External interface protocol for iSelf EFT/POS terminals

CONFIDENTIAL

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Changes History

Date	Description	Vers	Auth	Appr. By	Sw Comp.
15/06/2006	Creation of the English version, starting from the last Italian version. This version of the protocol is implemented on IngeEMV release **27.5x A** application package	2.1	VR		
23/06/2006	- Change to Sending Amount message (added Ticket number) - Changes to Financial Transaction End Message (renamed cash register echo with ticket number echo, modified length of this field; change length of approved amount from 12 to 8)				
29/09/2006	- Added commands for remote terminal management; Added Get Terminal Configuration command; Added Get Acquirer Information command; Added Get Acquirer Total Amounts command	2.2	MGP		
09/10/2006	- Added Get Gsm/Gprs State command	2.3	MGP		
17/05/2007	- Added Get Card Status command; Added Asynchronous messages from EFT/POS to PC with current status of the transaction, as indicated on the EFT/POS display;Added information on EMVCo Level 1 certification in the Get Terminal Configuration Response; Added detailed list of errors returned by the EFT/ POS; Added example of a ticket layout printed by the PC; Removed information about GPRS modem version from the Get Terminal Configuration Response; Changed the meaning of field 14 in the Maintenance Operation Response message (§3.8)	2.4	MGP VR		
22/10/2007	- Added support for Pre-authorization	2.5	MGP VR		
07/05/2008	- Changed support for Pre-authorization, added i9500 references	2.6	MGP VR		
19/12/2008	- Changed error codes table 2, added sample flows	2.7	MGP		
19/03/2009	- Modified ECR application to add the cancel command	2.8	MGP		
29/08/2009	- Modified command P for magnetic stripe track 2 and track 3 management	2.9	MGP		
08/1/2010	- Added a command to get from the terminal data about last EMV transaction	2.10	VR		
25/06/2010	- Added others error codes (Table 2)	2.11	MGP		

	- Added command "L", Start first dll				
16/07/2010	- Added command "r", log reset	2.12	MGP		EcrMngr 02.12
19/11/2011	- Added asynchronous message n. 71 and 72 - Added value "3" in the field Operation Type in Reversal transaction (this kind of value permits to reverse the last transaction without card insertion)	2.13	MGP		
20/12/2012	- Added operation type "9" to get bin in clear in §3.5 message result	2.14	MGP		
05/03/2013	- Added Multilanguage management	2.15	MGP		
07/04/2013	- Creation of iSelf Version starting from iiSelf - cLess flow - Messages translated in English - Asynchronous messages	2.16	DA		
15/05/2014	- Update Response to get eft/pos status	2.17	DA		
25/06/2014	Error code 90	2.18	DA		
26/08/2014	-Ethernet	2.19	DA		
28/08/2014	- Added Additional TAGs into; • "Start Operation Command message" • Financial Transaction Error Response message Financial Transaction End Response message	2.20	UA		
03/09/2014	Backward compatibility	2.21	DA		
01/10/2014	Replacing "p" with "M"	2.22	DA		
05/12/2014	Payment with card in	2.23	DA		
08/01/2015	Added Get Terminal Configuration Extended	2.24	DA		
05/02/2015	Retrieving last payment transaction result	2.25	DA		
05/03/2015	Restarting the device if iur is not recognized	2.26	DA		
01/04/2015	Sleep mode & Sharing Connectivity	2.27	DA		
20/10/2015	Modified Data Exchange Protocol in Sharing Connectivity	2.28	MP		
20/10/2015	Preauth New Release	3.00	DA MP		
05/01/2016	Automatic Reversal Deprecated Manual Reversal with "2" (preauthorization) and "3" (with card presentation) operation type.	3.01	DA		
26/01/2016	I commands, deprecated field amount in command I P Command Deprecated amount = 0 in command P Reset Log	3.02	DA MP		
30/03/2016	Format / Maintenance Answers	3.03	DA MP		
03/05/2016	Annex C; Multilanguage Flag ; LOG Download Command; Command 'i' removed.	3.04	DA MP		EcrMngr 09.35

18/01/2017	Deleted “R” command; Added ApplPN and CTQ to EMV Data	3.05	MP		EcrMngr 10.00
27/03/2017	Changed EMV Data Added Auto-Configuration Commands	3.06	MP		EcrMngr 10.15
22/12/2017	- Added AID_L14 field for backward compatibility. - Added Async Msg 73 (PIN ERRATO). - Added Switch option to Setup Termid Command - Added Get Advanced Terminal Configuration Command. - Corrected Terminal Status Table.	3.07	MP		EcrMngr 10.73
19/04/2018	- Added Setup Ethernet Parameters Command - Modified Setup/Switch Terminal Id Command - Modified Setup Options Command	3.08	MP		EcrMngr 10.98
08/06/2018	- Added Confirmation mode parameter in Start Operation Command - Added Service Id parameter in Financial Transaction End Response - Added Advice Command without card presentation - Added Emv Additional Data = “2” in Start Operation Command	3.09	MP		EcrMngr 11.06
15/11/2018	- Fixed Service Operation Response message - Added ReadCard Command	3.10	MP		EcrMngr 11.23
04/04/2019	- Added value “**”indicates indicates a fixed TAG.	3.11	FC		EcrMngr 11.41
10/07/2019	- Modified Financial Transaction Error Response message.	3.12	FC		EcrMngr 11.41
28/02/2020	- Added messages to manage PPP connection - Added Idle Verification message	3.14	MM		
12/03/2020	- Added Bill Payment Transaction	3.15	MM		
26/03/2020	- Little layout modifications	3.16	MM		
14/09/2020	- Added Switch to LLT command - Added Export Ingelogger log command	3.17	ATO		EcrMngr 12.76
23/09/2020	- Added Get CB2 certificate information Command.	3.17	ZCH		EcrMngr 12.79
04/12/2020	- Added Activate/Deactivate Ingelogger command	3.19	PMU		
29/06/2021	- Added P2PE app to the list of applications managed by command “A” (Get advanced terminal configuration) - Added Read line parameters command (“%”) - Added Get P2PE configuration command	3.20	ATO		

	("&")				
06/09/2021	- Added silent notification of transaction with final amount for fuel service by code "6: NOTIF_FUEL_SILENT" in command "P".	3.21	ABN		EcrMngr 43.50
15/09/2021	- Added "CARD NOT MANAGED" asynchronous message	3.22			
20/09/2021	- Modified Cancel answer description	3.23	GPI		
27/09/2021	- Modified Sleep answer description	3.24	MPT		
01/10/2021	- Added Dutch and Romanian languages	3.25	MTA		EcrMngr 43.55
28/10/2021	- New operation type for transit gateway token generation added to 'M' command	3.26	ATO		EcrMngr 13.60
17/11/2021	- Added 'w' Sleep Extended command	3.27	MTA		FGA 08.88 FGA 38.88 EcrMngr 13.61 EcrMngr 43.61

Summary

1_Introduction

This document provides a description of the interface protocol between the Ingenico iSelf terminal and an external device in charge of operate the payment terminal. Examples of external devices are Personal Computers, ECRs,Ticket Vending Machine,Parking Meeters,Pay on foot device.

This external device will be indicate as **PC** in the present document and the iSelf terminal as **EFT/POS** or as "terminal".

The services provided with the interface protocol are almost dependent by the functionalities provided by the payment application present on the EFT/POS terminal.

Considering the flexibility that iSelf can provide in term of Hw this protocol shall develop a seamless solution

The interface protocol provide the following main operations to the PC:

- Financial:
  - start a card payment transaction (**purchase**) with the amount of transaction provided to the EFT/POS Terminal by the PC and get back the results of the transaction completion. This is the normal one-step operation of payment with a credit or debit card
  - start a pre-authorization payment transaction (**pre-authorization**). In this case, the payment operation is splitted in 2 steps: in the first step, the PC ask the POS to make a transation to check that enaugh amount is available on the card; in the second step (notification), the PC ask the POS to make the card transaction to debit the card with the final amount. This function is implemented in a different way for fuel-petrol vending machines and for other services like ticketing distribution, etc.., then the PC needs to specify for which kind of service is asking the splitted payment. Only The pre-authorization operation for other vending machines can be reversed/canceled before to send the notification for that transaction. Only the last pre-authorized transaction can be canceled. See §5.2 for an example of transaction flow. The pre-authorization for fuel vending machines can be reversed sending zero amount in splitted paymente transaction (notification).
  - debit the card wih the final amount in splitted payment transaction (**notification**); this transaction *cannot* be reversed/canceled. See §5.2 for an example of transaction flow.
  - cancel the last purchase operation (**purchase reversal**).
  - cancel the pre-authorization operation (**pre-authorization reversal**). In case of vending machines different from fuel/petrol machines, only the last transaction can be canceled. See §5.3 for an example of transaction flow.
- Service:
  - get from the EFT/POS the total amount of sales, both the totals stored on the terminal and the totals stored on the bank host
  - activate a procedure of updating the terminal configuration getting new parameters from the bank
- Maintenance:
  - activate the EFT/POS to start accepting cards

- EFT/POS management operations

The interface protocol include functions compliant with the Italian national standard for the EFT/POS terminals [1] which is based on ISO8583 standard [3].

1.1 References

	Doc reference	Title	Date	Version
[1]	SPE/DEF/040	Specifiche per l'interfaccia Terminale POS – Gestore Terminali	01-02-2003	1.0.1
[2]	SPE/DEF/122	Requisiti funzionali per la rete di accettazione PagoBancomat	18/01/2006	1.1.0
[3]	ISO8583	Financial transaction card originated messages - Interchange message specifications	15/12/1993	
[4]	EMV-Book 3	EMV v4.1 Book 3 Application Specification	05-2004	4.1
[5]	Integration Guide	Integration Guide	01/06/2012	2.x
[6]	Bill Payment specs	Bill payment specifications	26/03/2020	1.0

1.2 Acronymous

	Name	Description (where not self-explaining)
AID	Application Identifier	EMV Application present on the chip card
AIID	Acquirer Identification	Identifier of the acquirer institution in charge of the transaction management
BIN	Bank Identification Number	
CRC	Cyclic Redundancy Check	Metodo per la generazione di un checksum per la verifica di integrità dei dati
CVM	Cardholder Verification Method	Metodo di verifica del titolare della carta
IFM	Interface Module	Smart Card reader
PAN	Primary Account Number	
PED	Pin Entry Device	
RFU	Reserved for Future Use	
TLV	Tag Length Value	
TMS	Terminal Management System	
GT	Terminal Banking Management	
iSelf	Ingenico Self Service	Unattended Device

1.3 Notations

A ASCII coded Value
B Binary hex value
"xx" Sequence of ASCII characters
0xnn Hexadecimal value

nn hex Hexadecimal value

2_ Physical interface and communication protocol

There are 3 ways to connect the iSelf:

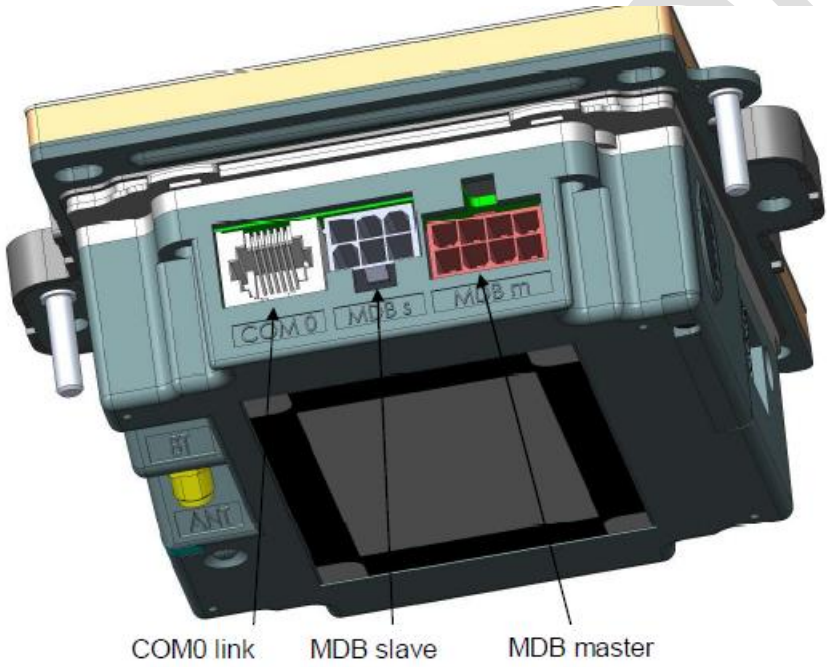
1) PC and EFT/POS are connected using the RS-232 serial line and a special cable provided by Ingenico. The port to be used on the iSelf terminal for the connection with the PC is the **COM 0.**

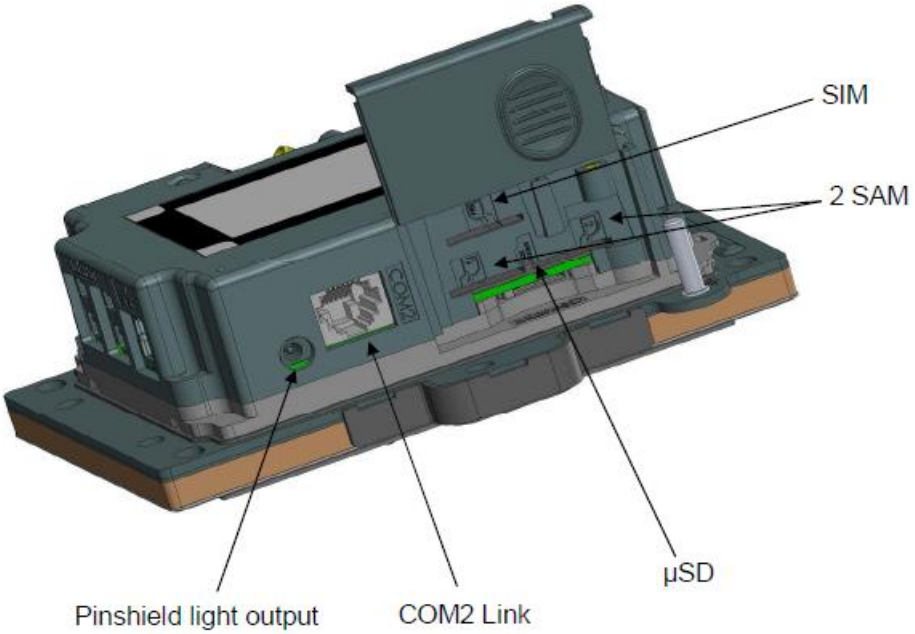
2) PC and EFT/POS are connected using the USB serial line. The port to be used on the iSelf terminal for the connection with the PC is the **USB Device.**

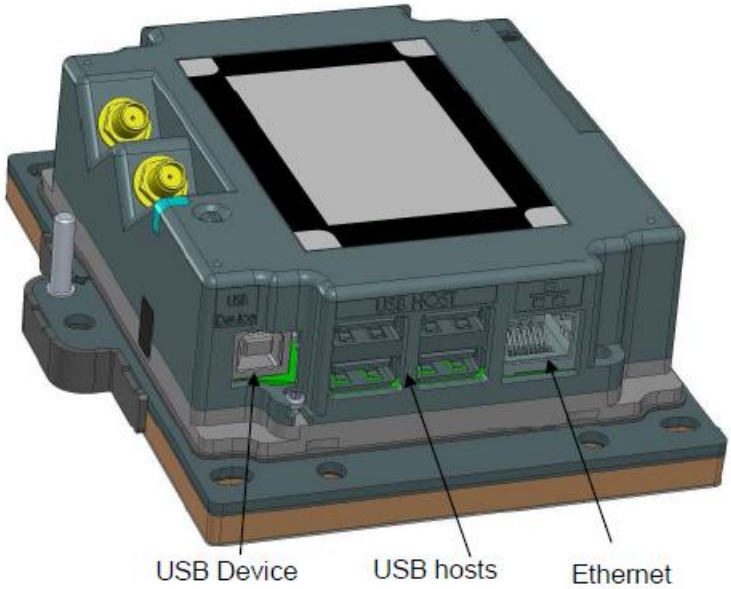
3) PC and EFT/POS are connected using Ethernet tcp\ip and a standard cable

Since the iSelf can work in different configurations please referrer to the installation guide to port connection

The following figures shows all the connection ports present in the iSelf Pin Pad terminals.







View of iSelf connections

The default parameters used for the serial line are the following:

baud rate = 115200 bit/s
Stop bit = 1
Parity = None
Bit/char = 8

In the present version of the interface protocol, is not allowed to change these values.

Any operation is always started by the PC sending to the EFT/POS a command message.
At each command is associated an answer from the EFT/POS.

The command and answer messages are wrapped in the following packet.

STX (02 hex)	Command/answer message	ETX (03 Hex)	LRC (xx hex)

LRC byte is calculated with an operation of Exclusive OR (XOR) on all the bytes of the packet, including STX and ETX, and making a XOR of the result of this operation with the value 7F hex.
Before to execute the command, the receiver of the packet, must check that the packet has been received correctly, calculating the LRC and comparing the calculated value with the received one.
If the LRC is wrong, the receiver sends a NAK byte (15 hex) to refuse the message.

If LRC is correct, the receiver checks that the command/answer message is formally correct:

- if there is a formal error, the receiver send a NAK to refuse the message
- if the message is correct, the receiver send an ACK (06 hex) to the sender and start executing the message.

A pair retransmits the same message, for a maximum of 3 attempts, if one of the following conditions become true:
- a NAK is received
- a timeout of 3 seconds is expired without to get an ACK

After the 3 attempts, the pair terminate the transaction.

All the command/answer messages are composed by fields with fixed length, even if some field is not filled with a valid value.

3_Command Messages

3_1 Start Operation Command message (PC -> EFT/POS)

This command is sent from the PC to start operations on the EFT/POS. The operations activated with this command, are divided in :

- Financial
- Service
- Maintenance

Examples of flows for these operation are reported in the chapter 5.

WITHOUT ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Multilanguage flag	‘0’, for system language (default) ‘1’, for Italian ‘2’, for German ‘3’, for Spanish ‘4’, for Portuguese (not available) ‘5’, for French ‘6’, for English ‘7’, for Dutch ‘8’, for Romanian
11	1	A	Command Code	See Table 1 for possible codes
12	1	A	Activate Asynchronous Messages	“1” (0x31) request the EFT/POS to send asynchronous messages (see Chap. 4); this function can be activated only for the operations “P” (payment), “S” (reversal) and “C” (Close Session) “0” (0x30) the PC don’t ask for asynchronous messages; this is the normal situation
13	1	A	Operation type	This field is used to specify the type of operation requested. The following values are valid only for “P”, “M”, “S” and “w” commands.

