



# Cube Card Reader 190

Nedap Mifare readers

Install manual

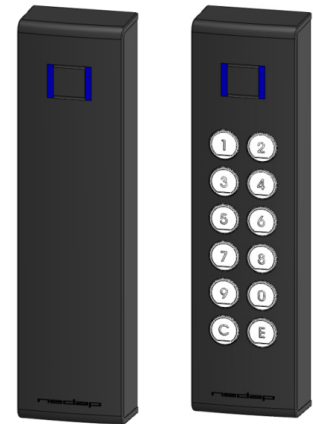
## GENERAL

The Cube card reader 190 series is capable of reading Mifare and DESFire credentials due to its dual reader technology. The Cube card reader 190 is designed to be used on door pillars (mullion) and suitable for outside and inside use. A model with keypad is also available.

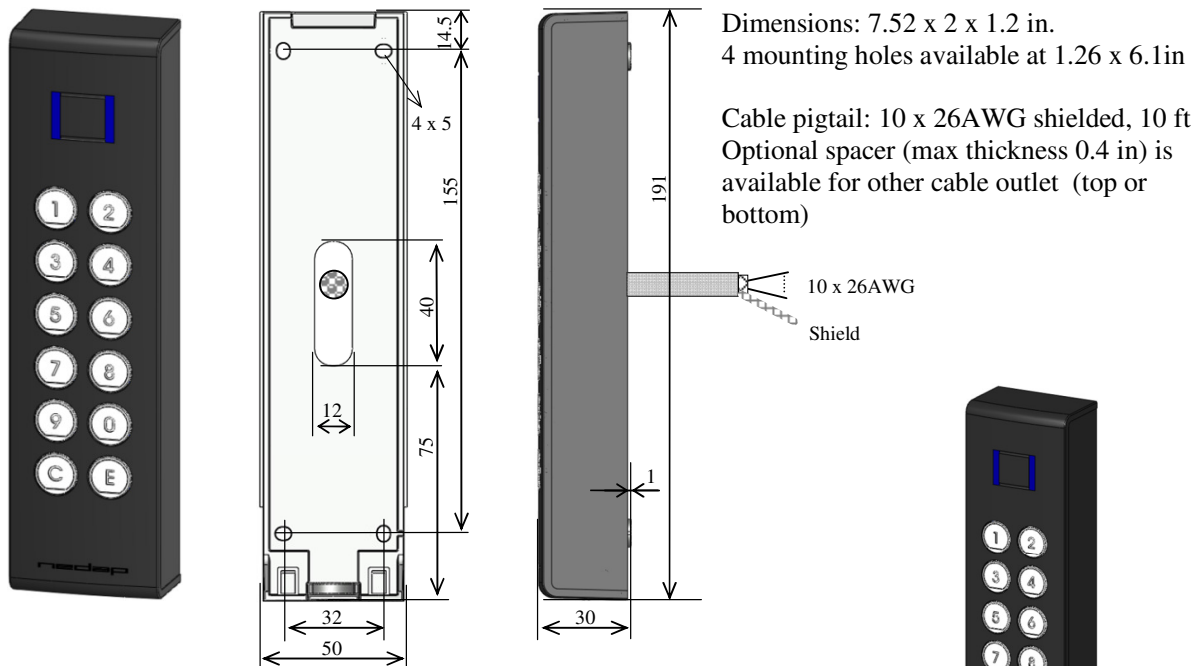
Functionality and output is determined by the configuration of the Cube card reader. The configuration is defined using the program AEmon, and deployed via AEmon.

Three LEDs (red, green, blue) and beeper are included. LEDs around the keypad ciphers light up only in case a PIN code is requested.

The pigtail cable can be lead directly backwards.



## DIMENSIONS



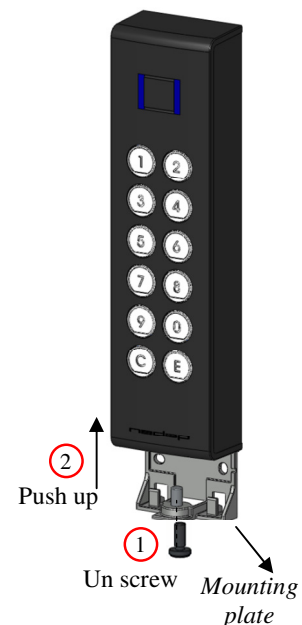
Note: drawing dimensions are in mm

## MOUNTING PROCEDURE 190

For mounting the Cube card reader 190, the mounting plate must be placed on the wall first.

For removing the mounting plate from the Cube card reader 190, unscrew the screw (1) (Torx, M5) at the bottom of the Cube card reader 190 and push the Cube card reader 190 slightly up (2). The plate can be mounted using the 4 holes.

