

C Configuration Strings

Configuration strings ("TKM strings") are transferred in BMP 60 for configuration diagnostic. There are two types of configuration strings: those with strings marked (*) are generated by the FEP at the run-time. The other strings are stored on the FEP. Their syntax is agreed between the network provider and terminal manufacturer. They are checked by the FEP. Should a terminal receive a TKM string that can't be interpreted, so it has to be ignored, and for the diagnostic confirmation (TCC), the return code 01 must be sent in BMP60 for this string.

To prevent redundancy and collisions with IDs issued by the FEP, the following procedure has been defined for issuing new IDs.

Network providers or terminal manufacturers suggest new IDs to ZVT-H and possibly specify the syntax.

- ZVT-H checks if the ID has already been issued and then reserves it.
- ZVT-H accepts the ID and – if not exclusively reserved – the syntax for the next ZVT version.

The following configuration strings (in alphabetical order) are currently defined.

Request

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| AN | 2 | "AJ" | reserved |
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| AN | 2 | "LF" | Identification for log file for loading terminals |
| B | 1 | ? | Length of the subsequent string in bytes |
| ANS | ? | | Log data |

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| AN | 2 | "SD" | <p>Upload from statistical data</p> <p>The complete statistical data is distributed across a sequence of individual records. The records are numbered consecutively per sequence beginning with 01. Each record is sent to the FEP within a string. The strings can be distributed across several request messages, however, they do not have to be sent in the sequence of their numbering. The record size is restricted using the maximum string length.</p> <p>Each record begins with the prefix xx/yy. yy is the number of records on which the statistical information is distributed. xx is the number of the record within the sequence. The actual information follows the prefix.</p> |
| B | 1 | ≥ 5 | Length of the subsequent record in bytes |
| N | 2 | | Number of the record within the sequence |
| S | 1 | / | Separator |
| N | 2 | | Number of records within the sequence |
| ANS | ? | | User data of the record |

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| AN | 2 | "KD" | Upload of configuration data The uploading of configuration data takes places in the same way as the statistical data. |
| B | 1 | ≥ 5 | Length of the subsequent record in bytes |
| N | ≥ 5 | | Configuration data record |

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| AN | 2 | "KI" | Reserved |
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| AN | 2 | "JD" | Identification for journal data (elektronisches Händlerjournal) |
| B | 1 | ? | Length of the subsequent string in bytes |
| ANS | ? | | Journal data (see chapter 14) |

The request IDs can also be contained in the response from the FEP with length 1 and "?", whereby the terminal is requested to upload the corresponding data.

Response:

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| AN | 2 | "A1" | Reserved |
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| AN | 2 | "A2" | Reserved |
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| AN | 2 | "AB" | Upon receipt of this string the terminal is not permitted to perform any further payment transactions – the terminal is "Out of Service". Only extended network diagnostics and configuration diagnostics are still permitted. The string content of the "Out of Service" message must be printed on the receipt once. |
| B | 1 | ? | Length of the subsequent Out-Of-Service message in bytes |
| ANS | ? | | Out-Of-Service message |

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| AN | 2 | "AE" | automatic electronic-Cash |
| B | 1 | 00 ? | Turn off or length of the response codes (max. 5 response codes) |
| AN | ? | ? | Response code which should initiate an automatic electronic-Cash transaction |

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| AN | 2 | "AF" | reserved |
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| AN | 2 | "AM" | reserved |
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| AN | 2 | "AN" | Identification for job number (e.g. maintenance job) |
| B | 1 | | Length of the job number |
| ANS | ? | | Job number |

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| AN | 2 | "AO" | automatic OLV (online direct debiting scheme) |
| B | 1 | 00 ? | Turn off or Length of the response codes (max. 5 response codes) |
| AN | ? | ? | Response code which should initiate an automatic OLV transaction |

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| AN | 2 | "AR" | reserved |
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| AN | 2 | "AS" | reserved |
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| AN | 2 | "AT" | reserved |
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| AN | 2 | "AV" | Reserved |
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| AN | 2 | "AW" | Reserved |
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| AN | 2 | "B1" | Reserved |
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| AN | 2 | "B2" | Reserved |
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| AN | 2 | "B3" | Reserved |
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| AN | 2 | "BN"(*) | <p>New receipt number (Belegnummer, obtainable by select diagnostic)..</p> <p>The highest receipt number from the transactions saved on the FEP, but not yet gone to clearing, is sent. If this is a valid transaction the terminal must increment the received number by one in order to obtain a valid receipt number for the next transaction. In addition, the receipt numbers of offline transactions which are stored in the terminal are to be taken into account.</p> <p>If the terminal receives "0000", it is free to select a receipt number and must only take the offline transaction into consideration.</p> |
| B | 1 | 4 | Length of the receipt number |
| N | 4 | | Receipt number. |

