XFS4IOT Sample Messaging for Text Terminal Unit Draft 0.0.4 documentation

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XFS4IOT Sample Messaging for Text Terminal Unit Draft 0.0.4

This section describes the functions provided by a generic Text Terminal Unit (TTU) service. A Text Terminal Unit is a text i/o device, which applies both to ATM operator panels and to displays incorporated in devices such as TTU pads and printers. This service allows for the following categories of functions:

- Forms oriented input and output
- Direct display output
- Keyboard input
- LED settings and control All position indexes are zero based, where column zero, row zero is the top-leftmost position. If the device has no shift key, the ReadForm and Read commands will return only upper case letters. If the device has a shift key, these commands return upper and lower case letters as governed by the user's use of the shift key.

Documentation

Form and Field Definitions

This section outlines the format of the definitions of forms, the fields within them, and the media on which they are printed.

Definition Syntax

The syntactic rules for form, field and media definitions are as follows:

```
    White space               space, tab.
    Line continuation         backslash (\).
    Line termination          CR, LF, CR/LF; line termination ends a "keyword section" (
a keyword and its value[s]).
    Keywords                  must be all upper case.
    Names                     (field/media/font names) any case; case is preserved; Serv
ice Providers are case sensitive.
    Strings                   all strings must be enclosed in double quote characters (");
standard C escape sequences are  allowed.
    Comments                  start with two forward slashes (//); end at line terminati
on.
```

Other notes:

```
•    If a keyword is present, all its values must be specified; default values are used
only if the keyword is absent.
•    Values that are character strings are marked with asterisks in the definitions below
, and must be quoted as specified above.
•    Fields are processed in the sequence they are defined in the form.
•    The order of attributes within a form is not mandatory; the attributes may be define
```

```
d in any order.
•   All forms can be represented using either ISO 646 (ANSI) or unicode character encodi
ng. If the unicode representation is used then all Names and Strings are restricted to a
n internal representation of ISO 646 (ANSI) characters. Only the initialValue keyword va
lues can have double byte values outside of the ISO 646 (ANSI) character set.
•   If forms character encoding is unicode then, consistent with the unicode standard, t
he file prefix must be in Little Endian (xFFFE) or Big Endian (xFEFF) notation, such tha
t unicode encoding is recognized.
•   In the form definition file, where characters are expressed using standard C hexadec
imal escape sequences, the high order byte is defined first.  For example, "\x0041" woul
d represent the character 'A'.  This is independent of the encoding format of the form d
efinition file
```

Form/media definition files in multi-vendor environments

Although for most Service Providers directory location and extension of form/media definition files are configurable through the registry, the capabilities of Service Providers and or actual hardware may vary. Therefore the following considerations should be taken into account when applications use form definition files with the purpose of running in a multi-vendor environment:

```
•   Physical display area dimensions may vary from one text terminal to another.
•   Just-in-time form loading may not be supported by all Service Providers, which makes
it impossible to create dynamic form files just before displaying them (which in return
means that only the display data of the forms can be changed, not the -layout data such
as field positions).
•   Some form/media definition keywords may not be supported due to limitations of the h
ardware or software.
```

Form Definition

FORM	formname*	
BEGIN		
(required) **SIZE**	width height	Width of form Height of form
VERSION	major, minor, date*, author*	Major version number (default 0) Minor version number (default 0) Creation/modification date Author of form
(required) **LANGUAGE**	languageID	Language used in this form - a 16 bit value (LANGID) which is a combination of a primary (10 bits) and a secondary (6 bits) language ID (This is the standard language ID in the Win32 API; standard macros support construction and decomposition of this composite ID)
COPYRIGHT	copyright*	Copyright entry
TITLE	title*	Title of form
COMMENT	comment*	Comment section
[FIELD	fieldname*	One field definition (as defined in the next section) for each field in the form
BEGIN . . .		
END]		
END		

