Limitronic®

Limitag® V5lite

User's Manual

Revision
2.01
Firmware version:
6.4.1.3 L

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Contents

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1 General Overview

1.1 V5 lite Controller

1.1.1 Overview

1.1.2 Screen

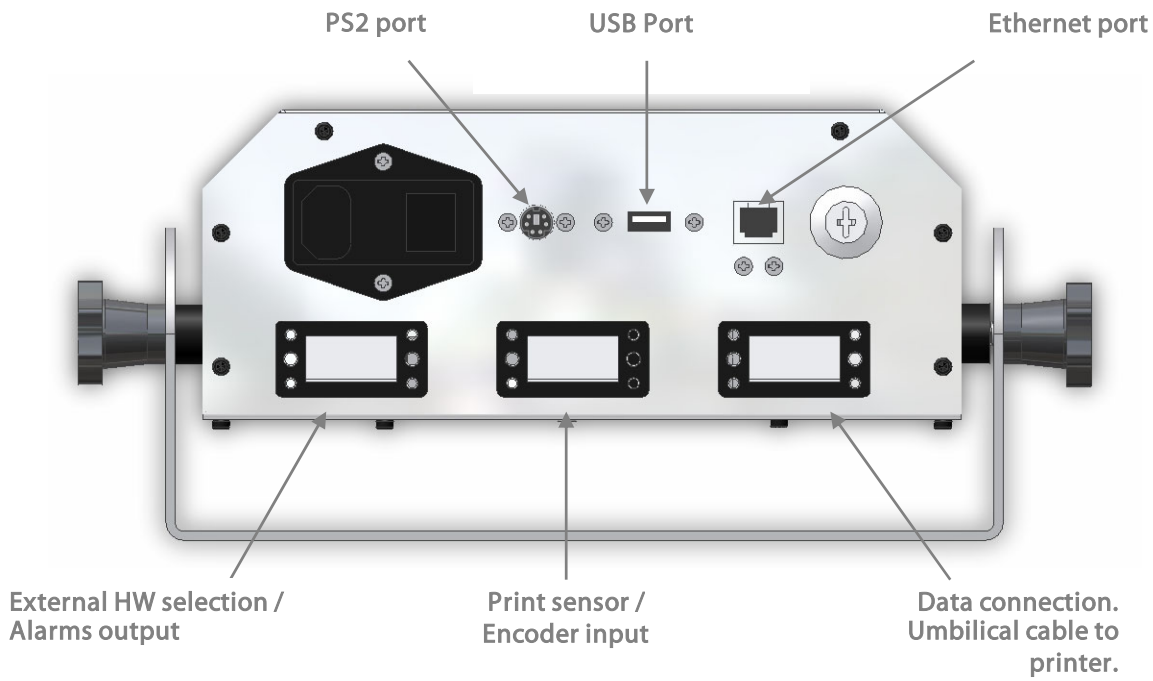
It is the basic graphic user interface; it shows the status of the printer, message being printed, alarms, etc.

1.1.3 On/Off Switch

Switching on the printer:
- Use the controller switch to power the printer on.

Switching off the printer:
- Use the on-screen button to switch off the printer.
- Following screen will appear after some seconds:

- Use the controller switch to power the printer off.



1.1.4 PS2 Port

Use the PS2 to connect additional pointing devices like a PS/2 mouse.

1.1.5 USB Port

Use the USB Port to save messages, logos or images manually, as well as firmware updates and backup copies of messages, logos and configurations.

1.1.6 Ethernet Port

Use the Ethernet port to connect the printer to a network.

Following features can be used via this Ethernet port:

- Limitag Command Line Communications Protocol
- Print and manage layouts from any remote Limitronic EditorGrafico®
- Integrated Webserver
- Optional Windows™ print server to print from any application