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| AN | 2 | "BT" | Receipt text field |
| B | 1 | | Length of the subsequent configuration string in bytes. |
| B | 1 | | Tag |
| B | 1 | | Text format |
| ANS | ? | | Text |
| B | 1 | X'80' | End mark |
| ANS | 16 | | Standard entry |
| B | 1 | | Parameter 1 |
| B | 1 | | Parameter 2 |
| B | 1 | | Parameter 3 |
| B | 1 | | Text format for field name |
| ANS | ? | | Field name |
| B | 1 | X'80' | End mark |

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| AN | 2 | "BV" (*) | BMP encryption (format description in chapter 13.5.1). |
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| AN | 2 | "BZ" | reserved |
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| AN | 2 | "CC" | reserved |
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The activation of the function "contactless", as well as a subsequent blockade can be performed per configuration diagnostic via TKM tag "CL" (until the implementation of [DC_POS], Version 3.0). When a terminal doesn't receive a card type ID in a TKM CL, the contactless functionality is then blocked. In each case, the last values being transferred via TKM CL are valid. This means, that at a new sending of the TKM the card type ID is already activated per TKM CL have to be blocked, if these have not been transferred in the current TKM CL.

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| AN | 2 | "CL" | Configuration „contactless“ |
| B | 1 | | Length of the following configuration string in byte |

Followed by up to eleven times the following block

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| NP4 | 2 | | Contactless card type_ID |
| NP12 | 6 | | Floorlimit_Amount Up to this amount contactless payments can be operated offline. (Last two digits = cents without comma). |
| NP12 | 6 | | Max_Amount Up to this amount contactless payments can be operated online/ offline, i.e. when exceeding the max_amount, the payment will be operated contact afflicted. |
| NP12 | 6 | | NoCVM_amount Defines an amount up to which contactless payments can be oper- ated without PIN request. |
| AN | 1 | "J" or "N" | Retailer receipt print NoCVM Defines, if a retailer receipt print should occur within the NoCVM amount or not. |
| AN | 1 | "J" or "N" | Customer receipt print NoCVM Defines, if a customer receipt print should occur within the NoCVM amount or not. |

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| AN | 2 | "CN" | Card name. |
| B | 1 | | Length of the subsequent configuration string in byte. |

followed by one or more of:

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| ANS | 1 | "/" | Separator. |
| X | 4 | | Card-type-ID (appendix B) in hexadecimal notation; values of each digit '0'-'9', 'A'-'F', right-justified with leading zeroes. |
| ANS | 1 | "/" | Separator. |
| ANS | ..16 | | Card system name for printout on display. |
| ANS | 1 | "/" | Separator. |
| ANS | ..16 | | Card system name for printout on transaction receipts. |

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| AN | 2 | "DB" | Reserved |
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| AN | 2 | "DC" | Dynamic Currency Conversion (DCC) |
| B | 1 | | Length of the subsequent configuration string in byte. |
| AN | 1 | | 'J': activation of DCC 'N': deactivation of DCC |
| N | 12 | | (De-)Activation time, format YYYYMMDDhhmm. |
| N | 8 | | Maintenance job number, present only on activation. |

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| AN | 2 | "DF" | reserved |
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| AN | 2 | "DO" | reserved |
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| AN | 2 | "DP" | Reserved |
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| AN | 2 | "DR" | Download of new configuration parameters from the initialization system. |
| B | 1 | ? | Length of the subsequent connection string in bytes. |
| ANS | ? | | As in "FR" |

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| AN | 2 | "EA" | reserved |
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| AN | 2 | "EF" | reserved |
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| AN | 2 | "EK" | reserved |
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| AN | 2 | "EM" | reserved |
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| AN | 2 | "ER" | reserved |
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| AN | 2 | "EU" | Taxfree with EU Tax Free (EUTF) |
| B | 1 | ? | Length of the following data in bytes |
| B | 1 | X'01' | Tag for Tax-Rate 1 |
| B | 2 | | Tax-Rate 1 Byte 1 contains the digits in front of the decimal point, byte 2 the digits after the decimal point (binary) E.g. x'13 x'00 for 19.00% Must be agreed between the network operator and terminal vendor |
| B | 1 | X'02' | Tag for Tax-Rate 2 |
| B | 2 | | Tax-Rate 2 Byte 1 contains the digits in front of the decimal point, byte 2 the digits after the decimal point (binary) E.g. x'07' x'00' for 7.00% |
| B | 1 | X'03 | Tag for Tax-Rate 3 |
| B | 2 | | Tax-Rate 3 Byte 1 contains the digits in front of the decimal point, byte 2 the digits after the decimal point (binary) E.g. x'05' x'00' for 5.00% |
| B | 1 | X'04' | Tag for minimum amount, Tax-Rate 1 |
| B | 2 | | Minimum amount, Tax-Rate 1 in cents (binary) E.g. x'09' x'C4' for €25.00 |
| B | 1 | X'05' | Tag for minimum amount, Tax-Rate 2 |
| B | 2 | | Minimum amount, Tax-Rate 2 in cents (binary) E.g. x'13' x'88' for €50.00 |
| B | 1 | X'06' | Tag for minimum amount, Tax-Rate 3 |
| B | 2 | | Minimum amount, Tax-Rate 3 in cents (binary) E.g. x'1B' x'58' for €70.00 |
| B | 1 | X'07' | Tag whether ID card number is required |
| B | 1 | | X'00': ID card number optional (default) X'01': ID card number required |
| B | 1 | X'08' | Tag whether customer identification number is needed (loyalty card etc.) |
| B | 1 | | X'00': customer identification number optional (default) X'01': customer identification number required |
| B | 1 | X'09' | Tag whether the customer's country code is required |
| B | 1 | | X'00': customer's country code optional (default) X'01': customer's country code required |

