

Spire SPm20 User manual



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1 GENERAL

1.1 General

This manual describes the operation of the Spire SPm20 payment terminal. Manual also refers to another document, [The Semel M2 Touch Screen Taximeter user manual](#).

The Spire SPm20 payment terminal delivered by Semel Oy has is suited only for use with Semel TaxiPay software, Semel M2 Touch Screen taximeters, and Semel RX90hn thermal printer. This ensures that the payment terminal accepts, together with the interlinked taximeter, a wide range of payment methods commonly used in taxis.

Payment terminal can be used with EMV chip cards, contactless payment cards, magnetic stripe cards, and smart magnetic cards used in the taxi sector.

Security is an essential element of EMV chip cards. The EMV standard aims to reduce the forgery and misuse of cards. Security covers the entire payment chain, making the user of the payment terminal a part of the transaction process defined in the EMV standard. For this reason, it is important that the instructions on EMV payments is to be followed always. Where required, card companies can impose sanctions on the owner/holder of the payment terminal instead of on the trader, **in the event of neglect related to the use of payment terminals**.

The payment terminal operates in accordance with PCI specifications and will never print out information involving information that might appear as a security risk. Receipts containing card numbers and card numbers in general must be handled carefully. Card number data that is to be delivered for book keeping must be supervised in an appropriate manner to prevent disclosure to third parties through accidental disposal. The collection of card numbers for troubleshooting purposes is restricted and must be implemented in accordance with the instructions provided by the supplier of the payment terminal. Card numbers must never be sent unencrypted in an email. The card number and validity period must never be written down in the same place.

For more information, please visit the payment terminal supplier's website at www.semel.fi Where required, Semel Helpdesk serves in matters related to Semel products from 8:00 to 16:00 on weekdays.

1.2 Contents of the delivery

The Semel product delivery includes:

- Spire SPm20 payment terminal
- Car holder with charging
- User manual

1.3 Features

- Spire SPm20 Payment Terminal is a part of the Semel system.
- Transaction prices and sums charged using the Spire SPm20 payment terminal are retrieved from the taximeter through a user interface.
- Payments with Spire SPm20 can be charged by using chip, magnetic stripe reader or contactless payment
- Before the payment terminal is used for the first time, its battery must be charged for 2–4 hours, using the network charger delivered with the device.

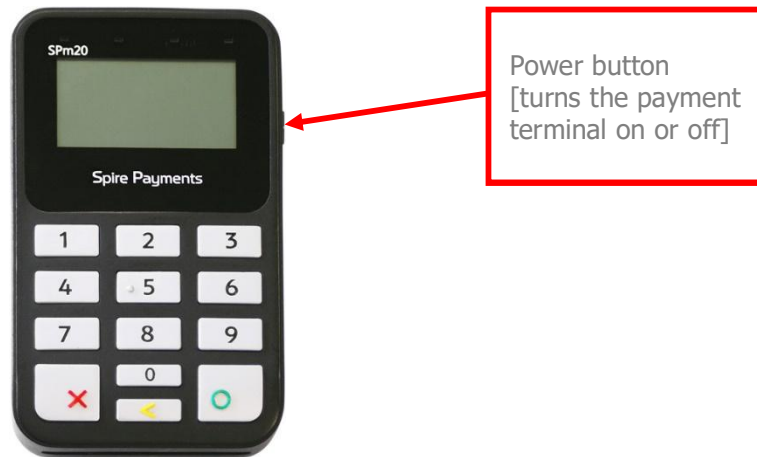
- The power must be turned off from the payment terminal if its removed from its holder at the end of the shift.
- The Spire SPm20 payment terminal is turned on either by placing it on its charger station, which starts up the device automatically, or manually by pressing the power button until the device turns on.
- The payment terminal is connected to Semel M2 Touch Screen taximeter through a Bluetooth interface and connects to the internet through the taximeter. If the payment terminal or the taximeter is replaced by an exchange unit, the Bluetooth connection between the devices must be re-established (see chapter 5 in this manual).
- The bank parameters of the payment terminal are loaded onto the payment terminal and transferred to the payment centre automatically when the connection is established and active.