				For all the other commands, these 15 bytes field of the position 13, are filled to 0x30 (RFU) Codes for "P" command: "0" (0x30) purchase transaction "1" (0x31) pre-authorization for fuel service "2" (0x32) pre-authorization for other services "3" (0x33) notification of transaction with final amount for fuel service "4" (0x34) notification of transaction with final amount for other services "5" (0x35) notification of transaction with final amount for other services without card presentation (needed HOST customization) (see 3_2) "6" (0x36) notification of transaction with final amount for fuel service without card presentation in silent mode (i.e. without any display on the terminal) "8" (0x38) purchase transaction with card in Codes for "S" command: "3" (0x33) reversal without card insertion request, it will be reverse only the last transaction payment Codes for "w" command: "1" (0x31) Light sleep mode "2" (0x32) Deep sleep mode Invalid values are ignored.
14	2	A	Transaction identifier	This identifier is used to identify a complete operation of split payment (pre-authorization + notification). The PC has to specify this identifier in the pre-authorization requests ("P","M" with type="1" or "2"), in the notification requests ("P" with type ="3" or "4" or "6") and in the reversal requests ("S" with type = "2"). The PC shall store the identifier used in the pre-authorization request and use the same identifier when will send the notification requests or the pre-authorization reversal requests. The identifier is coded on 2 digit, in ASCII: example "05" (0x30 0x35) with the Most significant digit is in position 14 and the less significant digit is in position 15 . Valid values are from "01" to "99".

				For purchase operations (“P”,”M” command with type=”0”) and purchase reversal operations (“S” command with type=”0”) this field is not used and can be filled to “0” (0x30)
16	8	A	Final amount to debit	The amount is coded in hundredth of euros, filled with “0” (30 hex) characters on the left E.g.: “00004532” for € 45,32 For “w” command: It is the delay before entering the sleep mode. It must be between 10 and 99999 for SELF terminals. It must be 0 to disable sleep mode. Invalid values are ignored.
24	1	A	EMV Additional Data	“1” (31 hex) EMV Additional Data (**DEPRECATED**) “2” (31 hex) EMV Additional Data Ext
25	1	A	Confirmation mode	“0” STANDARD: “I” message only for chip or mag cards. “1” FORCED: “I” message for each card type. “2” DISABLED: “I” message never transmitted.
26	1	A	RFU	This field is not used and has to be filled to “0” (0x30)
27	1	A	FIXED	“*” (0x2A)
28	12	A	Preauth code	This field is used only for notification operation for other vending machines (“P”,”M” command with type = “4”) . If not used it has to be filled with “0”. For backword compatibility the field can be missing (deprecated)
40	1	B	Etx (03 hex)	
41	1	B	Lcr	

3_1_1 TABLE 1 (Command Available)

Ascii Value	Hex	Command Name	Description
“P”	50	Payment	Start a purchase transaction; For notification operation (“P” command with type = “3” or “4” or “6”). For purchase after slave session with passage of magstripe tracks (“P” command with type = “5”) See §3_8 if successful, see §3_7 if not successful

"M"	4D	Payment with additional tag	Start a purchase transaction; For notification operation ("M" command with type = "3" or "4"). For purchase after slave session with passage of magstripe tracks ("M" command with type = "5") See §3_8 if successful, see §3_7 if not successful
"V"	56	Get EMV Transaction Data	Deprecated. For Backward compatibility see Appendix C. This command is used to retrieve the EMV data of the last transaction. The command can be sent to the POS only following an EMV transaction (approved or declined). See §9_4 for the answer to this command.
"S"	53	Reversal	Start a reversal of the last purchase; if successful, the last purchase is cancelled by the bank.
"Q"	51	Bank Totals	Start a transaction to get the total amounts from the bank (in Italian "quadratura contabile"); see §3_12 for the response message to this command.
"T"	54	Local Totals	Start a transaction to get the local amounts stored on the EFT/POS; see §3_12 for the response message to this command.
"C"	43	Close Session	Ask the EFT/POS terminal to close the daily session with the bank (in Italian "chiusura contabile"); see §3_12 for the response message to this command.
"D"	44	DLL	Start the transaction of downloading terminal parameters from the bank (Italian specific function of "DLL manuale"); this operation is normally performed at the terminal installation using the terminal menus; see §3_12 for the response message to this command.
"L"	4C	First Dll	Start the transaction of downloading terminal parameters from the bank (Italian specific function of "Primo DLL "); this operation is normally performed at the terminal installation using the terminal menus; this operation is possible only if all the configuration parameters has been set . See §3_12for the response message to this command.
"U"	55	LOG Download	Start a maintenance transaction with the bank (Italian specific function of "scarico LOG"); see §3_12 for the response message to this command.
"a"	61	Activate EFT/POS	Activate the EFT/POS to accept financial transaction, enabling the user operations (insert card and use the keyboard); this command is mandatory after the EFT/POS boot and/or at EFT/POS power-on; see §3_15 for the response message to this command.

“d”	64	Deactivate EFT/POS	Deactivate the EFT/POS, disabling the user operations; after this command, the EFT/POS will not accept “P”,”M”, “S” commands until an Activate command “a” is received; see § **Errore. L'origine riferimento non è stata trovata.** for the response message to this command.
“s”	73	Get EFT/POS status	Get the current EFT/POS terminal status; see §**Errore. L'origine riferimento non è stata trovata.** for the response message to this command.
”z”	7A	Restart	This command performs a reboot of the EFT/POS terminal; after the reboot, the keyboard is enabled to access to the EFT/POS menus; there is no response to this command.
“y”	79	Start Software Maintenance	see features
“G”	36	Get Card status	Get information about card status, if the card is present in the terminal or not; see §3_20 for the response message to this command
“r”	72	Reset Log	This command perform a reset of the Log stored in the terminal for which the sending to the Host failed; see §3_23 for the answer.
“c”	63	Get Terminal Configuration	Deprecated. For Backward compatibility see Appendix C. Get information about the terminal parameters: software releases and CRCs, serial numbers, etc.; see §9_5 for the response message to this command.
“A”	41	Get Advanced Terminal Configuration	Get information about the terminal parameters: hw serial numbers, software releases and CRCs; see §3_16 for the response message to this command.
“e”	65	Get Acquirer Information	Get information about the Emv configuration: Acquirer Id, etc. ; see §3_17 for the response message to this command.
“l”	6C	Get Acquirer Total Amounts	Get the total amounts of the payment and reversal transactions, divided for acquirer; see §3_18 for the response message to this command.
“g”	67	Get GSM /GPRS state	Get information from the GSM/GPRS modem (SIM, signal quality level, etc.); see §3_19 for the response message to this command.
“H”	48	Retrieving Last Payment Result	Send back the last Payment result
“p”	70	Sleep Mode	see $11_2
“w”	77	Sleep Mode (Extended)	see $11_2

Table 1 – Operation request codes

3_2 Advice Command without card presentation (PC -> EFT/POS)

This command is sent from the PC to start a payment transaction on the EFT/POS.

WITHOUT ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Multilanguage flag	'0', for system language (default) '1', for Italian '2', for German '3', for Spanish '4', for Portuguese (not available) '5', for French '6', for English '7', for Dutch '8', for Romanian
11	1	A	Command Code	"P"
12	1	A	Activate Asynchronous Messages	"1" (0x31) request the EFT/POS to send asynchronous messages (see Chap. 4); this function can be activated only for the operations "P" (payment), "S" (reversal) and "C" (Close Session) "0" (0x30) the PC don't ask for asynchronous messages; this is the normal situation
13	1	A	Operation type	This field is used to specify the type of operation requested. "5" (0x35) notification of transaction with final amount for other services without card presentation (needed HOST customization) "6" (0x36) notification of transaction with final amount for fuel service without card presentation in silent mode (i.e. without any display on the terminal)
14	2	A	Transaction identifier	This identifier is used to identify a complete operation of split payment (pre-authorization + notification).

				The PC has to specify this identifier in the pre-authorization requests (“P”,”M” with type=”1” or ”2”), in the notification requests (“P” with type =”3” or “4” or “6”) and in the reversal requests (“S” with type = “2”). The PC shall store the identifier used in the pre-authorization request and use the same identifier when will send the notification requests or the pre-authorization reversal requests. The identifier is coded on 2 digit, in ASCII: example “05” (0x30 0x35) with the Most significant digit is in position 14 and the less significant digit is in position 15 . Valid values are from “01” to “99”. For purchase operations (“P”,”M” command with type=”0”) and purchase reversal operations (“S” command with type=”0”) this field is not used and can be filled to “0” (0x30)
16	8	A	Final amount to debit	The amount is coded in hundredth of euros, filled with “0” (30 hex) characters on the left E.g.: “00004532” for € 45,32
24	1	A	EMV Additional Data	“1” (31 hex) EMV Additional Data (**DEPRECATED**) “2” (31 hex) EMV Additional Data Ext
25	1	A	Confirmation mode	“0” STANDARD: “I” message only for chip or mag cards. “1” FORCED: “I” message for each card type. “2” DISABLED: “I” message never transmitted.
26	1	A	Fixed value	This field has to be filled to “0” (0x30)
27	1	A	FIXED	“*” (0x2A)
28	12	A	Preauth code	This field is used only for notification operation for other vending machines (“P”,”M” command with type = “4”) . If not used it has to be filled with “0”. For backword compatibility the field can be missing (deprecated)
40	1	N	Filler	RFU value, filled with ‘0’ characters (30 hex)
41	4	N	Truncated Pan	Preauth PAN (last 4 digits)
45	4	N	Service Id	Preauth Service Id (DF6A tag received from HOST)
49	11	N	Acquirer Id	Preauth Acquirer Id (AIIC , bit 32 of ISO8583)
60	1	B	Etx (03 hex)	
61	1	B	Lcr	

3_3 Payment Command with Additional Tag message (PC -> EFT/POS)

This command is sent from the PC to start a payment transaction on the EFT/POS for customer who needs additional tags.

Examples of flows for these operations are reported in the chapter 5.

WITH ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Multilanguage flag	'0', for system language (default) '1', for Italian '2', for German '3', for Spanish '4', for Portuguese (not available) '5', for French '6', for English '7', for Dutch '8', for Romanian
11	1	A	Command Code	"M"
12	1	A	Activate Asynchronous Messages	"1" (0x31) request the EFT/POS to send asynchronous messages (see Chap. 4); this function can be activated only for the operations "P","M" (payment with or without additional tag), "S" (reversal) and "C" (Close Session) "0" (0x30) the PC don't ask for asynchronous messages; this is the normal situation
13	1	A	Operation type	This field is used to specify the type of operation requested. Codes for "M" command: "0" (0x30) purchase transaction "8" (0x38) purchase transaction with card in "T" (0x54) token generation by transit gateway (see §3_4)
14	2	A	Transaction identifier	This identifier is used to identify a complete operation of splitted payment (pre-authorization +

				notification). The PC has to specify this identifier in the pre-authorization requests (“P”,”M” with type=”1” or ”2”), in the notification requests (“P”,”M” with type =”3” or “4”) and in the reversal requests (“S” with type = “2”). The PC shall store the identifier used in the pre-authorization request and use the same identifier when will send the notification requests or the pre-authorization reversal requests. The identifier is coded on 2 digit, in ASCII: example “05” (0x30 0x35) with the Most significant digit is in position 14 and the less significant digit is in position 15 . Valid values are from “01” to “99”. For purchase operations (“P”,”M” command with type=”0”) and purchase reversal operations (“S” command with type=”0”) this field is not used and can be filled to “0” (0x30)
16	8	A	Final amount	The amount is coded in hundredth of euros, filled with “0” (30 hex) characters on the left E.g.: “00004532” for € 45,32
24	1	A	EMV Additional Data	“1” (31 hex) EMV Additional Data (**DEPRECATED**) “2” (31 hex) EMV Additional Data Ext
25	1	A	Confirmation mode	“0” STANDARD: “I” message only for chip or mag cards. “1” FORCED: “I” message for each card type. “2” DISABLED: “I” message never transmitted.
26	1	A	FIXED	Fixed value ‘0’ (0x30). See reference N° 6.
27	1	A	FIXED	“*” (0x2A)
28	12	A	Preauth code	This field is used only for notification operation for other vending machines (“P”,”M” command with type = “4”) . If not used it has to be filled with “0”. For backword compatibility the field can be missing (deprecated)
40	1	N	Filler	RFU value, filled with ‘0’ characters (30 hex)
41	2	N	ISO Number to get the extended data from Host	ISO NUMBER Show the ISO-8583 field filled with the date send by the GT , these date need to be sent to ECR DefaultValue = 0 , o means no data to send to ECR If there is a value <> 0 it means : -where to get the information from the GT -Sending message additional data mandatory Currently the value is fixed to “62”

43	8	A	TAG Number where to get the extended data from Host.	Tag Number Show the TAG where taking data from the GT to send to ECR This field shall be taken in consideration only if the ISO number is < > 0 The field is left aligned filled with blank (right) Currently the length is fixed to 255 Currently the value is fixed to “DF8D01”
51	1	N	Filler	RFU value, filled with ‘0’ characters (30 hex)
52	4	N	Tags Index that indicate which and how many tags should be sent to the host	Index of the private TAG with additional tag to send to GT The filed shall be considered like a byte map where each byte is a single index If fixed to 0 → no tag present to send to GT A value from "1" to "9" indicates the base value of the TAG to be added to the common TAG root (DF81) Ex 2 = DF8102. Ex. No tag → 0000 Ex. Tag with index=2 = 2000 → DF8102 Ex.Tag with index=5 and 8 = 5800 → DF8105-DF8108 The value "*****" indicates a fixed TAG Ex: The TAG DF802A to be sent to the GT = "* 000" (DF802A). Allowed index range value 2,3,4,5,6,7,8
56	5	N	Filler	RFU value, filled with ‘0’ characters (30 hex)
61	100-V (n)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
62 + n	100-V (n1)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
63 + n1	100-V (n2)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
64 + n2	100-V (n2)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory

65 + n2	1	B	ETX (03 hex)	
66 + n2	1	B	LCR	

For Backward compatibility see Appendix C.

3_4 Token generation by Transit Gatewy (PC->EFT/POS)

This command is sent by the PC to trigger the Transit gateway to generate a token after presentation of a card to the contactless reader.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Multilanguage flag	'0', for system language (default) '1', for Italian '2', for German '3', for Spanish '4', for Portuguese (not available) '5', for French '6', for English '7', for Dutch '8', for Romanian
11	1	A	Command Code	"M"
12	1	A	Activate Asynchronous Messages	"1" (0x31) request the EFT/POS to send asynchronous messages (see Chap. 4); this function can be activated only for the operations "P","M" (payment with or without additional tag), "S" (reversal) and "C" (Close Session) "0" (0x30) the PC don't ask for asynchronous messages; this is the normal situation
13	1	A	Operation type	"T" (0x54) token generation by transit gateway
14	2	A	Transaction identifier	Filled to "0" (0x30)
16	8	A	Final amount	Fixed to "00000001" (€ 00,01), but no actual purchase will be performed
24	1	A	EMV Additional Data	"1" (31 hex) EMV Additional Data (**DEPRECATED**) "2" (31 hex) EMV Additional Data Ext
25	1	A	Confirmation mode	"0" STANDARD: "I" message only for chip or mag cards. "1" FORCED: "I" message for each card type. "2" DISABLED: "I" message never transmitted.
26	1	A	FIXED	Fixed value '0' (0x30). See reference N° 6.

27	1	A	FIXED	"*" (0x2A)
28	12	A	Preauth code	Filled with "0"
40	1	N	Filler	RFU value, filled with '0' characters (30 hex)
41	2	N	ISO Number to get the extended data from Host	ISO NUMBER The value is fixed to "62"
43	8	A	TAG Number where to get the extended data from Host.	Tag Number The value is fixed to "DF8D02"
51	1	N	Filler	RFU value, filled with '0' characters (30 hex)
52	4	N	Tags Index that indicate which and how many tags should be sent to the host	Fixed to "7000" (Means transit gateway will send the token on tag DF8107)
56	5	N	Filler	RFU value, filled with '0' characters (30 hex)
61	100-V (n)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Fixed to "2" The field is always closed by 0x1b, it means 0x1b is mandatory
62 + n	100-V (n1)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
63 + n1	100-V (n2)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
64 + n2	100-V (n2)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
65 + n2	1	B	ETX (03 hex)	
66 + n2	1	B	LCR	

3_5 Transaction Confirm message (EFT/POS -> PC)

Message shall be sent when Chip / Mag Stripes card are be inserted following command "P","M","S" (purchase , pre-authorization, purchase reversal with card in, or pre-authorization reversal operations)

EFT/POS waits 30 seconds after deleting the transaction

Note : message will not be sent for contactless transaction

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Filler	RFU value, filled with '0' characters (30 hex)
11	1	A	"I" (49 hex)	Command code for this message
12	1	B	ETX (03 hex)	
13	1	B	LRC	

3_6 Sending Transaction Confirm Command message (PC -> EFT/POS)

This message is sent by the PC following a request of the transaction amount coming from the EFT/POS.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"I" (49 hex)	Command code for this message
12	8	A	RFU	filled with "0"
20	6	A	Ticket number	Used for additional information provided by the PC for specific applications; if not used, must be filled with '0' characters (30 hex)
26	16	A	"0" (30 hex)	RFU
42	1	B	ETX (03 hex)	
43	1	B	LRC	

3_7 Financial Transaction Error Response message (EFT/POS -> PC)

This message is sent by the EFT/POS in reply to a "P","M" or "S" message (purchase or reversal operations) to inform the PC that the transaction is terminated with an error. This message provide also the information about the error, when available.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"F" (46 hex)	Command code for this message
12	2	A	Error Code	See Table 2 for a list of possible error codes
14	16	A	Error Message – 1st line	Message originated by the bank which describe the error; if the message is not available, this field is filled with space (20 hex) characters
30	16	A	Error Message – 2nd line	Message originated by the bank which describe the error; if the message is not available, this field is filled with space (20 hex) characters
46	1	A	Warning: card in	Card not extracted.
47	4	A	Fixed Value (30 hex)	RFU value
51	1	B	ETX (03 hex)	
52	1	B	LRC	

3_8 Financial Transaction End Response message (EFT/POS -> PC)

This message is sent by the EFT/POS in reply to a "P" or "S" message (purchase, pre-authorization, notification and reversal operations) when a financial transaction has been completed with success.
Other than the result of the transaction, in order to allow the PC to print a receipt ticket, the EFT/POS returns the relevant transaction data.
The set of the data returned is defined according to the Italian requirements for the EFT/POS receipts.
No indication is provided about the graphical requirements and layout of the receipts which are defined in the national requirements for the EFT/POS terminals.

