

QUICK RESPONSE CODE

1. The Quick Response (QR) code is a two-dimensional barcode based on ISO 18004, with the content of elements defined in this Annex (hereinafter: IPS QR code).

2. If payment service providers or payees decide to use the IPS QR code for downloading and use of elements of the payment order determined by the decision governing the form, content and manner of using order forms for dinar payment transactions and/or issuance of orders (hereinafter: payment order) – they shall comply with the following technical recommendations:

1) the width and height of the IPS QR code shall be from 2.5 cm to 3.3 cm on printed bills-invoices, with the level of error correction M (up to 15% of damage);

2) to initiate instant credit transfers by using a payment instrument at the point of sale, the level of error correction L shall be used (up to 7% of damage);

3) maximum version of the IPS QR code which may be generated is version 13 (69x69 modules up to 331 bytes, number of codes for UTF-8 may be smaller if two-byte codes are used), while this version may even be smaller if the contents allow.

The characteristics of version 13 under paragraph 1, provision 3) hereof for which the code set UTF-8 is used are the following:

| Version | Lines x columns | Level of correction | Bytes | Numerical | Alpha | Binary |
|---------|-----------------|---------------------|-------|-----------|-------|--------|
| 13 | 69x69 | L | 3.424 | 1.022 | 619 | 425 |
| | | M | 2.672 | 796 | 483 | 331 |
| | | Q | 1.952 | 580 | 352 | 241 |
| | | H | 1.440 | 427 | 259 | 177 |

3. This Section determines the presentation of elements of payment orders in the IPS QR code, explains such presentation, and gives an example of the IPS QR code which may be used in accordance with this Decision:

| Type | Max. number of characters | Tag | Description | Use of IPS QR code | | | Unalterable | |
|------|---------------------------|-----|---------------------|-------------------------|-------------------------------|----------------------------|-------------|------------|
| | | | | Payment of bill-invoice | Points of sale | | | E-commerce |
| | | | | | Presented by payee (merchant) | Presented by payer (buyer) | | |
| 3a | 3 | K | Identification code | PR | PT | PK | EK | √ |

| | | | | | | | | | |
|-----------|-----------------|----|--------------------|--------------------------------------------------------|------|----|------|----|---|
| 2n | 2 | V | | Version: 01 | 01 | 01 | 01 | 01 | √ |
| 1n | 1 | C | | Code set: 1. UTF-8 | 1 | 1 | 1 | 1 | √ |
| 18n | 18 | R | | Number of payee's account | M | M | - | M | √ |
| 1..70an | 70 | N | | Payee's name and head office | M | M | - | M | √ |
| 5..18an | 18 | I | | Currency and amount of funds | M(p) | M | O | M | √ |
| 18n | 18 | O | | Number of payer's account | - | - | M | - | √ |
| 0..70an | 70 | P | | Payer's name and head office | O | - | O | - | |
| 3n | 3 | SF | | Payment code | M | M | - | M | |
| 0..35an | 35 | S | | Payment purpose | O | O | O(n) | O | |
| 4n | 4 | M | | MCC | - | M | - | M | √ |
| 10an | 10 | JS | | Payer's one-time code | - | - | O | - | √ |
| 8an | 8 | RK | | Payer's reference | - | - | O | - | √ |
| 0..35n/an | 35 ¹ | RO | Mutually exclusive | Payee's reference credit number | O | M | - | M | √ |
| 0..140an | 140 | RL | | Payee's reference | O | - | - | - | |
| 19an | 19 | RP | | Reference identifying transaction at the point of sale | - | M | - | M | √ |

Tag **K**: *identification code* marks the content of the IPS QR code and may have the following values:

- PR – for generation of the IPS code on the payee's printed bill-invoice;
- PT – for generation of the IPS QR code at the payee's point of sale, presented by the payee (merchant);
- PK – for generation of the IPS QR code at the payee's point of sale, presented by the payer (buyer);
- EK – for generation of the IPS QR code in e-commerce application software.

Tag **V**: *version* means the version of presentation of the IPS QR code, fixed value 01.

Tag **C**: *code set* means the code set used in presentation; fixed value 1 means the use of UTF-8 code distribution.

Tag **R**: *number of payee's account* means the number of the current and/or other payment account of the payee in accordance with regulations, entered exclusively as a string of 18 figures.

Tag **N**: *payee's name and head office* means the business name or abbreviated business name of the payee, and/or the name under which it is recorded in the register with the competent authority. Optionally, data may also include the address of the payee's head office. Data are stated in sequence (payee's name and head office, address of the head office) and are separated by a mark for each new line. Only abbreviated business name is used at merchants' points of sale, if possible. If the payee's name also contains the place of the payee's head office, it is not necessary to separately specify the head office.