Field Definition

FIELD	fieldname*
BEGIN	

FIELD		*fieldname**	
	LANGUAGE	*languageID*	Language used for this field. See Form definition for detailed description. If unspecified defaults to form definition Language specification.
(required)	**POSITION**	*x, y*	Horizontal position (relative to left side of form) Vertical position (relative to top of form) The initial left upper position is referenced as (0,0)
(required)	**SIZE**	*width*, *height*	Field width Field height
	TYPE	*fieldtype*	Type of field: Text (default) Invisible Password (contents is echoed with '*') Graphic (ignored for ReadForm commands)
	SCALING	*scalingtype*	Information on how to size the Graphic within the field: BestFit (default) scale to size indicated ASIS render at native size Maintainaspect scale as close as possible to size indicated while maintaining the aspect ratio and not losing Graphic information. SCALING is only relevant for Graphics field types
	CLASS	*class*	Field class: Optional (default) Static Required
	KEYS	*keys*	Accepted input key types: Numeric Hexadecimal Alphanumeric This is an optional field where the default value is vendor dependent.
	ACCESS	*access*	Access rights of field: Write (default) Read ReadWrite
	OVERFLOW	*overflow*	Action on field overflow: Terminate (default) Truncate OverWrite
	STYLE	*style*	Display attributes as a combination of the following, ORed together using the "
	HORIZONTAL	*justify*	Horizontal alignment of field contents: Left (default) Right Center
	FORMAT	*formatstring**	This is an application defined input field describing how the application should format the data. This may be interpreted by the Service Provider.
	INITIALVALUE	*value**	Initial value. For Graphic type fields, this value will contain the filename of the Graphic image. The type of this Graphic will be determined by the file extension (e.g. BMP for Windows Bitmap). The Graphic file name must contain the full path. For example "C:\XFS\BSVCLOGO.BMP" illustrates the use of the full path name

END

Commands

TextTerminal.GetStatus

Description

This command reports the full range of information available, including the information that is provided by the Service Provider.

Command Message

Message Header

Name	Type	Default	Description
requestId **(Required)**	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string		The message type, either command, response, event or completion.
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000"
  }
}
```

Completion Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
device	string		Specifies the state of the device.
extra	array		Specifies a list of vendor-specific, or any other extended, information. The information is returned as a series of "key=value" strings so that it is easily extendable by Service Providers.
guidLights	array		Specifies the state of the guidance light indicators. A number of guidance light types are defined below. Vendor specific guidance lights are defined starting from the end of the array.
guidLights.flashRate	string		Indicates the current flash rate of the guidelight.
guidLights.color	string		Indicates the current color of the guidelight.
guidLights.direction	string		Indicates the current direction of the guidelght.

Name	Type	Default	Description
devicePosition	string		Position of the device.
powerSaveRecoveryTime	integer		Specifies the actual number of seconds required by the device to resume its normal operational state from the current power saving mode. This value is zero if either the power saving mode has not been activated or no power save control is supported
antiFraudModule	string		Specifies the state of the anti-fraud module
keyboard (Required)	string		Specifies the state of the keyboard.
keyLock (Required)	string		Specifies the state of the keyboard lock.
leds (Required)	string		Specifies the state of the LEDs. The maximum LED index is LEDMAX -1. The number of available LEDs can be retrieved with the Capabilities info command. This field is only provided for backwards compatibility; the ledEx parameter should instead be used to retrieve the LED status.
displaySizeX (Required)	string		Specifies the horizontal size of the display of the text terminal unit.
displaySizeY (Required)	string		Specifies the vertical size of the display of the text terminal unit
ledEx	object		Specifies the state of the LEDs.
ledEx.numOfLEDs	integer		This value specifies the number of LEDs, i.e. the size of the array returned in LEDs.
ledEx.led	string		This specifies the status of each.
ledEx.led.na	string		The Status is not available.
ledEx.led.off	string		The LED is turned off.
ledEx.led.slowFlash	string		The LED is blinking.
ledEx.led.mediumFlash	string		The LED is blinking medium frequency.
ledEx.led.quickFlash	string		The LED is blinking quickly.
ledEx.led.continuous	string		The LED is turned on continuous(steady).
ledEx.led.red	string		The LED is red.
ledEx.led.green	string		The LED is green.
ledEx.led.yellow	string		The LED is yellow.

Name	Type	Default	Description
ledEx.led.blue	string		The LED is blue.
ledEx.led.cyan	string		The LED is cyan.
ledEx.led.magenta	string		The LED is magenta.
ledEx.led.white	string		The LED is white.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "device": "online",
    "extra": [
      "string"
    ],
    "guidLights": [
      {}
    ],
    "devicePosition": "inposition",
    "powerSaveRecoveryTime": 0,
    "antiFraudModule": "notSupp",
    "keyboard": "on",
    "keyLock": "on",
    "leds": "na",
    "displaySizeX": "string",
    "displaySizeY": "string",
    "ledEx": {
      "numOfLEDs": 0,
      "led": "string"
    }
  }
}
```

Event Messages

TextTerminal.GetCapabilities

Description

This command is used to retrieve the capabilities of the text terminal unit.