WITHOUT ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	

2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"E" (45 hex)	Command code for this message
12	2	A	Transaction result	This field contains the result of the transaction. Possible result codes are: "00" (0x30,0x30) approved Other values are used for transaction refused. See Table 2 for the description of other possible result codes.
14	11	A	Acquirer ID	This identifier is defined at national level to recognize the acquirer of the transaction (see AIIC , bit 32 of ISO8583)
25	3	A	Transaction type	Technology used : "ICC" for EMV transaction "MAG" for magstripe transaction "CLI" for contactless
28	6	A	Ticket number echo	Echo of the equivalent value received in the Sending Amount message ; can be also used by the application payment on the terminal For response to notification request, this field is filled to all spaces (0x20)
34	1	A	Card Type	Specify if the transaction has been done with a national debit card (in Italy is Pagobancomat) or an international credit or debit card (eg Maestro, Visa). Possible values are: "0" national debit card "1" international card
35	6	A	STAN	System Trace Audit Number assigned to the transaction (see bit 11 ISO8583)
41	8	A	Approved or Authorized. Amount	This value is the amount approved for a purchase, notification, or purchase reversal transactions (see bit 4 ISO8583). For pre-authorization transaction, this value is the amount authorized for the card. The PC shall check if this amount is sufficient for the final amount. For notification transaction, this amount is the debited amount to the card. The amount is coded in hundredth of euros, filled with "0" (30 hex) characters on the left Eg: "000000004532" for € 45,32
49	12	A	Transaction data and time	Data and time in the format "ddmmyyhhmmss"
61	1	A	Approval type	Indicate if the transaction has been approved or refused online by the bank or offline; possible values are: "0" offline

				"1" online
62	16	A	Acquirer Name	This field contains the name of the acquirer bank which approved or refused the transaction; is right-filled with spaces (20 hex); all spaces if not available; eg.: "PAGOBANCOMAT "
78	19	A	PAN	PAN truncated according to the requirements of the card associations For response to notification request, this field is filled with spaces (0x20)
97	1	A	Warning: card in	Card not extracted.
98	4	A	Service Id	DF6A tag received from HOST
102	12	A	Pre-authorization code	This field has a value only for pre-authorization operation for other vending machines. For backword compatibility the field can be missing (deprecated)
114	1		RFU	RFU field ; set to "*" (0x2A)
115	120	A	Receipt rows	5 Rows of 24 characters to be printed on the receipt on the following order: header, 1st row, 2nd row, courtesy message, footer (see [2] for example of layouts) For response to notification request, this field is filled to all blanks (0x20).
235	16	A	Message for POS (see [1])	Bank originated message for this transaction to be printed and /or displayed ONLY if the transaction was not approved
251	6	A	Approval code (see [1])	Approval code as defined in bit 38 ISO8583 For response to notification request, this field is filled with spaces (0x20)
257	15	A	Merchant identifier (see [1])	Identifier assigned by the bank (see TAG 9F16 in [4])
272	5	A	Issuer code (see [1])	Issuer code for debit talian card; filled with spaces for international branded cards
277	3	A	Action Code (see [1])	Code assigned by the bank describing the reason of the refusal and inform the terminal of specific situations (see bit 39 in ISO8583); is "000" for approved transaction
280	2	A	Authorization Response Code	This field has a value only for the chip transactions and is the same as the EMV TAG 8A (see [4]). For the magstripe transactions is filled with spaces (0x20) For response to notification request, this field is filled with spaces (0x20)
282	1	A	Operation type	This field is the echo of the same field used in the Start Operation Command message (see §3.1) and is used to inform the PC that this is the response to the requested operation.

([1]) This data cannot be stored on the PC; it is responsibility of the PC application to discard this data after its use for the receipt printing.

283	2		Transaction identifier	This field is the echo of the same field used in the request (see §3.1). For purchase operations , this field is not used and filled with "0" (0x30)
285	m	A	Emv Additional Data	See 3_11
285+m	1	B	ETx (03 hex)	
286+m	1	B	LRC	

3_9 Financial Transaction End Response message with Additional Tag (EFT/POS -> PC)

This message is sent by the EFT/POS in reply to a M" (purchase) when a financial transaction has been completed with success.
Other than the result of the transaction, in order to allow the PC to print a receipt ticket, the EFT/POS returns the relevant transaction data.
The set of the data returned is defined according to the Italian requirements for the EFT/POS receipts.
No indication is provided about the graphical requirements and layout of the receipts which are defined in the national requirements for the EFT/POS terminals.

WITH ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"t" (74 hex)	Command code for this message
12	2	A	Transaction result	This field contains the result of the transaction. Possible result codes are: "00" (0x30,0x30) approved Other values are used for transaction refused. See Table 2 for the description of other possible result codes.
14	11	A	Acquirer ID	This identifier is defined at national level to recognize the acquirer of the transaction (see AIIC , bit 32 of ISO8583)
25	3	A	Transaction type	Technology used : "ICC" for EMV transaction "MAG" for magstripe transaction "CLI" for contactless
28	6	A	Ticket number echo	Echo of the equivalent value received in the Sending Amount message ; can be also used by the application payment on the terminal For response to notification request, this field is filled to all spaces (0x20)
34	1	A	Card Type	Specify if the transaction has been done with a national debit card (in Italy is Pagobancomat) or an international credit or debit card (eg Maestro, Visa). Possible values are: "0" national debit card

				"1" international card
35	6	A	STAN	System Trace Audit Number assigned to the transaction (see bit 11 ISO8583)
41	8	A	Approved or Authorized. Amount	This value is the amount approved for a purchase, notification, or purchase reversal transactions (see bit 4 ISO8583). For pre-authorization transaction, this value is the amount authorized for the card. The PC shall check if this amount is sufficient for the final amount. For notification transaction, this amount is the debited amount to the card. The amount is coded in hundredth of euros, filled with "0" (30 hex) characters on the left Eg: "000000004532" for € 45,32
49	12	A	Transaction data and time	Data and time in the format "ddmmyyhhmmss"
61	1	A	Approval type	Indicate if the transaction has been approved or refused online by the bank or offline; possible values are: "0" offline "1" online
62	16	A	Acquirer Name	This field contains the name of the acquirer bank which approved or refused the transaction; is right-filled with spaces (20 hex); all spaces if not available; eg.: "PAGOBANCOMAT "
78	19	A	PAN	PAN truncated according to the requirements of the card associations For response to notification request, this field is filled with spaces (0x20)
97	1	A	Warning: card in	Card not extracted.
98	4	A	Service Id	DF6A tag received from HOST
102	12	A	Pre-authorization code	This field has a value only for pre-authorization operation for other vending machines. For backword compatibility the field can be missing (deprecated)
114	1		RFU	RFU field ; set to "*" (0x2A)
115	120	A	Receipt rows	5 Rows of 24 characters to be printed on the receipt on the following order: header, 1st row, 2nd row, courtesy message, footer (see [2] for example of layouts) For response to notification request, this field is filled to all blanks (0x20).
235	16	A	Message for POS (see [2])	Bank originated message for this transaction to be printed and /or displayed ONLY if the transaction was not approved

([2]) This data cannot be stored on the PC; it is responsibility of the PC application to discard this data after its use for the receipt printing.

251	6	A	Approval code (see [1])	Approval code as defined in bit 38 ISO8583 For response to notification request, this field is filled with spaces (0x20)
257	15	A	Merchant identifier (see [1])	Identifier assigned by the bank (see TAG 9F16 in [4])
272	5	A	Issuer code (see [1])	Issuer code for debit talian card; filled with spaces for international branded cards
277	3	A	Action Code (see [1])	Code assigned by the bank describing the reason of the refusal and inform the terminal of specific situations (see bit 39 in ISO8583); is "000" for approved transaction
280	2	A	Authorization Response Code	This field has a value only for the chip transactions and is the same as the EMV TAG 8A (see [4]). For the magstripe transactions is filled with spaces (0x20) For response to notification request, this field is filled with spaces (0x20)
282	1	A	Operation type	This field is the echo of the same field used in the Start Operation Command message (see §3.1) and is used to inform the PC that this is the response to the requested operation.
283	2		Transaction identifier	This field is the echo of the same field used in the request (see §3.1). For purchase operations , this field is not used and filled with "0" (0x30)
285	3	A	length of the next field (n)	Next data Length It is filled by the Gt
288	n	A	Additional data coming from the Host	Additional data to send to the ECR
288+n	m	A	Emv Additional Data	See 3_11
288+n+m	1	B	ETx (03 hex)	
2898+n+m	1	B	LRC	

For Backward compatibility see Appendix C.

3_10 Table 2 Error Code

Error code	ERROR DESCRIPTION_EN
01	Transaction cancelled by cardholder
02	Internal error (ex. Driver error)
03	Lev 2 Emv error
04	Transaction declined by Gt
05	Operation not allowed Try to Send a Daily Close
06	Emv application on card not managed by the terminal
07	Future not configured by Gt
08	Driver error during magnetic stripe read
09	Magnetic card not read
10	Wrong Data mapping magnetic card
11	Magnetic card with data on either track number 2 or 3 ,but bancomat or credit card not enabled by Gt
12	Magnetic card with data on track number 3 ,but bancomat or credit card not enabled by Gt
13	Card expired
14	Application not managed
15	Chip Application locked
16	Chip Application locked
17	Acquirer data missed or wrong
18	Transaction log Preauth full, closing daily session is needed
20	Terminal not configured
21	Terminal not enabled by Ecr
22	Tamper
31	Connection not possible Check line on POS
32	A problem occurs during the data Exchange with the Gt
33	Pin Attemps exhausted
34	Service operation not performed
35	Amount Revert note equal to transaction amount
36	Transaction amount is not valid
37	Messages AAAA or BBBB received
38	Transaction declined by card
39	Transaction declined with explicit revert

40	Time out card withdrawal
41	Driver error magnetic card
42	Card read but tracks 2 and 3 empty
43	Log not found
44	Log not sent
45	Terminal Id wrong
47	Reader not recognized
48	Transaction cancelled due timeout
49	Track 2 recognized ,but credit card not enabled by Gt
50	Track 3 recognized, but pago bancomat not enabled by Gt
51	Track 3 recognized but not compliant
52	Wrong TAG from the host
53	Transaction declined with implicit revert
54	Error NO CARD
55	Error CARD IN
60	Card Error
61	Card Removed
62	Invalid Card
63	Implicit Revert
64	Invalid Card
65	Terminal Id wrong
66	Command Unknown
67	Protocol Error
70	OP – Log Full
71	OP – AntiPassBack
72	OP – Card in Black-List
73	OP – Card Rejected Offline
74	OP – Transaction Id Error
75	OP – Card Expired
88	Preaut log full
90	Device is not active
91	Wrong Operation Type
99	Generic Error

Table 2 – Error codes for transaction termination

NB.error code 47 restarts the device

3_10_1 Implicit Revert

In case of error 63 and message ”E” the POS will automatically revert the transaction when a new connection to the Payment Gateway occurs
This behavior occurs when the POS doesn’t receive the last message from the Payment Gateway, in that case the status of the transaction is unknown and therefore it will be revert

3_11 Emv Additional Data

If, in the command, “Emv Additional Data” parameter = 1 (**DEPRECATED**), data will be the following:

	14	A	AID_L14	**(DEPRECATED)** Application Identifier L14 (4F) See FIELD « AID ».
	10	A	TVR	Terminal Verification Results (95)
	16	A	AC	Application Cryptogram
	64	A	IAD	Issuer Application Data (9F10)
	2	A	ARC	Authorisation Response Code (8A)
	16	A	APPL LABEL	Application Label (50)
	4	A	ATC	Application Transaction Counter (9F36)
	3	A	TCC	Terminal Country Code (9F1A)
	2	A	TT	Transaction Type (9C)
	3	A	TrCC	Transaction Currency Code (5F2A)
	8	A	UN	Unpredictable Number (9F37)
	4	A	TSI	Transaction Status Information (9B)
	30	A	TAC	Terminal Action Codes in the following order: Default, Denial, Online
	6	A	CVMR	Cardholder Verification Method Results (9F34)
	4	A	AUC	Application usage Control (9F07)
	4	A	AIP	Application Interchange Profile
	30	A	IAC	Issuer Action Codes in the following order: Default, Denial, Online (9F0D, 9F0E, 9F0F)
	2	A	CID	Cryptogram Information Data (9F27)
	1	A	OPS	Online Processing Status: “0” = transaction completed OFFLINE “1” = transaction completed ONLINE “2” = transaction completed as “UnableToGo Online”
	16	A	ApplPN	Application Preferred Name (9F12)
	4	A	CTQ	PayWave Card Transaction Qualifiers (9F6C)
	16	A	AID	Application Identifier (4F)

If, in the command, “Emv Additional Data” parameter = 2, data will be the following:

	14	A	RFU	“0”
	10	A	TVR	Terminal Verification Results (95)
	16	A	AC	Application Cryptogram
	64	A	IAD	Issuer Application Data (9F10)
	2	A	ARC	Authorisation Response Code (8A)
	16	A	APPL LABEL	Application Label (50)
	4	A	ATC	Application Transaction Counter (9F36)
	3	A	TCC	Terminal Country Code (9F1A)
	2	A	TT	Transaction Type (9C)
	3	A	TrCC	Transaction Currency Code (5F2A)
	8	A	UN	Unpredictable Number (9F37)
	4	A	TSI	Transaction Status Information (9B)
	30	A	TAC	Terminal Action Codes in the following order: Default, Denial, Online
	6	A	CVMR	Cardholder Verification Method Results (9F34)
	4	A	AUC	Application usage Control (9F07)
	4	A	AIP	Application Interchange Profile
	30	A	IAC	Issuer Action Codes in the following order: Default, Denial, Online (9F0D, 9F0E, 9F0F)
	2	A	CID	Cryptogram Information Data (9F27)
	1	A	OPS	Online Processing Status: “0” = transaction completed OFFLINE “1” = transaction completed ONLINE “2” = transaction completed as “UnableToGo Online”
	16	A	ApplPN	Application Preferred Name (9F12)
	4	A	CTQ	PayWave Card Transaction Qualifiers (9F6C)
	32	A	AID	Application Identifier (4F)
	64	A	RFU	“0”

3_12 Read Card Command message (PC -> EFTPOS)

Aim of this command is enabling the hunting phase in according to device capability, time out and environment. If a bank card is correctly detected, its masked PAN is returned.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFTPOS terminal at installation time
10	1	A	Multilanguage flag	'0', for system language (default)
11	1	A	Command Code	"q"
12	1	A	Activate Asynchronous Messages	"1" (0x31) request the EFT/POS to send asynchronous messages (see Chap. 4) "0" (0x30) no asynchronous messages management
13	1	A	Operation type	"0" (0x30)
14	32	A	RFU	Filled with " " (0x20)
46	8	A	RFU	Filled with " " (0x20)
54	3	A	Card Hunting Time	"001" -> "250"
57	4	A	RFU	Filled with "0" (0x30)
61	4	A	RFU	Filled with "0" (0x30)
65	1	B	Etx (03 hex)	
66	1	B	Lrc	

3_13 Read Card Response message (EFTPOS-> PC)

This message is sent by the EFTPOS in reply to an "Open Payment Digest" message.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFTPOS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"q" (71 hex)	Command code for this message
12	2	A	Transaction result	See 3_10
14	19	A	PAN	PAN truncated according to the requirements of the card associations
33	128	A	RFU	Filled with blanks ' '
161	32	A	RFU	Filled with zeros '0'
193	1	B	ETx (03 hex)	
194	1	B	LRC	

3_14 Service Operation Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as response to the service operations performed by the EFT/POS with the bank. According to the operation that has been requested, the fields in the response message can have a value or can be filled to spaces (20 hex).

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	Operation Code	Echo of the code of the Service Operation (see 3.1 for the codes): possible values are: 'Q', 'T','C','D', "L",'R', 'U'
12	2	A	Operation Result	Possible result codes are: "00" OK : the operation has been performed correctly other values: NON OK: see Table 2 for error codes; reason is reported in the field in position 52
14	6	A	STAN	System Trace Audit Number assigned to the transaction (see bit 11 ISO8583)
20	16	A	Total Local Amount	A value for this field is present only for the "T" operation. The value is the amount stored in the EFT/POS and is coded in hundredth of euros, filled with "0" (30 hex) characters on the left This local amount is set to 0 on the EFT/POS after a successful Close Session Operation
36	16	A	Bank Total Amount	A value for this field is present only for the "Q" and "C" operations. The value is the amount sent by the bank to the EFT/POS and is coded in hundredth of euros, filled with "0" (30 hex) characters on the left
52	16	A	Result Description	A text is present in this field to describe the reason for the failure of the Service Operation.
68	1	B	ETX (03 hex)	
69	1	B	LRC	

3_15 Maintenance Operation Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as response to a maintenance operation performed by the EFT/POS. According to the operation that has been requested, the fields in the message can have a value or can be filled to spaces (20 hex).

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	Operation Code	Echo of the code of the requested Maintenance Operation (see 3.1 for the codes)
12	1	A	Terminal Status	Inform the PC about the state of the payment application present on the EFT/POS and about generic states of the EFT/POS terminal; this field is present in response to the “a”, “d”, “s” commands; possible values are: “0” CB2 keys not present. “1” no banking parameters present; FIRST DLL needed “2” terminal is blocked; call maintenance “3” terminal not operative: acquirer parameters missing “4” terminal is ready and active “5” terminal is ready and NOT active “6” log full
13	1	A	Card status	Information about the presence of the card in the terminal; this field is present in response to the “a”, “d”, “s” commands; possible values are: “0” the card is in the terminal “1” no card present in the terminal “2” RFU
14	1	A	Command result	“1” OK “2” KO
15	1	B	ETX (03 hex)	
16	1	B	LRC	

3_16 Get Advanced Terminal Configuration Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as response to the Get Terminal Configuration command.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"A" (63 hex)	Command Code for this message
12	1	A	Fixed Value (20 hex)	Fixed value
13	8	A	Terminal S/N	Terminal serial number
21	1	A	Fixed Value (2D hex)	Fixed value
24	8	A	Contact Reader S/N	Chip and MagStripe reader serial number (only for IUN terminal)
32	1	A	Fixed Value (2D hex)	Fixed value
33	8	A	Cless Reader S/N	Cless reader serial number (only for IUN terminal)
41	1	A	Fixed Value (20 hex)	Fixed value
42	1	A	Fixed Value (23 hex)	Fixed value
43	2	A	Number of sw components	Number of items of the following list

sw component 1

45	1	A	Fixed Value (7C hex)	Fixed value
46	10	A	Sw name	Software component name
56	1	A	Fixed Value (20 hex)	Fixed value
57	10	A	Sw version	Software component version
67	1	A	Fixed Value (20 hex)	Fixed value
68	6	A	Sw CRC	Software component CRC
74	1	A	Fixed Value (7C hex)	Fixed value

…

Sw component n

	1	A	Fixed Value (7C hex)	Fixed value
	10	A	Sw name	Software component name
	1	A	Fixed Value (20 hex)	Fixed value
	10	A	Sw version	Software component version
	1	A	Fixed Value (20 hex)	Fixed value
	6	A	Sw CRC	Software component CRC
	1	A	Fixed Value (7C hex)	Fixed value

	1	B	ETX (03 hex)	
	1	B	LRC	

3_17 Get Acquirer Information Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as response to the Get Acquirer Configuration command.
Until 8 acquirers can be present on the terminal.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"e" (65 hex)	Command Code for this message
12	24	A	Bank Name	Report the name of the bank as for the TAG DF26 in the document [1]
36	2	A	Acquirer number	Number of the acquirers present on the terminal
Acq 1.				
38	16	A	Acquirer name	Value of the TAG DF38 in the document [1]
54	1	A	Flag Bin	"0", if magstripe and cless cards are disbled for this acquirer "1", if magstripe cards are enabled for this acquirer "2", if cless cards are enabled for this acquirer "3", if magstripe and cless cards are enabled for this acquirer
55	2	A	n.AID configured	Number of the Application Identifiers (AID) present on the terminal for this acquirer
App 1				
57	16	A	AID	Application Identifier, left justified, right filled with spaces (0x20); see TAG 9F06 in the document [1]
…				
App n				
57+ (16*n-1)	16	A	AID	
….				
…..				
Acq n.				
	16	A	Acquirer name	Value of the TAG DF38 in the document [1]

	1	A	Flag Bin	"0", if magstripe and cless cards are disbled for this acquirer "1", if magstripe cards are enabled for this acquirer "2", if cless cards are enabled for this acquirer "3", if magstripe and cless cards are enabled for this acquirer
	2	A	n.AID configured	Number of the Application Identifiers (AID) present on the terminal for this acquirer
App 1				
	16	A	AID	Application Identifier, left justified, right filled with spaces (0x20); see TAG 9F06 in the document [1]
…				
App n				
	16	A	AID	
	1	B	ETX (03 hex)	
	1	B	LRC	

3_18 Get Acquirer Total Amounts Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as response to the Get Acquirer Total Amounts. It provide the total amounts of the payment and reversal transactions, stored by the terminal and separated by acquirer.

