



Ramnet Solutions Mifare S50 Card Instruction Manual

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Card Reading Operation

The Mifare S50 card has 64 blocks, each of the blocks occupy 16 bytes. Block 0 is for the factory data and cannot be changed. The first 4 bytes are the UID. The remaining 63 blocks are the data area and the verification area. 4 blocks as a sector. The last block of each sector is for the verification area cannot be changed, such as block3, block7, etc. The remaining data areas can be set and defined as PID.

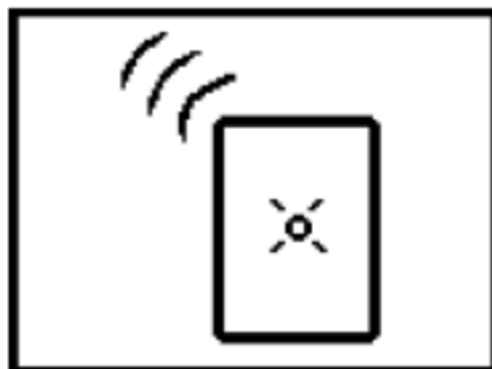
PLC program control interface-use M1901 ~ M1903, D2933 and R3831 ~ R3839 to communicate with PEPR.

| Register Name | Function Description |
|---------------|--|
| M1901 | Select card type to read =0, Read UID =1, Read PID |
| R3831 | Card reading status =0, Card undetected =15211, Indicates that the UID card number is read (Valid value: R3832—R3833) =15711, Indicates that the PID card number is read. When the card leaves, the value automatically changes to 0, but R3832 — R3838 still maintains the card number. |
| R3832 | Read card number C3C2C1C0 |
| R3833 | Read card number C7C6C5C4 |
| R3834 | Read card number C11C10C9C8 |
| R3835 | Read card number C15C14C13C12 |
| R3836 | Read card number C19C18C17C16 |
| R3837 | Read card number C23 C22C21 C20 |
| R3838 | Read card number C27 C26C25C24 |
| R3839 | Read card number C31 C30 C29C28 |
| D2933 | Bo/318283, B2B3 is the input Block number, Bobcat be any value. |
| M1902 | PLC setting. When=1, the PEPR will show the card number has passed the authentication. |
| M1903 | PLC setting. When=1, the PEPR will show the card number has not passed the authentication. |

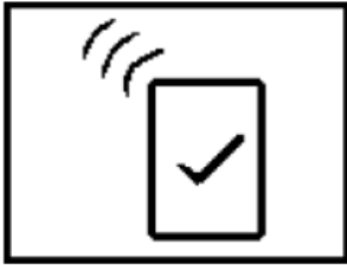
Note: The card number is ???????????? ?????????, the ???~?? and ??~?? are in HEX.

Note: The range of ??? is 00H~3FH.

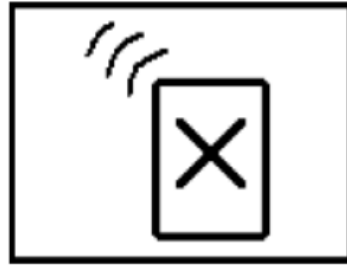
When PEPR reads the card, it will show the following screen.



When the Ladder program checks that R3831 is not 0, it can compare the pre-stored card number database of R3832 ~ R3839 content and control the results to M1902, M1903 and other related control points. The PEPR module will perform the following screen according to the status of M1902 and M1903 display.



M1902 =1.



M1903 =1.

Write Card Operation

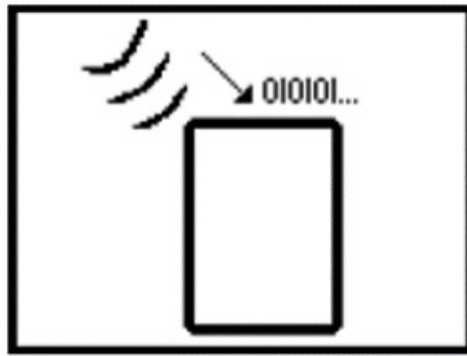
The 32 code in the data area of the card block can be modified by the user through PLC. PLC program control interface-communicate with PEPR by using M1899 ~ M1900 and D2934 ~ D2943.

