

Collamat® 8600/9100

Operating instructions

Monitor

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Important warnings



Before installing and operating the Collamat® 8600/9100 read the following safety instructions.

- The monitor C8600/C9100 is exclusively intended to control the labeller C8600/C9100.
- Install the labeller C8600/C9100 only by a trained specialist considering the national specific regulations of
 - prevention of accidents
 - construction of electrical and mechanical systems
 - noise suppression (RMI)
- Take notice of the technical data of the Collamat® 8600/9100. Especially the environment conditions must be observed.
- Install the Collamat® 8600/9100 at a dry location, protected from splashing water.
- Operate the Collamat® 8600/9100 only by trained personnel.
- In case of non-authorized modifications the guarantee will become void.
- Before connecting non-standard products, ask your competent technical supporter.
- Peripherals to the Collamat® 8600/9100 must only be connected to the mains socket of the monitor. These devices must be approved by Collamat Stralfors AG. The specifications of the mains socket are specified in the Technical Appendix.

Danger notes

- The safety symbols and the danger advices on the Collamat® 8600/9100 and in this manual must strictly be observed.
- The Collamat® 8600/9100 must only be set up in switched off condition.
- Before connecting or disconnecting the labeller C8600/9100 to or from the monitor switch off the monitor.
- Monitor and distribution box are only allowed to be opened by authorized personnel.
- Danger of pinching hair, jewellery, ties, clothes etc. into the traction unit !
- Danger of injury by cutting fingers in the paper web zone !
- Danger of injury in the dancer roller zone of the Collamat® 8600/9100 rewinder and unwinder !
- Danger of injury in the case of non-expert use of the Collamat® 8600/9100 in the paper stock control zone.

Symbol description

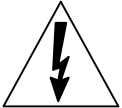


ATTENTION

Indicates danger of damaging the Collamat® 8600/9100 or other system components, with a potential consequential danger of injuries.

DANGER

Indicates an immediate hazard for persons.



DANGER

Shock hazard due to high voltage at component.



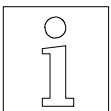
DANGER

Hazard due to high temperature component.



ATTENTION

ESD warning (ElectroStatic Discharge). The PC boards or components may only be touched in an electrostatically protected environment.



NOTE

Important or additional information to Collamat® 8600/9100 or to the documentation.

General information

The entire electronic operating and control system is installed in a modern, elegant monitor. Its SMD-design guarantees high operation safety. The monitor can be operated in all installation positions, because the front panel can be mounted reversibly. Monitor and labeller are connected with two cables. One cable feeds the stepper motor, the other connects the labeller peripherals with the monitor. A microprocessor controls all labeller functions. To facilitate entering values in noisy environment, the foil keyboard is provided with action point contacts. There are no potentiometers or controllers inside the monitor. All parameters can be set via keyboard. (The stepper control was developed and produced by a well-known manufacturer of stepper motor drives.) The monitor can be started or stopped by a signal from outside. The operating mode is displayed to the outside by relay contacts.

Special characteristics of the Collamat® C8600/9100 monitor

- Modern menu-driver operation
- No controller or potentiometer
- All important parameters can be set during labelling
- 32 program memories
- All values and parameters can be stored
- Two user levels
- Modern design
- Variable installation in systems
- Due to amply dimensioned heatsink no fan is necessary
- Connection to labeller with only two cables
- Modern fail-safe electronics
- Electric modular design with SMD-components
- Variable labelling speed by incremental encoder or measuring light barrier
- Nonstop operation with two Collamat®
- Remote control possible by SPC
- Relay contacts for operating state indication

The monitor



The monitor may only be opened by trained personnel. It contains no parts to be handled by the operator.

