iLOQ S5 ONLINE SYSTEM, N500, N501, N502, N504 AND N505

General

iLOQ S5 Online expands the offline S5 locking system into a remote-controlled access management system. The iLOQ S5 Online allows you to add remote-controlled oval lock cylinders, NFC/RFID/PIN code readers and time-controlled electronic doors to the same system. The entire locking system can be administered easily and cost efficiently using the same iLOQ S5 Manager software. Based on digital authentication, iLOQ S5 Online allows you to manage the flow of people in your properties as well as all access rights.

The main features of the iLOQ S5 Online System are:
- Remote management of iLOQ oval lock cylinders
- Remote programming of iLOQ keys
- Remote management of doors equipped with electric locks and iLOQ lock cylinders. The doors can be opened by:
    - Key, simultaneously the key is also be updated
    - Key and a PIN code (2-Factor-Authentification)
    - RFID credential
    - RFID credential and a PIN code (2-Factor-Authentification)
    - Using a code. This option is meant to provide access for people, such as visitors, who do not and will not have a key.
    - Calendar controls
- Updating, sharing and collecting lock and key information such as access rights, time profiles, log events and lists of blocked keys through a D2D network with an NFC/RFID/PIN reader N504 or N505
- Door status monitoring

iLOQ S5 Online System consists of the components below:
- Net Bridge. The Net Bridge operates as a link between the iLOQ S5 server and the Door Modules and other devices on the bus
- Standalone Door Module. The Door Module is an independent device located in the vicinity of a door, and it controls devices installed on the door, such as a oval lock cylinder, an electric lock and an NFC/RFID reader etc.
- Door Module. The Door Module is a bus device located in the vicinity of a door, and it controls devices installed on the door, such as a oval lock cylinder, an electric lock and an NFC/RFID reader etc.
- NFC/RFID/PIN reader. The NFC/RFID/PIN reader is used to control an electric lock and it is always connected to a Door Module. The NFC/RFID/PIN reader is an essential part of D2D communication as it acts as a sharing point for D2D information
- The system can consist of one or several Net Bridges and it is possible to connect several bus devices to each Net Bridge

The S5 Online System complies with the standards below:

| Standard type	Standard	Description
Generic	IEC/EN 61000-6-1:2007	Immunity for residential, commercial and light industrial environments
	IEC/EN 61000-6-3:2007/A1:2011/AC:2012	Emission standard for residential, commercial and light industrial environments
Applied	IEC/EN 61000-4-2	Electrostatic discharge (ESD)
	IEC/EN 61000-4-3	Radiated RF immunity
	IEC/EN 61000-4-4	Electrical fast transient/burst
	IEC/EN 61000-4-5	Surge immunity
	IEC/EN 61000-4-6	Conducted RF immunity
	IEC/EN 61000-4-8	Power frequency H-field immunity
	IEC/EN 61000-4-11	Voltage dips and interruptions
	IEC/EN 55011	Radiated E-field emissions, 30 - 2700 MHz
	IEC/EN 55011	Conducted emissions, 0.15 - 20 MHz

