



— GUIDELINES FOR THE USE OF QR CODE IN CREDIT TRANSFER FORMS

Table of contents

1 General	2
2 QR code	2
3 Presentation of information	2
4 Responsibility for accuracy	2
5 Prerequisites for the use of QR code	3
6 Printing the QR code	3
7 Scanning the QR code	3
8 Data contents of the QR code	3
9 Examples of the QR code	5
10 Credit transfer form example	6
11 Other guidelines	7

Use of QR code in credit transfer forms

1 General

Quick Response (QR) codes will in the future replace bank bar codes in the Single European Payments Area. The Federation of Finnish Financial Services (FFI) has approved the QR code as a way to present payment data. Banks have cooperatively developed the contents of the QR code to speed up payments processing and to enhance the verification of payment data. The credit transfer forms used in invoicing have been specified in the FFI's Credit Transfer Guidelines. The QR code can be used in invoicing regardless of whether the invoice contains a reference number or a plaintext message.

An invoice must always be accompanied by a credit transfer form. An invoice without one may not be sent to a private person or to the bank's payment service, or paid at the bank office. The details of the invoice form must always be duplicated on a credit transfer form.

The QR code was added on the credit transfer form template in February 2014. Its location previously contained the BIC, which is being gradually phased out in credit transfers. The QR code and the domestic bar code will at first function side by side.

This document describes the use of the QR code in credit transfer forms.

2 QR code

The Quick Response (QR) code is a two-dimensional code that was developed in 1994. It can be scanned with most smartphones and with separate barcode scanners.

The QR code's advantage is that it can contain much more data than a barcode, and in less space. Whereas a regular barcode can contain 54 numbers, a QR code makes it possible to include almost any kind of character-based information. QR codes are commonly used to provide links to mobile device users, in which case the code can contain for example the address of a product's website.

The QR code can be printed on practically any advert or brochure. The customer can scan the code with a smartphone equipped with a camera and a reader application.

QR codes are highly damage resistant: on the highest level of error correction they can be decrypted even when 15 percent of the printed area has been damaged. The black and white squares both contain data like the binary numbers 0 and 1 in digital technology.

The QR code described in this document is designed for the presentation of invoicing information, e.g. beneficiary's name and account information.

3 Presentation of information

When the same information is presented in barcode and plaintext format on the credit transfer form, the contents of both must be identical.

4 Responsibility for accuracy

The invoker is always responsible for the accuracy of data printed on the credit transfer form.

5 Prerequisites for the use of QR code

Use of the QR code requires that

- the positioning of plaintext information and other data on the form adhere to the relevant specifications
- the structure, location and contents of the QR code comply with this document
- printing both a bank bar code and a QR code on the credit transfer form is possible
- no other characters are printed in the areas reserved for the bank bar code and the QR code.

Use of the credit transfer form specified by the Federation of Finnish Financial Services is recommended.

6 Printing the QR code

The invoicer prints the QR code in the invoice's credit transfer section along with the rest of the payment information. If a bank bar code is also used, it must be printed in accordance with the Bank Bar Code Guide.

Note! Only one beneficiary's account number can be stored in the bank bar code and QR code. If several account numbers are printed on the form, the invoicer chooses which one is coded in the barcode.

The maximum width/height of a QR code that uses 0.5 mm square dots is 3.5 cm. Technically this means the code's X-dimension is 0.5 mm, or ca. 20 mils in the imperial system. The printer's resolution will define the precise size, but an X-dimension smaller than 0.5 mm is not recommended due to possible problems in printing and scanning.

The top right corner of the QR code must be aligned with the credit transfer form's top right corner so that it does not touch the ruling of the form and there is at least a 2 mm gap to other graphical elements (such as lines). It must be noted that the more data is encrypted in the code, the larger its physical dimensions grow. Form designers therefore should reserve sufficient space to fit codes that contain the maximum amount of data. The code's anchor point and the direction in which the code grows with increased data must also be taken into account in the positioning of the code.

7 Scanning the QR code

Payment order information encrypted in the QR code is scanned with a mobile device using a mobile bank QR code reader. The data is decrypted as a payment proposal which the user can view in their mobile bank.

Banks make their individual schedules on the implementation of QR code support in their mobile banking applications.