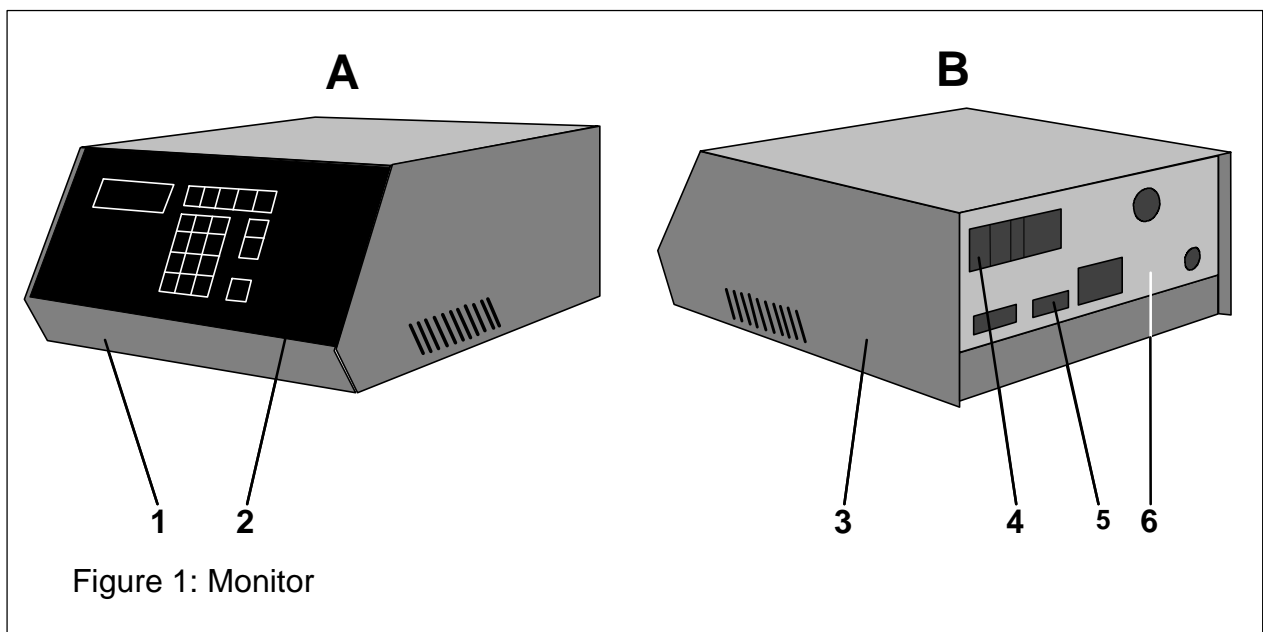


The monitor contains live parts. Hazard of contact due to high voltages of the assemblies.



The monitor contains electrostatic (ESD) sensitive assemblies. Unsafe contact may destroy these assemblies.

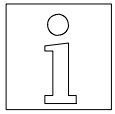
The monitor consists of a solid metal housing. Its front panel contains the controls. The mains switch is installed on the back panel and is intended to connect the labeller and power. The following figure is a front view **A** and a rear view **B** of the monitor.



Legend

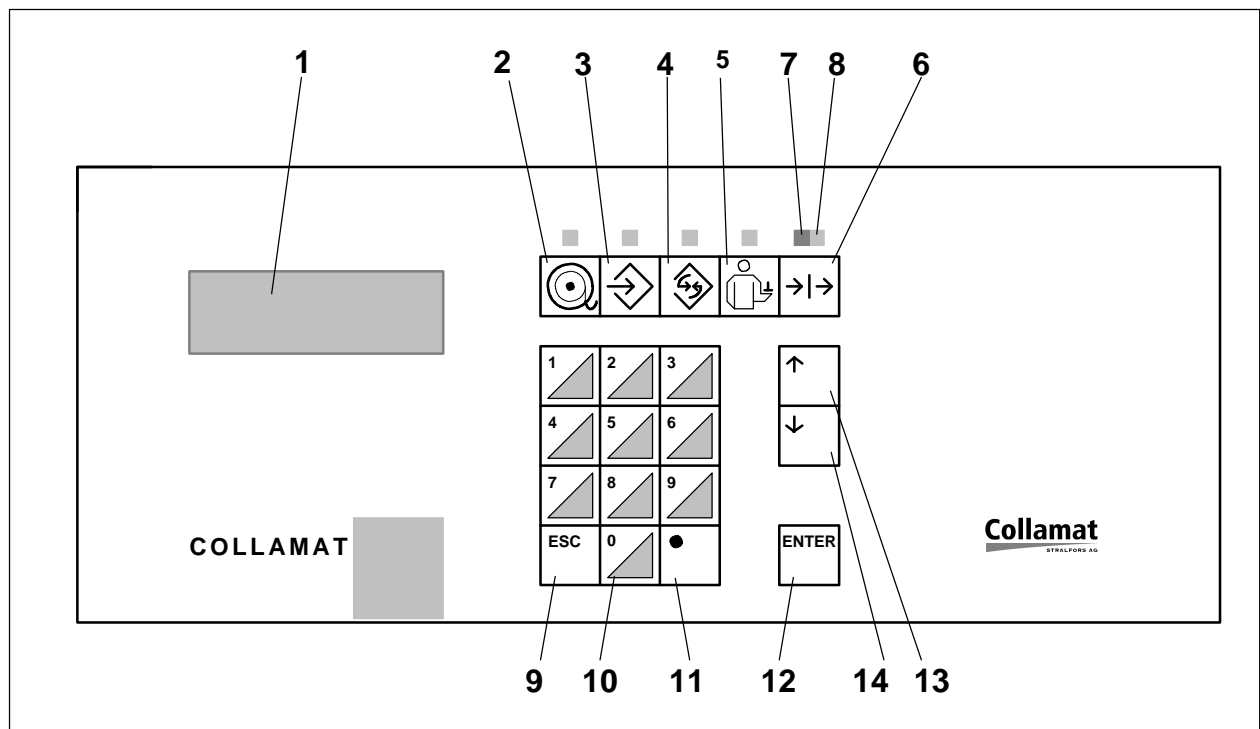
1. Heatsink
2. Front panel
3. Cover
4. Mains switch
5. Sockets
6. Back panel

The controls of the monitor



The mains switch of the monitor is installed on the back panel. Before switching on check labeller and system signals for correct connection.

