



Sellenis Limited
Remote Communication Protocol
Ver 5.1

23 June 2021

CHANGE CONTROL	
Ver 1.0	Initial release
Ver 2.0	Added functions
Ver 3.0	Added functions and updated formatting
Ver 4.0	Added some functions deleted others
Ver 4.1	Updated STATUS command
Ver 4.2	Updated CTRLDATA command
Ver 4.3	Added RS232 support
Ver 4.4	Fixed LABEL command description
Ver 4.5	Added group position command, updated resolutions
Ver 4.6	TOC
Ver 4.8	Use the string type in the object Id for CTRLDATA and NEEDDATA commands
Ver 4.9	Added INK2, CTRLDATA2 and MODEREPEAT2, deleted GROUPPOS, Updated STATUS description
Ver 5.0	Replaced Firing voltage commands by common HFIRE command
Ver 5.1	Updated PRINTMODE and added new ENUMLABELS, TRACKCAM, ENUMPORTS, PROTOCOL, EXTDEV

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1.0 DATA TRANSFER FORMAT

The Protocol is implemented for both TCP and RS232 connection between clients and Sellenis TIJ and DOD printers. For TCP connection the Sellenis printers listen on TCP port 5676 for connecting clients but for RS232 connection parameters is set through the V4T software user interface. The message protocol is based on plain text format on request-response communication method so communication between client and server must be initialized from client side. Response from the Server will be sent immediately whether with the relevant data or error and error description which is described in Appendix A: Error codes section.

1.1 Sending Data

Data sent to the printer must be in the following format:

```
COMMAND ID:PARAMS\n
```

COMMAND ID - The command ID is a single word not more than 10 characters that identifies the command.

PARAMS - The message consists of one or more parameters which are delimited by the colon mark, if required by the command.

\n (0x0A) - Control character which mean end of command

1.2 Receiving Data

Each time a command is sent to the printer, it sends a reply to the host by the following convention:

```
CODE ID:CODE DESCR\n[DATA]\n
```

CODE ID – Error code if command is failed.

CODE DESCR – code description consists of description of an error if command has failed.

[DATA] – data consists of optional extended information if available. Every parameter is delimited by the colon mark. If data contains more than one result, then it is delimited by the semicolon mark.

\n (0x0A) - Control character which mean end of command

1.3 Handshake

After a client is opened connection the server sends:

```
0:HELLO:1.0
```

It means server is available and version of the protocol is 1.0.

2 SENDING DATA TO THE PRINTER

2.1 Summary of Printer Command Codes

The table below provides a summary of printer command codes. For a detailed description of each command, please refer to section 2.2.

General commands

Description	Command ID	Get	Set	TIJ	SEIKO 510	XAAR 128
Login user to the printer	LOGIN		•	•		
Logout from the printer	LOGOUT		•	•		
Version	VERSION	•		•		
Get status	STATUS	•		•		
Add new user	ADDUSER		•	•		
Update existed user	UPDATEUSER		•	•		
Delete existed user	DELETEUSER		•	•		
Users enumerator	ENUMUSERS	•		•		
Ink information	INK	•		•		
Short ink information	INK2	•		•		
Get statistics	STATISTICS	•		•		
Label name	LABEL	•	•	•		
Start printing	STARTPRINT		•	•		
Stop printing	STOPPRINT		•	•		
Pause printing	PAUSEPRINT		•	•		
Get remote data	NEEDDATA	•				
Set remote data	CTRLDATA		•			
Set endless remote data	CTRLDATA2		•			
Ask for interaction information	ASKINTER	•				
Send interaction	SENDINTER		•			