Command Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000"
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error
class	string		Specifies the logical service class

Name	Type	Default	Description
compound	boolean		Specifies whether the logical device is part of a compound physical device
extra	array		Specifies a list of vendor-specific, or any other extended, information. The information is returned as a series of "key=value" strings so that it is easily extendable by Service Providers
guidLights	array		Specifies which guidance lights are available
guidLights.flashRate	object		Indicates which flash rates are supported by the guidelight.
guidLights.flashRate.slow	boolean		The light can blink slowly.
guidLights.flashRate.medium	boolean		The light can blink medium frequency.
guidLights.flashRate.quick	boolean		The light can blink quickly.
guidLights.flashRate.continuous	boolean		The light can be continuous (steady).
guidLights.color	object		Indicates which colors are supported by the guidelight.
guidLights.color.red	boolean		The light can be red.
guidLights.color.green	boolean		The light can be green.
guidLights.color.yellow	boolean		The light can be yellow.
guidLights.color.blue	boolean		The light can be blue.
guidLights.color.cyan	boolean		The light can be cyan.
guidLights.color.magenta	boolean		The light can be magenta.
guidLights.color.white	boolean		The light can be white.
guidLights.direction	object		Indicates which directions are supported by the guidelight.
guidLights.direction.entry	boolean		The light can indicate entry.
guidLights.direction.exit	boolean		The light can indicate exit.
powerSaveControl	boolean		Specifies whether power saving control is available
antiFraudModule	boolean		Specifies whether the anti-fraud module is available

Name	Type	Default	Description
synchronizableCommands	array		list of commands support synchronization.
type **(Required)**	object		Specifies the type of the text terminal unit
resolutions **(Required)**	array		Array specifies the resolutions supported by the physical display device.The resolution indicated in the first position is the default resolution and the device will be placed in this resolution when the Service Provider is initialized or reset through the reset command.
resolutions.sizeX	integer		TSpecifies the horizontal size of the display of the text terminal unit (the number of columns that can be displayed).
resolutions.sizeY	integer		Specifies the vertical size of the display of the text terminal unit (the number of rows that can be displayed).
numOfLeds **(Required)**	integer		Specifies the number of LEDs available in this text terminal unit. This field is only provided for backwards compatibility; the ledEx parameter should instead be used to retrieve the LED capabilities.
keyLock **(Required)**	boolean		Specifies whether the text terminal unit has a key lock switch.
displayLight	boolean		Specifies whether the text terminal unit has a display light that can be switched ON and OFF with the dispLight command.
cursor **(Required)**	boolean		Specifies whether the text terminal unit display supports a cursor.
forms **(Required)**	boolean		Specifies whether the text terminal unit service supports forms oriented input and output.
charSupport **(Required)**			For charSupport, a Service Provider can support ONLY ascii forms or can support BOTH ascii and unicode forms. A Service Provider can not support UNICODE forms without also supporting ASCII forms.
charSupport.ascii	boolean		ascii is supported for forms.
charSupport.unicode	boolean		unicode is supported for forms.
ledEx	array		Specifies the capabilities of the LEDs.
ledEx.numOfLEDs	integer		This value specifies the number of LEDs, i.e. the size of the array returned in LEDs.
ledEx.led	string		This specifies the status of each.

Name	Type	Default	Description
ledEx.led.na	string		The Status is not available.
ledEx.led.off	string		The LED is turned off.
ledEx.led.slowFlash	string		The LED is blinking.
ledEx.led.mediumFlash	string		The LED is blinking medium frequency.
ledEx.led.quickFlash	string		The LED is blinking quickly.
ledEx.led.continuous	string		The LED is turned on continuous(steady).
ledEx.led.red	string		The LED is red.
ledEx.led.green	string		The LED is green.
ledEx.led.yellow	string		The LED is yellow.
ledEx.led.blue	string		The LED is blue.
ledEx.led.cyan	string		The LED is cyan.
ledEx.led.magenta	string		The LED is magenta.
ledEx.led.white	string		The LED is white.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string",
    "class": "IDC",
    "compound": true,
    "extra": [
      "string"
    ],
    "guidLights": [
      {
        "flashRate": {
          "slow": true,
          "medium": true,
          "quick": true,
          "continuous": true
        },
```

```
        "color": {
          "red": true,
          "green": true,
          "yellow": true,
          "blue": true,
          "cyan": true,
          "magenta": true,
          "white": true
        },
        "direction": {
          "entry": true,
          "exit": true
        }
      }
    ],
    "powerSaveControl": true,
    "antiFraudModule": true,
    "synchronizableCommands": [
      "string"
    ],
    "type": "fixed",
    "resolutions": [
      {
        "sizeX": 0,
        "sizeY": 0
      }
    ],
    "numOfLeds": 0,
    "keyLock": true,
    "displayLight": true,
    "cursor": true,
    "forms": true,
    "charSupport": {
      "ascii": true,
      "unicode": true
    },
    "ledEx": []
  }
}
```

Event Messages

TextTerminal.GetFormList

Description

This command is used to retrieve the list of forms available on the device.

Command Message

Message Header

Name	Type Default	Description

Name	Type Default	Description
requestId **(Required)**	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string	The message type, either command, response, event or completion.
name **(Required)**	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.

Example Message (generated)