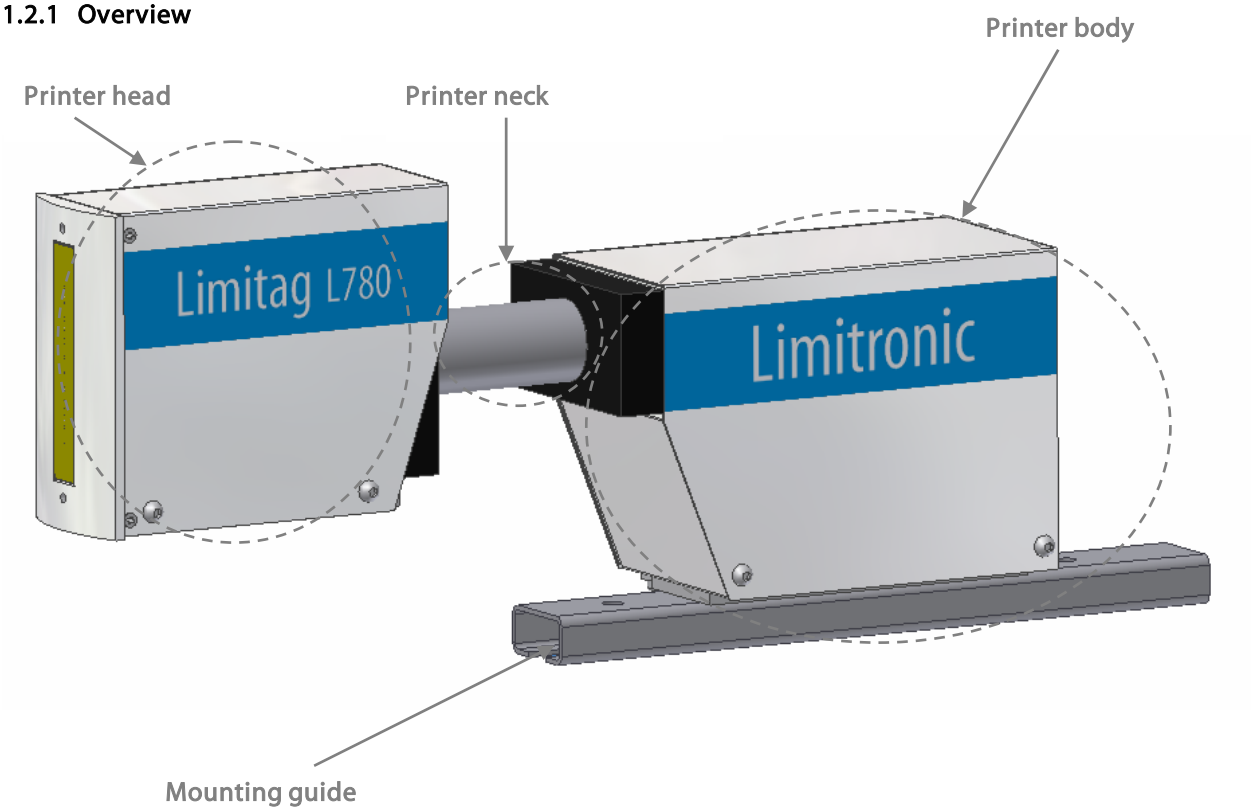
1.1.7 Connections

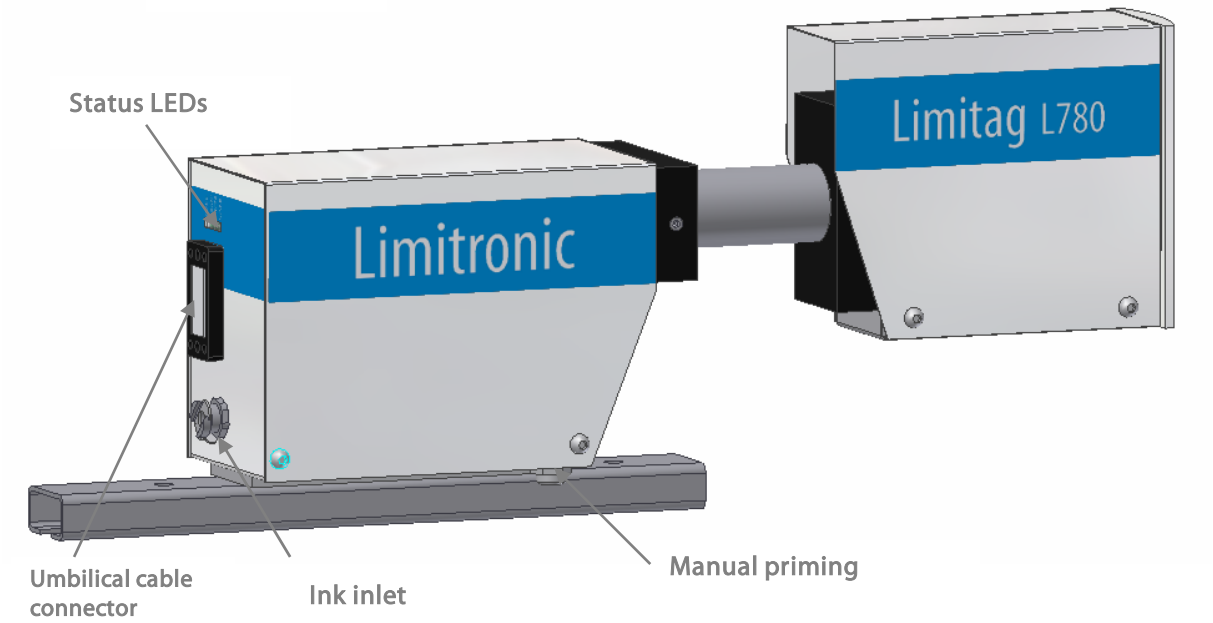
There are three types of connectors:

- Data connection. Umbillical connecting the controller with the printer is attached in this connector.
- Print sensor and (or) encoder input.
- External message selection and alarm outputs.

1.2 L780 Printer

1.2.1 Overview





1.2.2 Printer Head

The printer head is the part containing the actual printhead and the electronics that control it. It can be rotated to adapt the printhead to ramps thanks to the pipe printer neck.

1.2.3 Printer body

The printer body is the part containing the ink tank and the electronics needed to control it, as well as the interconnection with the Limitag controller.

1.2.4 Printer neck

The printer neck connects the printer head with the printer body. Inside it contains the ink from the deposit and the electric signals necessary for the operation of the printhead.

1.2.5 Mounting guide

This mounting guide makes it possible to mount the printer in given installation using default brackets.

1.2.6 Status LEDs

These LEDs give us information about the status of the printer depending on the color (GREEN or RED):

	RED	= Printhead is printing
	GREEN RED	= Temperature OK = Temperature warning
	GREEN RED	= Ink level OK = Ink level warning
	GREEN RED	= Printhead OK = Printhead general error

(On earlier versions IMPR, TEMP, TINTA and CABE are used in spite of icons)

1.2.7 Umbilical cable connector

This connector is where the umbilical cable is attached. The umbilical cable transports data information as well as power supply to the printhead.

1.2.8 Ink inlet

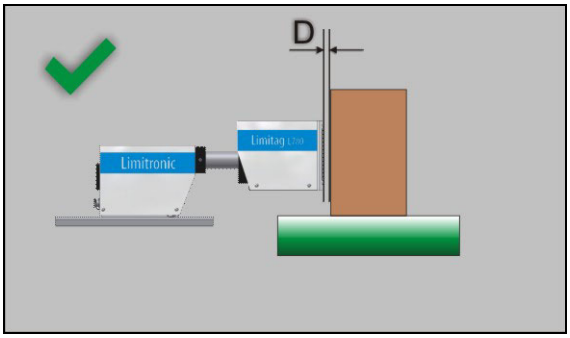
This is an automatically closing inlet designed to prevent possible ink leaks. Here is where the ink from the bottle is connected.

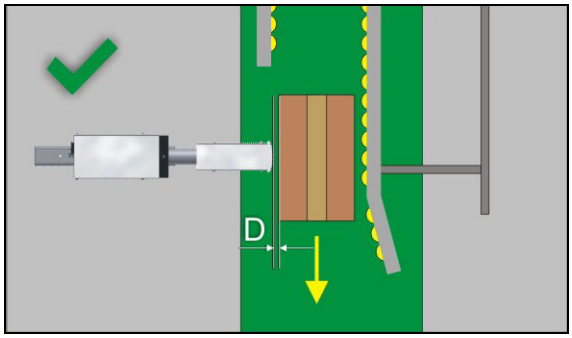
(Depending on the ink and tubing being used a non fast connector may be used.)

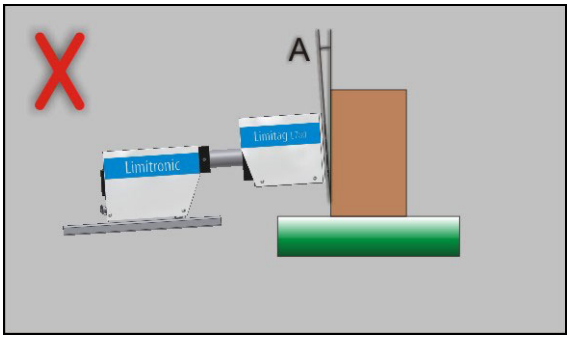
2 Setting up the printer

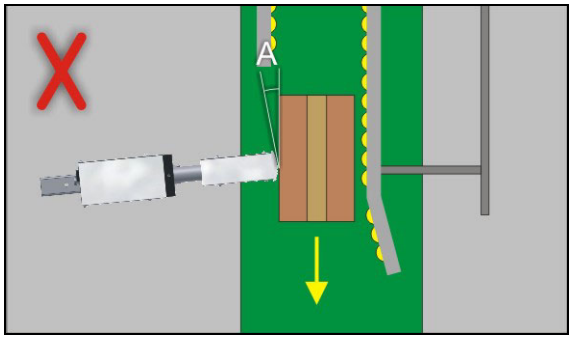
2.1 Printing Station

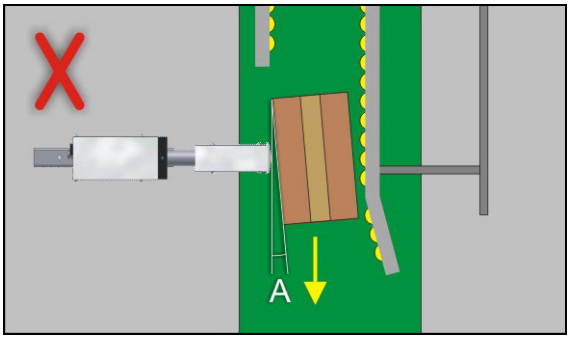
- Mount the printer on the mounting guide. Ensure that the distance from the product to be printed (D) is no larger than 5 mm and that the angle it forms with the product (A) is no wider than 5º.
- Ensure that the product to be printed is well guided so that it is in parallel to the printhead.
- Pay special attention to the vertical alignment of the head in order to achieve a correct printing, especially for bar codes.
- Connect the umbilical cable that comes from the controller.
- Connect the ink bottle to the ink inlet.