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| AN | 2 | "F1" or "F2" | Original or substitute connection string for the file transfer host (same format as "FR") |
| B | 1 | ? | Length of the subsequent configuration string in bytes. |
| ANS | ? | | Host's telephone number. |
| S | 1 | "/" | Separator. |
| N | ? | | Host's DatexP-Nr |
| A | 1 | "D" | Separator |
| AN | ? | | Host's User-Data |

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| AN | 2 | "FA" | Reserved |
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| AN | 2 | "FB" | Fallback ec-Cash-Chip transaction to magnetic stripe if retry counter has expired. |
| B | 1 | 01 | Length of the subsequent configuration string in bytes. |
| ANS | 1 | "J" or "N" | Fallback function is switched on Fallback function is switched off |

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| AN | 2 | "FE" | reserved |
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| AN | 2 | "FK" | reserved |
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| AN | 2 | "FR" | Download of new terminal software from the initialization system. (Maintenance-PC) The string contains the parameters for the set up of a connection between the initialization system and terminal. It depends upon the type of communication between the initialization system and the terminal, which parameters are specified in the string data and which are of the length 0. |
| B | 1 | ? | Length of the subsequent connection string in bytes |
| ANS | ? | | Telephone number If IP: <IP-Address>:<port-id>, in this case, the further parameters are omitted. |
| S | 1 | "/" | Separator |
| N | ? | | Datex-P-Number, which is used after the set up of the telephone connection in the X.25-Call-Packet. |
| A | 1 | "D" | Separator |
| AN | ? | | User-Data which is used after the set up of the telephone connection in the X.25-Call-Packet. |

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| AN | 2 | "FT" (*) | Data for file transfer data sets. |
| B | 1 | | Length of the subsequent data in byte. |

followed by one or more of:

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| ANS | 10 | | File type of the file transfer (filled with trailing blanks). The terminal ignores unknown file types. |
| N | 4 | | Version number of the file to request (with leading zeroes) |
| N | 6 | | Approximate file size in kByte (with leading zeroes) |

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| AN | 2 | "FV" (*) | File transfer encryption (format description see chapter 13.5.2) |
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| AN | 2 | "GB" | reserved |
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| AN | 2 | "GI" | Creditor ID; Syntax as per [EUR] |
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| AN | 2 | "GN" | reserved |
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| AN | 2 | "GR" | Tax free data for Taxfree via Global Blue (GBTF). This string (de)activates the tax free functionality and contains the tax free configuration parameters. |
| B | 1 | ? | Length of the subsequent data in bytes. |
| B | 1 | X'01' | Tag for GB activation / deactivation. |
| B | 1 | | GB activation / deactivation X'00' (No Refund; default), X'01' (pTFS: standard TFS) X'02' (xTFS: auto-fill functionalities) X'03' (eTFS: full electrical TFS) |
| B | 1 | X'02' | Tag for Tax Mode |
| B | 1 | | Tax Mode X'00' (automatic; default), X'01' (ask) |
| B | 1 | X'03' | Tag for Tax Vat |
| B | 1 | | Tax Vat X'00' (tax rate 1; default), X'01' (tax rate 1 and 2) |
| B | 1 | X'04' | Tag for ID-Card number (no longer used in the future) |
| B | 1 | | ID-Card number X'00' (no ID-Card number; default), X'01' (with ID-Card number) |
| B | 1 | X'05' | Tag for invoice number/quantity |
| B | 1 | | Invoice number / quantity X'00' (don't ask; default), X'01' (ask for number of invoices), X'02' (ask for invoice number mandatory) X'03' (ask for invoice number, optional) |
| B | 1 | X'06' | Tag for Print Refund Receipt |
| B | 1 | | Print Refund Receipt X'00' (default): Execution of the tax free transaction at the terminal; after execution: print tax free Cheque ⁶ (printer selection according to tag X'07'), don't print tax free refund receipt ⁷ . X'01' (print receipt): Execution of the tax free transaction at the terminal; after execution: print tax free cheque (printer selection according to tag X'07'), print tax free refund receipt (possibly with additional |

⁶ The tax free cheque is used to be presented at the cash refund – counter of global refund (after passing customs).

⁷ Unlike the tax free cheque, the tax free refund receipt is used only as an information about the tax free transaction.