1.4 Keypad



1.5 Starting up and turning off the terminal

The Spire SPm20 payment terminal can be turned on either by placing it on its charging station, which starts up the device automatically, or manually by pressing the on/off button until the device turns on.



The Spire SPm20 payment terminal is turned off by pressing the on/off button until the device turns off.

1.6 Payments


- The payment terminal can accept payment cards when the taximeter is in the Cashier mode.
- When the sum has been retrieved from the taximeter, hand the payment terminal over to the customer and instruct the customer to insert his/her card or to use contactless payment.
- If the customer has a combination card (credit/debit), the customer must select the wanted payment method by pressing the correct numeric key, following the instructions on the screen, and accept the selection by pressing the green O button.
- Next, the customer must enter his/her PIN code and accept it by pressing the green O button.
- If the contactless payment requires verification, the terminal will verify it.
- Once the payment has been successfully verified, the thermal printer connected to the taximeter will print a receipt for the driver and the customer.

2 EMV PAYMENT

The process of payment can only be started once the sum is transferred from the taximeter onto the screen of the payment terminal.


2.1 Contactless payment

Contactless payment method can be used when the customer has a card that supports contactless payment, and the total charge does not exceed the card's set maximum limit for contactless payment.

	<p>Generally, the maximum limit for contactless payment is €25. However, the limit can be higher on some cards.</p>
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Contactless process:

- The sum has been retrieved from the taximeter onto the screen of the payment terminal.
- Ask the customer to place the card on top of the payment terminal screen.
- Once the payment has been successfully verified, the thermal printer connected to the taximeter will print a receipt for the driver and the customer. No signature or PIN code is needed.

	<p>A contactless card can require a random security check; in such a situation, instruct the customer to insert the card into the chip reader, as the payment will be completed as a normal chip card payment.</p>
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2.2 Payment using the PIN code (credit and debit cards)

- Hand over the payment terminal to the customer when the taximeter is in CASHIER mode and the sum is retrieved from taximeter onto the payment terminal screen.
- The payment terminal software will determine based on card details and the transaction whether the bank account balance will be checked, and the transaction accepted. The checking typically takes around 10 seconds, two minutes at the maximum. Never remove the card from the reader until the text REMOVE CARD appears on the payment terminal screen.
- Once the payment has been successfully verified, the thermal printer connected to the taximeter will print a receipt for the driver and the customer



3 PAYING WITH A MAGNETIC CARD

3.1 Smart magnetic stripe cards

Usage of smart magnetic cards as payment cards used by taxi dispatch centres and municipalities is constantly increasing. These cards are online cards. The payment terminal checks the method of use and the rules of payment from the payment server.

Smart magnetic stripe cards can have the following functions:

- credit card (trips are later invoiced; can have customer-specific pricing)
- Balance (amount of money loaded onto the card)
- Balance (number of trips loaded onto the card)
- Balance (year, month, week, or day specific)
- card with own part (balance in money or trips; the customer pays the own part)
- card with automatic own part handling: either fixed or based on the length of the trip (e.g. bus table)

3.2 Checking magnetic cards

When the taximeter is in the FREE or HIRED mode

- Swipe the card through the reader to check whether the card is accepted, i.e. if the card type is accepted by the driver and/or whether the card is on a revocation list.
- If the car has an ONLINE connection, verifications are completed based on centre data.
- The payment terminal will tell whether the card is accepted or not by sending the details of the card to the printer. In case of combination cards, details of both payment methods are printed.
- If the card type is not included in the contract signed by the driver, the printer will print the text "The card type not accepted". In such a case, another payment method must be selected.
- When the card is on a revocation list, the printer will print out warnings: follow the instructions provided by the payment terminal.

3.3 Paying excess on the payment terminal

When a magnetic card, the use of which includes an own part is read in the CASHIER mode, the payment terminal asks for the own part amount.

Enter the amount of the own part using the taximeter display.


3.4 A magnetic stripe card with a monetary balance (saldo)

Payment is completed like a Credit/Debit card. The own part (if any) of a card with a monetary balance is charged from the customer as cash, as a card payment, or using an invoice. The remaining sum is paid using the card with the monetary balance.