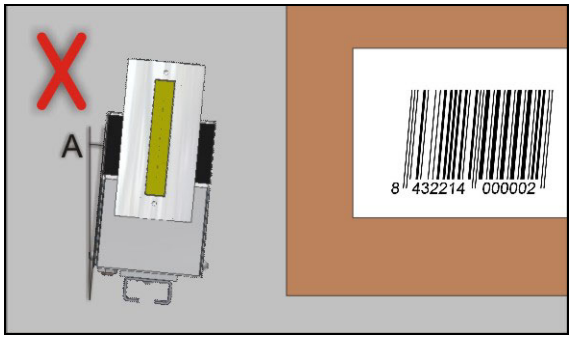












2.2 Printer controller

- Connect the umbilical cable from the printer.
- Plug in the connector of the product detection photocell (and encoder if applicable).
- Plug in the connector of external message selection and alarms (if applicable)
- Connect the power supply cable to a well-grounded 220 VAC power cord.
- Switch on the machine by pressing the on/off button. After a few seconds, the machine will show the main screen which allows us to work with the printer.

2.3 Setting up the printer

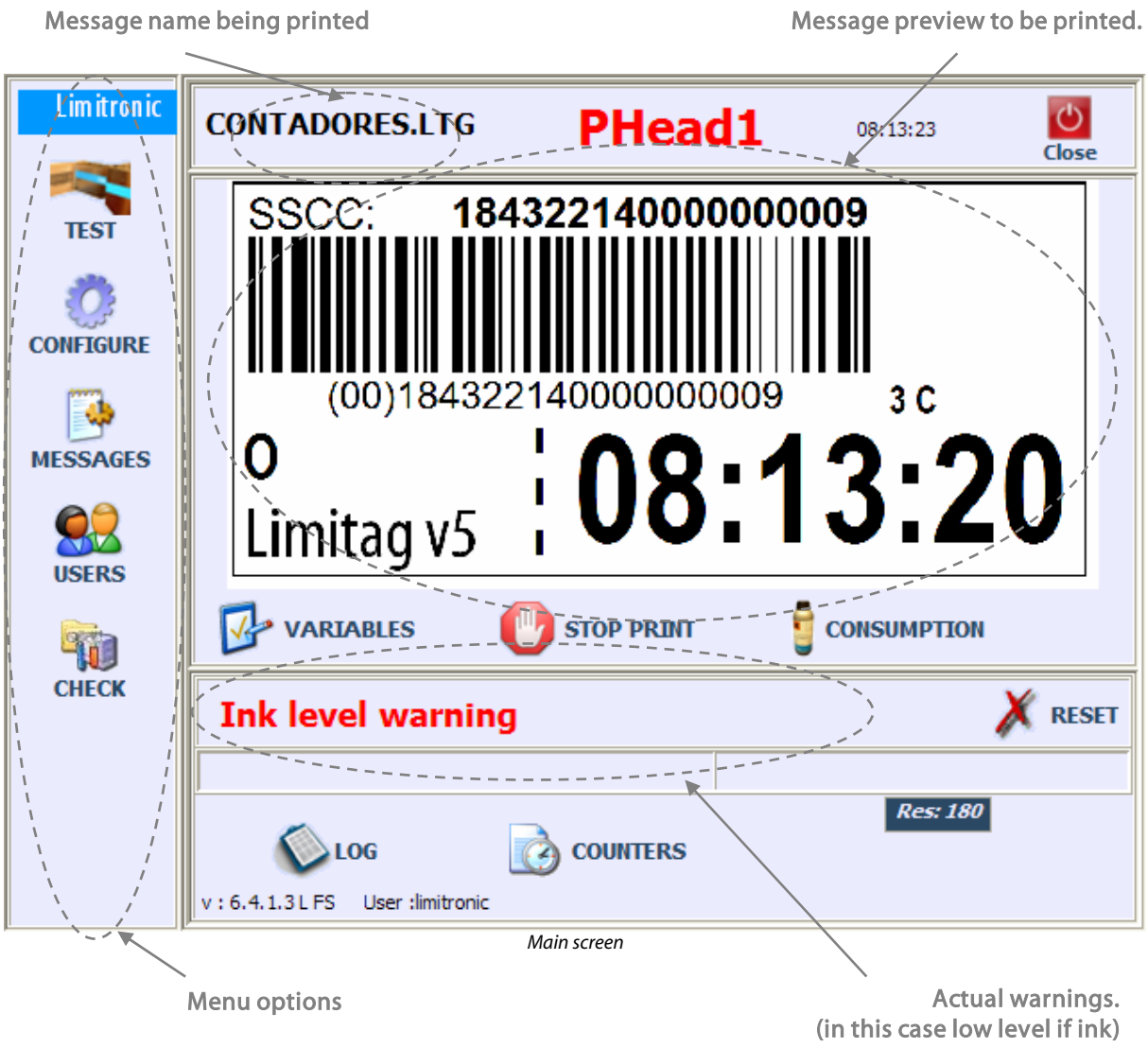
The first time it is used, when the machine is switched on, the printer will detect the empty printhead tank and will begin a filling cycle. It is likely that a single cycle will not be enough to fill the printhead tank, so it will have to be reset several times (the controller screen will give us this option upon detecting the ink alarm).

It will be necessary to perform a first ink flush. The correct way of doing this is pumping the printhead to prime it.

When first priming the printhead, ink will come out with air bubbles. The flush is completed when the ink appears with no bubbles.

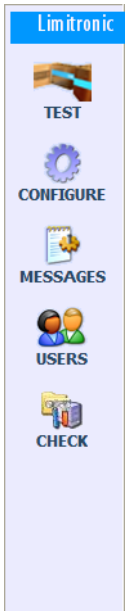
Remove the excess of ink with the specific wipe provided.

3 Limitag



Main screen

3.1 Menu options.



This area of the screen will show the functions available depending on the user level access. Available buttons in main menu are:

TEST:
Use it to test print quality and speed calibration special layouts

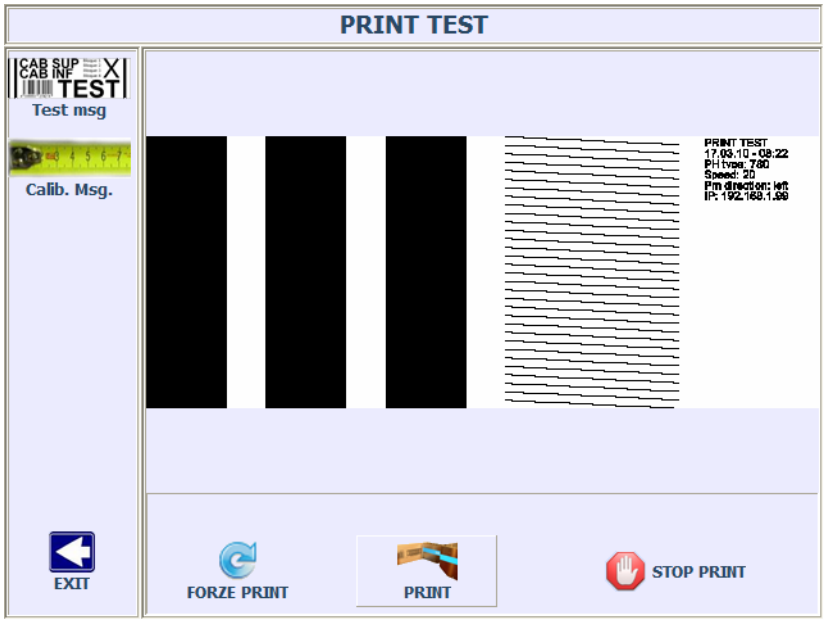
CONFIGURE:
Access to all configuration parameters

USERS
User change and user maintenance when available

CHECK:
Internal checking

3.1.1 Test.

This option provides access to test and calibration special layouts.



TEST message is a special layout containing key patterns to print where all, odd and even dots are fired. Also some basic information and key pattern is printed.,

CALIB message is a special layout containing a printed ruler designed to calibrate speed when internal clock us being used.