All functions and data of the labeller are entered via the controls of the monitor. Monitor data and states are indicated by a background lighted LCD-display with four lines with 20 characters each. A foil keyboard is used to enter data. The keys have a well sensible action point allowing also correct inputs in a noisy environment. The controls of the monitor are shown on the following figure:



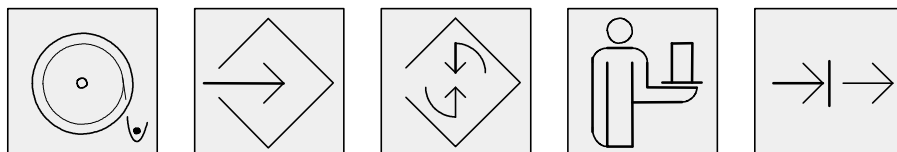
Legend

- | | |
|---------------------------|--------------------|
| 1. 4 line LCD | 8. RUN LED |
| 2. Labeling mode key | 9. ESC key |
| 3. Programming key | 10. Keyboard 0...9 |
| 4. Configuration key | 11. ' ' Key |
| 5. Service indication key | 12. ENTER key |
| 6. RUN/STOP key | 13. UP key |
| 7. STOP LED | 14. DOWN key |

LCD display

The LCD-display is used to **enter** and indicate data and operating states of the monitor and labeller. The background illumination increases the legibility and shows at the same time, that the monitor is on. A **cursor** helps to select and enter data. **Orientation arrows** on the border of the LCD help to pass through the function trees and to select menu items.

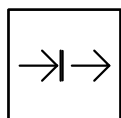
Function keys



The monitor is operated by **five function keys**. A **LED function display** is assigned to each function key showing that the operator is moving in an assigned **function tree**. In a function tree it is possible to access to particular function through **branches**.

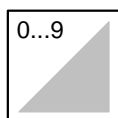
If changing from one **function tree** to another, the actual branch, in which the operator works, will be temporarily memorized, so that upon a call of the **previous** function tree he is in the previous **branch**. The particular function keys and the parameters which can be selected by each function key are described below.

RUN/STOP key (6)



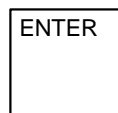
The **RUN/STOP** key is used to start (**RUN**) or stop (**STOP**) the Collamat®. The **RUN** state is indicated by a **green LED (8)**. The **STOP** state is indicated by a **red LED (7)**. In **RUN** state it is not possible to change all functions, because faults could occur during labelling. But in **STOP** state all functions can be changed.

Numerical keyboard (10)



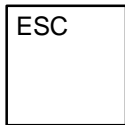
With the **numerical keys 0...9** all numerical data can be directly entered via the keyboard. A decimal point ',' can be entered by key **(11)**.

ENTER key (12)



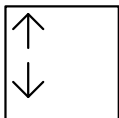
With the **ENTER** key the inputs are terminated. The **ENTER** key is also used to select the **menu item**, on which the cursor is actually positioned.

ESC key (9)



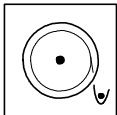
The **ESC** key is used to **abort** the input of data and to jump back to the **previous branch** of the function tree.

UP (13) and DOWN (14) keys



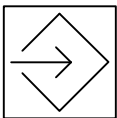
These two keys are used to select a function within a function tree. When entering **data** the indicated value can be **increased** (**up** key) or **reduced** (**down** key) with these keys.

LABELLING MODE function key (2)



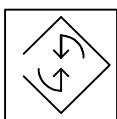
This key is used to select the **labelling mode** function. When depressed, the **LED** placed above lights up and indicates that the monitor is in labelling mode. The Collamat® parameters are entered in this mode. The Figure "LABELLING MODE" menu tree (page 11) shows the function tree of the labelling mode.

PROGRAMMING function key (3)



This key is used to select the **programming** function. When depressed, the **LED** placed above lights up and indicates that the monitor is in programming mode. The parameters of labeller and labelling are entered in the programming mode. The Figure "PROGRAMMING menu tree" (page 14) shows the function tree of the programming mode.

CONFIGURATION function key (4)



This key is used to select the **configuration** function. When depressed, the **LED** placed above lights up and indicates that the monitor is in configuration mode. In this mode the Collamat® is adapted to the customer's requirements. The "CONFIGURATION menu tree" (page 25) shows the function tree of the configuration mode.

SERVICE DISPLAY function key (5)



This key is used to select the **service display** function. When depressed, the **LED** placed above lights up and indicates that the monitor is in service mode. The "SERVICE FUNCTIONS menu tree" (page 30) shows the function tree of the service mode.

Entering data with the keyboard

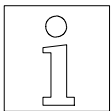
The numerical keys of the keyboard **(10)** are used to enter data. If the value to be entered is a decimal, enter the decimal point with the key **'•' (11)**.

Confirm the input with the **ENTER** key **(12)** to validate it. If the data range is exceeded, this is indicated for a short time and the original value does not change. Now entering can be continued. The next permissible value of the decimal place is calculated and indicated.

The indicated data can also be increased or reduced step by step with the arrow keys **up (13)** and **down (14)**. The change of data with these keys has to be terminated by depressing the **ESC** key **(9)**. Then the last indicated data are taken. Here takes place a continuous control of the data range, so that unacceptable data can be avoided.

The **ESC** key **(9)** allows to abandon entering data by keyboard. Then the original value, valid before the change will be indicated.

