



# M210-2G

Low-cost, low power, multi-standard  
13.56 MHz contactless coupler

## Features

- ISO14443 A&B, ISO15693 and FeliCa™
- Operating distance up to 6 cm
- Small size: 6 x 4.15 cm with on board antenna (3 x 4 cm when the antenna is removed)
- Low power: 40 mA in active mode / 50 µA in sleep mode
- Automatic card detection from sleep mode
- Cryptographic security management
- Easy system integration
- Serial interface to standard micro controllers
- Extra memory space for application software download
- 250 bytes communication buffer
- Evaluation kits available

## Typical applications

- Physical and logical access control
- Handheld terminals
- Battery operated systems
- Reader migration from contact to contactless cards
- Mass transit
- Hotel door locks

The **M210-2G** is a low-cost 13.56 MHz contactless coupler compliant with ISO 14443 A&B and ISO 15693 standards and with capability to communicate with FeliCa™ chips.

By operating in transparent mode, the M210-2G allows communication with any chip compliant with these standards.

## Small and Power Efficient

At only 6 x 4cm, the M210-**2G** is ideal for applications where space is critical, such as door access systems or portable equipment.

The integrated antenna can be removed by breaking the coupler in two parts. With M210-**2G**'s automatic card detection function and low power design, batteries last for years.

## Secure

The M210-**2G** acts as a security module. It provides state-of-the-art security, including secret key management and cryptographic calculations that enable secure authentication and communication with a contactless transponder as well as with the host.

## Additional Software Download for Customization

The M210-**2G** offers an extra memory space where application providers can download additional software to optimize transaction time with the transponder or to customize features.

## Made for Contact Reader Migration

The M210-**2G** communicates like a standard contact card (ISO 7816, T=0). It is ideal for upgrading contact readers with contactless capabilities.

## Application Compatibility

INSIDE's couplers come with application compatibility. Therefore, applications developed on INSIDE's couplers can be easily transferred to other couplers.

# M210-2G

## Order reference

M210-2G /F

with ISO 14443 A/B, 15693 and FeliCa™

## Kits offer

### Product

Proximity Kit

### Description

The Proximity Kit allows developers to evaluate the INSIDE's technology and makes subsequent integration a straightforward experience.

## Key technical data

### Electrical characteristics

Pin	Description	Min	Typical	Max	Unit
VDD	DC voltage	4.75	5	5.25	V
	Ripple < 30 MHz			50	mV
	Supply current		40		mA
	Standby current (disable mode)			50	µA

### General specifications

*Operating frequency* 13.56 MHz  
*Operating temp°* -20°C to + 70°C  
*Physical dimensions* 6 x 4.15 cm  
(Δ : 0.5 mm)  
*Operating Distance* up to 6 cm  
(Depending on the type of transponder and antenna)

### Interfaces

*Host interfaces* RS232-CMOS / ISO 7816-3  
*Baud Rate* Default 9600 bps (up to 115.2 kbps)  
*ISO standards* 14443 A/B, 15693, FeliCa™

## M210-2G block diagram / mechanical diagram