```json
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000"
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId **(Required)**	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string	The message type, either command, response, event or completion.
name **(Required)**	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error
formList **(Required)**	array		Array of the form names.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string",
    "formList": [
      "string"
    ]
  }
}
```

Event Messages

TextTerminal.GetQueryForm

Description

This command is used to retrieve details of the definition of a specified form.

Command Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
formName (Required)	object		Contains the form name on which to retrieve details.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "formName": {}
  }
}
```

Completion Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error
formName (Required)	object		Specifies the null-terminated name of the form.
width (Required)	string		Specifies the width of the form in columns.
height (Required)	string		Specifies the height of the form in rows.
versionMajor (Required)	string		Specifies the major version.If version is not specifies in the form then zero is returned.
versionMinor (Required)	string		Specifies the minor version. If the version is not specified in the form then zero is returned.
charSupport (Required)	string		A single flag indicating whether the form is encoded in ascii or unicode.
fields (Required)	array		Object to a list of the field names.
languageId (Required)	string		Specifies the language identifier for the form.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string",
    "formName": {},
    "width": "string",
    "height": "string",
    "versionMajor": "string",
    "versionMinor": "string",
    "charSupport": "ascii",
    "fields": [
      "string"
    ],
    "languageId": "string"
  }
}
```

Event Messages

TextTerminal.GetQueryField

Description

This command is used to retrieve details of the definition of a single or all fields on a specified form.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.

Name	Type	Default	Description
formName (Required)	string		Specifies the form name
fieldName	string		Specifies the name of the field about which to retrieve details. If this value is not set, then retrieve details for all fields on the form.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "formName": "string",
    "fieldName": "string"
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error
fields (Required)	array		Array of Fields.
fields.fieldName	string		Specifies the null-terminated field name.
fields.type	string		Specifies the type of field.
fields.class	string		Specifies the class of the field.

Name	Type	Default	Description
fields.access	string		Specifies whether the field is to be used for input, output or both.
fields.access.read	string		The Field is used for input from the physical device.
fields.access.write	string		The Field is used for output to the physical device.
fields.overflow	string		Specifies how an overflow of field data should be handled.
fields.format	string		Format string as defined in the form for this field.
fields.languageId	string		Specifies the language identifier for the field.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string",
    "fields": [
      {
        "fieldName": "string",
        "type": "text",
        "class": "static",
        "access": "string",
        "overflow": "terminate",
        "format": "string",
        "languageId": "string"
      }
    ]
  }
}
```

Event Messages

TextTerminal.GetKeyDetail

Description

This command returns information about the Keys (buttons) supported by the device. This command should be issued to determine which Keys are available.

Command Message

Message Header

Name	Type Default	Description
requestId **(Required)**	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string	The message type, either command, response, event or completion.
name **(Required)**	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000"
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId **(Required)**	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string	The message type, either command, response, event or completion.
name **(Required)**	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Name	Type	Default	Description
keys (Required)	string		String which holds the printable characters (numeric and alphanumeric keys) on the Text Terminal Unit, e.g. "0123456789ABCabc" if those text terminal input keys are present. This string is a NULL if no keys of this type are present on the device.
commandKeys	array		Array of command keys on the Text Terminal Unit.
commandKeys.ckEnter	boolean	false	
commandKeys.ckCancel	boolean	false	
commandKeys.ckClear	boolean	false	
commandKeys.ckBackspace	boolean	false	
commandKeys.ckHelp	boolean	false	
commandKeys.ck00	boolean	false	
commandKeys.ck000	boolean	false	
commandKeys.ckArrowUp	boolean	false	
commandKeys.ckArrowDown	boolean	false	
commandKeys.ckArrowLeft	boolean	false	
commandKeys.ckArrowRight	boolean	false	
commandKeys.ckOEM1	boolean	false	
commandKeys.ckOEM2	boolean	false	
commandKeys.ckOEM3	boolean	false	
commandKeys.ckOEM4	boolean	false	
commandKeys.ckOEM5	boolean	false	
commandKeys.ckOEM6	boolean	false	
commandKeys.ckOEM7	boolean	false	
commandKeys.ckOEM8	boolean	false	
commandKeys.ckOEM9	boolean	false	
commandKeys.ckOEM10	boolean	false	
commandKeys.ckOEM11	boolean	false	
commandKeys.ckOEM12	boolean	false	
commandKeys.ckFDK01	boolean	false	
commandKeys.ckFDK02	boolean	false	
commandKeys.ckFDK03	boolean	false	
commandKeys.ckFDK04	boolean	false	
commandKeys.ckFDK05	boolean	false	
commandKeys.ckFDK06	boolean	false	
commandKeys.ckFDK07	boolean	false	
commandKeys.ckFDK08	boolean	false	
commandKeys.ckFDK09	boolean	false	
commandKeys.ckFDK10	boolean	false	
commandKeys.ckFDK11	boolean	false	
commandKeys.ckFDK12	boolean	false	
commandKeys.ckFDK13	boolean	false	
commandKeys.ckFDK14	boolean	false	
commandKeys.ckFDK15	boolean	false	
commandKeys.ckFDK16	boolean	false	
commandKeys.ckFDK17	boolean	false	
commandKeys.ckFDK18	boolean	false	
commandKeys.ckFDK19	boolean	false	
commandKeys.ckFDK20	boolean	false	