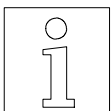
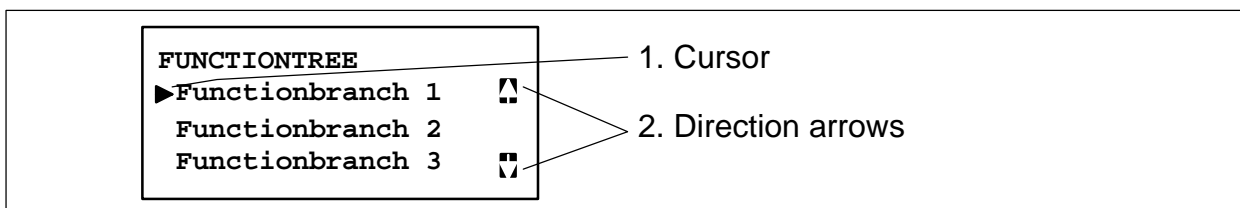
The **ESC** key **(9)** is used to jump back to the previous branch after having entered a value.



All minimum and maximum values of the functions are shown in the value tables of the Technical Appendix.

Selecting a branch in the function tree

Use the **up (13)** and **down (14)** keys to select a branch of the function tree. With these two keys a little cursor **(1)** can be moved up and down on the left of the LCD-display. The line, where the cursor is positioned, points at the branch of the function tree, which can be selected as next with the **ENTER** key. On the right side of the LCD-display a little direction (arrow) **(2)** informs, whether it is possible to move further up or down.



Not all functions can be changed in the labelling mode. In the description of the function is noted, which one is only changeable in start or stop state of the labeller.

Not all functions can be selected in the operating mode. In the description of the function is noted, which one is changeable in the operating mode or in the programming mode.

In the value table in the Technical Appendix is shown, which modes in the considered function are permitted.

The 'LABELLING MODE' menu tree

The functions necessary for the labelling mode can be called up and operated in the 'LABELLING MODE' menu tree. The 'LABELLING MODE' menu tree comprises the following functions:



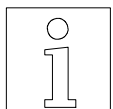
Label jog

With this function a label can be dispensed for test purposes by the keyboard. The dispensing speed corresponds to the set fixed speed. The label is dispensed by depressing the **ENTER** key when the cursor is placed on this line:

```

    LABELLING MODE
    ▶ Label Jog
      Select program
      Information display
  
```

User level: **programmer/operator**
Operating mode: **RUN/PASSIVE**



When setting up in nonstop mode the labels have to be triggered with this function so that the nonstop counter of the master does not become asynchronous.

Select program

This function allows to select one labelling program out of 32 possible programs:

```

    SELECT PROGRAM

    Number  1
    Name    50x80x3
  
```

User level: **programmer/operator**
Operating mode: **STOP**

Information display

This function allows to indicate the most important labelling parameters on the LCD-display. The program number, the actual dispensing speed, the count and the label position on the good are shown here. It is not possible to change any data. They are only indicated and updated. The arrangement of the information display is made in the User Menu in the CONFIGURATION menu tree. The **ESC** label key terminates this indication mode:

Program	1	RUN
Speed	3.0m/Min	
Counter	000000	
Position	10.0 mm	

User level: **programmer/operator**
Operating mode: **RUN/STOP**

Reset counter

This function allows to reset the counter to **zero**. **ENTER** resets the counter.

Counter cleared !

User level: **programmer/operator**
Operating mode: **RUN/STOP**

Preset counter

This function allows to activate and set the preset counter. Entering a value greater than zero activates the preset counter. After entering return to the counter menu by depressing the **ESC** key.

ENTER PRESET	
Value :	123456

User level: **programmer/operator**
Operating mode: **RUN/STOP**

Select counter

This function allows to select what should be counted by the counter. The counter input can distinguish between three different input signals:

- **Products (goods)** (GSC2)
- **Labels** (LSC)
- **External signal** (GSC3)

The selection can be done by the arrow key and terminated by **ESC**.

```
SELECT COUNTER
Choice: Products
```

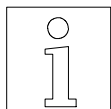
User level: **programmer**
Operating mode: **STOP**

Reset nonstop

This function resets internal counters and monitoring states during the nonstop mode. This function has to be called up when a fault has occurred in nonstop mode to guarantee a perfect labelling of the goods. The **Nonstop Reset** is called up with **ENTER**. The following indication confirms the execution of the reset.

```
Nonstop-mode
is initialized !
```