Tag **I**: *currency and amount of funds* means the RSD designation and the amount for which the decimal point must be entered, after which invalid decimal zeros need not be written (e.g. RSD1025.) The minimum amount of the order is RSD0.01, and the maximum amount is RSD999999999999,99. Thousand separators (,) are not used for entering amounts. It is not permitted to leave out a figure for an entire place in amount. For instance, RSD.01 is not correct; what is correct is RSD0.01. When using the IPS QR code

¹ Unless determined otherwise by regulations.

on printed bills-invoices, the payee may also show in the code the amount of 0.00 dinars (e.g. RSD0.00 или RSD0.).

Tag **O**: *payer's account number* means the number of the current and/or other payment account of the payer in accordance with regulations, entered exclusively as a string of 18 figures.

Tag **P**: *payer's name and head office* means the name and surname, i.e. name and head office of the payer, address and/or head office of the payer (address of the payer's head office), which are stated in such sequence, separated by a mark for a new line.

Tag **SF**: *payment code* means three-digit numerical data, the first of which identifies the form of payment, and the other two the basis of payment.

Tag **S**: *payment purpose* means data about the purpose and basis for the transfer of funds.

Tag **M**: *MCC* means the merchant code category in accordance with ISO 18245. The list of permitted codes is determined by the technical documentation of the payment system where an instant credit transfer is made, based on the use of a payment instrument at the point of sale, which also contains the guidelines for transcribing these codes to the transfer order in the system.

Tag **JS**: *payer's one-time code* means the TOTP value (*Time-based One Time Password*) – one-time code with limited validity in time, e.g. five minutes. The one-time code is generated by the payer's payment service provider and is used to approve a payment transaction, in accordance with the framework contract and regulations.

Tag **RK**: *reference of the payer (buyer)* means the designation determined by the payer's payment service provider, which is used, as supplementary data on the payer, to approve a payment transaction in accordance with the framework contract and regulations.

Tag **RO**: *payee's reference credit number* means supplementary data for the payee, in accordance with regulations. The reference credit number shall also include the model number entered before the content of the reference credit number. If the reference number is not determined according to any model (e.g. the reference number is 1234), two leading zeros are entered (e.g. **00**1234). If the reference number is determined according to model 97, the content of the reference number shall be entered exclusively in a string without lines and/or spaces (e.g. reference credit number **97**14123412, where 97 is the model number and 14 is the control number which is, in accordance with regulations, calculated according to model 97 for string 123412). In the event of generation of the IPS QR code with the identification code "RT" and "EK", the payment service provider of the merchant (acquirer) may use this tag to generate the reference which identifies the transaction at the point of sale and which represents the unique payment identifier, also taking into account the need for correct identification of the merchant's till where it is possible to issue the payment request, for the purpose of unambiguous identification of the till during the execution of the payment transaction.

Tag **RL**: *payee's reference* means supplementary data for the payer/payee in free form.

Tag **RP**: *reference identifying transaction at the point of sale* means a unique payment identifier, with total length of 19 characters in the following format: [TID 8a][Year 2n][Julian day – ordinal number of days in a year 3n][Transaction number 6n]. Each part of the reference must have a defined number of characters and the leading zeros must therefore be entered. TID (terminal identification) means the unique identification code defined by the payment service provider of the merchant (acquirer) for each merchant's till where it is possible to issue the payment request, for the purpose of unambiguous identification of the till during the execution of the payment transaction.


The payment service provider cannot change the fields marked as unalterable after scanning the IPS QR code.

The exception to this rule is the amount on printed bills-invoices, marked as M(p) – mandatorily alterable. Also, in presenting the IPS QR code by the payer (buyer), the field ‘payment purpose’ must not be changed by the application if already completed by the buyer, designated as O(n) – optionally unalterable.

Entry format

Each field is specified as a pair of the defined tag and content of the field. Fields are separated by the delimiter – (|). The last field in the content ends with the end of the entry. The delimiter cannot be a part of the field content. Tags of optional fields are not specified in the IPS QR code if they do not contain a value.

Example of the IPS QR code

| | |
|------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Image size: 25 mm x 25 mm | |
|  | M level of correction K:PR V:01 C:1 R:845000000040484987 N:JP EPS BEOGRAD BALKANSKA 13 I:RSD3596,13 P:MRĐO MAČKATOVIĆ ŽUPSKA 13 BEOGRAD 6 SF:189 S:UPLATA PO RAČUNU ZA EL. ENERGIJU RO:9716322000011111111000 |