Name	Type	Default	Description
commandKeys.ckFDK21	boolean	false	
commandKeys.ckFDK22	boolean	false	
commandKeys.ckFDK23	boolean	false	
commandKeys.ckFDK24	boolean	false	
commandKeys.ckFDK25	boolean	false	
commandKeys.ckFDK26	boolean	false	
commandKeys.ckFDK27	boolean	false	
commandKeys.ckFDK28	boolean	false	
commandKeys.ckFDK29	boolean	false	
commandKeys.ckFDK30	boolean	false	
commandKeys.ckFDK31	boolean	false	
commandKeys.ckFDK32	boolean	false	

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string",
    "keys": "string",
    "commandKeys": [
      "string"
    ]
  }
}
```

Event Messages

TextTerminal.Beep

Description

This command is used to beep at the text terminal unit.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.

Name	Type Default	Description
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
beep (Required)			Specifies whether the beeper should be turned on or off.
beep.off	boolean		The beeper is turned off.
beep.keyPress	boolean		The beeper sounds a key click signal.
beep.exclamation	boolean		The beeper sounds an exclamation signal.
beep.warning	boolean		The beeper sounds a warning signal.
beep.error	boolean		The beeper sounds a error signal.
beep.critical	boolean		The beeper sounds a critical error signal.
beep.continuous	boolean		The beeper sound is turned on continuously.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "beep": {
      "off": true,
      "keyPress": true,
      "exclamation": true,
      "warning": true,
      "error": true,
      "critical": true,
      "continuous": true
    }
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId **(Required)**	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string	The message type, either command, response, event or completion.
name **(Required)**	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

TextTerminal.ClearScreen

Description

This command clears the specified area of the text terminal unit screen. The cursor is positioned to the upper left corner of the cleared area.

Command Message

Message Header

Name	Type Default	Description
requestId **(Required)**	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string	The message type, either command, response, event or completion.

Name	Type	Default	Description
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
positionX **(Required)**	integer		Specifies the horizontal position of the area to be cleared.
positionY **(Required)**	integer		Specifies the vertical position of the area to be cleared.
width **(Required)**	integer		Specifies the width position of the area to be cleared. This value must be positive.
height **(Required)**	integer		Specifies the height position of the area to be cleared.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "positionX": 0,
    "positionY": 0,
    "width": 0,
    "height": 0
  }
}
```

Completion Message

Message Header

Name	Type	Default	Description
requestId **(Required)**	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string		The message type, either command, response, event or completion.
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

TextTerminal.DispLight

Description

This command is used to switch the lighting of the text terminal unit on or off.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000"
  }
}
```

Completion Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error
mode (Required)	boolean		Specifies whether the lighting of the text terminal unit is switched on (TRUE) or off (FALSE).

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string",
    "mode": true
  }
}
```

Event Messages

TextTerminal.SetLed

Description

This command is used to set the status of the LEDs

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
led (Required)	integer		Specifies the index (zero to numOfLEDs-1 as reported in Capabilities) of the LED to set as one of the values defined within the capabilities section.
command (Required)	object		Specifies the state of the LED.
command.off	boolean		The LED is turned off.
command.slowFlash	boolean		The LED is set to flash slowly.
command.mediumFlash	boolean		The LED is set to flash medium frequency.
command.quickFlash	boolean		The LED is set to flash quickly.
command.continuous	boolean		The LED is turned on continuously(steady).
command.red	boolean		The LED color is set to red.
command.green	boolean		The LED color is set to green.
command.yellow	boolean		The LED color is set to yellow.
command.blue	boolean		The LED color is set to blue.

Name	Type	Default	Description
command.cyan	boolean		The LED color is set to cyan.
command.magenta	boolean		The LED color is set to magenta.
command.white	boolean		The LED is set to white.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "led": 0,
    "command": {
      "off": true,
      "slowFlash": true,
      "mediumFlash": true,
      "quickFlash": true,
      "continuous": true,
      "red": true,
      "green": true,
      "yellow": true,
      "blue": true,
      "cyan": true,
      "magenta": true,
      "white": true
    }
  }
}
```

Completion Message

Message Header

Name	Type	Default	Description
requestId **(Required)**	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string		The message type, either command, response, event or completion.
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error

Name	Type	Default	Description
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

TextTerminal.SetResolution

Description

This command is used to set the resolution of the display. The screen is cleared and the cursor is positioned at the upper left position.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
resolution (Required)	object		Specifies the horizontal size of the display of the text terminal unit.
resolution.sizeX	integer		TSpecifies the horizontal size of the display of the text terminal unit (the number of columns that can be displayed).

Name	Type	Default	Description
resolution.sizeY	integer		Specifies the vertical size of the display of the text terminal unit (the number of rows that can be displayed).

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "resolution": {
      "sizeX": 0,
      "sizeY": 0
    }
  }
}
```