User level: **programmer/operator**
Operating mode: **RUN/STOP**

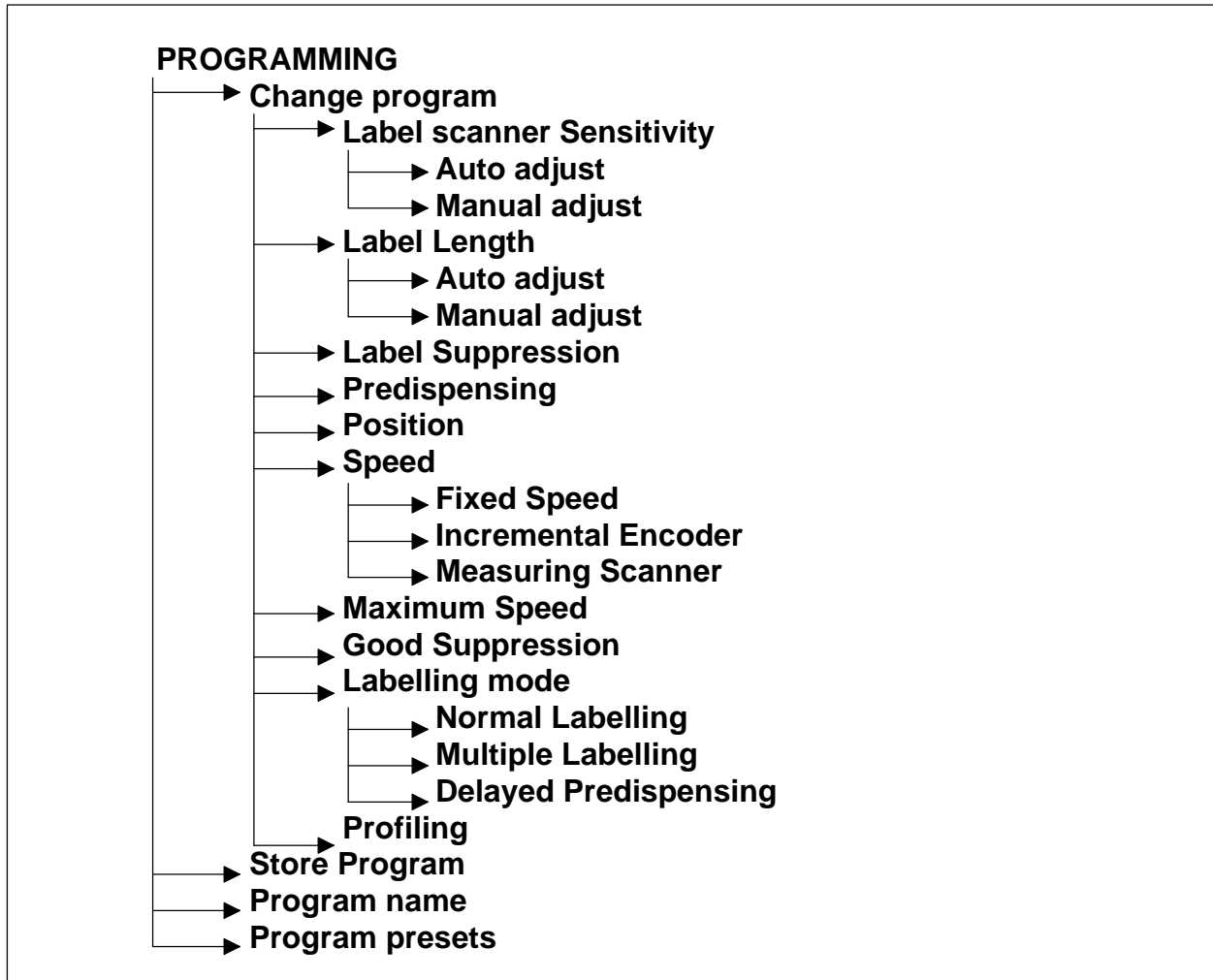


Note:

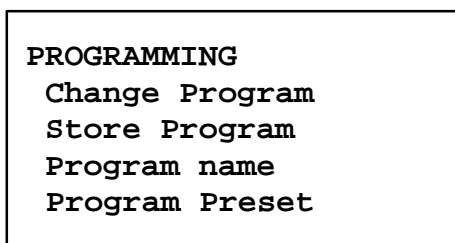
This function can be selected only in switched on nonstop mode. Before starting this function, all products between both labelers must be removed.

The 'PROGRAMMING' menu tree

The 'PROGRAMMING' menu tree is used to call up and operate the functions necessary for programming.



The 'PROGRAMMING' menu tree has the following indication:



User level: **programmer/operator**
 Operating mode: **RUN/STOP**

Change program

The **Change program** function is used to branch in an additional menu by calling up further parameters to be changed:

```
CHANGE PROGRAM
Labelscanner Sens.
Label Length
Label Suppression
Predispensing
Position
Speed
Max. Speed
Good Suppression
Labelling Mode
Profiling
```