After selecting the TEST MSG or CALIB MSG buttons new actions are available through bottom buttons:

PRINT: Sends the test or calibration layouts to printhead

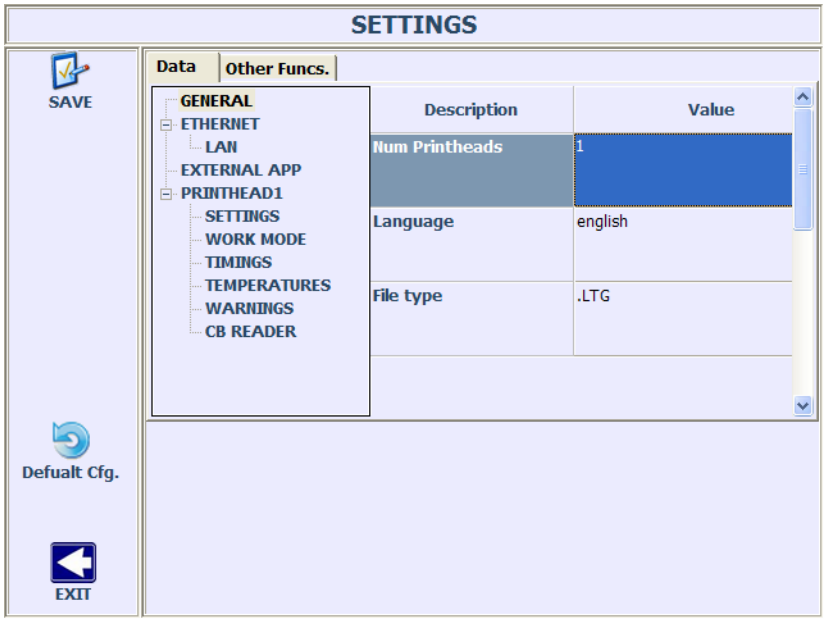
TRIGGER PRINT: Activates print when pressing button (with no need of sensor print input)

STOP / RUN PRINT: To hold print

When exiting this screen, the printhead will print the previously ready message again.

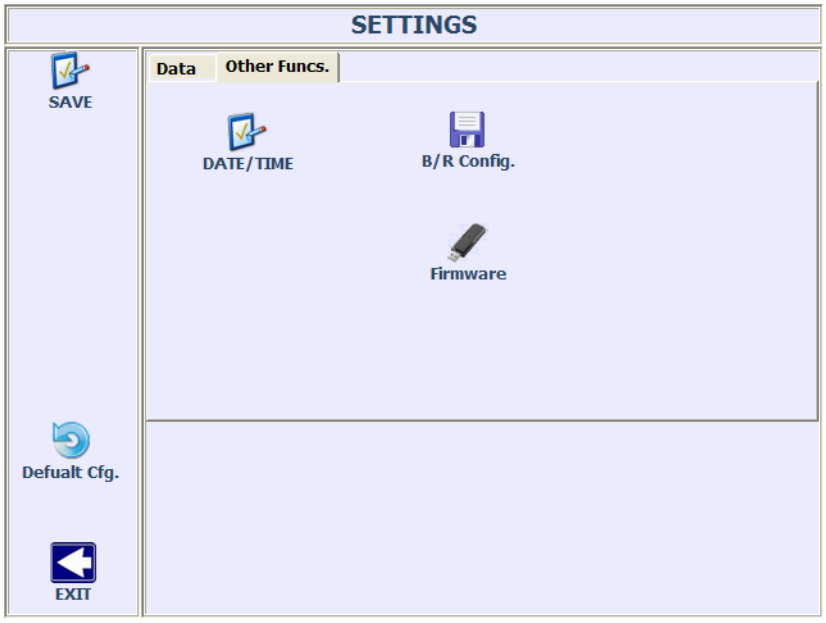
3.1.2 Configuration.

This option provides access to all configurations available.



Several tabs and configuration trees are shown in order to access all configuration values. Settings can be changed depending on user level access.

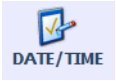
Pressing the top Tabs other configuration pages and actions are shown always depending on user level access.



When an USB Pen Drive is attached to the controller, special buttons appear on screen.

B / R Config button: Gives access to Backup and Restore procedures to attached USB
Firmware: Firmware updates from attached USB drives

3.1.2.1 Date and time of the system.



By clicking on this button, the user may access the screen to change the date and time of the printing system.

3.1.2.2 Default configuration.

By clicking on this button, the user may reset all settings to factory defaults.

Several key settings in default configuration:

- IP Address : 192.168.1.99
- Mask : 255.255.255.0
- Printhead model : 780
- Direction : Right to Left
- Horiz Resolution : 180
- Print delay : 0
- Printing speed : 20
- Upsidedown : No

3.1.3 Message selection.

Use this button to access to all messages stored in the printer.

Click on this option to access the screen to select the message or messages to be printed. This screen may change depending on the configuration established when installing the printer controller.

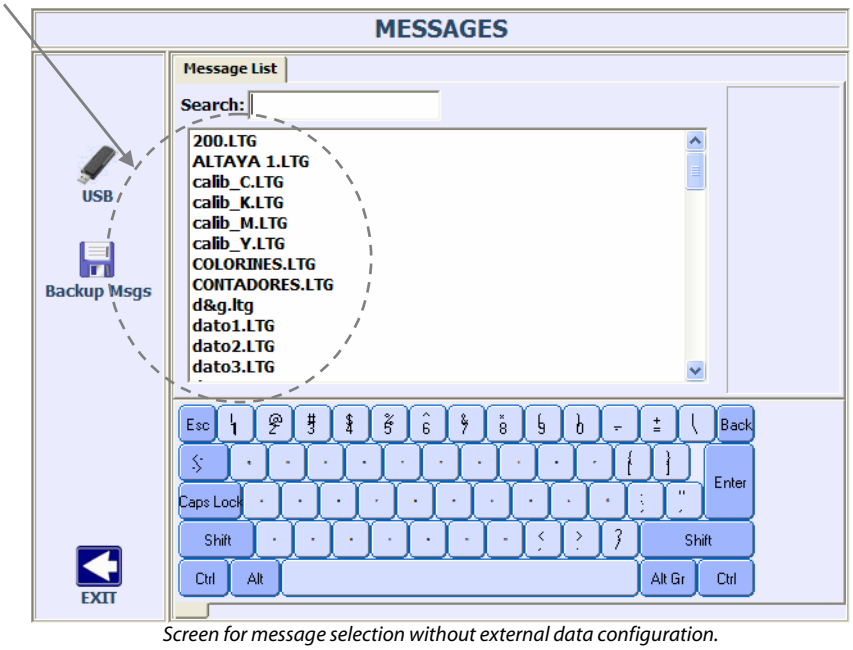
The way the user selects the messages depends on the configuration of the printer. By default the printer is configured to not using external data. This is the standard mode where all messages appear as a list and the user just has to select the desired layout and print it.

The lower part of the screen will always show the preview of the selected message and a Variables button to change the variable data of that message. (See section 3.2.2).

3.1.3.1 Message selection (Configuration without external data)

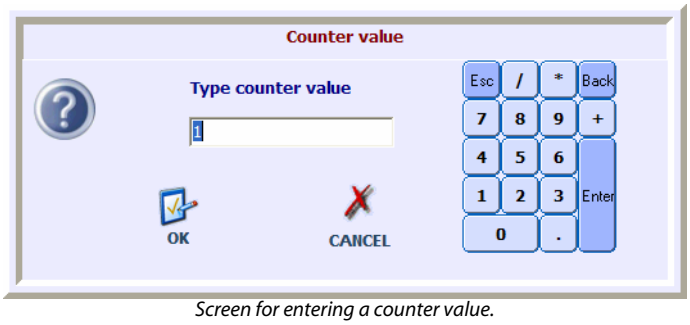
This is the default and most common operation mode.
Simply select the message from the list of messages and then press the button *Print*.
From that point the printer will print the selected message until further notice, although depending on the installation, it is possible to define the number of prints of the message and then stop printing.