| Register Name | Function Description |
|---------------|--|
| M1899 | Write command =0, No write =1, Writing mode. M1899 will be cleared to 0 when the write operation is completed. |
| M1900 | Card writing status =0, Failed =1, Success |
| D2934 | BoB1B2B3 ' B2B3 is the input Block number, B0B1 can be any value. |
| D2935 | Write card number C3C2C1Co |
| D2936 | Write card number C7C6C5C4 |
| D2937 | Write card number C11C10C9C8 |
| D2938 | Write card number C15C14C13C12 |
| D2939 | Write card number C19C18C17C16 |
| D2940 | Write card number C23C22C21C20 |
| D2941 | Write card number C27C26C25C24 |
| D2942 | Write card number C31C30C29C28 |
| D2943 | 1234H |

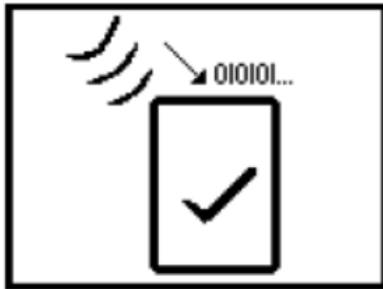
Note: The range of ???? is 00H~3FH, B0 and the last block of each sector cannot write.

2.1 Write Card Example

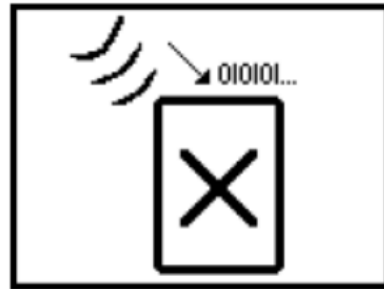
Write a decimal of '1234567890' to block1, set D2934 to XX01H, then the user converts 1234567890 into a hexadecimal of 499602D2H and writes 02D2 and 4996 into D2935 and D2936 in 2 Words as a unit, sets M1899 to 1 to enter the card write mode, and M1900 indicates whether the card write operation was successful. When the Ladder program fills up the card number into D2934 ~ D2943 and sets M1899 to 1, the PEPR will display the following screen after entering the card writing mode.



Place the card on the top of the PEPR. When PEPR detects the approach of the card, it starts to write the card number. When writing is completed, PEPR will clear M1899 and set the written result in M1900. The following screen will be displayed.



M1900 = 1.



M1900 = 0.

Operation Control of Reading Card to Unlock PEPR

PEP uses the password entering method to control the PEP operation and can also avoiding improper operations by irrelevant personnel as well. In addition to using the keyboard to enter the password, the PEPR also can use an RFID card to enter the password.

| Register Name | Function Description |
|---------------|---|
| M1896 | Password card input function =0, Disable =1, Enable |
| M1897 | Password card detection status. Set by PLC. When =1, detected the correct password card. |
| M1898 | Password type detected. Set by PLC. =0, USR =1, SYS |

Action Description:

This feature works with the original password security protection mechanism.

Use a password card to replace keyboard input when the system requires a password.

- M1896 status as 0: PEPR only provides a password protection mechanism.
- M1896 status as 1: In addition to using the keyboard to enter a password to unlock, it can also use an RFID card to unlock.
- M1897: Password card detection status. When PLC judges that the card read by the card number provided by R3832 ~ R3839 is a password card, M1897 must be set to 1.
- M1898: The type of password card. When M1897 is set to 1, this bit state must be set together.

=1, The reading card is the administrator password.

Note: If only the password card is provided and the keyboard input password function is not provided, password protection must still be set but the password value must set to 0.



Documents / Resources

1. Quick Reading Information

The Mifare S50 card is a contactless smart card (IC) that is widely used in various applications, including access control, public transport, and identification. This document provides a quick overview of the card's features and specifications.

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M1901, R3831, R3832, R3833, R3834, R3835, R3836, R3837, R3838, R3839, D2933, M1902, M1903, M1899, M1900, D2934, D2935, D2936, D2937, D2938, D2939, D2940, D2941, D2942, D2943, Mifare S50 Card, Mifare S50, Card