4 EXCEPTIONAL CARD PAYMENT SITUATIONS

4.1 Incorrect PIN code, exceeding the maximum PIN tries

- If the customer enters his/her PIN code incorrectly, the following text will appear on the terminal screen: **INCORRECT PIN, PLEASE TRY AGAIN**
- The PIN code can then be entered again
- If the customer enters the PIN code incorrectly and realises his/her mistake before accepting, the PIN code can be rewritten by pressing the yellow button.
- Depending on the issuer of the card, the PIN code can be entered several times. When all the inputs have been set unsuccessfully, the chip of the card will be locked. If the card permits these inputs, the payment terminal verifies the purchase and prints a receipt of the payment that needs to be signed. The trader must verify all the necessary details of the payer that is required.
- If the card has been locked earlier, the payment terminal will operate as if the card had been locked when using the terminal.

	<p><i>If the PIN code is not used, the protection provided by the card system is not applied, i.e. the trader will carry the risk of any losses resulting from the misuse of the card.</i></p>
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4.2 Cancelling payments

A completed payment can be cancelled following the accounting regulations of Semel M2 Touch Screen taximeter (see section 4.2.9 Correction of payment of the [Semel M2 Touch Screen user manual](#)).

When the screen of the payment terminal reads “CANCELLED” and “INSERT CARD”, the cardholder must insert the card into the payment terminal and follow the instructions on the screen.

4.3 Manual verification

If the verification of the card fails due to network error and the card and the software permits it, the payment terminal offers the option to complete the verification by phone.

- Call the number displayed on the payment terminal screen and provide the information requested.
- Insert the verification code received by the payment terminal and accept it by pressing the green button. In such a case, the receipt is printed normally.
- If no verification is provided by phone, cancel the payment and request that the customer pays with another payment card or in cash.

5 CONNECTION SETTING AND MAINTENANCE

5.1 Dirty magnetic stripe reader

If the reading of cards fails frequently in payment situations, the magnetic stripe reader might be dirty and can be cleaned using a thin non-fluffy cloth that is wrapped around a card. There is also special cleaning cards specifically designed for magnetic card readers.

5.2 Establishing a Bluetooth connection


Pairing

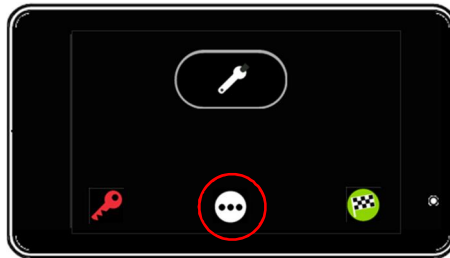
- Activate the Bluetooth connection by pressing 1, 2, 3 and the **power button** of the payment terminal in that order.