Completion Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

TextTerminal.WriteForm

Description

This command is used to display a form by merging the supplied variable field data with the defined form and field data specified in the form.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
formName (Required)	string		Form name.
clearScreen (Required)	boolean		Specifies whether the screen is cleared before displaying the form (TRUE) or not (FALSE).
fields (Required)	array		Specifies "<fieldName>=<fieldValue>" string. e.g. Field1=123/0Field2=456/0/0. The <fieldValue> stands for a string containing all the printable characters (numeric and alphanumeric) to display on the text terminal unit key pad for this field.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "formName": "string",
    "clearScreen": true,
    "fields": [
      "string"
    ]
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

TextTerminal.ReadForm

Description

This command is used to read data from input fields on the specified form.

Command Message

Message Header

Name	Type	Default	Description
requestId **(Required)**	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string		The message type, either command, response, event or completion.
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
formName **(Required)**	string		Specifies the null-terminated name of the form
fieldNames	array		Specifies the field names from which to read input data. The fields are edited by the user in the order that the fields are specified within this parameter. If fieldNames value is not set , then data is read from all input fields on the form in the order they appear in the form file (independent of the field screen position).

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "formName": "string",
    "fieldNames": [
      "string"
    ]
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type Default	Description
status	string	ok if the commmand was successful otherwise error
errorDescription	string	If error, identified that cause of the error
fields (Required)	array	Specifies "<fieldName>=<fieldValue>" string. e.g. Field1=123/0Field2=456/0/0. The <fieldValue> stands for a string containing all the printable characters (numeric and alphanumeric) read from the text terminal unit key pad for this field.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string",
    "fields": [
      "string"
    ]
  }
}
```

Event Messages

TextTerminal.Write

Description

This command displays the specified text on the display of the text terminal unit. The specified text may include the control characters CR (Carriage Return) and LF (Line Feed). The control characters can be included in the text as CR, or LF, or CR LF, or LF CR and all combinations will perform the function of relocating the cursor position to the left hand side of the display on the next line down. If the text will overwrite the display area then the display will scroll.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
mode (Required)	string		Specifies whether the position of the output is absolute or relative to the current cursor position.
posX (Required)	integer		If mode is set to absolute, this specifies the absolute horizontal position. If mode is set to relative this specifies a horizontal offset relative to the current cursor position as a zero (0) based value.
posY (Required)	integer		If mode is set to absolute, this specifies the absolute vertical position. If mode is set to relative this specifies a vertical offset relative to the current cursor position as a zero (0) based value.
textAttr (Required)	object		Specifies the text attributes used for displaying the text . If none of the following attribute flags are selected then the text will be displayed as TEXTNORMAL.
textAttr.underline	boolean		The displayed text will be unerlined.
textAttr.inverted	boolean		The displayed text will be inverted.
textAttr.flash	boolean		The displayed text will be flashing.
text (Required)	string		Specifies the text that will be displayed.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "mode": "relative",
    "posX": 0,
    "posY": 0,
    "textAttr": {
      "underline": true,
      "inverted": true,
      "flash": true
    },
    "text": "string"
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

TextTerminal.Read

Description

This command activates the keyboard of the text terminal unit for input of the specified number of characters. Depending on the specified flush mode the input buffer is cleared. During this command, pressing an active key results in a Key event containing the key details. On completion of the command (when the maximum number of keys have been pressed or a terminator key is pressed), the entered string, as interpreted by the Service Provider, is returned. The Service Provider takes command keys into account when interpreting the data.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
numOfChars (Required)	integer		Specifies the number of printable characters (numeric and alphanumeric keys) that will be read from the text terminal unit key pad. All command keys like ckEnter, ckFDK01 will not be counted.
mode (Required)	string		Specifies where the cursor is positioned for the read operation.
posX (Required)	integer		If mode is set to absolute, this specifies the absolute horizontal position. If mode is set to relative this specifies a horizontal offset relative to the current cursor position as a zero (0) based value.
posY (Required)	integer		If mode is set to absolute, this specifies the absolute vertical position. If mode is set to relative this specifies a vertical offset relative to the current cursor position as a zero (0) based value.
echoMode (Required)	string		Specifies how the user input is echoed to the screen.

Name	Type	Default	Description
echoAttr **(Required)**	object		Specifies the text attributes with which the user input is echoed to the screen. If none of the following attribute flags are selected then the text will be displayed as TEXTNORMAL.
echoAttr.underline	boolean		The displayed text will be underlined.
echoAttr.inverted	boolean		The displayed text will be inverted.
echoAttr.flash	boolean		The displayed text will be flashing.
echo **(Required)**	boolean		Specifies whether the cursor is visible(TRUE) or invisible(FALSE).
flush **(Required)**	boolean		Specifies whether the keyboard input buffer is cleared before allowing for user input(TRUE) or not (FALSE).
autoEnd **(Required)**	boolean		Specifies whether the command input is automatically ended by Service Provider if the maximum number of printable characters as specified with numOfChars is entered.
activeKeys **(Required)**	string		"String which specifies the numeric and alphanumeric keys on the Text Terminal Unit, e.g. "12ABab", to be active during the execution of the command. Devices having a shift key interpret this parameter differently from those that do not have a shift key. For devices having a shift key, specifying only the upper case of a particular letter enables both upper and lower case of that key, but the device converts lower case letters to upper case in the output parameter. To enable both upper and lower case keys, and have both upper and lower case letters returned, specify both the upper and lower case of the letter (e.g. "12AaBb"). For devices not having a shift key, specifying either the upper case only (e.g. "12AB"), or specifying both the upper and lower case of a particular letter (e.g. "12AaBb"), enables that key and causes the device to return the upper case of the letter in the output parameter. For both types of device, specifying only lower case letters (e.g. "12ab") produces a key invalid error. This parameter is a NULL if no keys of this type are active keys. activeKeys and activeUnicodeKeys are mutually exclusive, so activeKeys must be a NULL if activeUnicodeKeys is not a NULL ."
activeCommandKeys	array		Array specifying the command keys which are active during the execution of the command. The array is terminated with a zero value and this array is not set if no keys of this type are active keys.
terminateCommandKeys	array		Array specifying the command keys which must terminate the execution of the command. The array is terminated with a zero value and this array is not set if no keys of this type are terminate keys.

Example Message (generated)