Printer configuration commands

Description	Command ID	Get	Set	TIJ	SEIKO 510	XAAR 128
Number of print heads	HEADNUM	•	•	•		
Number of groups	GROUPNUM	•	•	•		
Group orientation	GROUPORIEN	•	•	•		
Group direction	GROUPDIR	•	•	•		
Group position	GROUPPOS	•	•	•		
Firing voltage	HFIRE	•	•	•		
Group print offset	GROUPOFF	•	•	•		
Group print spacing	GROUPSPACE	•	•	•		
Pen horizontal offset	PENHORZOFF	•	•	•		
Group vertical offset	GROUPVERT	•	•	•		
Horizontal print resolution	HORZRES	•	•	•		
Vertical print resolution	VERTRES	•	•	•		
SENC resolution	SENCRES	•		•		
SENC direction	SENCDIRECT	•	•	•		
Photocell mode	PHOTOMODE	•	•	•		
Photocell mask	PHOTOMASK	•	•	•		
Retrieve Print mode	PRINTMODE	•		•		
Set Standard mode	MODESTAND		•	•		
Set Repeat mode	MODEREPEAT	•	•	•		
Set endless repeat mode	MODEREPEAT2	•	•	•		
Set Simulated mode	MODESIMUL	•	•	•		
Set Camera mode	MODECAMERA		•	•		
Set MCR mode	MODEMCR		•	•		
Set PLC mode	MODEPLC		•	•		
Set barcode reader mode	MODEBAR		•	•		
Set driver mode	MODEDRIVER		•	•		

Set Track&Trace mode	MODETRACK		•	•		
Set protocol mode	MODEPROTO		•	•		
Internal shaft encoder	SHAFTENC	•	•	•		
Maximum head numbers	MAXHEADNUM	•		•		
Vertical resolutions	ENUMVRES	•		•		
Horizontal resolutions	ENUMHRES	•		•		
External devices parameters	EXTDEV	•	•	•		
Protocol parameters	PROTOCOL	•	•	•		
Enumerate ports	ENUMPORTS	•		•		
Track camera parameters	TRACKCAM	•	•	•		
Enumerate labels	ENUMLABELS	•		•		

2.2 DESCRIPTIONS OF GENERAL PRINTER COMMAND CODES

Some commands can return different results depending on Command Id. Result as Nothing means [DATA] is empty and this command is returned only when Error information has occurred.

2.2.1 Login

First, user must sign in as any registered user to continue work with the system. If another user is already logged in you can log in remotely only with the same credentials as the user who is already logged in.

Command: LOGIN

Parameters:

user (String, up to 32 characters) – user name you want to work with

pin (String, up to 8 characters) – pin code for selected user

Result: Nothing

Example - Login as Administrator with 1234 pin code:

```
Request: LOGIN:Administrator:1234
Response: Nothing
```

2.2.2 Logout

After you finished work you must sign out from the current session.

Command: LOGOUT

Parameters: Nothing

Result: Nothing

Example - Logout from current user:

```
Request: LOGOUT
Response: Nothing
```

2.2.3 Status

To check printer status and who is already connected to the Printer.

Command: STATUS

Parameters: Nothing

Result:

status (*Integer number, 0...10*) – status of the printer

- 0 – NONE
- 1 – CONNECTED
- 2 – IDLE
- 3 – PRINTING
- 4 – PAUSED
- 5 – STOPPED

logged_user (*String, up to 32 characters*) – the user who is signed in to the Printer

print_err (*Integer number, ANY*) – error message happened during the printing

need_interraction (*Integer number, 0...1*) – notify that needs user interaction on the controller

Example - Retrieve current status:

```
Request: STATUS
Response: 0:Administrator:0:0
```

2.2.4 Add new user

Add new user description.