N500 NET BRIDGE
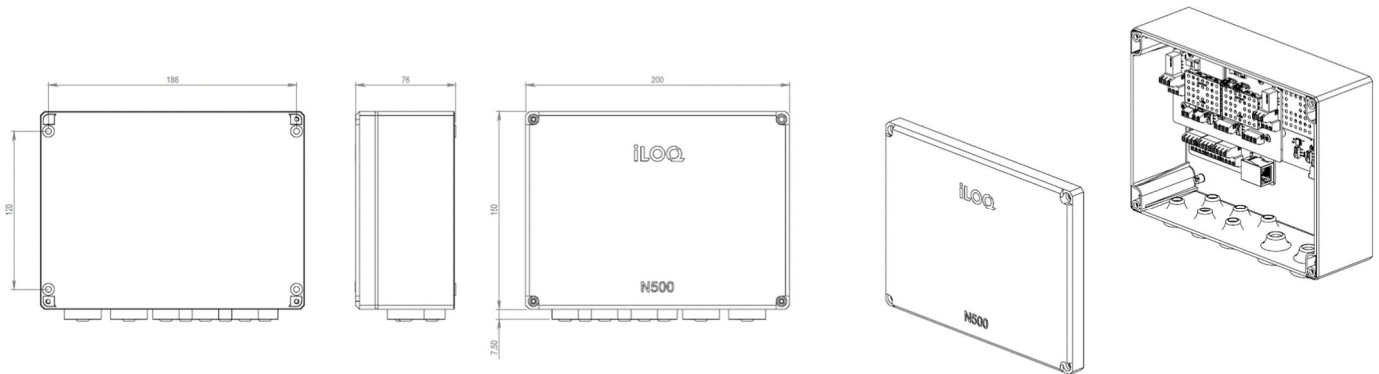
Connections

- ETHERNET / POE(+) — Ethernet LAN connection with Power over Ethernet (PoE) support
- DC — Power input for an external power supply
- The Net Bridge always requires an Ethernet connection and power supply. Power supply can be provided through an Ethernet switch supporting PoE(+), or by an external power supply
- If the Net Bridge is powered by:
    - PoE, the available power for bus devices is 10 W
    - PoE+, the available power for bus devices is 20 W
    - External power supply, the available power for bus devices is 30 W
    - RS-485 1/2/3 — Main bus connections (6 pcs). There is one main bus, which can be divided into six parallel branches
    - To the main bus, it is possible to connect N502 Door Modules

---

Technical data N500

Bus interface..RS-485
Power consumption...3W
Material of housing ....Plastic
Installation method ....Screws
Color ....Gray with transparent cover
Ingress protection rating IP65
Temperature range .... -20 °C…+50 °C
Weight ....0,620 kg
Max amount of bus devices...16*)
Certificates..CE

*) Theoretical maximum, see restrictions from planning guide.

N501 STANDALONE DOOR MODULE
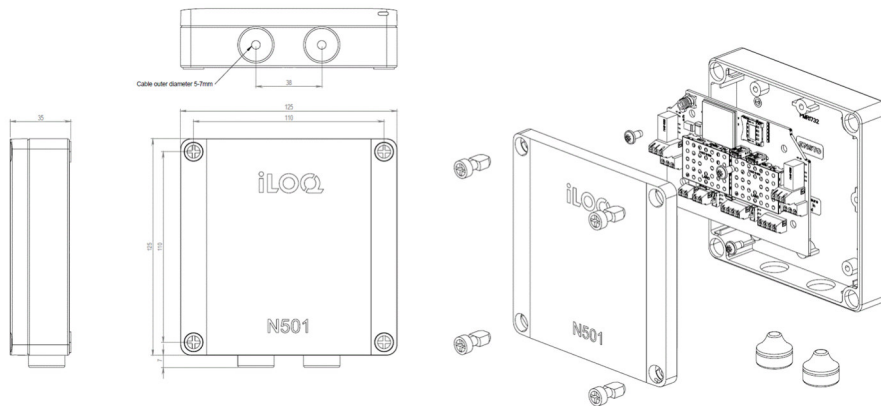
The Standalone Door Module is an independent device located in the vicinity of a door, and it controls devices installed on the door, such as an oval lock cylinder, an NFC/RFID/PIN reader, an electric lock, an electric strike plate, a magnet lock, and so on.

The Door Module is connected to the iLOQ S5 server via a pre-installed 4G connection provided by iLOQ. The Door Module has several different use cases.

The most common use cases are:

- Connecting a calendar-controlled electric lock
- Connecting an NFC/RFID reader to control an electric lock
- Connecting an NFC/RFID reader to control an alarm system
- Connecting oval lock cylinders for remote management
- Connecting an NFC/RFID/PIN reader to control an electric lock by a key and PIN code combination
- Connecting a code-controlled electric lock
- Updating, sharing and collecting lock and key information such as access rights, time profiles, log events and lists of blocked keys through a D2D network with an RFID/PIN reader N504 or N505
- Door status monitoring

Connections

- CYLINDERS   Cylinder connections for 1 oval cylinder
- INPUTS - IN 1/IN 2 Potential-free inputs have varying functions according to the selected operating mode
- INPUTS – EXT   A potential-free contact information for conditional access rights
- READER RS-485   The reader bus controls the RFID/PIN reader N504 or N505
- RELAY K1   Relay output for controlling an external device
- FAULT RELAY K2   To allow fault information to be sent to an external system (optional)
- SIM card holder   Pre-installed SIM card for server connection