Place the cable to the correct position and replace the Cube card reader 190.



**CONNECTIONS**

Cube card reader 190 is **not** hot-swappable, so when making or changing connections, power must be switched **Off**.

Wire	Colour	Function
1	Red	Power in (12-30VDC)
2	Black	Power Ground
3	Grey	RS485 A (-)
4	Violet	RS485 B (+)
5	Green	Do not connect Reserved for future use
6	White	
7	Yellow	
8	Pink	
9	Blue	
10	Brown	
11	Shield / Metal	EM shield (connected to power ground)

**Remark:**

Cable shield (wire 11) **must** be connected to the metal case of the external device

**LED INDICATORS INSIDE / BACKSIDE**

There are two LED's available: Blue for Status (of application), Green for Identification (both visible behind the SAM cover at the back side)

SAM cover →

ST: STATUS (blue)	
Slow blinking	Application running (operating)
Fast blinking	Downloading or error during loading
2 short flashes	Application present but not active
3 short flashes	No application present

ID (green)	
Blinking	Card detected

### LED INDICATORS FRONT

At the front a three colour LED is positioned at the middle of the Cube card reader 190

Depending of the used configuration the function of these LEDs can differ:

- **Green LED:** Card is been authorised (UL led)
- **Red LED:** Card is not authorised (NA led), controller is stand-by
- **Blue LED:**
  - Blinks fast: No configuration is available at this Cube card reader (load *Configuration* first).
  - Continuously ON: Determined by configuration: E.g. Reader stand-by. (Blue LED is activated if UL is OFF and NA is more than 1 sec OFF)

**Remark:** Function of LEDs and Beeper is controlled by used application settings of Cube card reader.

### FIRMWARE

Pay attention that the firmware loaded in the Cube card reader 190 together with the Cube card reader 190 type and configuration determines functionality and protocols.

**Remark:** The Cube card reader 190 requires dedicated firmware (**not** identical to the Cube card reader MK170 firmware)

### SYSTEM CONFIGURATIONS (how to connect Cube card reader 190)

To CUBE Core or CUBE Access Plus with RS485 special encrypted protocol.  
(LED's, Beeper and Keys are controlled over the RS485 communication)

## FCC and IC CERTIFICATIONS

This device complies with part 15 of the FCC Rules and to RSS210 of Industry Canada.

Operation is subject to the following two conditions:

- (1) this device may not cause harmful interference, and
- (2) this device must accept any interference received, including interference that may cause undesired operation.

Changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.

Cet appareil se conforme aux normes RSS 210 exemptés de licence du Industry Canada.

L'opération est soumise aux deux conditions suivantes:

- (1) cet appareil ne doit causer aucune interférence, et
- (2) cet appareil doit accepter n'importe quelle interférence, y compris l'interférence qui peut causer une opération non prévue de cet appareil.

Les changements ou modifications n'ayant pas été expressément approuvés par la partie responsable de la conformité peuvent faire perdre à l'utilisateur l'autorisation de faire fonctionner le matériel.

### SPECIFICATIONS Cube card reader 190 :

Product number:	9205543 CUBE card reader M190 9205527 CUBE card reader MK190	
Dimensions:	7.52 x 2 x 1.2 in	Weight: ± 0.78 lb
Protection:	IP65	Power consumption:
Power Supply:	12VDC – 30VDC	M190: 60mA@12VDC, 35mA@24VDC MK190: 90mA@12VDC, 45mA@24VDC
Environment:	Temperature: Operating and Storage: -31°F to +150°F Relative humidity: 10 – 93% non condensing	
Communication:	RS485 (Encrypted AEOS protocol to AP4x03, (firmware APx003rs485NR).	
Indicators:	UL (green) NA (red) ,MD (blue)	
Antennas (internal):	13.56 MHz, Mifare compatible	Detection distance Mifare card: 1.5 in
R&TTE:	Hereby, Nedap N.V., declares that these products comply with the essential requirements and provisions of the <b>Directive 1999/5/EC</b> of the European Parliament and of the council of March 9, 1999 on Radio equipment and Telecommunications Terminal Equipment and the mutual recognition of their conformity and with the provisions of Annex IV (Conformity Assessment procedure referred to in article 10).	

### CABLE SPECIFICATIONS

10 wire shielded cable of approx. 10 ft length included (pig tail). Extensions can be made:

RS485:	22AWG twisted pairs, shielded, max cable length: 3280 ft, cable capacity ≤ 33pF/ft.
Power:	22AWG twisted pairs, shielded, max cable length: 160 ft.

**MORE INFORMATION:** For more detailed information contact your local Nedap supplier or check the internet site.