Command: ADDUSER

Parameters:

user (*String, up to 32 characters*) – name of the user

pin (*String, up to 8 characters*) – pin of the user. Do not use to delete user.

user account (*Integer number, 0...1*) – Account Management rights. Do not use for delete user.

file manager (*Integer number, 0...1*) - Reserved. Do not use for delete user.

operating settings (*Integer number, 0...1*) – Printer Configuration rights. Do not use for delete user.

view (*Integer number, 0...1*) - Log View rights. Do not use for delete user.

archive retrieve (*Integer number, 0...1*) - Export Logs to file rights. Do not use for delete user.

full access (*Integer number, 0...1*) - Reserved. Do not use for delete user.

editor usb import (*Integer number, 0...1*) - Reserved. Do not use for delete user.

load edit save (*Integer number, 0...1*) - Label Editor rights. Do not use for delete user.

print usb import (*Integer number, 0...1*) - Reserved. Do not use for delete user.

load print (*Integer number, 0...1*) - Reserved. Do not use for delete user.

data config (*Integer number, 0...1*) - Reserved. Do not use for delete user.

Result: Nothing

Example – Add new user USER1 with PIN1 pin code:

```
Request:  ADDUSER:USER1:PIN1:1:1:0:1:0:1:1:1:1:1:0
Response: Nothing
```

2.2.5 Update existing user

Update existing user description.

Command: UPDATEUSER

Parameters:

user (*String, up to 32 characters*) – name of the user

pin (*String, up to 8 characters*) – pin of the user.

user account (*Integer number, 0...1*) – Account Management rights.

file manager (*Integer number, 0...1*) - Reserved.

operating settings (*Integer number, 0...1*) – Printer Configuration rights.

view (*Integer number, 0...1*) - Log View rights.

archive retrieve (*Integer number, 0...1*) - Export Logs to file rights.

full access (*Integer number, 0...1*) - Reserved.

editor usb import (*Integer number, 0...1*) - Reserved.

load edit save (*Integer number, 0...1*) - Label Editor rights.

print usb import (*Integer number, 0...1*) - Reserved.

load print (*Integer number, 0...1*) - Reserved.

data config (*Integer number, 0...1*) - Reserved.

Result: Nothing

Example – Update user USER1:

```
Request:  UPDATEUSER:USER1:PIN2:0:1:0:1:1:1:0:0:1:1:0
Response: Nothing
```

2.2.6 Delete existing user

Delete existing user description.

Command: DELETEUSER

Parameters:

user (*String, up to 32 characters*) – name of the user

Result: Nothing

Example – Delete user USER1:

```
Request:  DELETEUSER:USER1
Response: Nothing
```

2.2.7 Enumerate users

Command retrieves all registered users but without pin and access rights information.

Command: ENUMUSERS

Parameters:

user (*String, up to 32 characters*) – names of the user delimited by the semicolon

Result: Nothing

Example retrieves 3 registered users JON, BEN and DIANA:

```
Request:  ENUMUSERS
Response: JON;BEN;DIANA
```

2.2.8 Ink information

To retrieve information about cartridges installed to printer.

Command: INK

Parameters: Nothing

Result:

expiry date (*Long number, Unix time*) – expiration date of the ink

part no (*String, up to 11 characters*) – cartridge part number

ink type (*String, up to 20 characters*) – ink type

ink volume (*Real number, 0...MAX*) – ink volume

ink used (*Real number, 0...MAX*) – volume of the used ink

remaining prints (*Integer number, 0...MAX*) – number of labels that can be printed by the cartridge

Example – retrieves information about one cartridge:

```
Request:  INK
Response: 1495108591:HP:Magenta:42:3.2345:50000
```

2.2.9 Short ink information

To retrieve left ink information about all possible inserted cartridges. If cartridge is missing then zero value will be retrieved.

Command: INK2

Parameters: Nothing

Result:

ink left (*Integer number, 0..100%*) – ink left in percentage rounded to small

Example – retrieves information about all cartridges:

```
Request: INK2
Response: 98;43;0;0
```

2.2.10 Printer statistics

To retrieve information about cartridges installed to printer.

Command: STATISTICS

Parameters: Nothing

Result:

print start time (*Integer number, seconds*) – the time in seconds after the label is started print

run time (*Long number, Unix time*) – the time in seconds where the software was started

product count (*Integer number, 0..MAX*) – number of detected products

image count (*Integer number, 0..MAX*) – number of printed products

line speed (*Real number, 0..MAX*) – Line speed

Example – retrieves current statistics:

```
Request: STATISTICS
Response: 1495108591:300:2
```

2.2.11 Label loading

Before printing you need to load any available label from the C:\Sellenis\S-jet600\Templates path.