List of saved messages in the controller.



Screen for message selection without external data configuration.

If the message selected to be printed has counters with a pre-configured question to the user, a screen will appear to enter the value of the counter to be printed.



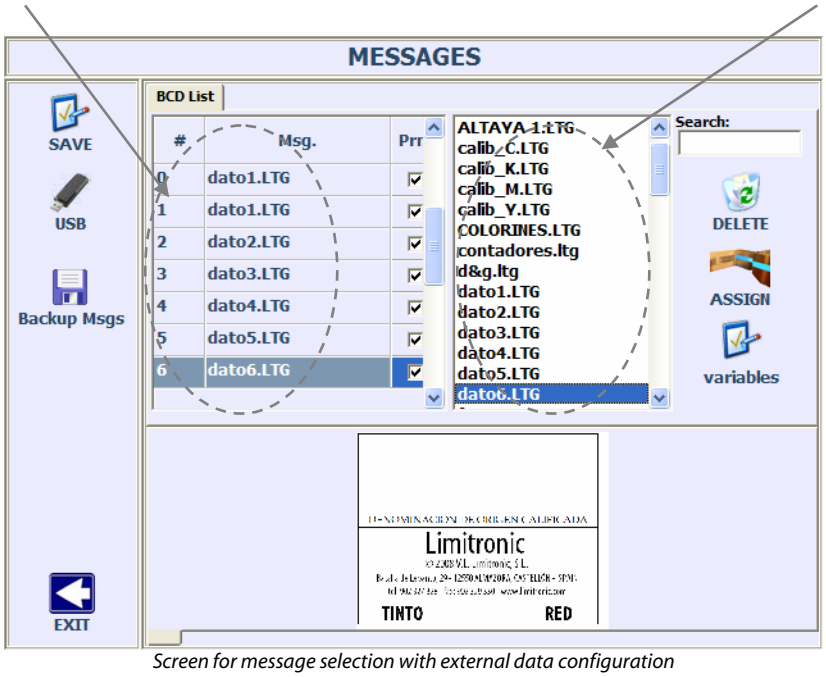
Screen for entering a counter value.

3.1.3.2 Message selection (External data configuration)

If the external data work mode has been configured, the system will change the message to be printed depending on the selected digital input. The message selection screen is used to assign which layout to print depending on the digital input (valid values are from 0 to 15)

Current configuration of external data

List of stored messages



Screen for message selection with external data configuration

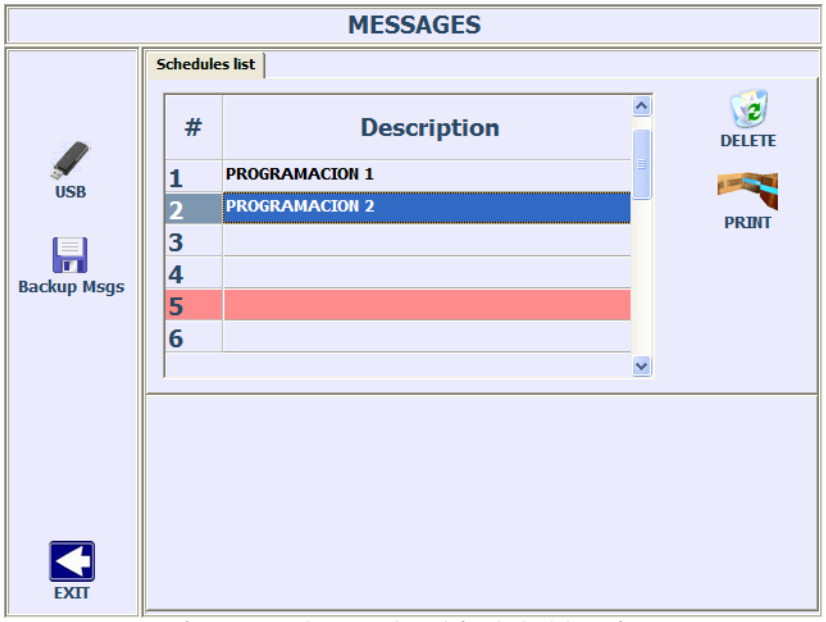
.

Click on this button to assign the message selected to the number of external data selected on the column to the left

3.1.3.3 Selection of a schedule to print.

If the system has been configured to work with a list of schedules, the screen will show the available list.

Simply select the desired one and press the button *Print*.
This mode is mainly used when printer is driven from external applications like *DAP®*



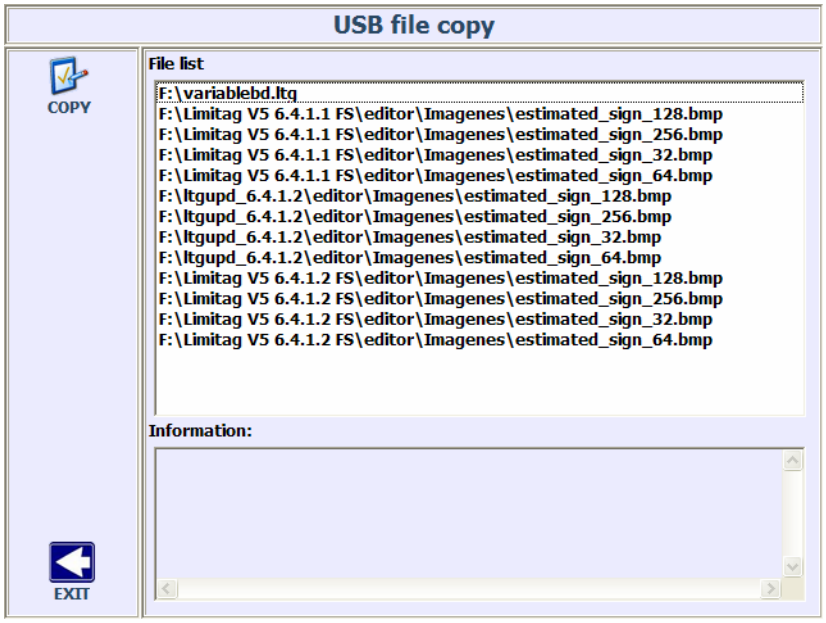
Screen for message selection with predefined schedule configuration..

3.1.3.4 *External USB message copy*

When USB memory stick is attached to the printer it is possible to copy messages from the memory stick to the printer.

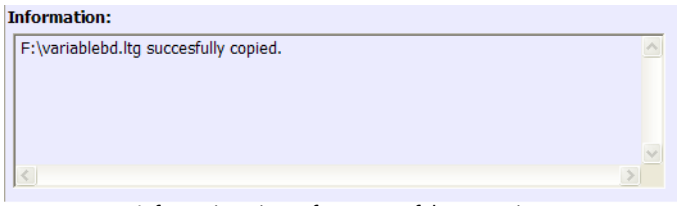
The button will appear automatically when USB memory stick is detected.

Following screen will be shown when pressing the USB button:



Simply select the files to be copied and then press the button *Copy*. At the bottom of the screen, the information of the copies made will appear.

LTG, XML (layouts) and BMP (bitmaps) can be copied to the printer.