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| | | | Information about the tax free cheque issuer) on standard printer ⁸ . X'02' (print only receipt): no execution of the tax free transaction at the terminal, after tax free hint: print text for tax free hint (possibly with additional Information about the tax free processing instance) on standard printer. |
| B | 1 | X'07' | Tag for printer selection |
| B | 1 | | Printer selection for printing tax free cheque ⁹ X'00' standard printer of the terminal or cash point; default, X'01' network printer X'02' serial printer |
| B | 1 | X'08' | Tag for tax rate 1 |
| B | 2 | | Tax rate 1 1 st byte contains the integer digit, the 2 nd byte the fractional portion. e.g.: X'10' X'00' for 16.00 % (default) |
| B | 1 | X'09' | Tag for tax rate 2 (reduced tax rate) |
| B | 2 | | Tax rate 2 1 st byte contains the integer digit, the 2 nd byte the fractional portion. e.g.: X'07' X'00' for 7.00 % (default) |
| B | 1 | X'0A' | Tag for minimum value tax rate 1 |
| B | 2 | | Minimum value tax rate 1 in cent e.g. X'09' X'C4' for 25.00 Euro (default) |
| B | 1 | X'0B' | Tag for minimum value tax rate 2 (reduced tax rate) |
| B | 2 | | Minimum value tax rate 2 in cent e.g. X'13' X'88' for 50.00 Euro (default) |
| B | 1 | X'0C' | Tag for printer IP address |
| B | 4 | | IP address of printer each byte represents one number of the IP address, e.g.: X'FF' X'00' X'FF' X'00' for 255.0.255.0 X'00' to X'FF' for each byte |
| B | 1 | X'0D' | Tag for printer IP port |
| B | 2 | | Port of the printer X'00' X'00' to X'FF' X'FF' |
| B | 1 | X'0E' | Tag for DNS name |
| B | 1 | | Length of the DNS name |

⁸ Makes sense in combination with values 0x01 or 0x02 in tag 0x07.

⁹ This tag has no meaning, if Tag 0x06 contains the value 0x02.

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| | | | minimum 3, maximum 64 |
| ANS | 3 ... 64 | | DNS Name alphanumeric: at least 3 characters, max 64 characters. |
| B | 1 | X'0F' | Tag for currency conversion |
| B | 1 | | Currency conversion on/off X'00' (No currency conversion; default) X'01' (currency conversion) |
| B | 1 | X'10' | Tag for eTFS paper receipt |
| B | 1 | | Print paper receipt at eTFS X'00' (print receipt; default), X'01' (do not print) |
| B | 1 | X'11' | Tag for GB Services |
| B | 1 | | GB Services X'00' (Standard Layout; default), X'01' (Green Service), X'02' (FSS) |
| B | 1 | X'A0' | Tag for country code |
| B | 2 | | Merchants country code 280 decimal (X'01' X'18' hex.) for Germany, 40 decimal (X'00' X'28' hex.) for Austria. |
| B | 1 | X'A1' | Tag for connection hold |
| B | 2 | | Terminal holds the line X'00' disconnected (default) X'01' hold the line The terminal can hold the line after the payment transaction, if no further input is needed. |
| B | 1 | X'A2' | Tag for GB-card information given only if GB activation with value X'02' (xTFS) or X'03' (eTFS) in Tag 0x'01'. |
| B | 1 | | Number of GB-card prefixes. |
| Followed by the information for each card prefix. | | | |
| NP | 4 | | GB card prefix filled with trailing 'F', e.g. 0x74 0x49 0x10 0x0F for 7449100 (FSS Card). |
| B | 1 | | Length of GB card number Values: minimum 9, maximum 19 |

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| AN | 2 | "GS" | Activation of refunds. |
| B | 1 | ? | Length of the following data in bytes |
| AN | 2 | | Amount ("00" – "FE") for banking card according to the limit definitions in chapter 8.6; Hex-values in ASCII representation, 00 = blocked. |
| N | 3 | | Numeric currency code (e.g. "978" for Euro). |

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| AN | 2 | "HI" | Merchant journal contents (new, see chapter 16.3). |
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| AN | 2 | "HJ" | Merchant journal configuration (old, see chapter 16.3). |
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| AN | 2 | "HS" | Merchant journal switch (see chapter 16.3). |
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| AN | 2 | "I1" – "I4" | Fallbacks to "IN": Connection strings to communication with the initialization system. |
| B | 1 | ? | Length of the following connection strings in byte. |
| ANS | ? | | Analogue to "FR". |

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| AN | 2 | "IB" | In-Service This string revokes the "Out of Service" string. The string content, the In-Service message, must be printed once on the receipt after it has been received. |
| B | 1 | ? | Length of the subsequent In-Service message in bytes. |
| ANS | ? | | In-Service message. |

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| AN | 2 | "IC" | Reserved |
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| AN | 2 | "IK" | Reserved for Ingenico |
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| AN | 2 | "IN" | Connection string for communication with the initialization system. |
| B | 1 | ? | Length of the subsequent connection string in bytes. |
| ANS | ? | | Similar to "FR". |