The amounts are coded in hundredth of euros, right justified and filled with "0" (30 hex) characters on the left.
The local amount are set to 0 on the EFT/POS after a successful Close Session Operation

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"l" (6C hex)	Command Code for this message
12	16	A	Terminal Payment Total Amount	This is the total amount of the payments transactions for all the acquirers
28	16	A	Terminal Reversal Total Amount	This is the total amount of the reversal transactions for all the acquirers
44	2	A	Acquirer number	Number of the acquirers present on the terminal

Acq 1.

46	16	A	Acquirer name	Value of the TAG DF38 in the document [1]
62	16	A	Terminal Payment Total Amount for this acquirer	
78	16	A	Terminal Reversal Total Amount for this acquirer	

….

…..

Acq n.

(n-1)*48+17	16	A	Acquirer name	Value of the TAG DF38 in the document [1]
	16	A	Terminal Payment Total Amount for this acquirer	
	16	A	Terminal Reversal Total Amount for this acquirer	
	1	B	ETX (03 hex)	
	1	B	LRC	

3_19 Get Gsm/Gprs State Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as response to the Get Gsm/Gprs State request operation and provides the current configuration of the GSM/GPRS modem.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	“g” (67 hex)	Command Code for this message
12	1	A	GPRS Quality Monitor Flag	This flag indicate if the information about the quality of signal is available or not Flag = 1 signal monitor available, see RSSI and BER values Flag = 0 signal monitor not available
13	2	A	RSSI	Received Signal Strength Indicator, common values are from 0 to 31. Value returned is 99 if unknown
15	2	A	BER	The channel Bit Error. Common values are 0 to 7.

				Value returned is 99 if unknown
17	12	A	RFU	Filled with spaces (0x20)
29	1	A	GPRS Connection state	It shows if Gprs is connected: • 1 if connected • 0 if not connected
30	30	A	GSM Operator Name	Mobile Operator Name
60	1	A	SIM state	It shows if a SIM card is in present or not in modem Gprs: • 0 if SIM card present • 1 if SIM card absent
61	1	B	ETX (03 hex)	
62	1	B	LRC	

3_20 Get card status response message (EFT/POS->PC)

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	Command Code (“G”)	Command code for this message
12	1	A	Card Status	“0” the card is in the terminal “1” no card present in the terminal
13	1	B	ETX (03 hex)	
14	1	B	LRC	

3_21 Cancel Transaction Command message (PC -> EFT/POS)

This message is sent by the PC to cancel a financial transaction already started, when the terminal is waiting for a card. The terminal returns in the idle state ("TERMINALE PRONTO")

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"X" (58 hex)	Command code for this message
12	1	B	ETX (03 hex)	
13	1	B	LRC	

3_22 Response to Cancel Transaction message (EFT/POS -> PC)

This message is sent by the terminal only if it wasn't possible to cancel command, otherwise the terminal returns the answer to canceled command.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"X" (58 hex)	Command code for this message
12	1	A	Command Result	"1" : error, terminal not in card waiting state
13	1	B	ETX (03 hex)	
14	1	B	LRC	

3_23 Reset Log (PC -> EFT/POS)

This command can be performed only if POS doesn't handle off line transaction

This command return to the external device all the transaction records stored in the terminal LOG file and then delete it. Normally the LOG file contains failed or not approved transactions.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"r" (72 hex)	Command Code for this message
12	2	A	Number of transaction records	Number of the transaction records present on the terminal; the maximum number of the transaction records that can be stored in the terminal is 90
Log 1.				
14	1	A	Log State	State of transaction record, possible values are: "1", normal record (transaction not yet sent to the Host "4", record sent to the host but refused
15	6	A	Approval Code	Approval code of original transaction, filled with spaces (20 hex) for not approved transaction
21	16	A	Acquirer Name	Aquirer Name of original transaction
37	12	A	Date Time	Date time of original transaction
49	12	A	Amount	Original Amount of the transaction
61	6	A	STAN	Stan of original transaction
67	19	A	Pan	PAN truncated according to the requirements of the card associations
86	4	A	Exp Date	Expiry Date of the card used in the original transaction
90	11	A	AIIC	Aquirer ID of the original transaction
101	126	A	Chip data	Only for transactions with chip cards, contains all the relevant data from the card chip; in case of magstripe transaction, this field is filled with spaces (20 hex) This field contains these informations:

Field	Description	Len
TC	Transaction Certificate	16
AID	Application Identifier	14
AIP	Application Interchange Profile	4
ATC	Application Transaction	4

	Counter	
AUC	Application Usage Control	4
CID	Cryptogram Information Data	2
IAD	Issuer Application Data	64
TVR	Terminal Verification Results	10
UN	Unpredictable Number	8

….

…..

Log n.

(n-1)*213+13	1	A	Log State	
	6	A	Approval Code	
	16	A	Acquirer Name	
	12	A	DateTime	
	12	A	Amount	
	6	A	Stan	
	19	A	Pan	
	4	A	Exp Date	
	12	A	AIID	
	126	A	Chip data	
	1	B	ETX (03 hex)	
	1	B	LRC	

3_24 Retrieving Last Payment Result (EFT/POS → PC)

This message sends back to the Pc the result of the last Payment transaction (message s “F” or “E”) in reply to the command “”H” If there is nothing to send back the Pos sends the message below

This command has to be sent to the POS when the result of a payment command hasn’t be received by the PC

In case of transaction failed this command will send back data to print a possible receipt

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	“H” (48 hex)	Command code for this message
12	1	A	1	Fixed Value
13	1	B	ETX (03 hex)	
14	1	B	LRC	

4_ACK/NAK

4_1 Confirmation ACK message (EFT/POS <-> PC)

This message is sent to acknowledge any message received from the other side.
Ack doesn't have STX byte

Position	Length	Type	Content	Notes
1	1	B	ACK (06 hex)	
2	1	B	ETX (03 hex)	
3	1	B	LRC (7A hex)	

4_2 Error NAK message (EFT/POS <-> PC)

This message is sent to inform the other side that an error occurred on the reception of the message.
Nack doesn't have STX byte

Position	Length	Type	Content	Notes
1	1	B	NAK (15 hex)	
2	1	B	ETX (03 hex)	
3	1	B	LRC (69 hex)	

5_Asynchronous messages

The Asynchronous messages are used to allows the PC to receive information about EFT/POS device status during some operations. This optional function is available for the operations "P" (payment),"M" (payment with additional tag), "S" (reversal) and "C" (Close Session) and is activated in the Start Operation command.

If the PC uses this function, it must be waiting on the COM line for these messages.
The asynchronous messages don't requires confirmation ACK from the PC, nor the LRC check.
Asynchronous message can be useful when iSelf is integrated in a Machine with more than one device for payment (ex. Coin verifier, Bank Note Acceptor) and information about when disable other devices is needed.

To understand when closing bank note & coin acceptor it is recommended to monitor the asynchronous message

The acceptors should be disabled at the reception of a message after the message “INSERT CARD” CODE 2
The acceptors should be re enabled after the response of command “P” or “M”

The Figure 1 shows the flow of a transaction with the use of asynchronous messages (magnetic stripes and chip).

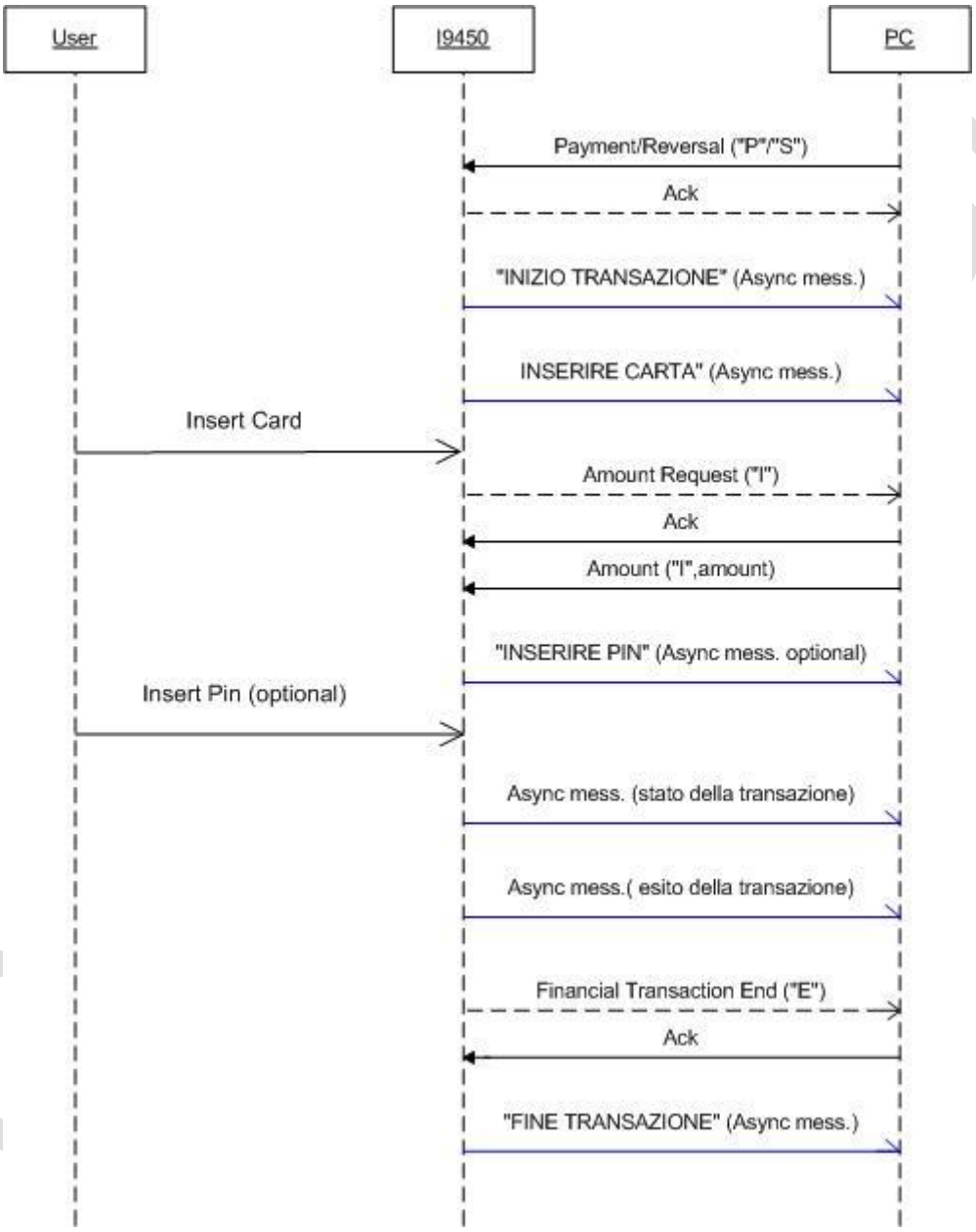


Figure 1 – Transaction Flow with asynchronous messages

The Figure 2 shows the flow of a transaction with the use of asynchronous messages (contactless) remember command “P” shall have the amount if it is needed to manage the contactless without the “key press to go on”.

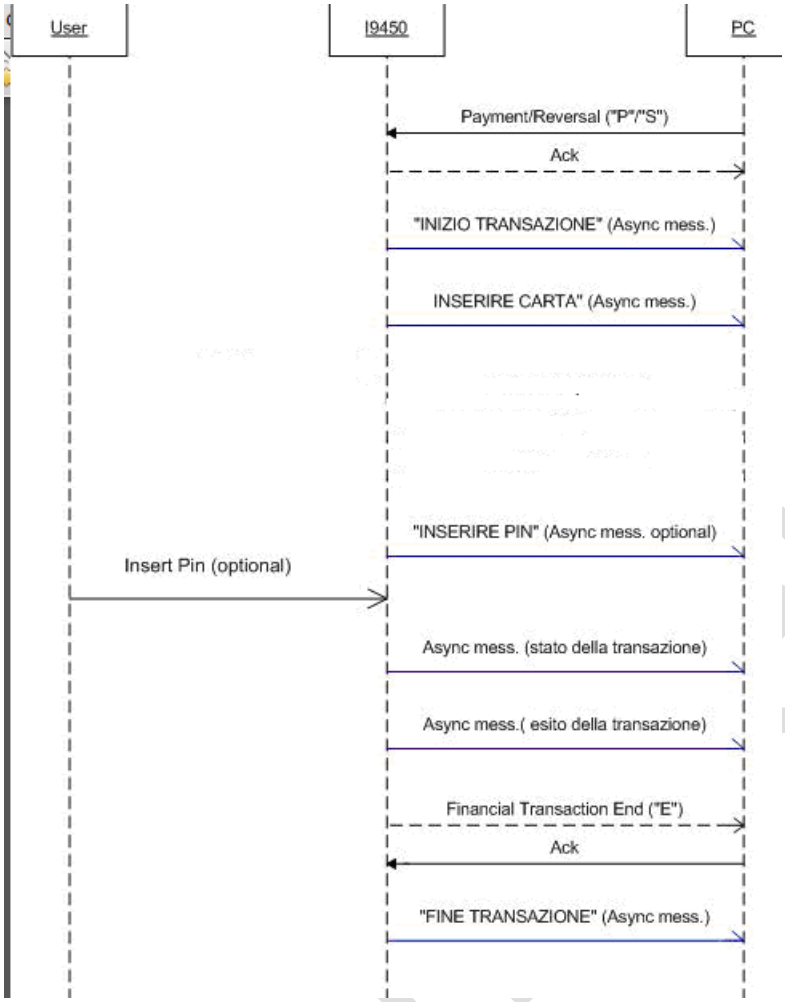


Figure 2 – Transaction Flow with asynchronous messages cLess

5_1 Asynchronous message (EFT/POS -> PC)

Please note no Asynchronous message will be sent back to the Pc in case a contactless transaction offline was performed

Position	Length	Type	Content	Notes
1	1	A	Fixed Value ‘M’ (4D hex)	
2	2	A	Type Message Code	See Table 3 for possible codes
4	20	A	Text of the message	Describes the meaning of the code; see Table 3; texts are right filled with blanks (0x20) if they are less than 20 characters long

ASCII			**Message**
Type	***Associated Text En***	***Transaction on going***	***Associated Text IT***
01	Start Transaction	No	"INIZIO TRANSAZIONE"
02	Insert card	No	"INSERIRE CARTA"
03	Remove card	Transaction ended except if it follows a InsertCard "2" without "I" message in the middle (it means magnetic transaction)	"RIMUOVERE CARTA"
04	Insert Pin	On Going	"INSERIRE PIN "
05	Host connection	On Going	"CONNESSIONE A HOST"
06	Sending Requesting	On Going	"RICHIESTA AUTORIZ"
07	Pending authorization	On Going	"ATTESA AUTORIZZAZ."
08	Sending confirmation	On Going	"INVIO CONFERMA"
09	Closing line	On Going	"CHIUSURA LINEA"
10	Recording transaction	On Going	"REGISTRA TRANSAZIONE"
11	Sending log files	On Going	"INVIO FILE LOG"
12	Select Bancomat o CC	On Going	"SCELTA BANCOMAT o CC"
13	Select Acquirer	On Going	"SCELTA ACQUIRER"
14	End of transaction	Transaction ended	"FINE TRANSAZIONE"
20	Emv selection	On Going	"EMV SELECTION"
21	Emv context	On Going	"EMV CONTEXT"
22	Emv preparation	On Going	"EMV PREPARATION"
23	Emv Data Authentication	On Going	"EMV DATA AUTHENTIC."
24	Emv validation	On Going	"EMV VALIDATION"
25	Emv analysis	On Going	"EMV ANALYSIS"
26	Emv completion	On Going	"EMV COMPLETION"
27	Emv cardholder verification	On Going	"EMV CARDHOLDER VER."
50	Connection error #### (#### code from table4)	Transaction On Going	"ERRORE CONNES. #####" (where ##### is one of codes described in Table 4)
67	Stop key pressed	Transaction ended	"PREMUTO TASTO STOP"
68	Timeout expired	Transaction ended	"TIMEOUT SCADUTO"
69	Log sent	On going	"LOG INVIATO"
70	Log not sent	On going	"LOG NON INVIATO"
71	Chose app	On going	"SELEZIONA APPLICATIVO"
72	Emv close context	On going	"EMV CLOSE CONTEXT"
73	Wrong Pin	On going	"PIN ERRATO"
74	Card not managed	On going	"CARD NOT MANAGED"

Table 3 – Type message codes

Monitor messages between type 51 and 66 are diagnostic messages.