```json
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "numOfChars": 0,
    "mode": "relative",
    "posX": 0,
    "posY": 0,
    "echoMode": "text",
    "echoAttr": {
      "underline": true,
      "inverted": true,
      "flash": true
    },
    "echo": true,
    "flush": true,
    "autoEnd": true,
    "activeKeys": "string",
    "activeCommandKeys": [
      "string"
    ],
    "terminateCommandKeys": [
      "string"
    ]
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type Default	Description
status	string	ok if the commmand was successful otherwise error
errorDescription	string	If error, identified that cause of the error
input (Required)	string	Specifies a zero terminated string containing all the printable characters (numeric and alphanumeric) read from the text terminal unit key pad.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string",
    "input": "string"
  }
}
```

Event Messages

TextTerminal.Reset

Description

Sends a service reset to the Service Provider. This command clears the screen, clears the keyboard buffer, sets the default resolution and sets the cursor position to the upper left.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000"
  }
}
```

Completion Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

TextTerminal.DefineKeys

Description

All rights of exploitation in any form and by any means reserved worldwide for CEN national Members.

This command defines the keys that will be active during the next ReadForm command. The configured set will be active until the next ReadForm command ends, at which point the default values are restored.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
activeKeys (Required)	string		"String which specifies the alphanumeric keys on the Text Terminal Unit, e.g. "12ABab", to be active during the execution of the next ReadForm command. Devices having a shift key interpret this parameter differently from those that do not have a shift key. For devices having a shift key, specifying only the upper case of a particular letter enables both upper and lower case of that key, but the device converts lower case letters to upper case in the output parameter. To enable both upper and lower case keys, and have both upper and lower case letters returned, specify both the upper and lower case of the letter (e.g. "12AaBb"). For devices not having a shift key, specifying either the upper case only (e.g. "12AB"), or specifying both the upper and lower case of a particular letter (e.g. "12AaBb"), enables that key and causes the device to return the upper case of the letter in the output parameter. For both types of device, specifying only lower case letters (e.g. "12ab") produces a key invalid error."
activeCommandKeys	array		Array specifying the command keys which are active during the execution of the next ReadForm command.
terminateCommandKeys	array		Array specifying the command keys which must terminate the execution of the next ReadForm command.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "activeKeys": "string",
    "activeCommandKeys": [
      "string"
    ],
    "terminateCommandKeys": [
      "string"
    ]
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

TextTerminal.PowerSaveControl

Description

This command activates or deactivates the power-saving mode. If the Service Provider receives another execute command while in power saving mode, the Service Provider automatically exits the power saving mode, and executes the requested command. If the Service Provider receives an information command while in power saving mode, the Service Provider will not exit the power saving mode.