Command: LABEL

Parameters:

file name (*String, up to 50 characters*) – file name of the necessary label

Result: Nothing

Example – Load tm_clock label name:

```
Request: LABEL:tm_clock  
Response: Nothing
```

2.2.12 Start printing

Start printing description.

Command: STARTPRINT

Parameters: Nothing

Result: Nothing

Example – Start printing:

```
Request: STARTPRINT  
Response: Nothing
```

2.2.13 Stop printing

Stop printing description.

Command: STOPPRINT

Parameters: Nothing

Result: Nothing

Example – Stop printing:

```
Request: STOPPRINT  
Response: Nothing
```

2.2.14 Pause printing

Pause printing description.

Command: PAUSEPRINT

Parameters: Nothing

Result: Nothing

Example – Pause printing:

```
Request: PAUSEPRINT  
Response: Nothing
```

2.2.15 Version

Retrieve version of connected system.

Command: VERSION

Parameters: Nothing

Result:

software ver (*String, up to 10 characters*) – Software version

firmware ver (*String, up to 10 characters*) – Firmware version

hardware ver (*String, up to 10 characters*) –Hardware version

Example – Current Version:

```
Request: VERSION
Response: 1360:56:Iss M
```

2.2.16 Get necessary remote data

To work through the protocol some object can be filled remotely one by one. For this in label editor user need to add “#Remote text” object or select “Remote Data” for Barcode1D or Barcode2D.

NEEDDATA command retrieves all object which must be filled in.

Command: NEEDDATA

Parameters: Nothing

Result:

object id (*String, up to 10 characters*) – Unique object id

object type (*Integer number, 1...4*) – object type

- 1 – text object
- 2 – Image object
- 3 – barcode1D object
- 4 – barcode2D object

Example – Getting remote objects to fill in:

```
Request: NEEDDATA
Response: 1:2;2:4
```

2.2.17 Set necessary remote data

To work through the protocol some objects can be filled remotely one by one. For this in label editor user needs to add “#Remote text” object or select “Remote Data” for Barcode1D or Barcode2D.

Remote data must be set up for every print.

Command: CTRLDATA

Parameters:

object id (*String, up to 10 characters*) – Unique object id

text (*String, up to 100 characters*) – text for object (text, barcode...)

Result: Nothing

Example – Set text for object #1:

```
Request: CTRLDATA:1:text for barcode  
Response: Nothing
```

2.2.18 Set endless remote data

The same as 1st version but remote data must be set up only one time and it will be printed endless.

Command: CTRLDATA

Parameters:

object id (*String, up to 10 characters*) – Unique object id

text (*String, up to 100 characters*) – text for object (text, barcode...)

Result: Nothing

Example – Set text for object #1:

```
Request: CTRLDATA2:1:text for barcode  
Response: Nothing
```

2.2.19 Ask for interaction information

Ask for interaction information if necessary.

Command: ASKINTER

Parameters: Nothing

Result:

text (*String, up to 100 characters*) – text message

1st button (*String, up to 20 characters*) – first button title

2nd button (*String, up to 20 characters*) – second button title if applicable

Example – Ask for appeared popup message:

```
Request: ASKINTER  
Response: Cartridge is empty:ok
```

2.2.20 Send interaction

Send interaction to the software on behalf of an user.

Command: SENDINTER

Parameters:

button id (*Integer number, 1...2*) – button id

Result: Nothing

Example – Click on button #1:

```
Request: SENDINTER:1  
Response: Nothing
```

2.3 PRINTER CONFIGURATION COMMANDS

Almost all commands in 2.3 section can be obtained and set unless otherwise stated. All set commands return one or more parameters. If it is necessary to set any parameter, need to point to parameters after Command id and colon mark.

