



M220-2G

High performance multi-standard
13.56 MHz contactless coupler

Features

- ISO14443 A&B, ISO15693 and FeliCa™
- Operating distance up to 15 cm
- Coupler-Transponder communication speed: 106 kbps
- Small size: 6 x 4.15 cm
- Power consumption: 100 mA in active mode / 1 µA in sleep mode
- Separate 50 ohm antenna
- Cryptographic security management
- Extra memory space for application software download
- 250 bytes communication buffer
- External input for modulation
- Evaluation kits available

Typical applications

- Access control
- Mass Transit
- High performance systems
- RFID

The **M220-2G** is a high performance 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 M220-2G enables communication with any chip compliant with these standards.

Small but Powerful

At only 6 x 4.15 cm, the **M220-2G** is ideal for applications where communication distance, speed and space are critical. The choice of powerful antennas enables operating distances of up to 15 cm.

Fast

The M220/P-**2G** model is based on **M220-2G** with the additional feature of an integrated parallel port that enables very high transaction speeds.

Secure

The **M220-2G** 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 between the smart card and the coupler, as well as the host.

Additional Software Download for Customization

The **M220-2G** offers an extra memory space where application providers can download additional software to optimize transaction time with the transponder or to customize features.

Integration Flexibility

The **M220-2G** works with an external 50 ohm antenna that can be placed in a quite distant separate location. The A200Hx products provide a selection of antennas with varying sizes and operating distances.

Application Compatibility

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

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Order reference

M220-2G /F with ISO 14443 A/B, 15693 and FeliCa™
 A parallel port version is also available on request.

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	+ 5.5	V
	Ripple < 30 MHz			50	mV
	Supply current		15		mA
	Standby current (disable mode)			10	µA
RFVDD	DC voltage		5 or 12		V
	Ripple < 30 MHz			50	mV
	Supply current @ 12V		60		mA

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 15 cm
 (Depending on the type of transponder and antenna)

Interfaces

Host interfaces RS232 CMOS / ISO 7816-3 / 68HC11 / 8051 / PC-AT
 Baud Rate Default 9600 bps (up to 115.2 kbps)
 ISO standards 14443 A/B, 15693, FeliCa™

M220-2G block diagram / mechanical diagram