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| AN | 2 | "IT"(*) | Exception (see chapter 8.3.1): merchant info which is transferred in BMP 60 of a "normal" response. |
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| AN | 2 | "KA" | Reserved. |
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| AN | 2 | "KB" | Configuration of the reconciliation receipt. |
| B | 1 | ? | Length of the subsequent connection string in bytes. |
| AN | 1 | "J" "N" | Print transaction overview YES NO |
| ANS | 1 | "/" | Delimiter. |
| AN | 1 | "J" "N" | Global configuration for the account information. Print extended form for all card type ids Do not print extended form for all card type ids |

Followed by up to n times: (n >=0; length value has to be regarded)

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| ANS | 1 | "/" | Delimiter |
| X | 4 | | Card type ID (appendix B) in hexadecimal notation; values of each digit '0'-'9', 'A'-'F', right-justified with leading zeroes. |
| ANS | 1 | "/" | Delimiter. |
| AN | 1 | "J" "N" | Card type ID – specific configuration for the presentation of the sales information. Print extended presentation of the referenced card type ID. Do not print the extended presentation of all card type ID. |

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| AN | 2 | "KG" | Creditor IDs for account selection / account splitting. Syntax as per [EUR] |
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| AN | 2 | "KH" | Reserved |
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| AN | 2 | "KK" | Payment methods for which account splitting is allowed. |
| B | 1 | 11 | Length of the information. |
| ANS | 5 | "MZG:x" | X= yes or no: account splitting allowed for payment methods with payment guarantee (electronic cash, electronic chip, Maestro, GeldKarte). |
| S | 1 | "/" | Separator. |
| ANS | 5 | "OZG:x" | X= yes or no: account splitting allowed for payment method without payment guarantee (Online direct debiting scheme, ELV (EDD), credit card, private label card). |

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| AN | 2 | "KL" | reserved |
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| AN | 2 | "KS" | Time-controlled reconciliation (ZKS). |
| B | 1 | 6 | Length of the information. |
| N | 1 | | <p>On which day</p> <ul style="list-style-type: none"> 0 ZKS is blocked, only manual reconciliation permitted 1 ZKS daily, if transactions are present 2 ZKS daily, even if no transactions are present 3 ZKS Monday – Friday 4 ZKS Monday – Friday, even if no transactions are present 5 ZKS Monday – Saturday 6 ZKS Monday – Saturday, even if no transactions are present |
| N | 1 | | Number of repeated attempts (0-9): for manual reconciliations. |
| N | 4 | | Time of forced reconciliation in the format hhmm;0000 for manual reconciliation. |

| | | | |
|----|---|----------|---|
| AN | 2 | "KT" (*) | ID for account splitting data (Konto-Teilung). |
| B | 1 | ? | Length of subsequent strings in bytes |
| N | 1 | | <p>Account splitting status for the terminal</p> <p>0 No account splitting, account splitting data not permitted in BMP 60 of the authorization request.</p> <p>>0 Terminal must send account splitting data in BMP 60 of the authorization request.</p> <p>1 The account splitting data sent completely replaces any possible existing data.</p> <p>2 Update: new accounts are updated; data for existing accounts and the account index of the default account are replaced, only sent after accounting splitting data with account splitting status 1 or 2. An account splitting data sequence always contains first a record with account splitting status 1 and, if required, one or more records with account splitting status 2, i.e. all data is always replaced; it contains no multiple splitting information for one account.</p> |

If the account splitting status >0, followed by...

| | | | |
|-----|---|-----|--|
| ANS | 1 | "/" | Separator. |
| N | 2 | | Account index for the default account. |

Followed by up to 11 times:

| | | | |
|-----|------|-----|--|
| ANS | 1 | "/" | Separator. |
| N | 2 | | Account index. |
| ANS | ..13 | | Account or product group name. |
| ANS | 1 | "/" | Separator. |
| N3 | 3 | | Country code for the sub-account. |
| ANS | ? | | <p>Bank details for the sub-account. The format is subject to the country code. Currently defined are:</p> <p>Germany (280 or 276): 8 digit bank sort code and \leq 10 digit account number.</p> <p>Austria (040): 5 digit bank sort code and \leq 11 digit account number.</p> <p>France (250): 5 digit bank ID, 5 digit branch ID, \leq 11 digit account number, 2 digit check number..</p> |

| | | | |
|-----|----|------|---|
| AN | 2 | "KZ" | Time of reconciliation. |
| B | 1 | 10 | Length of the information. |
| ANS | 10 | | Time and date in the format YYMMDDhhmm. |

| | | | |
|----|---|------|-----------|
| AN | 2 | "LA" | Reserved. |
|----|---|------|-----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "LE" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "LG" | reserved |
|----|---|-------------|----------|

| | | | |
|-----|----|-------------|---|
| AN | 2 | "LO" | Terminal logo management |
| B | 1 | ? | Length of subsequent string |
| AN | 2 | | 00: disabled 01: enabled |
| ANS | 1 | "/" | Separator |
| N | 12 | | (De-)activation time in format YYYYMMDDhhmm |
| ANS | 1 | "/" | Separator (optional, only if the next parameter is present) |
| AN | 8 | | Maintenance assignment number, only present for activation |