2.3.1 Number of print heads

Number of installed print heads to printer. Every printer supports maximum of print heads so if you set less than zero or more than maximum then the error will be returned.

Command: HEADNUM

Parameters:

print head number (*Integer number, 1...10*) – number of available print heads

Example, set 3 print heads:

```
HEADNUM: 3
```

2.3.2 Number of groups

Number of groups for installed print heads. This value cannot be more than the number of print heads. In addition, need to set number of print heads for every group. If number of groups is more than one, then we need to enumerate the parameters for the number of times how many groups we need.

Command: GROUPNUM

Parameters:

group id (*Integer number, 1...10*) – group id

print head number (*Integer number, 1...10*) – number of print heads for the group

Example – set 3 groups with 2, 1 and 1 print heads accordingly:

```
GROUPNUM:1:2;2:1;3:1
```

2.3.3 Group orientation

Group orientation for necessary group.

Command: GROUPORIEN

Parameters:

group ID (*Integer number, 1...10*) – group number

group orientation (*Integer number, 1...2*) – group orientation. 1 – up, 2 – down.

Example – set UP orientation for 2nd group:

```
GROUPORIEN:2:1
```

2.3.4 Group direction

Group direction for necessary group.

Command:

Parameters:

group ID (*Integer number, 1...255*) – group number

group direction (*Integer number, 1...2*) – group direction. 1 – forward, 2 – opposite.

Example – set FIRWARD direction for 1st group:

```
GROUPDIR:1:1
```

2.3.5 Firing voltage

Firing voltage for installed cartridges.

Command: HFIRE

Parameters:

pen ID (*Integer number, 1...255*) – pen number.

manual adjust (*Integer number, 0...1*) – manual adjust. 1 – enable, 0 - disable.

voltage (*Real number, 7.0...13.2*) – Firing voltage.

active nozzle row (*Integer number, 1...2*) – active nozzle row. 1 – left line, 2 – right line.

pulse length (*Real number, 1.6...2.3*) – pulse length.

pulse warming (*Integer number, 0...1*) – pulse warming. 1 – enable, 0 - disable

Example – set manual voltage to 8.2V, right line active nozzles, 1.8us pulse, pulse warming ON:

```
FIRINGVOL:1:1:8,2:2:1,8:1
```

2.3.6 Group print offset

Group print offset.

Command: GROUPOFF

Parameters:

group ID (*Integer number, 1...255*) – group number

group print offset (*Real number, 0...9999*) – Group print offset.

Example – set Group print offset for group 2 to 50mm:

```
GROUPOFF:2:50
```

2.3.7 Group print spacing

Group print spacing.

Command: GROUPSPACE

Parameters:

group ID (*Integer number, 1...255*) – group number

group print spacing (*Real number, 0...9999*) – Group print spacing.

Example – set Group print spacing for group 1 to 600mm:

```
GROUPSPACE:1:600
```

2.3.8 Pen horizontal offset

Pen horizontal offset.

Command: PENHORZOFF

Parameters:

group ID (*Integer number, 1...255*) – group number

pen ID (*Integer number, 1...255*) – pen number

pen horizontal offset (*Integer number, -50...50*) – Pen horizontal offset.

Example – set Pen horizontal offset for group 1 and pen 2 to 20:

```
PENHORZOFF:1:2:20
```

2.3.9 Group vertical offset

Group vertical offset.

Command: GROUPVERT

Parameters:

group ID (*Integer number, 1...255*) – group number

pen ID (*Integer number, 1...255*) – pen number

group vertical offset (*Integer number, -50...50*) – Group vertical offset.

Example – set Group vertical offset for group 1 and pen 2 to -20:

```
GROUPVERT:1:2:-20
```

2.3.10 Horizontal print resolution

Horizontal print resolution.

Command: HORZRES

Parameters:

horizontal print resolution (*Integer number, 1...9*) – Horizontal print resolution.