Technical data N501

Reader interface RS-485
Server connection ....4G LTE
Power consumption..> 2W
Material of housing ....Plastic
Installation method ....Screws
Color ....Gray
Ingress protection rating IP66/67
Temperature range ....-25°C...+50 °C
K1 and K2 relay output contact ratings ....Max 30V, max. 2A

N502 DOOR MODULE
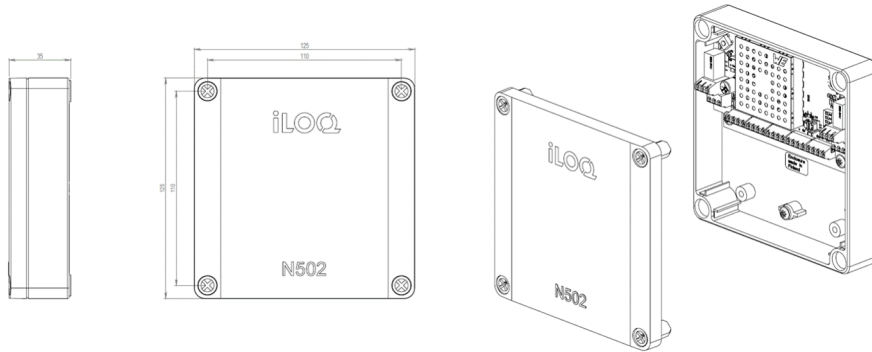
The Door Module is a bus device located in the vicinity of a door, and it controls devices installed on the door, such as a lock cylinder, a key reader, an NFC/RFID reader, an electric lock, an electric strike plate, a magnet lock, and so on.

The Door Module is hosted by a Net Bridge; it does not operate independently. The Door Module has several different use cases, and it can be used both as unprogrammed or programmed.

The most common use cases are:

- Connecting a calendar-controlled electric lock
- Connecting a key reader to control an electric lock
- Connecting an NFC/RFID reader to control an electric lock
- Connecting an NFC/RFID reader to control an alarm system
- Connecting oval lock cylinders for remote management
- Connecting readers to control an electric lock by a key and PIN code combination
- Connecting a code-controlled electric lock
- Updating, sharing and collecting lock and key information such as access rights, time profiles, log events and list of blocked keys through a D2D network with an RFID/PIN reader N504 or N505
- Door status monitoring

Connections

- RS-485 IN   Main bus input connection
- RS-485 OUT   Main bus output connection
- CYLINDERS   Cylinder connections for 2 oval cylinders
- INPUTS - IN 1/IN 2/IN 3   Potential-free inputs have varying functions according to the selected operating mode
- INPUTS – EXT   A potential-free contact information for conditional access right
- READER RS-485   The reader bus is a separate bus from the main bus. It controls two RFID readers with the same access rights
- RELAY K1/K2   Relay outputs for controlling an external device

Technical data N502

Bus interface	RS-485
Power consumption	>2 W
Material of housing	Plastic
Installation method	Screws
Color	Gray
Ingress protection rating	IP66/67
Temperature range	-25°C…+50 °C
K1 and K2 relay output contact ratings	Max 30V, max. 2A

![iLOQ logo – Making life accessible]

N504 NFC/RFID/PIN DOOR READER
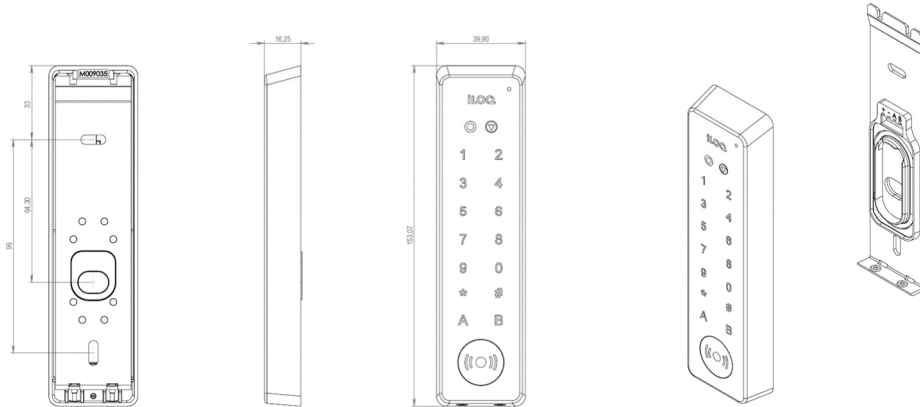
The NFC/RFID Reader is a device located in the vicinity of a door. The NFC/RFID Reader is connected to the Door Module READER RS-485 bus; it has no other connections. The NFC/RFID Reader is used to control an electric lock by an iLOQ K5S.1 key.