ASCII		Message
Sys Error En		***Sys Error It***
00010	Terminal is not able to open COM3 used to manage GPRS	Il terminale non riesce ad aprire la COM3 utilizzata per connettersi al modem GPRS
00012	Terminal is not able to send command to start connection to the lan	Il terminale non riesce a spedire il comando di connessione alla rete al modem GPRS
00014	Terminal is not able to receive the answer to start connection	Il terminale non riesce a ricevere la risposta al comando di connessione alla rete al modem GPRS
00020	Terminal si not able to send "send command" to Gprs	Il terminale non riesce a spedire il comando di send al modem GPRS
00021	Terminal is not able to receive the answer to "send command"	Il terminale non riusce a ricevere la risposta al comando di send dal modem GPRS
00050	Terminal is not able to send check chart o host	Non si è riusciti a spedire un carattere di controllo al Host
Gprs Error En		***Gprs Error It***
00011	Gprs Modem doesn't answer properly to connection command	Il modem GPRS non risponde opportunamente al comando di connessione alla rete
00013	Gprs connection does't work	La connessione alla rete GPRS non è avvenuta
00022	Gprs Modem doesn't answer properly to sent command	Il modem GPRS non risponde opportunamente al comando di sen
00023	Gprs modem doesn't receive ENQ from the host	Il terminale non riceve ENQ dal Host tramite modem GPRS
00030	Terminal doesn't receive the message lenght expected (time out)	Il terminale non riceve la lunghezza del messaggio atteso dal Host (Timeout) tramite modem GPRS
00031	Terminal doesn't receive the message (time out)	Il terminale non riceve il messaggio atteso dal Host (Timeout) tramite modem GPRS
00051	Gprs modem doesn't reply	Il modem GPRS non risponde
00052	The out come of the command sent is not what it was expected to be	L'esito del comando inviato al modem GPRS non è quello atteso
Protocol Error En		***Protocol Error It***
00000	Terminal is not able to raise a connection	Terminale non riesce ad effettuare la connessione
00001	Terminal doesn't receive ENQ	Il terminale non riceve ENQ
00019	Terminal is not able to send a message to hotst	Il terminale non riesce a spedire un messaggio verso Host
00029	Terminal does't receive the expected message from the host	Il terminale non riceve il messaggio atteso dal Host (Timeout)
Net Error En		***Protocol Error It***
00400	Terminal is not able to open SSL context	Il terminale non riesce ad aprire il contesto SSL
00401	CA certificate not present Not certificate for SSL	Manca il file contenente il certificato per l'autenticazione server SSL, certificato CA non presente
00402	CA certificate not present Filw with the ssl certification not	Il terminale non riesce a leggere il file contenente il certificato per l'autenticazione del server SSL,

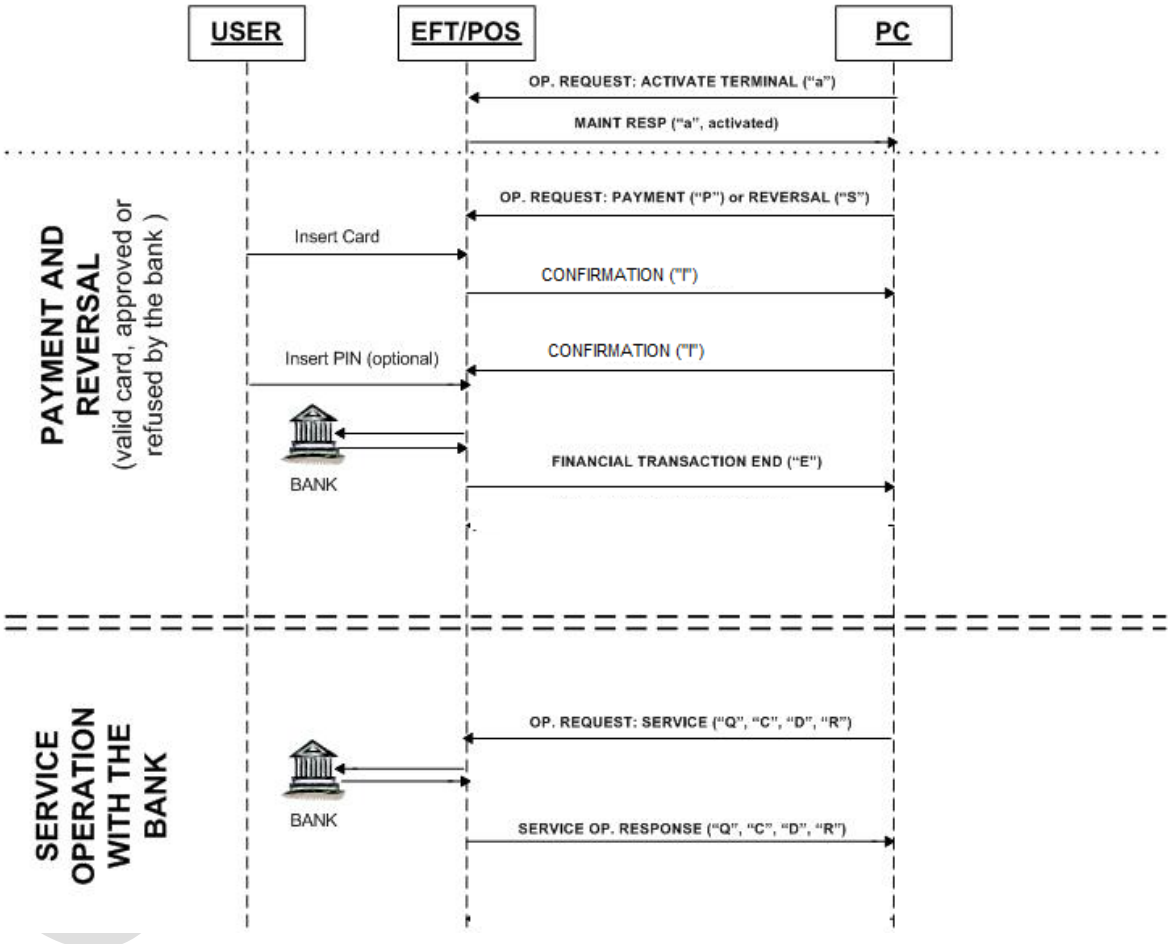
	readable	certificato CA non presente
00403	Terminal is not able to update SSL context	Il terminale non riesce ad aggiornare il contesto SSL con il certificato server
00404	Client certificate not present	Il terminale non riesce a leggere il file contenente il certificato per l'autenticazione client SSL, certificato client non presente
00405	Terminal is not able to update SSL context with the client certificate	Il terminale non riesce ad aggiornare il contesto SSL con il certificato client
00406	Wrong Client Password	Password del certificato client errata
00407	An error occurs during SSL activiation	Errore nell'attivazione della sessione SSL
00408	Socket creation error	Errore nella creazione del socket
00500	Socket error	Errore nell'associazione socket alla sessione SSL
00501	Connection error during connection to server SSL	Errore nella connessione al server SSL

Table 4 –Error codes

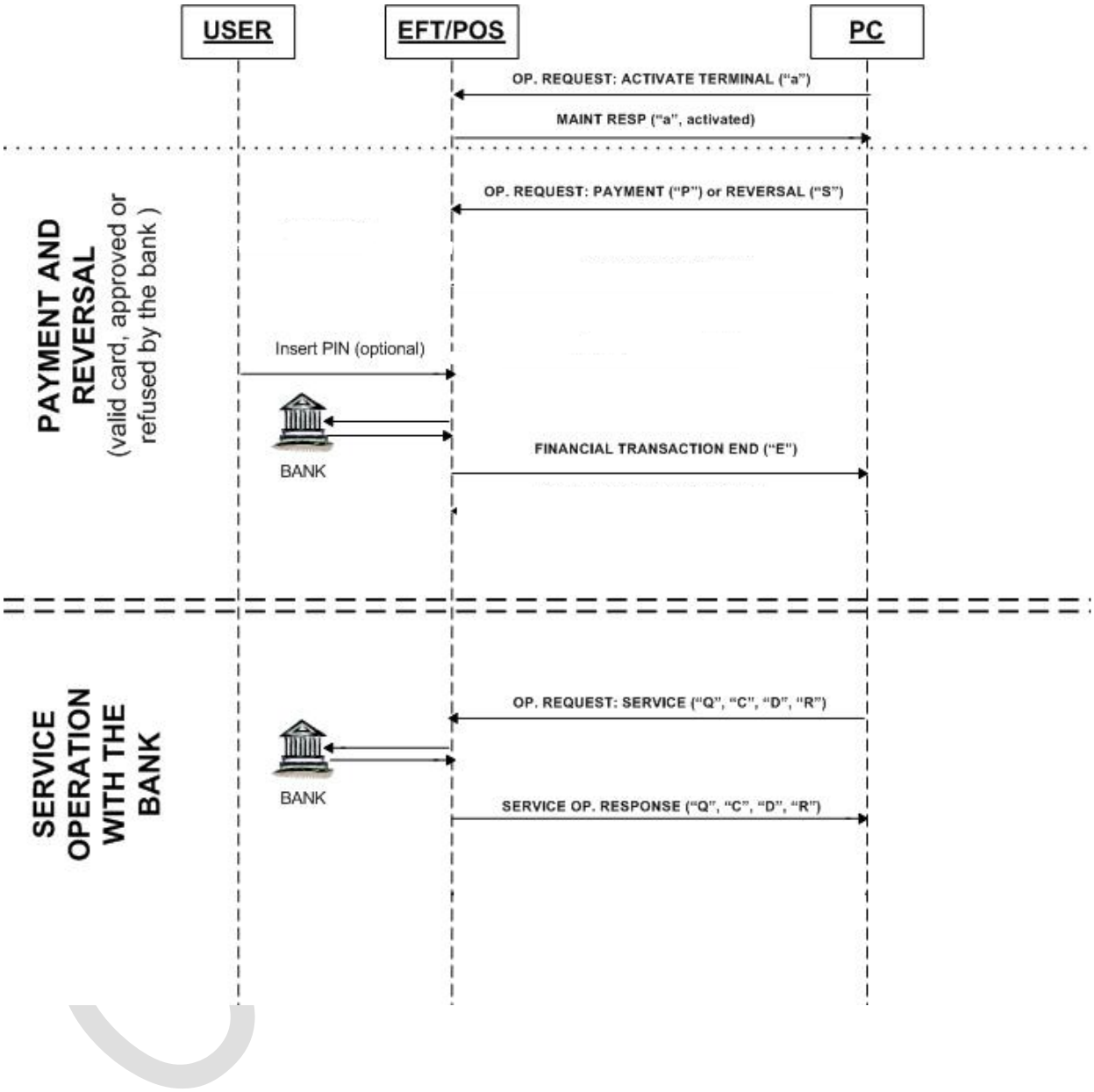
6_Sample of financial and maintenance sequences

Note : Flows are described without ACK & NACK

6_1 Financial and services operations (Magnetic Stripes and Chip)

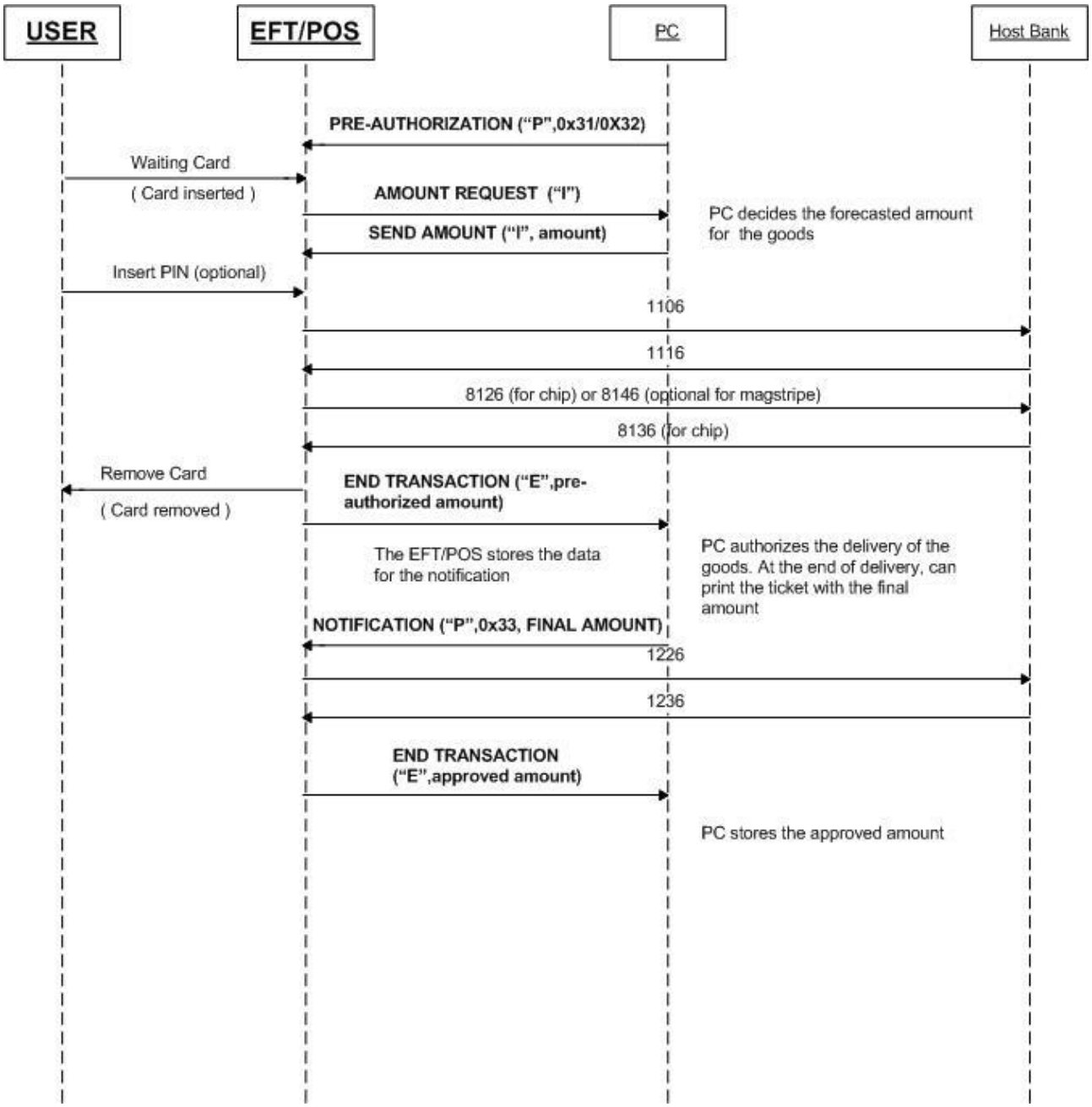


6_2 Financial and services operations (Contactless)

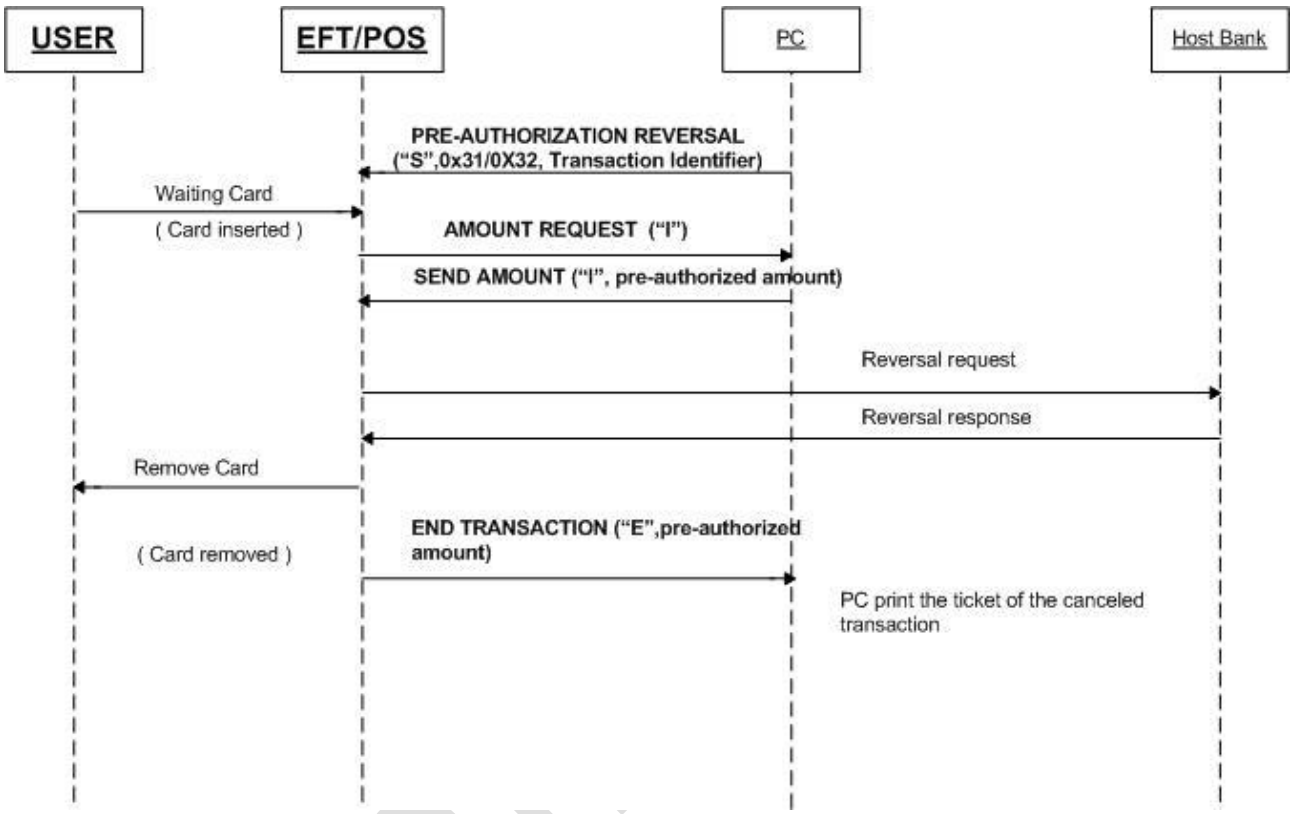


6_3 Pre-authorization and notification transactions PETROL

If pre authorization other services, card re presentation will be asked to perform settlement



6_4 Pre-authorization reversal transaction



7_Appendix A: Example of transaction ticket

The following table shows a possible ticket layout for payment and reversal transactions to be printed by the PC, using the response messages coming from the EFT/POS.