User level: **programmer/operator**
Operating mode: **RUN/STOP**

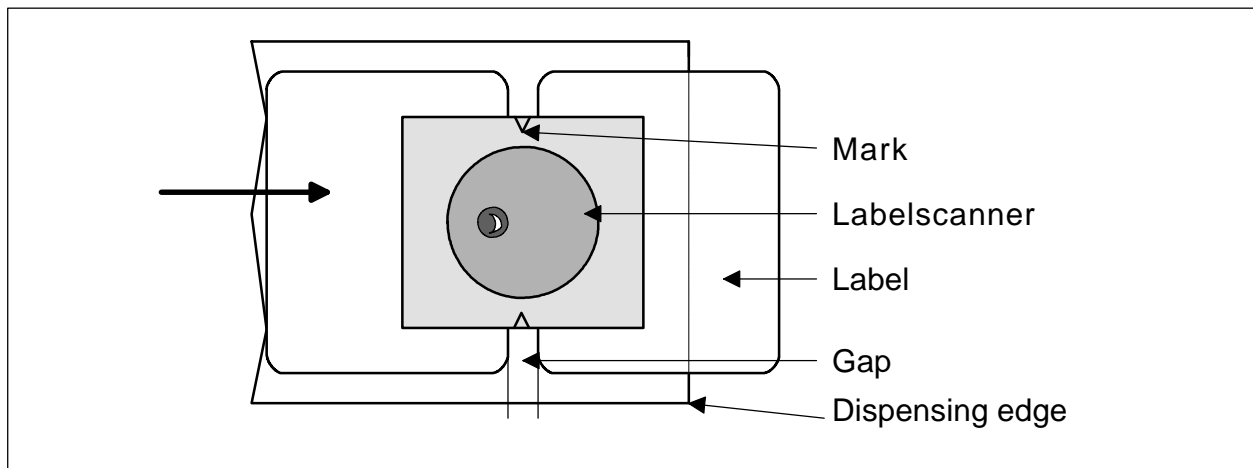
Label scanner sensitivity

The **Label scanner sensitivity** function is used to adjust the label scanner sensitivity manually or automatically. This function is not necessary for mechanical label scanning.

```
LABEL SCANNER SENS.
▶ Auto adjust
Manual adjust
```


Auto adjust

When adjusting the sensitivity automatically, the paper web has to be pulled forward by depressing the **up** key, until the label scanner is positioned over the gap. A lateral mark on the scanner head shows the position of the label scanner. The automatic adjustment is started by depressing the **ENTER** key or abandoned by depressing the **ESC** key. After adjustment the found value is indicated. If the scanner can not be adjusted on the paper web, an error message will be issued.



```
AUTO ADJUST
Move Label with ↑
to the Gap and then
press [ENTER] Key
```

```
AUTO ADJUST DONE
TCY-Value      50 %
```

User level: **programmer/operator**
Operating Mode: **STOP**

Manual adjust

When adjusting the sensitivity manually, the value is entered by hand. Entering can be aborted by depressing the **ESC** key. This function will especially be used above all for the adjustment of labels made of 'difficult' material.

```
LABEL SCANNER SENS.
TCY-Value      50 %
```

User level: **programmer**
Operating mode: **STOP**

Label length

The **Label length** function is used to adjust the length of the label manually or automatically.

```
LABEL LENGTH
▶Auto adjust
  Manual adjust
```

Auto adjust

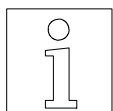
When adjusting the label length automatically, the measuring has to be started by the **ENTER** key. The adjustment can be aborted by depressing the **ESC** key. After starting the adjustment, the paper web is pulled forward by 2 gaps to measure the label length. If no gap is detected, an error message appears and the label length is set to 100 mm.

```
AUTO ADJUST

Adjust Label length
with [ENTER] Key
```

```
LABEL LENGTH
Auto adjust done
Length :      100 mm
```

User level: **programmer**
Operating Mode: **STOP**



Note:

The measured label length should only be considered as an approximate value. When using this value a fault message may appear, because due to mechanical slippage the traction roller may cover a distance exceeding the label length. When the labeller stops are exceeded an error message appears.

Normally after automatic measurement the double or triple label length is entered by hand. The advantage is that the labels not existing on the backing paper are compensated.

Manual adjust

When adjusting the label length manually, the value is entered by hand. Entering can be aborted by depressing the **ESC** key. This function is advantageously used after the auto automatic length measurement. (The label length should be entered twice or three times longer than the actual label length. Thus labels missed on the backing paper web can be compensated.)

```
LABEL LENGTHSCANNER

Length :      100 mm
```

User level: **programmer**
Operating mode: **STOP**

Label suppression (suppression of label scanner)

This function is used to enter the length forcing the label scanner to suppress the signals from the backing paper web and the label after having detected the leading edge of the label. Entering can be aborted by the **ESC** key. This function is used above all when relatively transparent labels are used, for which the optical label scanner is disturbed by the print on the labels. This function also allows to suppress the rebounding signals of mechanical label scanners.

SUPPRESSION OF THE LABEL SCANNER	
Length :	10 mm

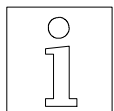
User level: **programmer**
Operating mode: **STOP**