Information given after successful copy action

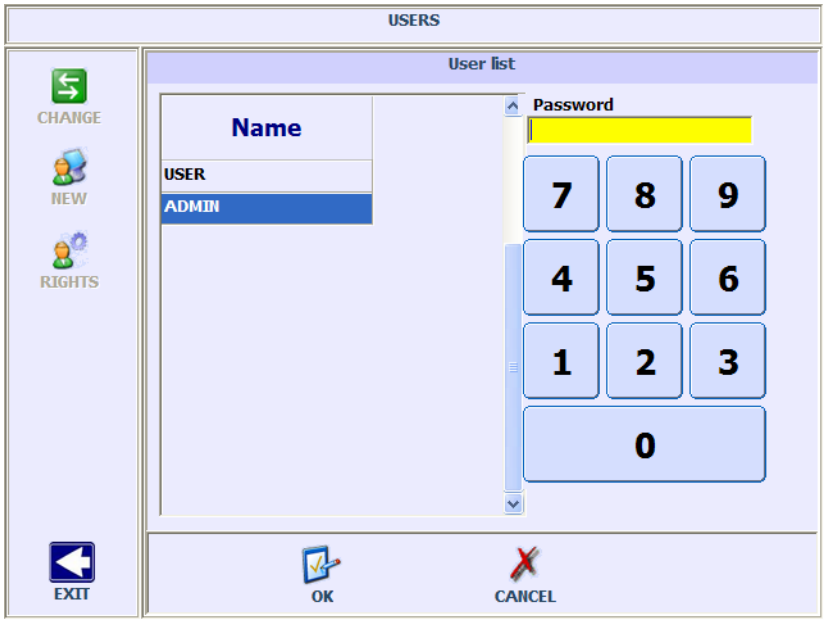
3.1.4 Users' Access

Click on this button to access user options

Depending on user level access maintenance operations are also available

3.1.4.1 User change

Click on this button to change user and select the desired user from the list



After selecting the user and entering the password, click on the button *Ok*
The name of the active user can be seen on the left

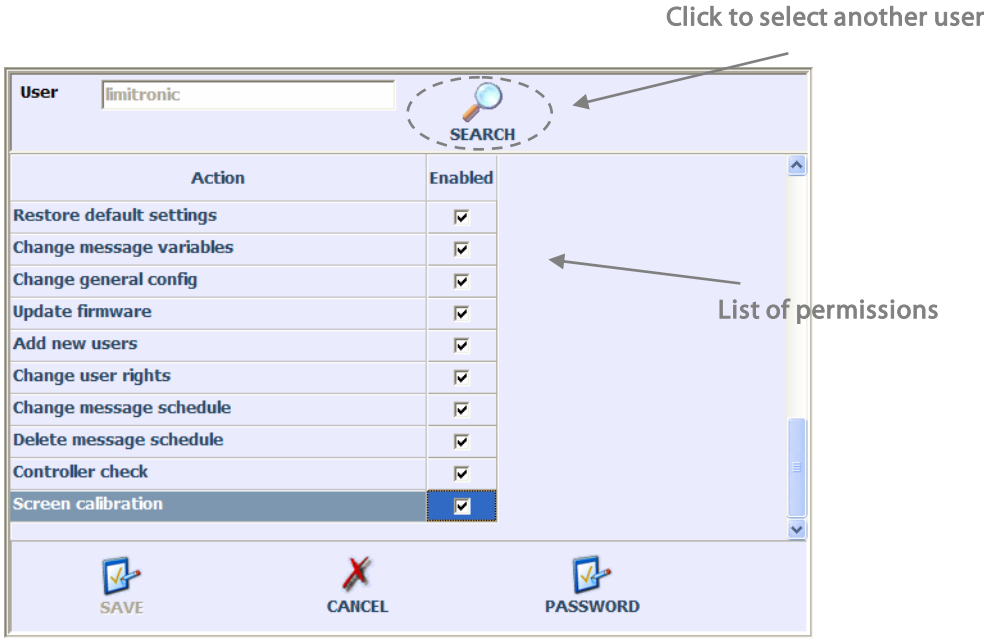
3.1.4.2 New user.

Click on this button to add a new user

3.1.4.3 *User access rights*

Click on this button to change user

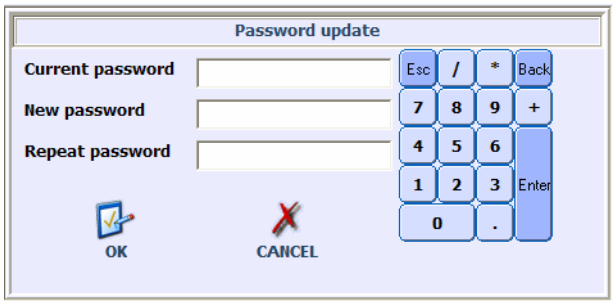
Use this option to assign rights to the desired user.



Clicking twice on the check boxes will activate or deactivate the permissions for the selected user. After clicking *Save* button all rights will be updated to the selected user.

3.1.4.3.1 Password change.

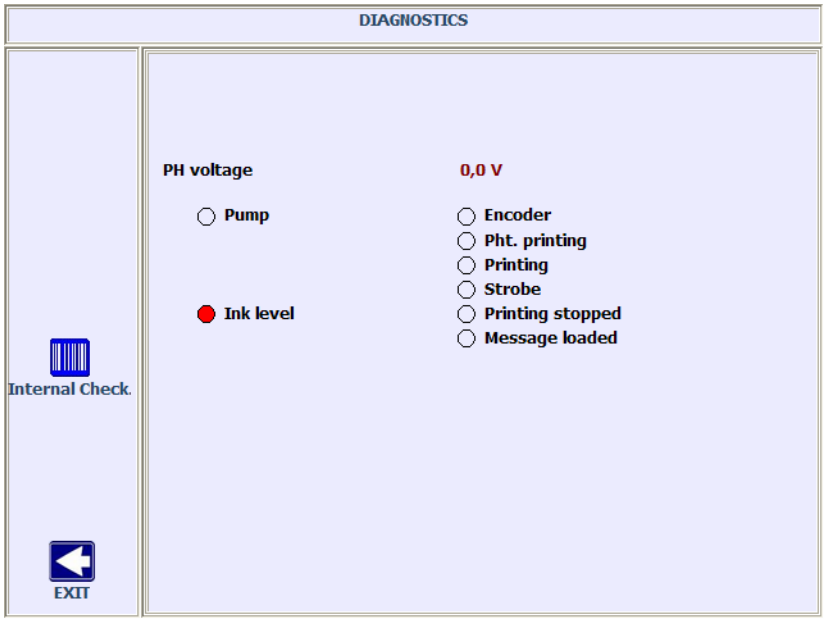
Click on this button to change password of selected user



Enter the current password and repeat the new password twice to ensure the data is correct. Click on *Accept to* automatically update the new password.

3.1.5 Controller check.

Clicking on this button, a screen will appear with information regarding the current status of the printer