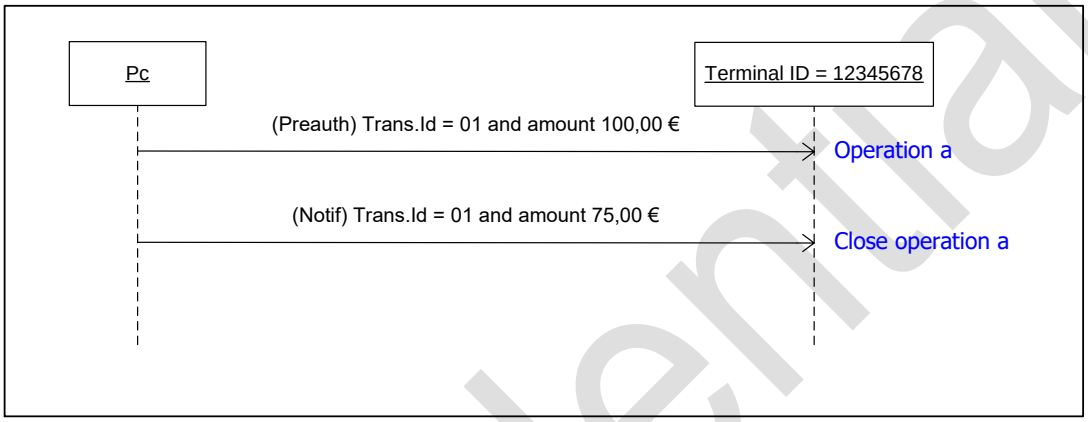
Row num	*row description*	*graphical info*	*Ticket layout*	*Notes (fields are referred to the response message "E")*
1	*<header row 1>*		*Text*	from field 103 first 24 characters
2	*<header row 2>*		*Text*	from field 103 characters from 25 to 48
3	*<header row 3>*		*Text*	from field 103 characters from 49 to 72
4	*blank row*			
5	<receipt title>	bold, double size font	**ACQUISTO**	fixed for Payment transactions
			STORNO	fixed for Reversal Transactions
6	<Acquirer name>	bold double size font		from field in position 62
7	*blank row*			
8	<transaction date/time>		DATA dd/mm/yyyy hh:mm	from field in position 49, without seconds
9	<terminal identifier>		TERMINAL ID: nnnnnnnn	from field in position 2
10	<acquirer identifier>		ACQ.CODE: nnnnnnnnnnn	from field in position 14
11	<merchant identifier>		ESERCENTE: nnnnnnnnnnnnnnn	from field in position 245
12	<card number>		PAN: nnnnnnnnnnnnnnnnnn	from field 78 for international cards (Field 34 ="1")
			C.ABI: nnnnn	from field 260 for national cards (Field 34 ="0")
13	<transaction number and approval code>		STAN: nnnnnn C.AUT.:nnnnnn	Stan from field 35, C.Aut from field 239
14	<transaction technology, Action Code>		I.C. MAG A.C.: nnn	for magstripe transactions (field 25 ="MAG"), AC from field 265
			I.C.: ICC A.C.: nnn	for chip transactions (field 25="ICC"), AC from field 265
15	< transaction amount>	bold, double size font	**EURO nnnnn,nn**	for approved transactions (field 12="00"), amount from field 41
		normal size, no bold	EURO nnnnn,nn	for refused transactions (field 12="01"), amount from field 41
16	*blank row*			
17	<message for POS>			message from field 223
18	*blank row*			
19	<transaction result description>		TRANSAZIONE ESEGUITA	fixed for approved transactions (field 12="00")
19			**********	fixed for refused transactions (field 12="01")
20			TRANSAZIONE NEGATA	fixed for refused transactions (field 12="01")

21			**********	fixed for refused transactions (field 12="01")
20 or 21	*blank row*			
21	<courtesy message>			only for approved transactions,from field 103 characters from 73 to 96
22	*blank row*			
23	<ticket footer >			only for approved transactions,from field 103 characters from 97 to 120

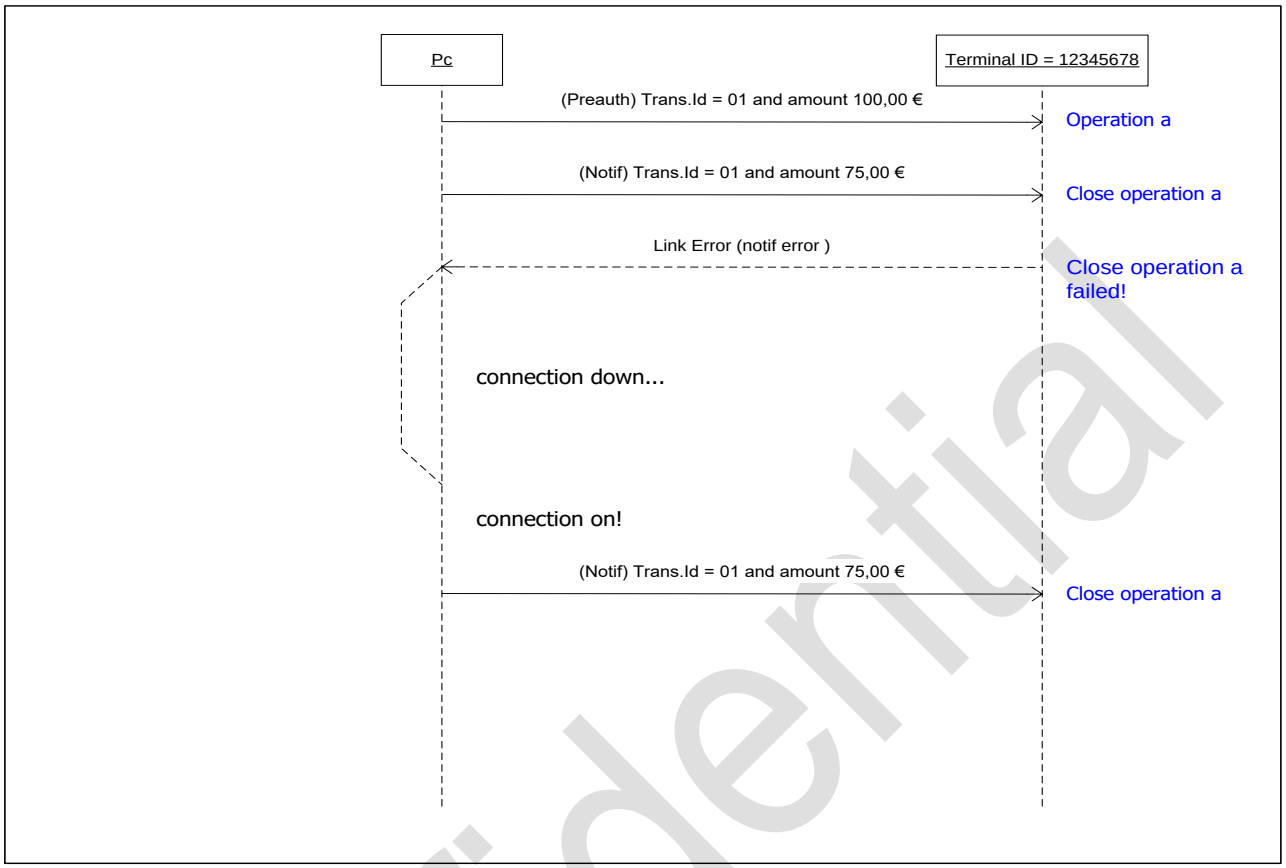
8_Appendix B: Example of possible preauthorization flows

The following diagrams show possible scenarios in preauthorization operations.

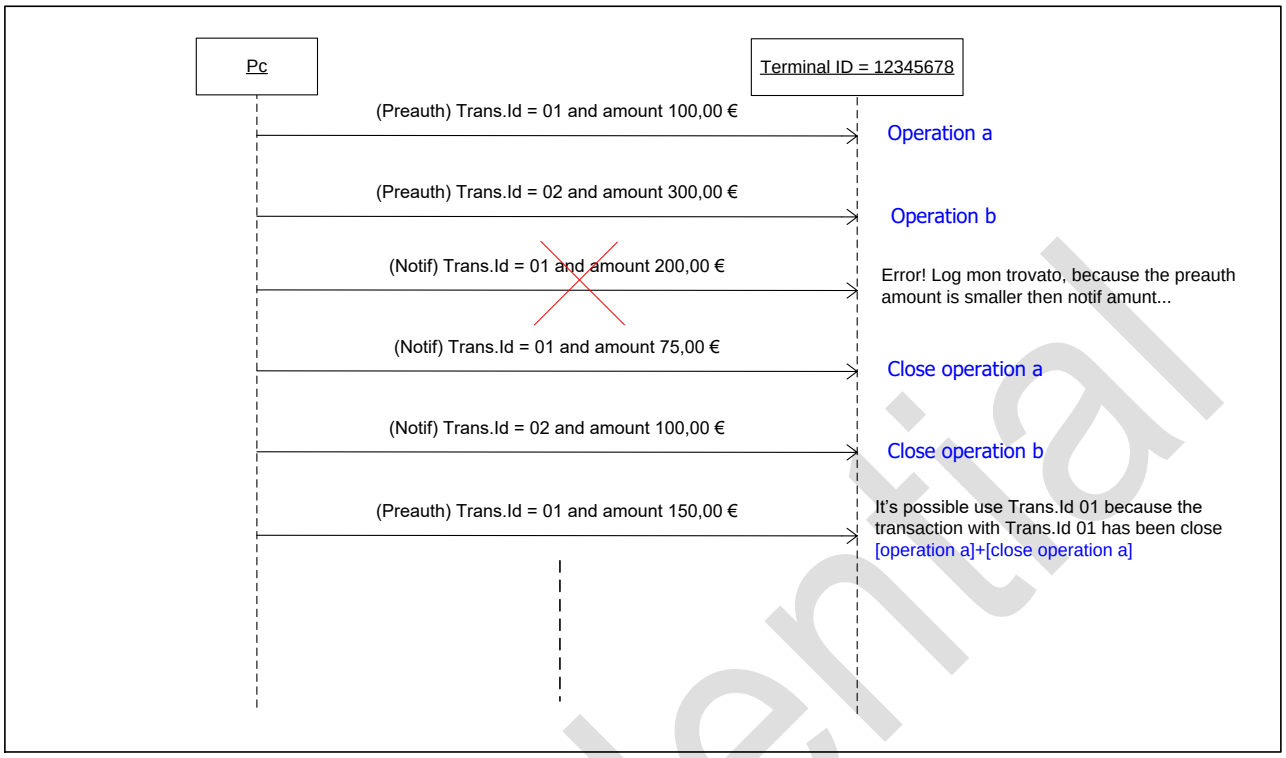
Case 1.



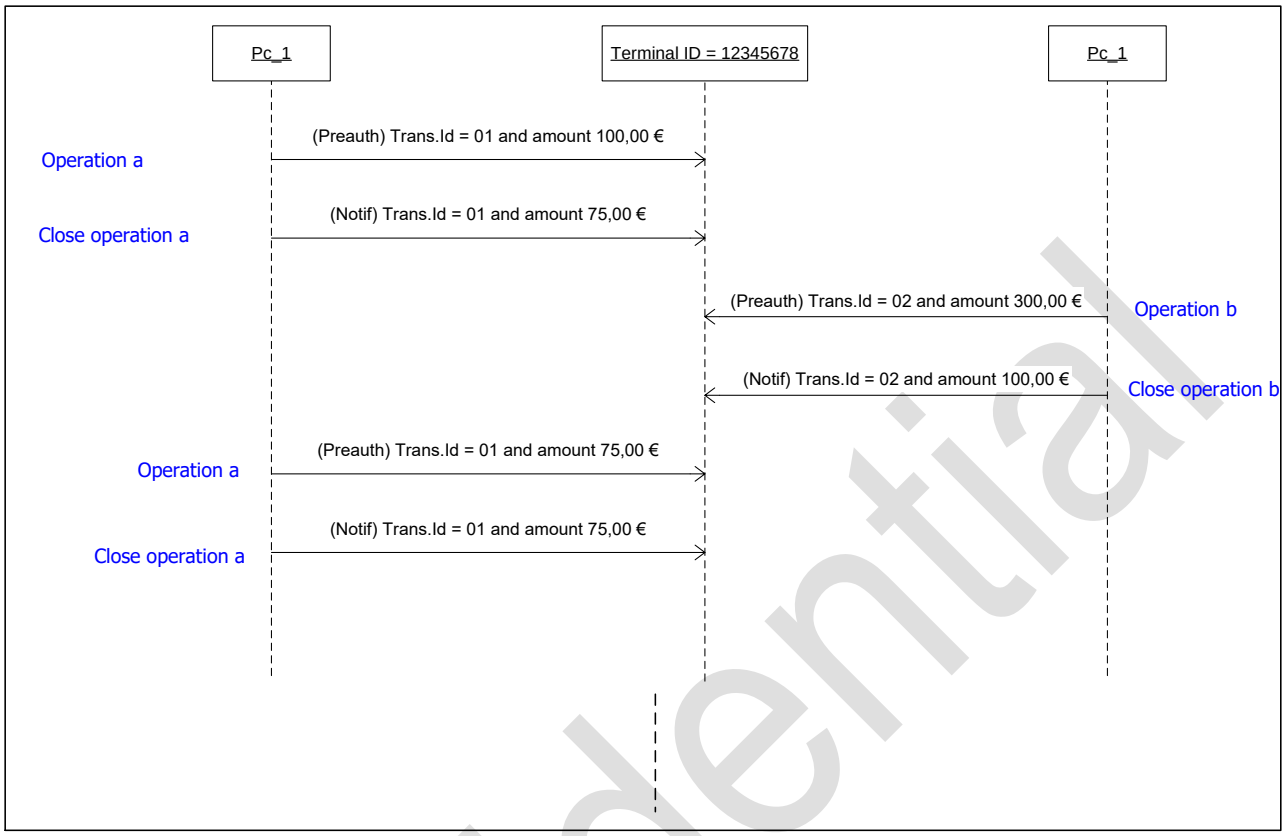
Case 2.



Case 3.



Case 4.



9_Appendix C: Backward compatibility

9_1 Start Operation Command message (PC -> EFT/POS)

WITHOUT ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Multilanguage flag	'0', for system language (default) '1', for Italian '2', for German '3', for Spanish '4', for Portuguese '5', for French '6', for English '7', for Dutch '8', for Romanian
11	1	A	Command Code	See Table 1 for possible codes
12	1	A	Activate Asynchronous Messages	"1" (0x31) request the EFT/POS to send asynchronous messages (see Chap. 4); this function can be activated only for the operations "P" (payment), "S" (reversal) and "C" (Close Session) "0" (0x30) the PC don't ask for asynchronous messages; this is the normal situation
13	1	A	Operation type	This field is used to specify the type of operation requested. The following values are valid only for "P" and "M" and "S" commands. For all the other commands, these 15 bytes field of the position 13, are filled to 0x30 (RFU) Codes for "P","M" command: "0" (0x30) purchase transaction "1" (0x31) pre-authorization for fuel vending machines "2"(0x32) pre-authorization for other vending machines

				"3" (0x33) notification of transaction with final amount (debit the card) for fuel vending machines "4" (0x34) notification of transaction with final amount (debit the card) for other vending machines "5" (0x35) purchase transaction with magstripe cards when the tracks are returned after a slave session; this kind of payment doesn't ask for card insertion. "8" (0x38) purchase transaction with card in "9" (0x39) purchase transaction to get BIN (first six digit of PAN) in clear. This kind of option can be applied under the approval of ACQUIRER. The ticket issued to the customer can have only the last 4 digit in clear. "6" (0x36) notification of transaction with final amount for fuel service without card presentation in silent mode (i.e. without any display on the terminal) Codes for "S" command: "3" (0x33) reversal without card insertion request, it will be reverse only the last transaction payment
14	2	A	Transaction identifier	This identifier is used to identify a complete operation of splitted payment (pre-authorization + notification). The PC has to specify this identifier in the pre-authorization requests ("P","M" with type="1" or "2"), in the notification requests ("P" with type ="3" or "4" or "6") and in the reversal requests ("S" with type = "2"). The PC shall store the identifier used in the pre-authorization request and use the same identifier when will send the notification requests or the pre-authorization reversal requests. The identifier is coded on 2 digit, in ASCII: example "05" (0x30 0x35) with the Most significant digit is in position 14 and the less significant digit is in position 15 . Valid values are from "01" to "99".

				For purchase operations (“P”,”M” command with type=”0”) and purchase reversal operations (“S” command with type=”0”) this field is not used and can be filled to “0” (0x30)
16	8	A	Final amount to debit	This field is used **only** for - Petrol notification operation (“P” ,”M”command with type = “3”). - Enabling cLess interface: cLess transactions do not send AMOUNT REQUEST. The amount is coded in hundredth of euros, filled with “0” (30 hex) characters on the left E.g.: “00004532” for € 45,32 For other operations this field is not used and can be filled to “0” (0x30)
24	4	A	RFU	This field is not used and has to be filled to “0” (0x30)
28	1	B	Etx (03 hex)	
29	1	B	Lcr	

WITH ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Multilanguage flag	‘0’, for system language (default) ‘1’, for Italian ‘2’, for German ‘3’, for Spanish ‘4’, for Portuguese ‘5’, for French ‘6’, for English ‘7’, for Dutch ‘8’, for Romanian
11	1	A	Command Code	See Table 1 for possible codes
12	1	A	Activate Asynchronous Messages	“1” (0x31) request the EFT/POS to send asynchronous messages (see Chap. 4); this function can be activated only for the operations “P”,”M” (payment with or without additional tag), “S” (reversal) and “C” (Close Session) “0” (0x30) the PC don’t ask for asynchronous

				messages; this is the normal situation
13	1	A	Operation type	This field is used to specify the type of operation requested. The following values are valid only for “P” and “M” and “S” commands. For all the other commands, these 15 bytes field of the position 13, are filled to 0x30 (RFU) Codes for “P”,”M” command: “0” (0x30) purchase transaction “1” (0x31) pre-authorization for fuel vending machines “2”(0x32) pre-authorization for other vending machines “3” (0x33) notification of transaction with final amount (debit the card) for fuel vending machines “4” (0x34) notification of transaction with final amount (debit the card) for other vending machines “5” (0x35) purchase transaction with magstripe cards when the tracks are returned after a slave session; this kind of payment doesn’t ask for card insertion. “9” (0x39) purchase transaction to get BIN (first six digit of PAN) in clear. This kind of option can be applied under the approval of ACQUIRER. The ticket issued to the customer can have only the last 4 digit in clear. Codes for “S” command: “0” (0x30) reversal of last purchase operation “2” (0x32) reversal of the last pre-authorization operation for other vending machines “3” (0x33) reversal without card insertion request, it will be reverse only the last transaction payment
14	2	A	Transaction identifier	This identifier is used to identify a complete operation of splitted payment (pre-authorization + notification). The PC has to specify this identifier in the pre-authorization requests (“P”,”M” with type=”1” or ”2”), in the notification requests (“P”,”M” with type =”3” or “4”) and in the reversal requests (“S”

				with type = “2”). The PC shall store the identifier used in the pre-authorization request and use the same identifier when will send the notification requests or the pre-authorization reversal requests. The identifier is coded on 2 digit, in ASCII: example “05” (0x30 0x35) with the Most significant digit is in position 14 and the less significant digit is in position 15 . Valid values are from “01” to “99”. For purchase operations (“P”,”M” command with type=”0”) and purchase reversal operations (“S” command with type=”0”) this field is not used and can be filled to “0” (0x30)
16	8	A	Final amount	This field is filled with the amount For other operations this field is not used and can be filled to “0” (0x30)
24	4	A	RFU	This field is not used and has to be filled to “0” (0x30)
28	1	N	Filler	RFU value, filled with ‘0’ characters (30 hex)
29	2	N	ISO Number to get the extended data from Host	ISO NUMBER Show the ISO-8583 field filled with the date send by the GT , these date need to be sent to ECR DefaultValue = 0 , o means no data to send to ECR If there is a value <> 0 it means : -where to get the information from the GT -Sending message additional data mandatory Currently the value is fixed to “62”
31	8	A	TAG Number where to get the extended data from Host.	Tag Number Show the TAG where taking data from the GT to send to ECR This field shall be taken in consideration only if the ISO number is < > 0 The field is left aligned filled with blank (right) Currently the length is fixed to 255 Currently the value is fixed to “DF8D01”
39	1	N	Filler	RFU value, filled with ‘0’ characters (30 hex)
40	4	N	Tags Index that indicate which and how many tags should be sent to the host	Index of the private TAG with additional tag to send to GT The filed shall be considered like a byte map where each byte is a single index If fixed to 0 → no tag present to send to GT