| | | | |
|-----|----|-----------------|---|
| AN | 2 | "LZ" (*) | Tag for load terminal information |
| B | 1 | 70 | Length of the information |
| NP | 18 | | Account data terminal account (BMP 60 of the loading request) |
| NP | 18 | | Account data fee account (BMP 60 of the loading request) |
| NP | 16 | | Provider BLZ (Bank sort code) (BMP 42 of the loading request) |
| ANS | 40 | | Site (BMP 43 of the loading request, in EBCDIC) |
| NP | 6 | | AS-ID (BMP 33 of the loading request) |
| B | 1 | | XOR byte |

| | | | |
|----|---|------------------------|----------|
| AN | 2 | "M0" – „M9" | reserved |
|----|---|------------------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MA" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MB" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MC" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MD" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "ME" | reserved |
|----|---|-------------|----------|

| | | | |
|----|----|-------------|--|
| AN | 2 | "MF" | reserved |
| AN | 2 | "MG" | reserved |
| AN | 2 | "MH" | reserved |
| AN | 2 | "MI" | reserved |
| AN | 2 | "MJ" | reserved |
| AN | 2 | "MK" | reserved |
| AN | 2 | "ML" | reserved |
| AN | 2 | "MM" | reserved |
| AN | 2 | "MN" | reserved |
| AN | 2 | "MO" | reserved |
| AN | 2 | "MP" | ID for automatic function call up |
| B | 1 | 14 | Length of subsequent configuration string in bytes |
| N | 12 | | DDMMYYYYhhmm = time in this format |
| AN | 2 | | Function number or function code |
| AN | 2 | "MQ" | reserved |
| AN | 2 | "MR" | reserved |
| AN | 2 | "MS" | reserved |
| AN | 2 | "MT" | reserved |
| AN | 2 | "MU" | reserved |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MV" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MW" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MX" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MY" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "MZ" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|--|
| AN | 2 | "NA" | Emergency on us authorization (without PIN), Syntax like "NE". |
|----|---|-------------|--|

| | | | |
|----|---|-------------|--|
| AN | 2 | "NE" | Emergency ELV |
| B | 1 | ? | Length of the subsequent configuration string in byte (05 – max 25). |
| AN | 2 | ? | Max. amount ("00 – FE"), hex-value in ASCII representation, 00 = blocked. |
| N | 3 | ? | currency code (978 = Euro). |
| AN | ? | ? | Response codes, which initiate emergency ELV, max.10, (response code F3: connection problems). |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "NK" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|--|
| AN | 2 | "NL" | ID for emergency use limit. |
| B | 1 | ? | Length of the subsequent configuration strings in bytes. |
| AN | 2 | | Amount ("00" – "FE") for bank debit card in accordance with limit definitions in chapter 8.6; Hexadecimal value in ASCII form, 00 = block. |
| N | 3 | | Numerical currency code (e.g. "978" for EURO). |

Optionally supplemented by the following block:

| | | | |
|----|---|--|--|
| AN | 2 | | Floor limit for 1 st additional card type (definition as above) |
| AN | 2 | | Floor limit for 2 nd additional card type (definition as above) |
| AN | 2 | | Floor limit for 3 rd additional card type (definition as above) |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "OB" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "OI" | reserved |
|----|---|-------------|----------|

| | | | |
|----|----|-----------------|--|
| AN | 2 | "OP" (*) | ID for OPT data |
| B | 1 | 15 | Length of the following data in bytes |
| NP | 14 | | OPT online time and date in YYYYMMDDhhmmss |
| NP | 16 | | Provider BSC (BMP 42) |

| | | | |
|----|-----|-----------------|---|
| AN | 2 | "PC" (*) | FEP – capabilities (obtainable by select diagnostic) |
| B | 1 | ? | Length of the following data in bytes |
| X | ... | | <p>Bitmap (unpacked) with the capabilities of the FEP. The length is dependant from the functionalities. Actually the length is 8 (32 bits of a bitmap in unpacked form).</p> <p>The following bits are defined:</p> <ol style="list-style-type: none"> 1 BMP encryption 2 E commerce 3 GeldKarte load transactions 4 Online registration for private label cards 5 GeldKarte loading against bank card 6 OPT initialization and personalization 7 OPT pre initialization 8 ELV pre authorization 9 DCC rate request 10 TKM notification diagnostic 11 file transfer transparent 12 electronic merchant journal 13 Redemption of bonuses 14 Fast select file transfer 15 EMV configuration transfer (0600) 16 Detailed reconciliation 17 Loading of GeldKarte at POS 18 E2EE 19 Partial approval 20 Online Key Exchange for AES terminals |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "PE" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|---|
| AN | 2 | "PK" | Provider-ID for a Prepaid-provider-profile to be activated. |
| B | 1 | ? | Length of the following data in bytes. |
| AN | ? | | Up to 3 bytes long provider-ID to be activated. The profile must have been loaded into the terminal before. If this field is missing (length 0), an existing profile may be deactivated. |