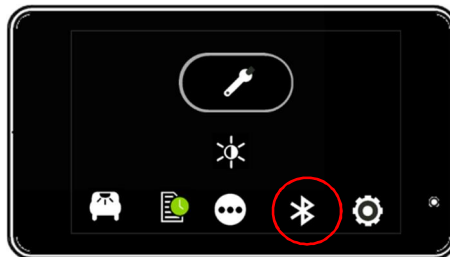
Once the pairing mode of the Spire SPM20 payment terminal has been activated, the following text is shown on the payment terminal screen:




```
Pairing Bluetooth
SP:R13B10022486
....
X=Cancel
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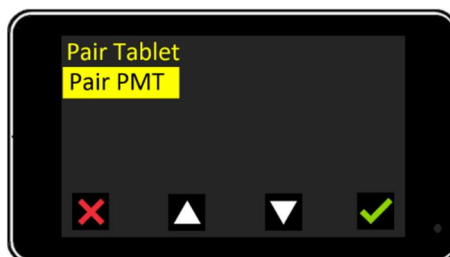
- Activate the Bluetooth connection of the M2 Touch Screen taximeter by moving to the next menu page by pressing the  button.



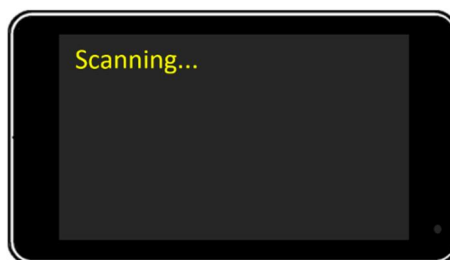
- Go to the Bluetooth menu by pressing the  button.




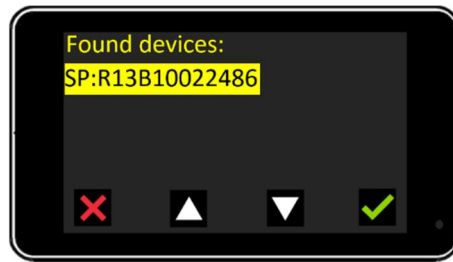
- Pair the Spire SPm20 payment terminal and the M2 Touch Screen taximeter by moving to "Pair PMT" on the menu using the  and  buttons and by accepting the selection by pressing the  button.



- The taximeter will search for the payment terminal.



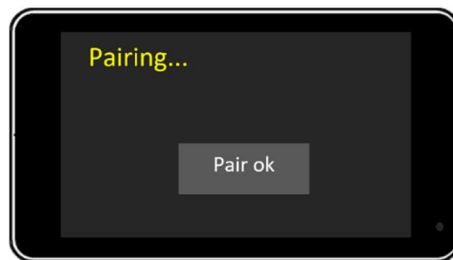
- The taximeter has found a Bluetooth connection. Confirm the connection request by pressing .



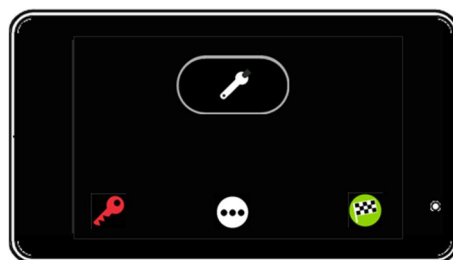
- The taximeter confirms the pairing of the devices



- The taximeter screen reads "Pair OK" for a few seconds



- The M2 Touch Screen taximeter returns to the OFF mode



- The pairing mode of the Spire SPm20 payment terminal is deactivated and the screen returns to its starting mode.

6 TECHNICAL INFORMATION**NÄYTTÖ**

- 128 x 64 pikseliä
- Mustavalkonäyttö

NÄPPÄIMISTÖ

- Taustavalaistu näppäimistö

KORTINLUKIJAT

- EMV-sirulukija
- Mg-juovan lukija

LÄHIMAKSUT

- Kontaktiton lukija (NFC)
- Kortit/mobiililaitteet ja tagit
- ISO 14443 A & B
- MIFARE

VIRTALÄHDE

- Micro USB -laturi

KÄYTTÖOLOSUHTEET

- Lämpötila -10 °C – +50 °C

KOKO JA PAINO

- Mitat: 118 x 70 x 18 mm (p x l x k)
- Paino: 110 g

PROSESSORI

- 32-bit 384MHz Secure ARM 9.5 -prosessori

MUISTI

- 64 MB Flash
- 32 MB LPDDR4M

YHTEYDET

- Bluetooth Class 2.1

OHJELMISTO

- Poplatekin maksupäätteohjelmisto
- Poplatek JSONPOS-integrointirajapinta

SERTIFIKAATIT

- MasterCard MTIP ja Visa ADVT

- PCI PA-DSS 3.x
- PCI DSS Level 1 3.x
- PCI PTS 4.x

- EMV 4.x level 1 for contact and contactless cards
- EMV 4.x level 2 kernel for contact cards
- EMV 4.x level 2, PayPass, payWave kernels for contactless cards

- MasterCard TQM

7 SUPPORT SERVICES

Semel Helpdesk provides instruction in technical problems: call **0600 17788**
Semel Helpdesk is open and available 8:00–16:00 on weekdays



- Before you contact Semel helpdesk, ensure that you have the service ID of the payment terminal at hand to serve you better.
- In matters related to payments, please contact your own payment service provider, such as a taxi dispatch centre or the corporate services operated by the Finnish Taxi Owners Federation.