				A value from 1 to 9 means base value of the tag Ex. 2=DF8102 The common part to send is "DF81" Ex. No tag → 0000 Ex. Tag with index=2 = 2000 → DF8102 Ex.Tag with index=5 and 8 = 5800 → DF8105-DF8108 Allowed index range value 5,6,7,8
44	5	N	Filler	RFU value, filled with '0' characters (30 hex)
49	100-V (n)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
50 + n	100-V (n1)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
51 + n1	100-V (n2)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
52 + n2	100-V (n2)	A	Extended data to send to the host through the TAGs indicated the the previous field	Private Tag content Max length 100 char Min length 1 char The field is always closed by 0x1b, it means 0x1b is mandatory
53 + n2	1	B	ETX (03 hex)	
54 + n2	1	B	LCR	

9_2 Financial Transaction Error Response message (EFT/POS -> PC)

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value

11	1	A	"F" (46 hex)	Command code for this message
12	2	A	Error Code	See Table 2 for a list of possible error codes
14	16	A	Error Message – 1st line	Message originated by the bank which describe the error; if the message is not available, this field is filled with space (20 hex) characters
30	16	A	Error Message – 2nd line	Message originated by the bank which describe the error; if the message is not available, this field is filled with space (20 hex) characters
46	1	B	ETX (03 hex)	
47	1	B	LRC	

9_3 Financial Transaction End Response message (EFT/POS -> PC)

WITHOUT ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"E" (45 hex)	Command code for this message
12	2	A	Transaction result	This field contains the result of the transaction. Possible result codes are: "00" (0x30,0x30) approved Other values are used for transaction refused. See Table 2 for the description of other possible result codes.
14	11	A	Acquirer ID	This identifier is defined at national level to recognize the acquirer of the transaction (see AIIC , bit 32 of ISO8583)
25	3	A	Transaction type	Technology used : "ICC" for EMV transaction "MAG" for magstripe transaction "CLI" for contactless
28	6	A	Ticket number echo	Echo of the equivalent value received in the Sending Amount message ; can be also used by the application payment on the terminal For response to notification request, this field is filled to all spaces (0x20)
34	1	A	Card Type	Specify if the transaction has been done with a national debit card (in Italy is Pagobancomat) or an

				international credit or debit card (eg Maestro, Visa). Possible values are: "0" national debit card "1" international card
35	6	A	STAN	System Trace Audit Number assigned to the transaction (see bit 11 ISO8583)
41	8	A	Approved or Authorized. Amount	This value is the amount approved for a purchase, notification, or purchase reversal transactions (see bit 4 ISO8583). For pre-authorization transaction, this value is the amount authorized for the card. The PC shall check if this amount is sufficient for the final amount. For notification transaction, this amount is the debited amount to the card. The amount is coded in hundredth of euros, filled with "0" (30 hex) characters on the left Eg: "000000004532" for € 45,32
49	12	A	Transaction data and time	Data and time in the format "ddmmyyhhmmss"
61	1	A	Approval type	Indicate if the transaction has been approved or refused online by the bank or offline; possible values are: "0" offline "1" online
62	16	A	Acquirer Name	This field contains the name of the acquirer bank which approved or refused the transaction; is right-filled with spaces (20 hex); all spaces if not available; eg.: "PAGOBANCOMAT "
78	19	A	PAN	PAN truncated according to the requirements of the card associations For response to notification request, this field is filled with spaces (0x20)
97	5	A	RFU	"0"
103	120	A	Receipt rows	5 Rows of 24 characters to be printed on the receipt on the following order: header, 1st row, 2nd row, courtesy message, footer (see [2] for example of layouts) For response to notification request, this field is filled to all blanks (0x20).
223	16	A	Message for POS (see [3])	Bank originated message for this transaction to be printed and /or displayed ONLY if the transaction was not approved
239	6	A	Approval code (see [1])	Approval code as defined in bit 38 ISO8583 For response to notification request, this field is filled with spaces (0x20)

([3]) This data cannot be stored on the PC; it is responsibility of the PC application to discard this data after its use for the receipt printing.

245	15	A	Merchant identifier (see [1])	Identifier assigned by the bank (see TAG 9F16 in [4])
260	5	A	Issuer code (see [1])	Issuer code for debit talian card; filled with spaces for international branded cards
265	3	A	Action Code (see [1])	Code assigned by the bank describing the reason of the refusal and inform the terminal of specific situations (see bit 39 in ISO8583); is "000" for approved transaction
268	2	A	Authorization Response Code	This field has a value only for the chip transactions and is the same as the EMV TAG 8A (see [4]). For the magstripe transactions is filled with spaces (0x20) For response to notification request, this field is filled with spaces (0x20)
270	1	A	Operation type	This field is the echo of the same field used in the Start Operation Command message (see §3.1) and is used to inform the PC that this is the response to the requested operation.
271	2		Transaction identifier	This field is the echo of the same field used in the request (see §3.1). For purchase operations , this field is not used and filled with "0" (0x30)
273	1	B	ETX (03 hex)	
274	1	B	LRC	

WITH ADDITIONAL TAG				
Position	**Length**	**Type**	**Content**	**Notes**
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"t" (74 hex)	Command code for this message
12	2	A	Transaction result	This field contains the result of the transaction. Possible result codes are: "00" (0x30,0x30) approved Other values are used for transaction refused. See Table 2 for the description of other possible result codes.
14	11	A	Acquirer ID	This identifier is defined at national level to recognize the acquirer of the transaction (see AIIC , bit 32 of ISO8583)
25	3	A	Transaction type	Technology used : "ICC" for EMV transaction "MAG" for magstripe transaction "CLI" for contactless

28	6	A	Ticket number echo	Echo of the equivalent value received in the Sending Amount message ; can be also used by the application payment on the terminal For response to notification request, this field is filled to all spaces (0x20)
34	1	A	Card Type	Specify if the transaction has been done with a national debit card (in Italy is Pagobancomat) or an international credit or debit card (eg Maestro, Visa). Possible values are: "0" national debit card "1" international card
35	6	A	STAN	System Trace Audit Number assigned to the transaction (see bit 11 ISO8583)
41	8	A	Approved or Authorized. Amount	This value is the amount approved for a purchase, notification, or purchase reversal transactions (see bit 4 ISO8583). For pre-authorization transaction, this value is the amount authorized for the card. The PC shall check if this amount is sufficient for the final amount. For notification transaction, this amount is the debited amount to the card. The amount is coded in hundredth of euros, filled with "0" (30 hex) characters on the left Eg: "000000004532" for € 45,32
49	12	A	Transaction data and time	Data and time in the format "ddmmyyhhmmss"
61	1	A	Approval type	Indicate if the transaction has been approved or refused online by the bank or offline; possible values are: "0" offline "1" online
62	16	A	Acquirer Name	This field contains the name of the acquirer bank which approved or refused the transaction; is right-filled with spaces (20 hex); all spaces if not available; eg.: "PAGOBANCOMAT "
78	19	A	PAN	PAN truncated according to the requirements of the card associations For response to notification request, this field is filled with spaces (0x20)
97	5	A	RFU	"0"
102	12	A	Pre-authorization code	This field has a value only for pre-authorization operation for other vending machines. For backword compatibility the field can be missing (deprecated)
102	1		RFU	RFU field ; set to "*" (0x2A)
103	120	A	Receipt rows	5 Rows of 24 characters to be printed on the receipt on the following order: header, 1st row, 2nd row, courtesy message, footer (see [2] for example of layouts)

				For response to notification request, this field is filled to all blanks (0x20).
223	16	A	Message for POS (see [4])	Bank originated message for this transaction to be printed and /or displayed ONLY if the transaction was not approved
239	6	A	Approval code (see [1])	Approval code as defined in bit 38 ISO8583 For response to notification request, this field is filled with spaces (0x20)
245	15	A	Merchant identifier (see [1])	Identifier assigned by the bank (see TAG 9F16 in [4])
260	5	A	Issuer code (see [1])	Issuer code for debit talian card; filled with spaces for international branded cards
265	3	A	Action Code (see [1])	Code assigned by the bank describing the reason of the refusal and inform the terminal of specific situations (see bit 39 in ISO8583); is "000" for approved transaction
268	2	A	Authorization Response Code	This field has a value only for the chip transactions and is the same as the EMV TAG 8A (see [4]). For the magstripe transactions is filled with spaces (0x20) For response to notification request, this field is filled with spaces (0x20)
270	1	A	Operation type	This field is the echo of the same field used in the Start Operation Command message (see §3.1) and is used to inform the PC that this is the response to the requested operation.
271	2		Transaction identifier	This field is the echo of the same field used in the request (see §3.1). For purchase operations , this field is not used and filled with "0" (0x30)
273	3	N	length of the next field	Next data Length It is filled by the Gt
276	255 -V (n)	A	Additional data coming from the Host	Additional data to send to the ECR
277 + n	1	B	ETx (03 hex)	
278 + n	1	B	LRC	

9_4 Response to Get EMV Transaction Data message (EFT/POS -> PC)

This message is sent by the terminal in response to the Get EMV Trasaction Data command ("V").
The message returns to the PC the relevant EMV data of the last executed transaction.

([4]) This data cannot be stored on the PC; it is responsibility of the PC application to discard this data after its use for the receipt printing.

The EMV data are expressed in Hex decimal values: for example the value of 0x40 is returned as the character string of "40" (i.e. 0x34 0x30). When available, the corresponding EMV TAG value is reported in the brackets ().
For the complete description and format of the EMV data, see [4].

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"V" (56 hex)	Command code for this message
12	2	A	Command result	This field contains the result of the command execution. Possible result codes are: "00" success – EMV data available "01" error – EMV data not available – all the fields are filled with blank. Other values are RFU
14	14	A	AID_L14	**(DEPRECATED)** Application Identifier L14 (4F) See FIELD « AID ».
28	10	A	TVR	Terminal Verification Results (95)
38	16	A	AC	Application Cryptogram
54	64	A	IAD	Issuer Application Data (9F10)
118	2	A	ARC	Authorisation Response Code (8A)
120	16	A	APPL LABEL	Application Label (50)
136	4	A	ATC	Application Transaction Counter (9F36)
140	3	A	TCC	Terminal Country Code (9F1A)
143	2	A	TT	Transaction Type (9C)
145	3	A	TrCC	Transaction Currency Code (5F2A)
148	8	A	UN	Unpredictable Number (9F37)
156	4	A	TSI	Transaction Status Information (9B)
160	30	A	TAC	Terminal Action Codes in the following order: Default, Denial, Online
190	6	A	CVMR	Cardholder Verification Method Results (9F34)
196	4	A	AUC	Application usage Control (9F07)
200	4	A	AIP	Application Interchange Profile
204	30	A	IAC	Issuer Action Codes in the following order: Default, Denial, Online (9F0D, 9F0E, 9F0F)
234	2	A	CID	Cryptogram Information Data (9F27)
236	1	A	OPS	Online Processing Status: "0" = transaction completed OFFLINE "1" = transaction completed ONLINE "2" = transaction completed as "UnableToGo Online"
237	16	A	ApplPN	Application Preferred Name (9F12)
253	4	A	CTQ	PayWave Card Transaction Qualifiers (9F6C)
257	16	A	AID	Application Identifier (4F)
273	1	B	ETX (03 hex)	

274	1	B	LRC	

9_5 Get Terminal Configuration Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as response to the Get Terminal Configuration command.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"c" (63 hex)	Command Code for this message
12	12	A	P/N Reader	Reader Product code
24	12	A	S/N Reader	Reader serial number
36	12	A	P/N Keyboard	Pin Pad Product code
48	12	A	S/N Keyboard	Pin Pad serial number
60	2	A	Client code	Specify a customer specific code
62	12	A	EMV Release	Release of the EMV application
74	4	A	CRC EMV	CRC of the EMV application
78	4	A	Release OS	Operating system info
82	4	A	CRC OS	Operating system info
86	4	A	Release SSA	Operating system info
90	12	A	Release Kernel EMV	Release of the EMVCo certified kernel (Selection/transaction)
102	16	A	Release sw modem GPRS	If GPRS modem not present, this field is filled with spaces (0x20)
118	8	A	Version of IFM	Description of the IFM module EMVCo certified
126	10	A	Date of certificate	Format dd/mm/aaaa
136	8	A	CRC of the certificate	
144	8	A	RFU	Filled with spaces (0x20)
152	4	A	Release Ecr	Release of the ECR application
156	4	A	CRC Ecr	CRC of the ECR application
160	1	B	ETX (03 hex)	
161	1	B	LRC	

9_6 Get CB2 certificate information message (PC -> EFT/POS)

This message is sent from the ECR to the EFT/POS to get the CB2 certificate information.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"f" (66 hex)	Command Code for this message
12	16	A	RFU	Filled with spaces (0x20)
28	1	B	ETX (03 hex)	
29	1	B	LRC	

9_7 Get CB2 certificate information Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as a response to the "Get CB2 certificate information" command.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"f" (66 hex)	Command Code for this message
12	1	A	CA Secret Index	CB2 Key Index Used (Can be "0" if it doesn't exist or it can be"1" or"2"or"3".)
13	4	A	CB2 Public Expiry Date	Certificate Expiry Date (MMYY)
17	1	A	CB2 Secret Present	CB2 Key Present or not ("0" if present, "1" if not present)
18	1	A	CB2 Secret Type	Type of the loaded key ("0": production; "1": test)
19	8	A	RFU	Filled with spaces (0x20)
27	1	B	ETX (03 hex)	

28	1	B	LRC	

10_Appendix D: Time Out

	Time Out
Waiting Card	60 sec
Confirm Transaction	30 sec
Select Application	20 sec
Fill out Pin form	180 sec (30 sec since last pinpad input)
Waiting Connection to Gateway	Defined in Gateway Line Data
Waiting answer from Gateway	Defined in Gateway Line Data
Extract card	60 sec
Waiting Ack / Nack	5 sec

11_Features

11_1 Tms Parameter

Tms allows to update Sw remotely (feature available only after commercial agreement)

11_1_1 Set TMS Parameters Command message (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to set configuration parameters to connect to the TMS host for maintenance operations (update software, download new data, etc.).

See §3_15 for the response message to this command.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	“x” (78 hex)	Command Code for this message
12	1	A	“T” (54 hex)	“T” Identification Line
13	1	A	Line	Specify communication channel, possible values are: “4” , for Gprs “8”, for Ethernet
14	1	A	Protocol	Specify communication protocol : Values / Header / SSL “0” / NO / NO “1” / NO / YES “5” / YES / NO “6” / YES / YES Default value: ”0”
15	18	A	Telephone number	RFU Filled with spaces characters (0x20)
33	17	A	Nua	RFU Filled with spaces characters (0x20)
50	1	A	Gsm Protocol	Specify Gprs Protocol, possible values are: “0”, transparent, no v110, no preferred “2”, transparent, v110, no preferred “7”, no transparent, v110, preferred
51	5	A	Speed	RFU Filled with spaces characters (0x20)
56	15	A	Server IP	Specify Ip Address of Maintenance Host
71	5	A	Server Port	Specify Port of Maintenance Host
76	24	A	APN	Specify the APN in Gprs connection, blank in Ethernet Connection

100	24	A	User Name	Specify user name in Gprs connection, blank in Ethernet Connection
124	24	A	Password	Specify password in Gprs connection, blank in Ethernet Connection
148	15	A	Local IP	Specify Local Ip in Ethernet connection, blank in Gprs Connection
163	15	A	Subnet Mask	Specify Subnet Mask in Ethernet connection, blank in Gprs Connection
178	15	A	Gateway	Specify Gateway in Ethernet connection
193	15	A	Gateway Backup	Specify Gateway backup in Ethernet connection
208	5	A	Local Port	Specify Local port in Ethernet connection, blank in Gprs Connection
213	1	A	DHCP	Set DHCP, possible values are: "0", not enable "1", enable default value: "0"
214	16	A	Service field	RFU
230	1	B	ETX (03 hex)	
231	1	B	LRC	

11_1_2 Start Download SW Command "y"

Download can be activate using "y" as a code in Start operation command

Ascii Value	Hex	Command Name	Description
"y"	79	Start Software Maintenance	Ask the terminal to start a connection with the remote Terminal Management System (TMS) for code and data download; this command can be sent only after has been sent to the EFT/POS terminal the parameters for connecting to the TMS (see Set TMS Parameters command, §11_1_1); see §3_15 for the response message to this command.

11_2 Sleep Mode

Sleep Mode has to be used only if there are power consumption constraints , typical use case is inside Parking Meters.

Please note

Wake Up is driven by :
Com →Pin 2
Card insertion in iUr250
Green Key pressed on iUp250 (key has to be hold for 1 second)

11_2_1 Sleep Mode Activation

Sleep mode can be activate using “p” as a code in Start operation command, Sleep mode takes about 10 seconds

“p”	70	Sleep Mode	Sleep Mode has to be used only if there are power consumption constraints , typical use case is inside Parking Meters. Command sends the device to “Sleep”

11_2_2 Response to Sleep Mode

This message is sent back by the terminal to the pc in reply to “Send To Sleep” command.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	“p” (70 hex)	Command code for this message
12	1	A	Command Result	“0” : success “1” : terminal busy, device cannot be sent to sleep
13	1	B	ETX (03 hex)	
14	1	B	LRC	

11_2_3 Sleep Mode Activation (Extended)

Sleep mode (extended) can also be activate using "w" as a code in Start operation command, Sleep mode takes about 10 seconds

"w"	77	Sleep Mode (Extended)	Sleep Mode has to be used only if there are power consumption constraints , typical use case is inside Parking Meters. Command sends the device to "Sleep"

Operation type field contains Sleep type (Light/Deep) and Final Amount field contains Delay time. See §3.1.

11_2_4 Response to Sleep Mode (Extended)

This message is sent back by the terminal to the pc in reply to "Send To Sleep" command.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"w" (77 hex)	Command code for this message
12	1	A	Command Result	"0" : success "1" : terminal busy, device cannot be sent to sleep
13	1	B	ETX (03 hex)	
14	1	B	LRC	

11_3 Sharing Connectivity

This special feature allows the POS to use an "external intelligent device" to exchange messages which the Payment Gateway without having a real connection.

If the terminal needs to connect to the Terminal Administrator, it will request to the external device to raise a connection though the message "Open Line" this can happen both inside and outside a transaction

If SSL3 is required on the IP channel to be opened, the specific SSL3 certificate is on the remote device that uses it to fully autonomously to open the requested channel.

From the moment with the channel is opened until the close line command is received, the remote device acts like a pass-through - everything that arrives from the line is passed to the terminal and vice versa.

During this exchange an ACK for each message is needed, if during the exchange there will be some asynchronous messages they will not need an "Ack" as standard behaviour

Terminal can close the channel sending close line command; the channel is really closed when terminal receives the close confirmation message.

The close line command can also be sent by the remote device to the terminal if, for example, the line with the terminal administrator is interrupted before the end of the originally requested procedure; when the remote devices send close connection command, no confirmation message is needed.