| | | | |
|----|---|-----------------|--|
| AN | 2 | "PM" (*) | PCI-Masking (format description see chapter 13.5.4). |
|----|---|-----------------|--|

| | | | |
|----|---|-------------|--|
| AN | 2 | "PN" | PIN-check on/off for special card types. |
| B | 1 | ? | Length of the subsequent data in byte. |

followed by one or more of:

| | | | |
|----|---|------------------|--|
| N | 5 | ? | Card type id according ZVT in ASCII (e.g. "00139") |
| AN | 1 | "E" or "A" | Pin-check activated Pin-check deactivated |

| | | | |
|-----|---|-------------|--|
| AN | 2 | "PR" | Download new PINPad software from the initialization system. |
| B | 1 | ? | Length of the subsequent connection string in bytes. |
| ANS | ? | | As in "FR". |

| | | | |
|----|----|-------------|---|
| AN | 2 | "PT" | Supplementary to "FR", "DR" and "PR" (optional). Date and time at which the software download should take place. If the download fails, the terminal can make up to 4 more attempts. The terminal must "give up" after the 5 th attempt. |
| B | 1 | 10 | Length of the subsequent time in bytes. |
| N | 10 | | Date in the format YYMMDDhhmm. |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "PU" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-----------------|--|
| AN | 2 | "PV" (*) | POSEIDON OLTP Version number (on the FEP). |
| B | 1 | 4 | Length of the version number in bytes. |
| N | 4 | | Numerical version number: for version 3.7, for example "0370". |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "PW" | reserved |
|----|---|-------------|----------|

| | | | |
|-----|---|-------------|---|
| AN | 2 | "R1" | Default connection string for communication with the FEP. |
| B | 1 | ? | Length of the subsequent connection string in bytes. |
| ANS | ? | | As in "FR". |

| | | | |
|-----|---|-------------|--|
| AN | 2 | "R2" | Replacement connection string for communication with the FEP. The connection string is used where the string ascertained via "R1" leads to an error in the connection set up. |
| B | 1 | ? | Length of the subsequent connection string in bytes. |
| ANS | ? | | Similar to "FR". |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "RA" | reserved |
|----|---|-------------|----------|

| | | | |
|-----|---|-------------|--|
| AN | 2 | "RC" | Reboot-Cronjob. |
| B | 1 | ? | Length of the following connection string in byte. |
| B | 1 | | Cronjob Modus X'00' (Deactivated, Default) X'01' (Activated) |
| N | 2 | | Hour of Cronjob's time (00-23) |
| N | 2 | | Minute of Cronjob's time (00-59) |
| ANS | 1 | | Weekday of Cronjob's time 0: Sunday ... 6: Saturday *: daily |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "RD" | Reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "RL" | Reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "S1" | Reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "S2" | Reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "SA" | Reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "SB" | Reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "SG" | Reserved |
|----|---|-------------|----------|

| | | | |
|-----|---|-------------|---|
| AN | 2 | "SK" | This string switches the master customer function on or off. The terminal operator is only able to select the payment procedure (ELV (EDD); Online direct debiting scheme,.....) when this is switched on. In other cases the payment procedure is determined via the terminal. |
| B | 1 | 1 | Length of the subsequent flags in bytes. |
| ANS | 1 | | 'J': Master customer function is one. 'N': Master customer function is off. |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "SP" | reserved |
|----|---|-------------|----------|

| | | | |
|-----|---|-------------|--|
| AN | 2 | "SW" | Supplementary to ""FR", ""DR" and ""PR" (optional). Software version number which the terminal is to load from the initialization system. |
| B | 1 | ? | Length of the subsequent version number in bytes. |
| ANS | ? | | Software version number. |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "T2" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "TA" | reserved |
|----|---|-------------|----------|

| | | | |
|-----|----|-------------|--|
| AN | 2 | "TC" | Parameter for Top-Up functionality for Callya card / Vodafone. |
| B | 1 | ? | Length of the information in bytes. |
| ANS | 24 | | Product name (e.g. "Xtra-Cash"). |
| N | 2 | | Number n of possible loading amounts. |

followed by n sequences in the form

| | | | |
|----|---|--|--|
| N | 3 | | Currency of amount to be topped up. |
| AN | 4 | | Loading amount in the largest unit of the currency (e.g. Euro and not Euro cent) with leading zeros. If an amount requires more than 4 positions (ital. Lire are no longer valid...), the last position can contain a "T" for thousand (e.g. "010T" = 10000). |

followed by a number of sequences in the form

| | | | |
|-----|-----|-----|--|
| AN | 2 | | Print attributes (see explanation in chapter 8.6); each position corresponds to a half-byte in hexadecimal format. |
| ANS | ... | | Print data for the TOP-UP receipt for a line; "/" is shown as "//". |
| ANS | 1 | "/" | Separator; can be omitted in the last sequence. |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "TD" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|---|
| AN | 2 | "TF" | Parameter for Top-Up functionality for Free card / E-Plus. Format as for "TC". |
|----|---|-------------|---|