3.2 Current message print options

The main screen always shows the current message to be printed

3.2.1 Stop printing.

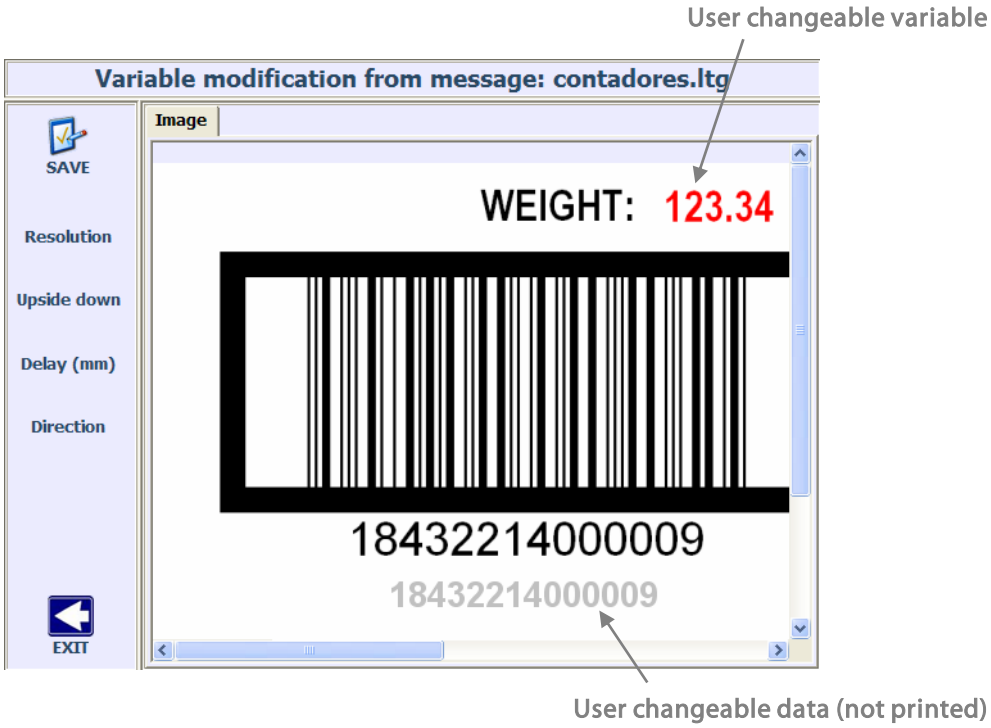
Clicking on this button will stop printing. Print sensor will be disabled. The following message will appear on the screen and the text on the button will change to RUN PRINT

Clicking on this button will enable printing again.

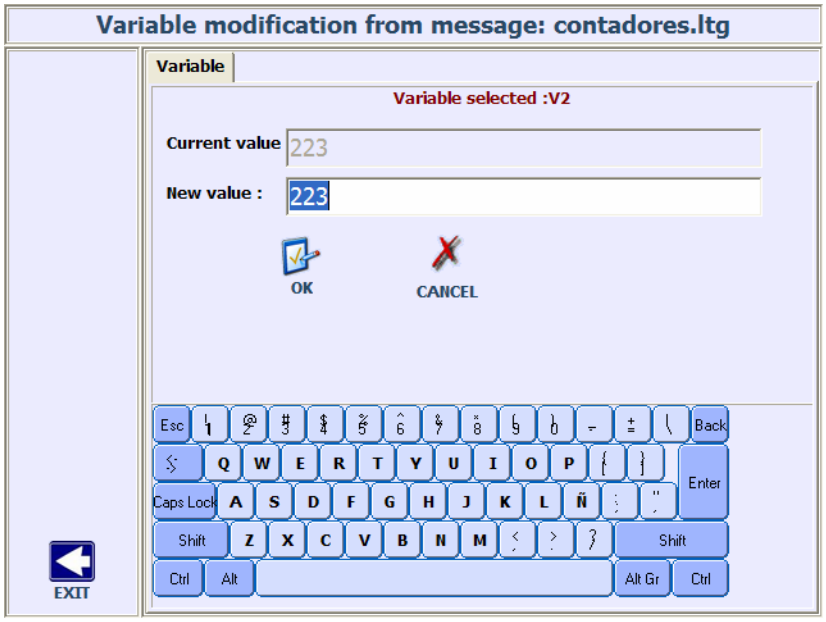
3.2.2 Modification of current message variable data

Click this button to change the variable fields of the current message

Preview screen will be shown where user can edit fields marked in RED. Blue flields correspond to autocodes and red fields to changeable variables. Grey values correspond to changeable variables that will not be printed.



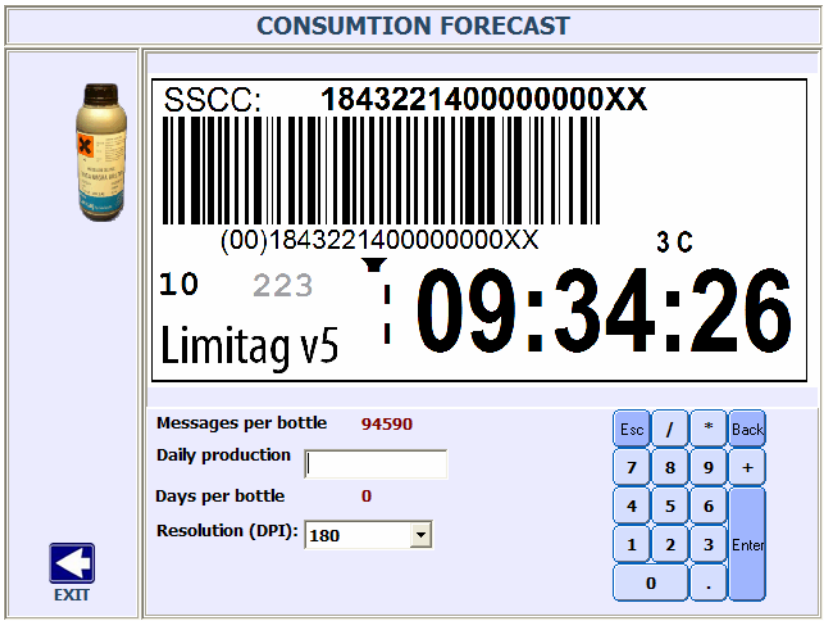
Clicking on the variable data you wish to change, the name of the variable and its current value will appear.



Enter the new value and click on *OK*; a preview of the message is shown.

3.2.3 Consumption.

Click this button to check consumption estimation of current message

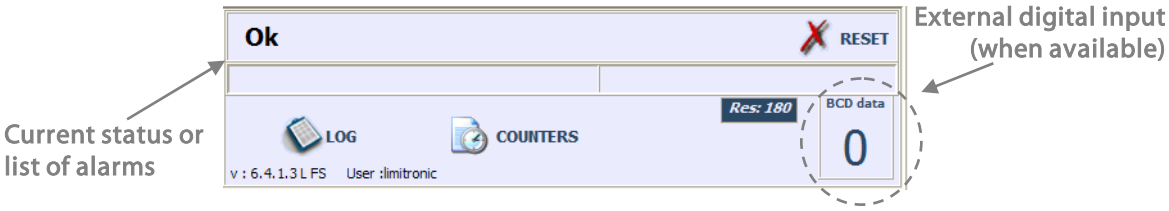


Simply calculation of days per bottle can be obtained typing daily production.

Different resolutions can be selected to show new estimations.

3.3 Printer current Status

This area of the main screen allows the user to see the status and work mode of the printer.



3.3.1 Alarm status.

This area shows printhead status and informs about the warnings

Key alarm types:

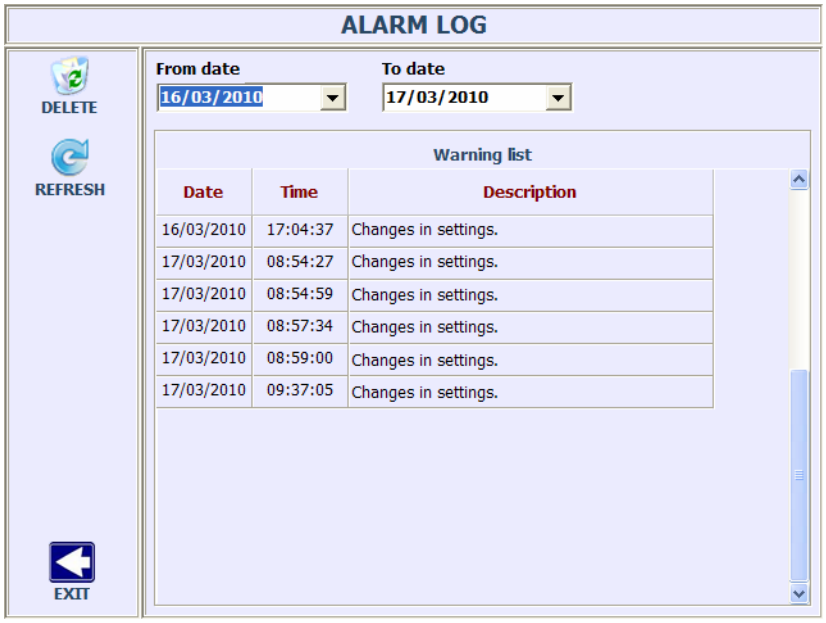
ALARM DESCRIPTION	REASON	ACTION
- Ok	No alarm.	
- Pump On	Internal pump on	
- Ink level warning	Ink external supplier empty. Printing still available.	Replace bottle and press RESET button.
- NO INK	Low ink in internal tank. Printing not available	Replace bottle and press RESET button.
- Print stop	User has stopped printing	Press RUN print to enable print.
- Barcode error	Bad reads received from connected barcode scanner	Press reset button to close alarm.
- Printhead COMM error	Umbilical disconnected	Connect umbilical and press RESET button.