Predispensing

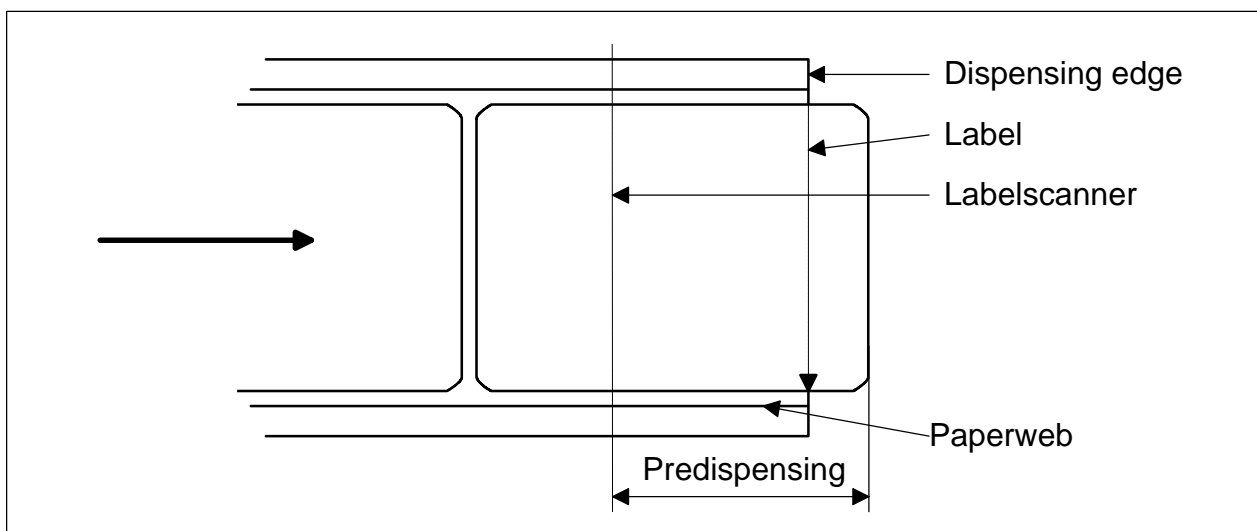
The **Predispensing** function is used to adjust the predispensing length of the label. This length specifies the distance by which the leading edge of the label is pulled forward after scanning.

PREDISPENSING	
Value :	25.4 mm

User level: **programmer/operator**
Operating mode: **RUN/STOP**

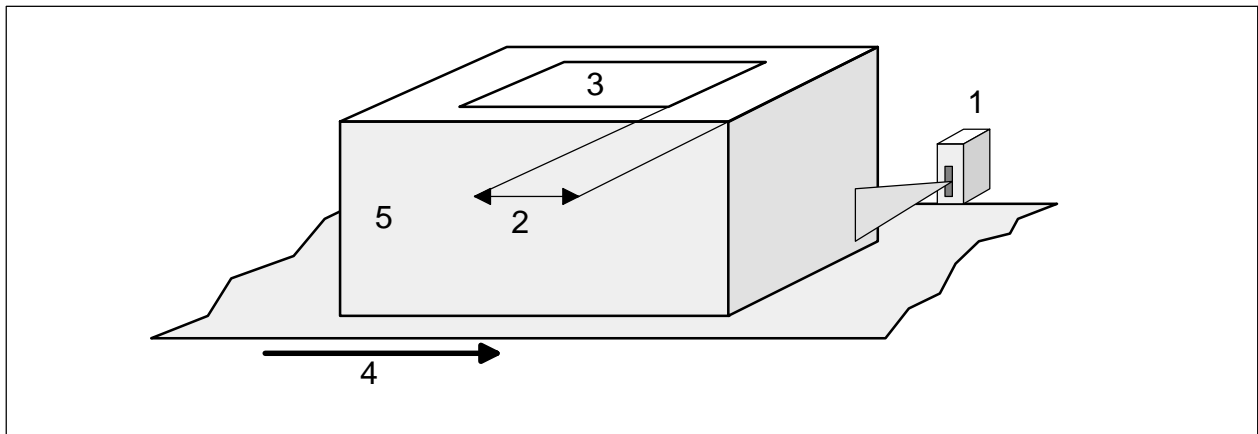


If a predispensing length exceeding the label length is entered, a malfunction of the labeller may occur because the label gap is scanned at the wrong time. See diagram 'Predispensing' in the Technical Appendix.



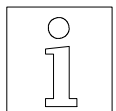
Position

The **Position** function is used to set a speed dependent labelling delay. This delay **2** causes a speed-independent positioning of the label **3** on the good **5** in feed direction **4**. With this function it is not necessary to shift the goods scanner **1** to obtain a change of the label position on the goods.



POSITION	
Value :	10 mm

User level: **programmer/operator**
Operating mode: **RUN/STOP**



Note:

If the value of the position adjustment exceeds the goods distance, a malfunction will occur, because not each good is labelled.

Predispensing and position influence the placement of the label on the goods. For a good result, first adjust the predispensing and then the position of the labels. (If afterwards the predispensing is changed, the position of the goods will also be changed.)



Attention:

Die position setting must not be used to compensate long distances. Otherwise goods will not be labeled correctly if the goods distance is shorter than the position setting.

The position value is speed-independent. If with high speed the calculated position value is too small this will be indicated as an error. See diagram 'Position' in the Technical Appendix.

