion and oxidation resistance, making it perfect for challenging environments, including coastal regions, medical facilities, food processing plants, and chemical factories.

Moreover, the construction adds a touch of contemporary elegance, elevating the product with a premium aesthetic. Experience the seamless fusion of structural performance and upscale style.





## Dimensions



## Specifications

Internal Number	ST10-MEK	
Operating Frequency / Standards**	125 kHz 13.56 MHz: ISO14443 types A & B, JIS X6319 2.4 GHz Bluetooth®	
Functions	RFID, Bluetooth® and QR code	
Keypad	Touch Keypad	
QR Code Scanner	Supported	
QR Code Scanning Pattern	Area image (640*480 pixel array)	
QR Code Scan Angle	Horizontal: 73°/ Vertical: 54°	
QR Code Capability	<p>One-Dimensional Code: Code 128, Code 39, Codabar, Interleaved 2 of 5, ITF-6, ITF-14, ISBN, Code 93, GS1 Databar(RSS), Matrix 2 of 5, Code 11, Industrial 2 of 5, MSI-Plessey, EAN-13, EAN-8, UPC-A, UPC-E, ISSN</p> <p>Two-Dimensional Code: QR Code, Micro QR</p>	
QR Code Scanning Performance*	<p>Narrow Width</p> <p>QR (15mil)</p> <p>QR payment code (mobile code)</p> <p>Data Matrix (10mil)</p> <p>PDF 417 (6.7mil)</p> <p>EAN-13 (13mil)</p> <p>Code 39 (8mil)</p> <p>Code 128 (15mil)</p>	<p>Depth of Field</p> <p>1.2"~5.5" (30~140mm)</p> <p>1.6"~9.8" (40~250mm)</p> <p>2.0"~4.3" (50~110mm)</p> <p>2.0"~3.7" (50~95mm)</p> <p>1.8"~8.2" (45~210mm)</p> <p>2.2"~3.9" (55~100mm)</p> <p>1.5"~8.3" (40~210mm)</p>



Communications & Panel Connection	Wiegand OSDP (v2.2) via RS-485 (Up to 128bits SCP Secure Communication)
Reading Distance	13.56MHz & 125kHz: Up to 2.3"/60 mm (depending on environment and transponder) Up to 393.7"/ 10m with a Bluetooth Smartphone (configurable distances on each reader)
Data Protection	AES128 (Secured Communication between Reader & Controller) Secure Data Storage in EAL6+ Certified Crypto Chip
Visual Indicator	RGB LEDs (Configurable By 'Defendas Connect' Mobile APP)
Audio Indicator	Internal buzzer with adjustable intensity (Configurable By 'Defendas Connect' Mobile APP)
Power Requirement / Power Supply	9 VDC to 24 VDC (Below 0 degrees, the reader needs separate power supply. Above 0 degrees, a single reader requires a minimum of 2.4W power. Below 0 degrees, a single reader requires a minimum of 8W power)
Operating Temperature	-4°F to 122°F /-20°C to 50°C
Dimensions	4.78" W x 1.77" H x 0.96" D (121.5 x 45 x 24.5mm)
Tamper Switch	Magnetic tamper detection system
Certifications	FCC, RoHS,UL294
Mounting	Suited for mullion-mount door installations or any flat surface mounting
Protection / Resistance	Weather & Dust Proof Protection Rating compliant with IP66 Reinforced Vandal-proof Structure IK07 certified Casing Material: Aluminium

Remarks:

\*\*Standard version provides "Read only" function.

\*This product includes software developed by the OpenSSL Project for use in the OpenSSL Toolkit (<http://www.openssl.org/>)

QR scanning performance was tested in a laboratory environment, and the luminance was recorded as 250 Lux.



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Defendas RFID Card Module Supporting List					
Frequency	Classification	Card Types	Model		
			ST902-MEK	ST10-MEK	ST-ENROLL
13.56 MHz	ISO14443A	MIFARE Classic, Mini S50,S70	√2)	√2)	√2)
		MIFARE Classic EV1	√1)	√1)	√1)
		MIFARE DESFire Light	√1)	√1)	√1)
		MIFARE DESFire EV1	√1)	√1)	√1)
		MIFARE DESFire EV2/ EV3	√1)	√1)	√1)
		MIFARE Ultralight	√1)	√1)	√1)
		MIFARE Ultralight C	√1)	√1)	√1)
		MIFARE Ultralight EV1	√1)	√1)	√1)
	ISO14443B	CEPAS	√3)	√3)	√3)
ISO18092/ ECMA-340	Sony FeliCa	√1)	√1)	√1)	
125 kHz		EM4100, 4102, 4200	√1)	√1)	√1)
Remark	√) UID only, customization upon request for reading encryption content 1) UID only 2) UID only, read/ write (customisation) on request 3) UID+CAN&CSN				



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