3.3.2 External data input.

If the printer is configured in the external hardware message selection mode, this area shows the received digital input value

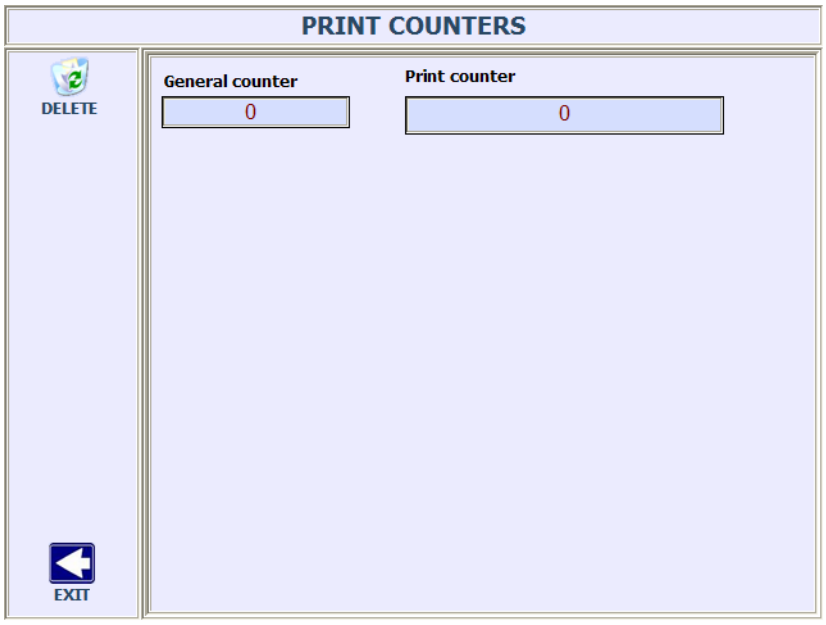
3.3.3 Alarm log.

Click this button to check stored alarm logs



3.3.4 Print counter.

Click this button to check print counters screen



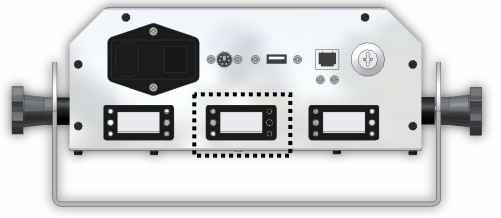
Depending on the user level access resetting counters is allowed.

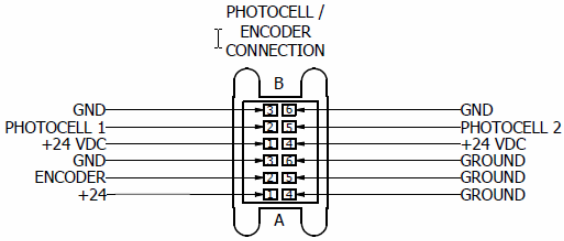
4 Connecting external devices | electrical layouts

Limitag V5 controller is able to control up to 4 printheads each of them individually driven. All printhead has its own sensor, encoder, alarms and HW message selection inputs. Following sections shown connector schematics. Printhead #1 is used as a sample but schematics are the same for all 4 printheads.

4.1 Photocell sensor | encoder connector

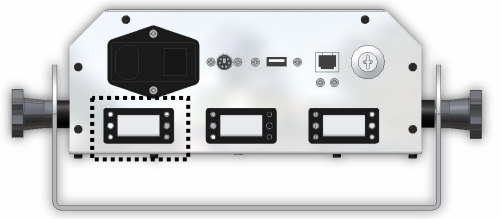
Photocell and encoder share the same connector as shown below. On the left side controller connector location is pictured. On the right side electrical layout is shown.

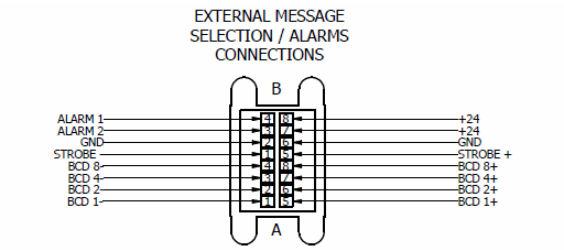




4.2 Alarm outputs | external HW message selection input

Photocell and encoder share the same connector as shown below. On the left side controller connector location is pictured. On the right side electrical layout is shown.



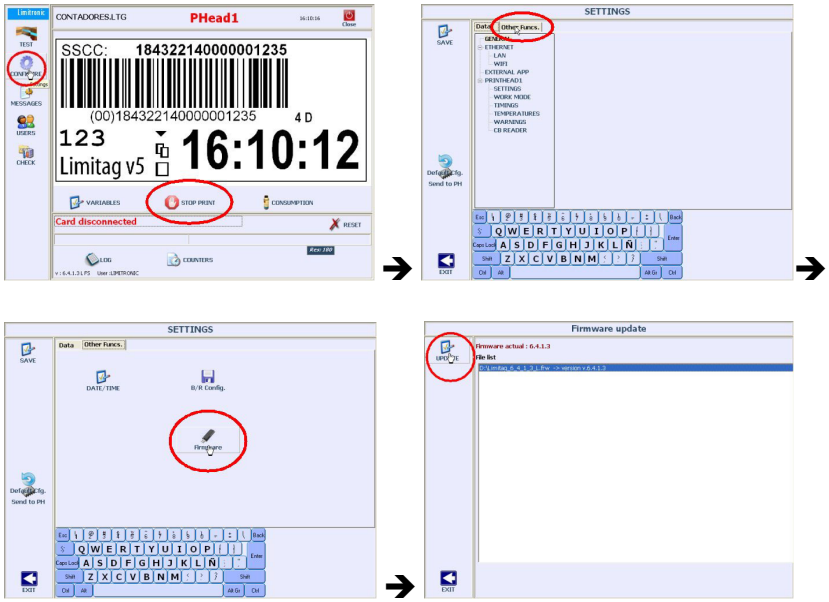


5 Firmware update | quick guide

This section describes quick guides to update the controller firmware. Depending on update methods and controller type this method can be slightly different. In any case an USB containing firmware is needed.

5.1 Using .FRW files | key steps

1. Start Limitag V5 printer
2. Wait until main screen is shown
3. STOP print (stop print in all printheads when applicable)
4. Insert USB drive containing *.FRW* file
5. Change to ADMIN user (factory default password is '12345')
6. Press firmware button. Depending on Limitag V5 controller and version this button may be shown in different places.



7. In any case the last window shows the .FRW files found in the attached USB file.
8. Pressing UPDATE button will update firmware and restart application using selected version
9. Check new version numbers at bottom of main screen