8 Data contents of the QR code

The QR code's definition is based on the specifications of EPC's Quick Response Code: Guidelines to Enable Data Capture for the Initiation of a SEPA Credit Transfer.

http://www.europeanpaymentscouncil.eu/knowledge_bank_detail.cfm?documents_id=607

Definition:

- Maximum QR code version 13, equivalent to module size 69 or 331 byte payload
- Character sets:
 - 1: UTF-8
 - 2: ISO 8859-1
 - 3: ISO 8859-2
 - 4: ISO 8859-4
 - 5: ISO 8859-5
 - 6: ISO 8859-7
 - 7: ISO 8859-10
 - 8: ISO 8859-15

Banks recommend the use of UTF-8.

O/M	Data type	Max. # of characters	Content	Fixed
M	3..3a	3	Service Tag: 'BCD'	
M	3..3an	3	Version: '001'	
M	1..1an	1	Character set	
M	3..3an	3	Identification code: 'SCT'	
M	8/11an	11	(AT-23 BIC of the Beneficiary Bank) Usage Rule: Only BIC is allowed.	X
M	1..70an	70	(AT-21 Name of the Beneficiary) Usage Rule: 'Name' is limited to 70 characters in length.	X
M	1..34an	34	(AT-20 Account number of the Beneficiary) Usage Rule: Only IBAN is allowed.	X
O	3..3an, 1..12n	12	(AT-04 Amount of the Credit Transfer in Euro) Usage Rule: Amount must be 0.01 or more and 999999999.99 or less <i>Currency and amount of the credit transfer.</i>	
O	1..4an	4	(AT-44 Purpose of the Credit Transfer) <i>In a Camt.053 XML account statement the PurposeCode value can be shown on the account statements of the originator and beneficiary.</i>	
O {Or	1..35an	35	Creditor Reference (RF Creditor Reference may be used, ISO 11649) <i>RF Creditor Reference or domestic reference number.</i>	X
O Or}	1..140an	140	(AT-05 Remittance Information) Unstructured Remittance information Usage Rule: 'Unstructured' may carry structured remittance information, as agreed between the Originator and the Beneficiary.	

O	1..70an	70	Beneficiary to originator information. <i>The information is visible in the online bank. Information is not delivered back to beneficiary.</i>	<i>Due date is entered as first information in the field in the format</i> ISO 20022 tag name + / + ISO DATE i.e. ReqdExctnDt/2013-11-07
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X: fixed value i.e. the originator should not change the info when initiating the payment. The total payload is limited to 331 bytes. The elements separator is either a line feed (LF) or a carriage return line feed (CRLF). Please note that the number of characters may be less than the numbers of bytes with UTF-8.

9 Examples of the QR code

9.1 Example 1 with typical amount of data:



BCD
001
1
SCT
OKOYFIHH
Asiakas T. Meikäläinen
FI7944052020036082
EUR158.24

RF07663321328510

ReqdExctnDt/2014-01-22


9.2 Example 2 with large amount of data:



BCD
 001
 1
 SCT
 NDEAFIHH
 Purjehdusseura Bitti ja Paatti Segelsällskapet Bit och Båt juhlat os.1
 FI7331313001000058
 EUR999999999.99
 BEXP

140charactersoffreetext140charactersoffreetext140charactersoffreetext140charactersoffree
 text140charactersoffreetext140charactersoffreetext14
 ReqdExctnDt/2014-01-02

10 Credit transfer form example

Saajan tilinumero Mottagarens kontonummer		IBAN					
Saaja Mottagare							
TILISIIRTO. GIRERING	Maksajan nimi ja osoite Betälarens namn och adress						
	Allekirjoitus Underskrift			<table border="1"> <tr> <td>itenumero Ref. nr</td> <td></td> </tr> <tr> <td>Eräpäivä Förfallodag</td> <td>Euro</td> </tr> </table>	itenumero Ref. nr		Eräpäivä Förfallodag
itenumero Ref. nr							
Eräpäivä Förfallodag	Euro						
Tilityt nro Från konto nr							

aksu välitetään saajalle maksujenvälityksen ehtojen mukaisesti ja vain maksajan ilmoittaman tilinumeron perusteella.
 Betalningen förmedlas till mottagaren enligt villkoren för betalningsförmedling och endast till det kontonummer som betalaren angivit.



11 Other guidelines

- The reference number and the check digit
- Introduction of the Global Structured Creditor Reference in Finnish Companies
- International Bank Account Number (IBAN) in payments
- Credit Transfer Guidelines

The guidelines are available on the Federation of Finnish Financial Services website at www.fkl.fi.




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