Command Message

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
maxPowerSaveRecoveryTime	integer		Specifies the maximum number of seconds in which the device must be able to return to its normal operating state when exiting power save mode. The device will be set to the highest possible power save mode within this constraint. If usMaxPowerSaveRecoveryTime is set to zero then the device will exit the power saving mode.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "maxPowerSaveRecoveryTime": 0
  }
}
```

Completion Message

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

- [Common.PowerSaveChangeEvent](#)

TextTerminal.SynchronizeCommand

Description

This command is used to reduce response time of a command (e.g. for synchronization with display) as well as to synchronize actions of the different device classes. This command is intended to be used only on hardware which is capable of synchronizing functionality within a single device class or with other device classes.

The list of execute commands which this command supports for synchronization is retrieved in the *lpdwSynchronizableCommands* parameter of the WFS_INF_CDM_CAPABILITIES.

This command is optional, i.e. any other command can be called without having to call it in advance. Any preparation that occurs by calling this command will not affect any other subsequent command. However, any subsequent execute command other than the one that was specified in the *dwCommand* input parameter will execute normally and may invalidate the pending synchronization. In this case the application should call the WFS_CMD_CDM_SYNCHRONIZE_COMMAND again in order to start a synchronization.

Command Message

Message Header

Name	Type	Default	Description
requestId **(Required)**	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string		The message type, either command, response, event or completion.
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
timeout	integer	0	Timeout in milliseconds for the command to complete. If set to zero, the command will not timeout but can be cancelled.
command	string		The command name to be synchronized and executed next.
cmdData	object		A payload that represents the parameter that is normally associated with the command.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "timeout": "5000",
    "command": "string",
    "cmdData": {}
  }
}
```

Completion Message

Message Header

Name	Type	Default	Description
requestId **(Required)**	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string		The message type, either command, response, event or completion.
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
status	string		ok if the commmand was successful otherwise error
errorDescription	string		If error, identified that cause of the error

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "status": "ok",
    "errorDescription": "string"
  }
}
```

Event Messages

Unsolicited Events

TextTerminal.DevicePositionEvent

Description

This service event reports that the device has changed its position status.

Message Header

Name	Type	Default	Description
requestId **(Required)**	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string		The message type, either command, response, event or completion.
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
Position	string		Position of the device

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "Position": "inposition"
  }
}
```

TextTerminal.PowerSaveChangeEvent

Description

This service event specifies that the power save recovery time has changed.

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
powerSaveRecoveryTime	integer		Specifies the actual number of seconds required by the device to resume its normal operational state. This value is zero if the device exited the power saving mode

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "powerSaveRecoveryTime": 0
  }
}
```

TextTerminal.FieldErrorEvent

Description

This event specifies that a fatal error has occurred while processing a field.

Message Header

Name	Type	Default	Description
requestId (Required)	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string		The message type, either command, response, event or completion.
name (Required)	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
formName (Required)	string		Specifies the form name.
fieldName (Required)	string		Specifies the field name.
failure (Required)	string		Specifies the type of failure.

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "formName": "string",
    "fieldName": "string",
    "failure": "required"
  }
}
```

TextTerminal.FieldWarningEvent

Description

This event is used to specify that a non-fatal error has occurred while processing a field.

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  }
}
```

TextTerminal.KeyEvent

Description

This event specifies that any active key has been pressed at the TTU during the Read command. In addition to giving the application more details about individual key presses this information may also be used if the device has no internal display unit and the application has to manage the display of the entered digits.

Message Header

Name	Type Default	Description
requestId (Required)	string	Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type (Required)	string	The message type, either command, response, event or completion.
name (Required)	string	The original message name, for example "CardReader.Status"

Message Payload

Name	Type Default	Description
key (Required)	string	On a numeric or alphanumeric key press this parameter holds the value of the key pressed. This value is not set if no numeric or alphanumeric key was pressed.
commandKey (Required)	string	"On a Command key press this parameter holds the value of the Command key pressed, e.g. ckEnter. This value is not set when no command key was pressed."

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "key": "string",
    "commandKey": "string"
  }
}
```

Events

Common.PowerSaveChangeEvent

Description

This service event specifies that the power save recovery time has changed.

Message Header

Name	Type	Default	Description
requestId **(Required)**	string		Unique request identifier supplied by the client used to correlate the command with responses, events and completions. For Unsolicited Events the field will be empty.
type **(Required)**	string		The message type, either command, response, event or completion.
name **(Required)**	string		The original message name, for example "CardReader.Status"

Message Payload

Name	Type	Default	Description
powerSaveRecoveryTime	integer		Specifies the actual number of seconds required by the device to resume its normal operational state. This value is zero if the device exited the power saving mode

Example Message (generated)

```
{
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
    "name": "string"
  },
  "payload": {
    "powerSaveRecoveryTime": 0
  }
}
```

```
  "headers": {
    "requestId": "b34800d0-9dd2-4d50-89ea-92d1b13df54b",
    "type": "command",
```