TIJ:

- 1 – 60 dpi
- 2 – 80 dpi
- 3 – 100 dpi
- 4 – 120 dpi
- 5 – 150 dpi
- 6 – 200 dpi
- 7 – 300 dpi
- 8 – 400 dpi
- 9 – 600 dpi

Example – set Horizontal print resolution to 200:

```
HORZRES:6
```

2.3.11 Vertical print resolution

Vertical print resolution.

Command: VERTRES

Parameters:

vertical print resolution (*Integer number, 1...3*) – Vertical print resolution.

TIJ:

- 1 – 300 dpi
- 2 – 600 dpi
- 3 – 300 fast dpi

Example – set Vertical print resolution to 600:

```
VERTRES : 2
```

2.3.12 SENC resolution

SENC resolution. Cannot be set.

Command: SENCRES

Parameters:

SENC resolution (*Integer number, 0...900*) – SENC resolution.

Example – get SENC resolution:

```
SENCRES
```

2.3.13 SENC direction

SENC direction description.

Command: SENCDIRECT

Parameters:

SENC direction (*Integer number, 1...2*) – SENC direction. 1-AB, 2-BA

Example – set SENC direction to AB:

```
SENCDIRECT : 1
```

2.3.14 Photocell mode

Set photocell mode.

Command: PHOTOMODE

Parameters:

photocell mode (*Integer number, 1...2*) – Photocell mode. 1-Normal, 2-Inverted.

Example – set Inverted Photocell mode:

```
PHOTOMODE : 2
```

2.3.15 Photocell mask

Set photocell mask.

Command: PHOTOMASK

Parameters:

photocell mask (*Real number, 0...9999*) – Photocell mask distance.

Example – set Photocell mask to 200mm:

```
PHOTOMASK:200
```

2.3.16 Print mode

To retrieve currently set print mode.

Command: PRINTMODE

Parameters: Nothing

Result:

print mode (*Integer number, 1...10*) – Print mode index.

- 1 – Standard print
- 2 – Repeat printing. Must be set Repeats number and Repeat spacing.
- 3 – Simulated print
- 4 – Camera input
- 5 – MCR input
- 6 – PLC input
- 7 – Barcode reader
- 32 (0x20) – Driver mode (can be mixed with 1,2,3 through binary OR)
- 64 (0x40) – Track&Trace mode (can be mixed with 1,2,3 through binary OR)
- 128 (0x80) – Protocol mode (can be mixed with 1,2,3 through binary OR)

simulated speed (*Real number, 0...10*) – Internal shaft encoder speed.

PEC print spacing (*Real number, 0...999*) – PEC spacing.

repeats number (*Integer number, 0...32000*) – Number of repeats in Repeat print mode.

repeat spacing (*Real number, 0...9999*) – Spacing between images in Repeat print mode.

Example – get Print mode:

```
PRINTMODE
```

2.3.17 Set Standard Print mode

Set standard print mode.

Command: MODESTAND

Parameters: Nothing

Example – set Print mode to Standard:

```
MODESTAND
```

2.3.18 Set repeat Print mode

Set repeat print mode.

Command: MODEREPEAT

Parameters:

repeats number (*Integer number, 0...32000*) – Number of repeats in Repeat print mode.

repeat spacing (*Real number, 0...9999*) – Spacing between images in Repeat print mode.

Example – set Repeat Print mode with Repeats number as 5 and Repeat spacing as 30mm:

```
MODEREPEAT : 5 : 30
```

2.3.19 Set endless repeat Print mode

Set endless repeat printing mode.

Command: MODEREPEAT2

Parameters:

repeat spacing (*Real number, 0...9999*) – Spacing between images in Repeat print mode.

Example – set Repeat Print mode with Repeat spacing as 30mm:

```
MODEREPEAT : 30
```

2.3.20 Set simulated Print mode

Set simulated print mode.

Command: MODESIMUL

Parameters:

simulated speed (*Real number, 0...10*) – simulated speed.