If the reader is equipped with a touch keypad, it can be used to provide access to the door with a code only.

- When installing, please note that it is not recommended to install a reader in the vicinity of strong electromagnetic disturbance sources

Connections

DC+	Positive
DC-	Negative
A	Data A
B	Data B

Technical data N504 RFID/PIN Door Reader

Interface to Door Module	RS-485
Power consumption	>2 W
Operating Frequency	13,56 MHz
Supported iLOQ RFID keys	K5S.1, K5S.2
Touch pad for PIN code use	Yes, N504
Encryption	AES-256
Material of housing	Plastic
Installation method	Installation frame and screws
Color	Black
Ingress protection rating	IP54
Temperature range	-40 °C…+55 °C
EMC	Meets CE requirements
Field strength	According to EN300330
Cable	No, quick connector
LED	White and RGB LED
Buzzer	Yes, mono speaker

![iLOQ - Making life accessible]

N505 NFC/RFID/PIN WALL READER

The NFC/RFID Reader is a device located in the vicinity of a door. The NFC/RFID Reader is connected to the Door Module READER RS-485 bus; it has no other connections. The reader is used to control an electric lock by an iLOQ K5S.1 key.

If the RFID Reader is equipped with a keypad, it can be used to provide access to the door with a code only.

- When installing, please note that it is not recommended to install a reader in the vicinity of strong electromagnetic disturbance sources
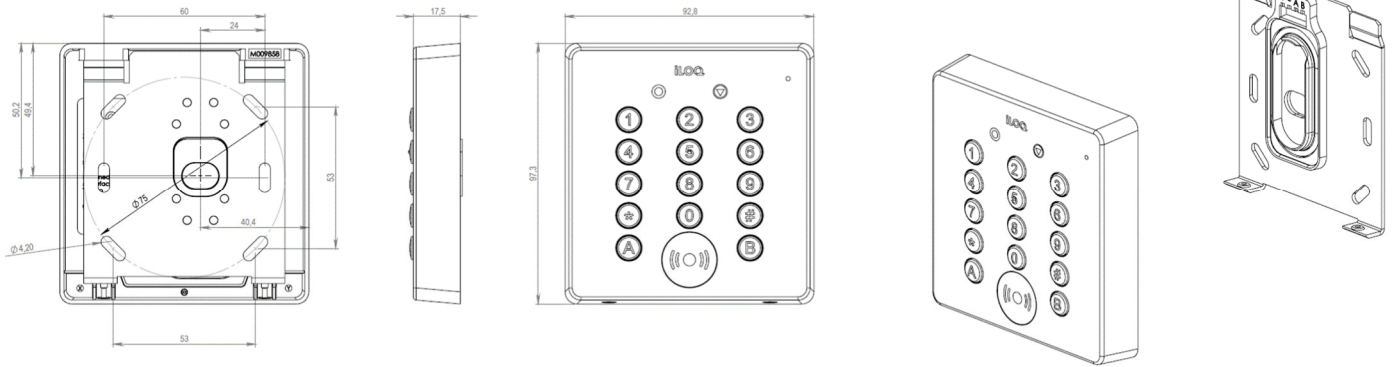
Connections

DC+   Positive
DC-   Negative
A   Data A
B   Data B

Technical data N505 RFID/PIN Wall Reader

Interface to Door Module RS-485
Power consumption .... >2 W
Operating Frequency .... 13,56 MHz
Supported iLOQ RFID keys K5S.1, K5S.2
Keypad for PIN code use .... Yes
Encryption AES-256
Material of housing .... Plastic
Installation method .... Installation frame and screws
Color .... Black
Ingress protection rating IP54
Temperature range .... -40 °C…+55 °C
EMC .... Meets CE requirements
Field strength .... According to EN300330
Cable .... No, quick connector
LED .... White and RGB LED
Buzzer .... Yes, mono speak