| | | | |
|----|---|-------------|--|
| AN | 2 | "TI" | Supplementary to "FR", "DR" and "PR" (optional). Download record terminal ID which is to be requested from the initialization system. |
| B | 1 | 8 | Length of the subsequent terminal ID in bytes. |
| N | 8 | | Terminal-ID |
| AN | 2 | "TK" | reserved |

| | | | |
|----|---|-------------|--|
| AN | 2 | "TL" | Parameter for Top-Up functionality for Loop card / O2 Format as for "TC". |
|----|---|-------------|--|

| | | | |
|----|---|-------------|--|
| AN | 2 | "TP" | Terminal parameter string, has to be agreed between terminal manufacturer and network provider |
| B | 1 | ? | Length of the subsequent data in bytes. |

followed by one or more

| | | | |
|-----|---|-----|--|
| ANS | ? | | String in format <parameter number>=<parameter value>. |
| S | 1 | "/" | Separator |

| | | | |
|----|---|-------------|--|
| AN | 2 | "TR" | Transaction referencing (Format description: see chapter 15) |
|----|---|-------------|--|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "TT" | Reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|---|
| AN | 2 | "TW" | Taxfree with Premier Tax Free (PTF, formerly: Tax Free Worldwide). The syntax for this TKM string has not yet been conclusively clarified and will thus be published at a later time. |
|----|---|-------------|---|

| | | | |
|----|---|-------------|--|
| AN | 2 | "TX" | Parameter for Top-Up functionality for Xtra card / T-Mobil Format as for "TC" |
|----|---|-------------|--|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "V2" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|--|
| AN | 2 | "VF" | Encryption type for file transfer (format description see chapter 13.5.5). |
|----|---|-------------|--|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "VG" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-----------------|---|
| AN | 2 | "VK" (*) | Encryption card type (format description see chapter 13.5.3). |
|----|---|-----------------|---|

| | | | |
|----|---|-----------------|---|
| AN | 2 | "VU" (*) | VU-number for the receipt printout, if credit cards are authorized offline. |
| B | 1 | ? | Length of subsequent data in bytes. |
| B | 1 | X'FF' | Tag for the format version. |

followed by one or more (maximum 14)

| | | | |
|----|----|-------------|---|
| B | 2 | | Card type ID (see appendix B) |
| AN | 15 | | VU number (right aligned with leading blanks) |
| AN | 2 | "VP" | reserved |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "VZ" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "WA" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|---|
| AN | 2 | "WF" | Supplementary to "FR", "DR" and "PR" (optional) This string can be used as an alternative to "PT" in order to notify the terminal within which maintenance time frame the software download may take place. The terminal can use its own algorithm (number of attempts, time between attempts, ...) in order to contact the initialization system within the time frame. An "abort" as with "PT" is however not permitted. |
| B | 1 | | Length of window of time in bytes |
| AN | ? | | Up to 6 strings linked together in the format Whhmmhhmm time window for workdays Shhmmhhmm time window for Sundays Ahhmmhhmm time window for all days Two time frames are permitted per category. A time frame can not stretch across two days i.e. midnight. |

| | | | |
|-----|---|-------------|--|
| AN | 2 | "WT" | Advertising text for printing on the receipt. |
| B | 1 | ? | Length of the subsequent configuration string in bytes. |
| ANS | ? | | Advertising text: the printing format must be agreed between the network operator and terminal manufacturer. |

| | | | |
|----|---|-------------|----------|
| AN | 2 | "XD" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "XT" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|--|
| AN | 2 | "YA" | Reserved for Yapital, may possibly be released again in future versions. |
|----|---|-------------|--|

| | | | |
|----|---|-------------|--|
| AN | 2 | "YT" | Reserved for Yapital, may possible be released again in future versions. |
|----|---|-------------|--|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "Z0" | Reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "Z1" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "Z2" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|-------------|----------|
| AN | 2 | "ZA" | reserved |
|----|---|-------------|----------|

| | | | |
|----|---|------|---|
| AN | 2 | "ZB" | reserved |
| AN | 2 | "ZO" | reserved |
| AN | 2 | "Zo" | Reserved |
| AN | 2 | "ZS" | Reserved |
| AN | 2 | "ZT" | Reserved |
| AN | 2 | "ZW" | Code for forced authorization ec-cash. |
| B | 1 | ? | Length of the following data in bytes. |
| AN | ? | ? | Return code RC1..RC8, whereas RC1=00 deactivates the forced authorization. |
| AN | 2 | "Ax" | Display "Wiederholung?" with x = "J" (YES or "N" (NO). |
| AN | 2 | "Dx" | Printout on Online direct debiting scheme denial with x = "J" (YES) or "N" (NO). |
| | | | e.g.: ZW19RC151RC261RC365AJDN activates the forced authorization on return code 51, 61 and 65, whereas the Display is turned on and printing is turned off. |