PEC print spacing (*Real number, 0...999*) – PEC spacing.

Example – set Simulated Print mode with speed as 1.2m/s and PEC spacing as 125mm:


```
MODESIMUL:1.2:125
```

2.3.21 Set Camera mode

Set camera print mode.

Command: MODECAMERA

Parameters: Nothing

Example – set Camera input mode:

```
MODECAMERA
```

2.3.22 Set MCR mode

Set MCR print mode.

Command: MODEMCR

Parameters: Nothing

Example – set MCR input mode:

```
MODEMCR
```

2.3.23 Set PLC mode

Set PLC print mode.

Command: MODEPLC

Parameters: Nothing

Example – set PLC input mode:

```
MODEPLC
```

2.3.24 Set Barcode reader mode

Set barcode print mode to use hand barcode scanner as source.

Command: MODEBAR

Parameters: Nothing

Example – set barcode reader input mode:

```
MODEBAR
```

2.3.25 Driver mode

Set driver mode on the controller. Can be mixed only with Standard, Repeat and Simulated modes.

Command: MODEDRIVER

Parameters: Nothing

Example – set printer to driver mode:

```
MODEDRIVER
```

2.3.26 Track&Trace mode

Set driver mode on the controller. Can be mixed only with Standard, Repeat and Simulated modes.

Command: MODETRACK

Parameters: Nothing

Example – set printer to Track&Trace mode:

```
MODETRACK
```

2.3.27 Protocol mode

Set driver mode on the controller. Can be mixed only with Standard, Repeat and Simulated modes.

Command: MODEPROTO

Parameters: Nothing

Example – set printer to protocol mode:

```
MODEPROTO
```

2.3.28 Set internal shaft encoder mode

Set Internal shaft encoder mode with specific speed.

Command: SHAFTENC

Parameters:

internal shaft encoder (*Integer number, 0...1*) – Internal shaft encoder. 0-OFF, 1-ON

simulated speed (*Real number, 0...10*) – Internal shaft encoder speed.

Example – set Internal shaft encoder with speed as 1.2m/s:

```
SHAFTENC:1:1.2
```

2.3.29 Maximum head numbers

To retrieve information about maximum number of cartridges which can be installed on current printer.

Command: MAXHEADNUM

Parameters: Nothing

Example – get maximum head numbers:

```
MAXHEADNUM
```

2.3.30 Vertical resolutions

To retrieve all possible vertical resolutions for current printer.

Command: ENUMVRES

Parameters: Nothing

Example – get vertical resolutions:

```
ENUMVRES
```

2.3.31 Horizontal resolutions

To retrieve all possible horizontal resolutions for current printer.

Command: ENUMHRES

Parameters: Nothing

Example – get horizontal resolutions:

```
ENUMHRES
```

3 APPENDIX A: ERROR CODES

Every command can return error code here is the full list of supported error codes

Error code	Description
9999	Unknown error
-1	Server not available
-2	Unrecognized command
0	No error
1	User name or password is incorrect



2	Printer not connected
3	Label not loaded
4	Printer already printing
5	Access denied for the operation
6	Required to log in for the operation
7	Another user already logged in
8	User already existed
9	User does not exist
10	Printer not printing
11	Range of value is incorrect
12	Group number is not correct
13	Administrator user cannot be changed
14	Access denied to work remotely
15	Unrecognized command id
16	Cannot open file
17	Configuration cannot be changed during printing
18	New data is not required at the moment
19	Operation not supported in current print mode
20	One or more cartridges are missing
21	Command is not implemented yet
22	Print mode cannot be mixed with already selected one
23	Security key is not installed
24	Cartridge is empty
25	Data buffer corrupted
26	Power was lost
27	Need user interaction
28	Interaction not required
29	Data not exist in database
30	No remote data supported



31	Protocol mode turned off
32	Product got jammed
33	Mode not supported
34	Command not supported
35	Pen number is not correct
36	Command partly done
9999	Unknown Error