11_3_1 "Open Connection" message (from Terminal)

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"K" (4B hex)	Command code for this message
12	6	N	Fixed Value (30 hex)	RFU value
18	1	N	Requested connection type flag	0 = Ethernet without SSL 1 = Ethernet with SSL
19	15	A	IP	The IP field is formatted with divider points. The field is flush left with justified blanks. I.e.: "10.456.789.65 "
34	5	A	PORT	The field is flush left with justified blanks. I.e.:"1234 "
39	20	A	Fixed Value (30 hex)	RFU
59	1	B	ETX (03 hex)	
60	1	B	LRC	

11_3_2 "Open line" result message (from ECR)

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"K" (4B hex)	Command code for this message
12	10	A	Fixed Value (30 hex)	Rfu
22	2	N	Transaction Result	Transaction result "00" = Line open command run ! "00" = Command not run The following table lists the possible values
24	1	B	ETX (03 hex)	
25	1	B	LRC	

Result	Meaning
01	Remote line not found. No connection. Target does not respond
02	SSL session error
03	Line down

11_3_3 "Close line" request message (from Terminal or ECR)

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"k" (6B hex)	Command code for this message
12	12	N	Fixed Value (30 hex)	RFU value
24	1	B	ETX (03 hex)	
25	1	B	LRC	

"Close line" confirmation message (from Terminal)

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"k" (6B hex)	Command code for this message
12	10	N	Fixed Value (30 hex)	RFU value
22	2	N	Transaction Result	Transaction result "00" = Line open command run ! "00" = Command not run
24	1	B	ETX (03 hex)	
25	1	B	LRC	

11_3_4 Data exchange protocol description

After sending the positive result messages to the open line command, the remote device switches to pass-through mode.

Everything received from the external line is passed to the terminal and everything received from the terminal will be passed to the external line on the open channel. External channel management is only controlled by the remote device.

During this pass-through phase, exchanged messages are not included in the usual communications protocol used for all commands and described in paragraph "3.1. Application packet format".

In this pass-through phase, messages are sent with the sole addition of 8 characters at the heading:

- 4 synchronism characters with fixed value equal to the "@" character
- 4 total message length characters that follow in ASCII format

Example:

Pos.1	Pos.2	Pos.3	Pos.4	Pos.5	Pos.6	Pos.7	Pos.8	Pos.9
Sinc1	Sinc1	Sinc1	Sinc1	Length1	Length2	Length3	Length4	Live data
@	@	@	@	(from 30 to 39)	(from 30 to 39)	(from 30 to 39)	(from 30 to 39)	(In hex)

Data exchange in pass-through mode is ended when the "close line" request message described above is received.
The remote device and terminal, intercept the "close line" command, return to the original data exchange flow to end the procedure initiated and controlled by the remote device.

11_4 Auto-Configuration

Auto-Configuration commands allow to setup the terminal remotely.

11_4_1 Setup/Switch Terminal Id (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to configure/deconfigure/switch a terminal Id.
It is important to point up if it's needed to change a previous configured Terminal Id, it's required to delete it before configuring a new one.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	"00000000" if no Terminal Id has already been configured.
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"n" (6E hex)	Command Code for this message
12	1	N	Operation Type	"0" Config "1" Config by Slot "2" Delete (only configuration, not transactions) "3" Switch to TermId "9" Reset the whole configuration
13	8	N	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time Filled with blanks for Operation Type "9".
21	20	A	Host Code / Slot Name	This field contains a value on the basis of the Operation Type: "0", "2" and "3": Host Code (right filled with blanks) "1": Slot Name (right filled with blanks) "9": Filled with blanks.
41	20	A	Fixed Value (30 hex)	RFU value
61	1	B	ETX (03 hex)	
62	1	B	LRC	

11_4_2 Setup Line Parameters (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to configure Main, Backup and TMS Line parameters.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	Terminal Identifier
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"i" (69 hex)	Command Code for this message
12	1	N	Line	"0" Main Line "1" Backup Line "2" TMS Line
13	1	N	Line Type	"4" GPRS "5" Ethernet
14	1	N	Network Protocol	"5" TCP/IP "6" TCP/IP + SLL
15	1	N	Transport Protocol	"0" BT STANDARD "1" HEADER
16	2	N	SSL Certificate Number	"00" if Network Protocol != "6"
18	26	A	Host Code / Slot Name	HOST URL or IP (right filled with blanks)
44	5	N	Host Port	HOST Port
49	20	A	APN (GPRS)	Only for GPRS Line Type (right filled with blanks)
69	20	A	Login (GPRS)	Only for GPRS Line Type (right filled with blanks)
89	15	A	Password (GPRS)	Only for GPRS Line Type (right filled with blanks)
104	2	N	Connection Timeoud	In seconds
106	2	N	Answer Timeoud	In seconds
108	100	A	Fixed Value (30 hex)	RFU value
208	1	B	ETX (03 hex)	
209	1	B	LRC	

11_4_3 Setup Ethernet Parameters (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to configure Main, Backup and TMS Line parameters.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	Terminal Identifier
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"h" (68 hex)	Command Code for this message
12	1	A	DHCP	"0" NO "1" YES
13	15	A	IP	IP (right filled with blanks). Filled with blanks if DHCP = "1".
28	15	A	Subnet Mask	Subnet Mak (right filled with blanks). Filled with blanks if DHCP = "1".
43	15	A	Gateway 1	Gateway 1 (right filled with blanks). Filled with blanks if DHCP = "1".
58	15	A	Gateway 2	Gateway 2 (right filled with blanks). Filled with blanks if DHCP = "1".
73	15	A	DNS 1	DNS 1 (right filled with blanks).
88	15	A	DNS 2	DNS 2 (right filled with blanks).
103	32	A	Fixed Value (30 hex)	RFU value
135	1	B	ETX (03 hex)	
146	1	B	LRC	

11_4_4 Setup Options (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to configure the main terminal options.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	Terminal Identifier
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"j" (6A hex)	Command Code for this message
12	1	A	Customer Customization	"*" Don't Care "0" No customization …
13	1	A	PAN Truncation	"*" Don't Care "0" Type 0 "1" Type 1 "2" Type 2
14	1	A	Fixed Value (2A hex)	RFU value
15	1	A	Technical Parameter Ignore	"*" Don't Care "0" NO

<table>
<tr><td></td><td></td><td></td><td></td><td>“1” YES</td></tr>
<tr><td>16</td><td>1</td><td>A</td><td>Cless Parameters</td><td>“*” Don’t Care
“0” DEFAULT
“O” DEFAULT OFFLINE</td></tr>
<tr><td>17</td><td>1</td><td>A</td><td>Fixed Value (2A hex)</td><td>RFU value</td></tr>
<tr><td>18</td><td>2</td><td>A</td><td>Language</td><td>“**” Don’t Care
“IT”, “EN”, “DE”…</td></tr>
<tr><td>20</td><td>1</td><td>A</td><td>Card Holder Language</td><td>“*” Don’t Care
“0” NO
“1” YES</td></tr>
<tr><td>21</td><td>1</td><td>A</td><td>Fixed Value (2A hex)</td><td>RFU value</td></tr>
<tr><td>22</td><td>1</td><td>A</td><td>1^ Byte Field 22</td><td>“*” Don’t Care
“0” L only cless
“1” L always</td></tr>
<tr><td>23</td><td>2</td><td>A</td><td>Terminal CVM
[“00”-“FF”]</td><td>“**” Don’t Care
Otherwise, HEX representation of the following bitmap:
<table><tr><td>No CVM Required</td><td>0x08</td></tr><tr><td>Enciphered PIN for offline verification</td><td>0x10</td></tr><tr><td>Signature</td><td>0x20</td></tr><tr><td>Enciphered PIN for online verification</td><td>0x40</td></tr><tr><td>Plaintext PIN for ICC verification</td><td>0x80</td></tr></table></td></tr>
<tr><td>25</td><td>11</td><td>A</td><td>Prior No CVM</td><td>“*” Don’t Care
“0” NO
“1” YES</td></tr>
<tr><td>26</td><td>4</td><td>A</td><td>TAG EMV Ext
[“0000”-“FFFF”]</td><td>“****” Don’t Care
Otherwise, HEX representation of the following bitmap:
<table><tr><td>9F34</td><td>0x0001</td></tr><tr><td>9F33</td><td>0x0002</td></tr><tr><td>9B</td><td>0x0004</td></tr><tr><td>84</td><td>0x0008</td></tr><tr><td>9F63</td><td>0x0010</td></tr><tr><td>9F09</td><td>0x0020</td></tr><tr><td>9F6E</td><td>0x0040</td></tr></table></td></tr>
<tr><td>30</td><td>1</td><td>A</td><td>Chip Reader Card Lock</td><td>“*” Don’t Care
“0” NO
“1” YES</td></tr>
<tr><td>31</td><td>42</td><td>A</td><td>Fixed Value (30 hex)</td><td>RFU value</td></tr>
<tr><td>73</td><td>1</td><td>B</td><td>ETX (03 hex)</td><td></td></tr>
<tr><td>74</td><td>1</td><td>B</td><td>LRC</td><td></td></tr>
</table>

11_4_5 Setup Response message (EFT/POS -> PC)

This message is sent by the EFT/POS as response to a setup operation performed by the EFT/POS.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	Operation Code	Echo of the code of the requested Setup Operation
14	1	A	Setup command result	"0" Setup successful "1" Error "2" Parameters Error
15	1	B	ETX (03 hex)	
16	1	B	LRC	

11_4_6 Read Line Parameters request (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to read the PG line parameters.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	Terminal Identifier
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"%" (25 hex)	Command Code for this message
12	1	A	Fixed Value (30 hex)	
13	1	A	Line	"0" Main Line "1" Backup Line "2" TMS Line
14	14	A	RFU	Filled with blanks
28	1	B	ETX (03 hex)	
29	1	B	LRC	

11_4_7 Read Line Parameters response (EFT/POS -> PC)

This is the message sent by EFT/POS in response to command “Read line parameters”.

If “Line Type” is different from “use main line” (“9”):

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	Terminal Identifier
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	“%” (25 hex)	Command Code for this message
12	1	N	Read result	“0” OK != “0” Error – subsequent fields are all filled with blanks
13	1	N	Line Type	“4” GPRS “5” Ethernet
14	1	N	Network Protocol	“5” TCP/IP “6” TCP/IP + SLL
15	1	N	Transport Protocol	“0” BT STANDARD “1” HEADER
16	2	N	SSL Certificate Number	“00” if Network Protocol != “6”
18	26	A	Host Code / Slot Name	HOST URL or IP (right filled with blanks)
44	5	N	Host Port	HOST Port
49	20	A	APN (GPRS)	Only for GPRS Line Type (right filled with blanks)
69	20	A	Login (GPRS)	Only for GPRS Line Type (right filled with blanks)
89	15	A	Password (GPRS)	Only for GPRS Line Type (right filled with blanks)
104	2	N	Connection Timeoud	In seconds
106	2	N	Answer Timeoud	In seconds
108	100	A	Fixed Value (30 hex)	RFU value
208	1	B	ETX (03 hex)	
209	1	B	LRC	

If “Line Type” is “use main line” (“9”) – possible only when requested line is “Backup Line”:

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	Terminal Identifier
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	“%” (25 hex)	Command Code for this message
12	1	N	Read result	“0” OK
13	1	N	Line Type	“9” Use main line
14	1	B	ETX (03 hex)	
15	1	B	LRC	

11_5 PPP Management

PPP Management commands allow to manage the PPP connection

11_5_1 PPP Command (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to establish PPP connection, disconnect from the PPP connection and to check the PPP connection.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	"00000000" if no Terminal Id has already been configured.
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"!" (21 hex)	Command Code for this message
12	1	N	Operation Type	"0" PPP Connect "1" PPP Disconnect "2" PPP Status
13	1	A	Background	Indicates if the PPP Connection or the PPP Disconnection has to be done in background. In this case the response will be sent immediately and the PPP operation is done in background. Filled with blanks for Operation Type set to "2"
14	1	A	ComPort	Number of the COM used to negotiate the PPP "0": Com1 "1": Com2 "5": USB Filled with blanks for Operation Type different from "0".
15	6	A	BaudRate	Baudrate of the COM. It's suggested to set to "115200". Filled with blanks for Operation Type different from "0".
21	1	A	Datasize	Datasize of the COM. It's suggested to set to "8". Filled with blanks for Operation Type different from "0".
22	1	A	FlowControl	FlowControl of the COM. "0" No Flow Control "1" RTS/CTS management. It's not possible to manage it with all the serials: it depends on the hw capability of the POS model.

				It's suggested to set to "0" Filled with blanks for Operation Type different from "0".
23	1	A	Parity	Parity of the COM "0" Even "1" Odd "2" None It's suggested to set to "2" Filled with blanks for Operation Type different from "0".
24	1	A	Stop bit	Stop bit of the COM. It's suggested to set to "1". Filled with blanks for Operation Type different from "0".
54	30	A	Username	Username for the PPP Connection. It depends of the sw configuration of the PPP Server, but in some cases it's not necessary for a PPP connection with a machine loaded with Windows as Operating System. For a machine loaded with Linus as Operating System it's suggested to set this field to "IUC160B" Filled with blanks for Operation Type different from "0".
84	30	A	Password	Password for the PPP Connection. It depends of the sw configuration of the PPP Server, but in some cases it's not necessary for a PPP connection with a machine loaded with Windows as Operating System. For a machine loaded with Linus as Operating System it's suggested to set this field to " PPPpwd" Filled with blanks for Operation Type different from "0".
114	1	A	Operating System	Operating system of the PPP Server machine "1" Windows "2" Linux Filled with blanks for Operation Type different from "0".
115	3	3	Connection Timeout	Connection Timeout in seconds. We suggest to set it to "60" (one minute). Filled with blanks for Operation Type different from "0".
118	1		Default Route	Default route after PPP connection "0" No "1" Yes

				It's suggested to set to "1" Filled with blanks for Operation Type different from "0".
119	50		RFU	Filled with blanks
169	1	B	ETX (03 hex)	
170	1	B	LRC	

11_5_2 PPP Command response (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS in response to the PPP Command request.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"!" (21 hex)	Command Code for this message
14	1	A	Command result	"0" PPP Connected "1" PPP Disconnected "2" PPP Connecting (in case of field Background is set to "1") "3" PPP Disconnecting (in case of field Background is set to "1") "8" PPP Manager application not present "9" Generic Error
15	1	B	ETX (03 hex)	
16	1	B	LRC	

11_6 IDLE Verification

IDLE Verification command allow to know if the POS is in idle

11_6_1 IDLE Verification (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to verify if the POS is in idle or not.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	"00000000" if no Terminal Id has already been configured.
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"$" (24 hex)	Command Code for this message
12	20	A	RFU	Filled with blanks
32	1	B	ETX (03 hex)	
33	1	B	LRC	

11_6_2 IDLE Verification response (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS in response to the IDLE Verification request.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"$" (24 hex)	Command Code for this message
12	1	A	Command result	"0" The POS is not in idle "1" The POS is in idle
13	1	B	ETX (03 hex)	
14	1	B	LRC	

11_7 Switch to LLT

The Switch to LLT command allows to put the terminal in LLT mode.
Depending on the operations performed while in LLT mode, the terminal may reboot after the USB cable is disconnected.
The reboot always happens if any file is added, but no reboot occurs on read and delete operations.
This command never generates a response, even if no reboot occurs.

11_7_1 Switch to LLT request (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to perform the switch to LLT.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time.
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	“.” (2E hex)	Command Code for this message
12	20	A	RFU	Filled with blanks
32	1	B	ETX (03 hex)	
33	1	B	LRC	

11_8 Export Ingelogger log

The Export to Ingelogger log command allows to export logs taken with Ingelogger application to HOST disk, to an USB dongle, or to an FTP server.
The Ingelogger application must be properly configured through the TRACE.XML file.

11_8_1 Export log request (PC->EFT/POS)

This command is sent from the PC to the EFT/POS to export the logs to the desired device.
Note: to retrieve the logs exported to HOST, it is necessary to put the terminal in LLT mode.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time.
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"?" (3F hex)	Command Code for this message
12	1	A	Fixed Value (30 hex)	
13	1	A	Device where the logs will be exported	'0': HOST '1': USB '2': FTP
14	14	A	RFU	Filled with blanks
32	1	B	ETX (03 hex)	
33	1	B	LRC	

11_8_2 Export log response (EFT/POS->PC)

This response is sent from the EFT/POS to the PC as result of an Export log request.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"?" (3F hex)	Command Code for this message
12	1	A	Command result	'0': Command executed '1': Could not export to selected device '2': Ingelogger service not available '3': Ingelogger service not ready
13	1	B	ETX (03 hex)	
14	1	B	LRC	

11_9 Activate/Deactivate Ingelogger

The Activate/Deactivate Ingelogger command allows to activate or deactivate Ingelogger application and read Ingelogger activation status.
The Ingelogger application must be properly configured through the TRACE.XML file.

Important note: when Activate/Deactivate Ingelogger command is employed to activate or deactivate Ingelogger application, a Restart command (see Table 1) must be sent after the Activate/Deactivate request response. The Restart command is mandatory to complete Ingelogger status transition.

11_9_1 Activate/Deactivate request (PC->EFT/POS)

This command is sent from the PC to the EFT/POS to write or read Ingelogger activation status

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time.
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	";" (3B hex)	Command Code for this message
12	1	A	Fixed Value (30 hex)	
13	1	A	W/R command	'0': Deactivate Ingelogger '1': Activate Ingelogger '2': Read Ingelogger activation status
14	14	A	RFU	Filled with blanks
32	1	B	ETX (03 hex)	
33	1	B	LRC	

11_9_2 Activate/Deactivate response (EFT/POS->PC)

This response is sent from the EFT/POS to the PC as result of an Activate/Deactivate Ingelogger request

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"?" (3B hex)	Command Code for this message
12	1	A	Command result	'0': Command executed '2': Ingelogger service not available '3': Ingelogger service not ready
13	1	A	Ingelogger activation status	'0' Ingelogger is not active

				'1' Ingelogger is active '2' Unknown
14	1	B	ETX (03 hex)	
15	1	B	LRC	

11_10 Get P2PE configuration

This command reads P2PE related information.
Some information (PCI agreement) can only be read if the P2PE status is active (P2PE application is loaded on the terminal and operational).

11_10_1 Get P2PE configuration request (PC -> EFT/POS)

This command is sent from the PC to the EFT/POS to read the P2PE configuration.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time.
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"&" (26 hex)	Command Code for this message
12	20	A	RFU	Filled with blanks
32	1	B	ETX (03 hex)	
33	1	B	LRC	

11_10_2 Get P2PE configuration response (EFT/POS -> PC)

This message is sent from the EFT/POS in response to the Get P2PE configuration request.

Position	Length	Type	Content	Notes
1	1	B	STX (02 hex)	
2	8	A	Terminal Identifier	This is normally a configuration parameter defined by the bank and assigned to the EFT/POS terminal at installation time.
10	1	A	Fixed Value (30 hex)	RFU value
11	1	A	"&" (26 hex)	Command Code for this message
12	64	A	Terminal part number	Right padded with blanks
76	64	A	Terminal serial number (full)	Right padded with blanks
140	1	A	P2PE status	'0' Not active '1' Active
141	32	A	PCI agreement	Right padded with blanks
173	64	A	RFU	Filled with blanks
237	1	B	ETX (03 hex)	
238	1	B	LRC	

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