Speed and type of measurement

The **Speed** function is used to select the type of speed measurement and to adjust the method of measuring. Three types of measurements are available:

- **Fixed speed**
- **Incremental Encoder**
- **Measuring Scanner**

Fixed speed

At fixed speed the goods are labeled with a constant labeling speed. This speed is also used when dispensing a label with the **Label jog** function of the **Labeling Mode** menu.

```
SPEED
Method of measuring
Choice: Fixed
Dispensing Speed
```

```
DISPENSING SPEED

Value : 20.0 m/Min
```

User level: **programmer/operator**
Operating Mode: **RUN/STOP**

Inkrementalgeber und messende Lichtschranke

When measuring the speed with an incremental encoder or by a measuring light barrier, the speed of the goods is measured and they are labelled with this speed:

```
SPEED
Method of measuring
Choice:
Incremental encoder
```

```
INCREMENTAL ENCODER

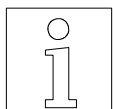
Distance between
two Pulses : 1.00 mm
```

```
SPEED
Method of measuring
Choice: Measuring
Scanner
```

```
DISTANCE BETWEEN
the Lightbeams

Value : 14.0 mm
```

User level: **programmer**
Operating Mode: **STOP**



Note:
The distance of 14 mm applies for the standard light barrier of Collamat Stralfors AG.
For more informations about the calculation of the speed measuring, refer to the technical handbook Collamat® 8600 and 9100

Maximum Speed

The **Maximum Speed** function limits the max. dispensing speed to the entered value. This function is necessary, if the goods speed is not stable or if labelling is problematic due to difficult label material with higher speed than usual. For labelling using speed measuring the dispensing speed is limited automatically to this value.

MAX. SPEED
Value : 50 m/Min

User level: **programmer**
Operating mode: **STOP**

Good suppression

The **Good Suppression** function is used, when a good (e.g. cartons for eggs) can supply more than one start pulse for labelling. Entering can be aborted with the **ESC** key.

GOOD SUPPRESSION
Length : 100 mm

User level: **programmer**
Operating mode: **STOP**

Labelling mode

The **Labelling mode** function allows the choice of three labelling modes:

- Normal labelling
- Multiple labelling
- Delayed predispensing

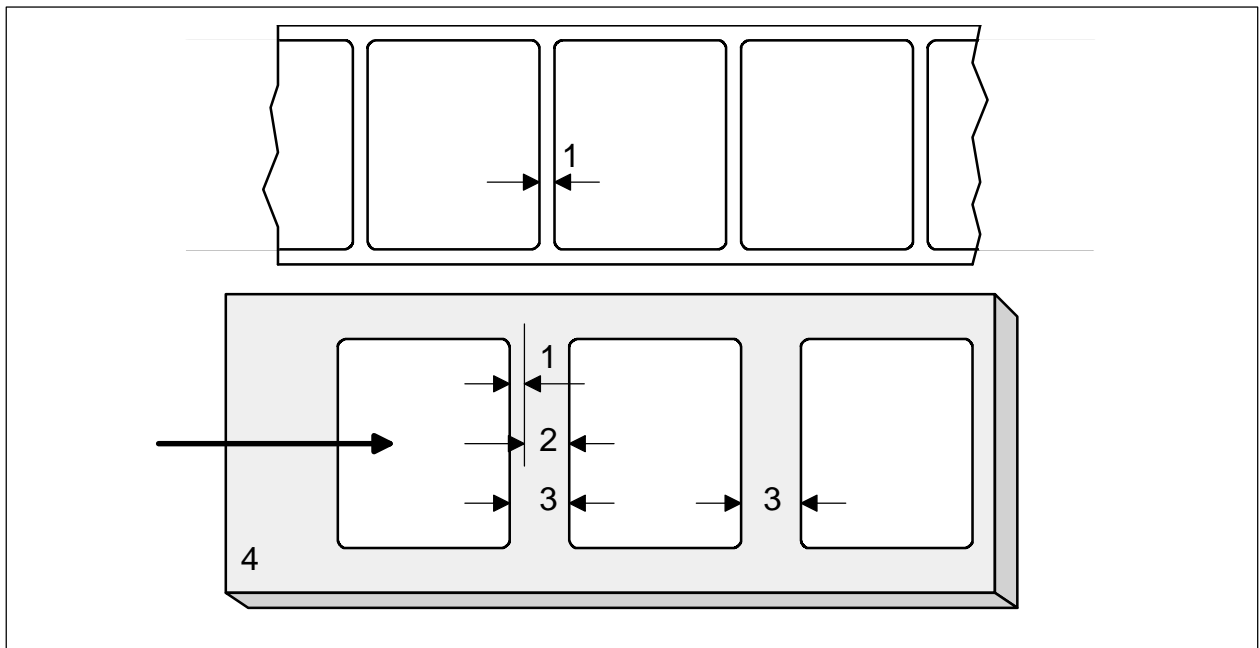
As a rule the **Normal labelling mode** is switched on and it is labelled without any special function.

LABELLING MODE
Choice : Normal

User level: **programmer**
Operating mode: **STOP**

Multiple labelling mode (only Collamat® 9100)

In the **Multiple Labelling** mode, several labels are stuck on the goods **4** in the same distance **3**. This mode is especially useful for labelling forms or multiple packages. After activating the multiple labelling mode, first the quantity and then the distance **2** between the labels has to be entered. On the goods the distance **3** between the labels is composed from the entered value **2** plus the gap **1**. The shortest distance between leading and trailing edge of the labels on the goods is the gap distance.



```

LABELLING MODE
Choice : Multiple
    
```

```

LABELLING MODE
MULTIPLE
Count   :      4 Pcs
    
```

```

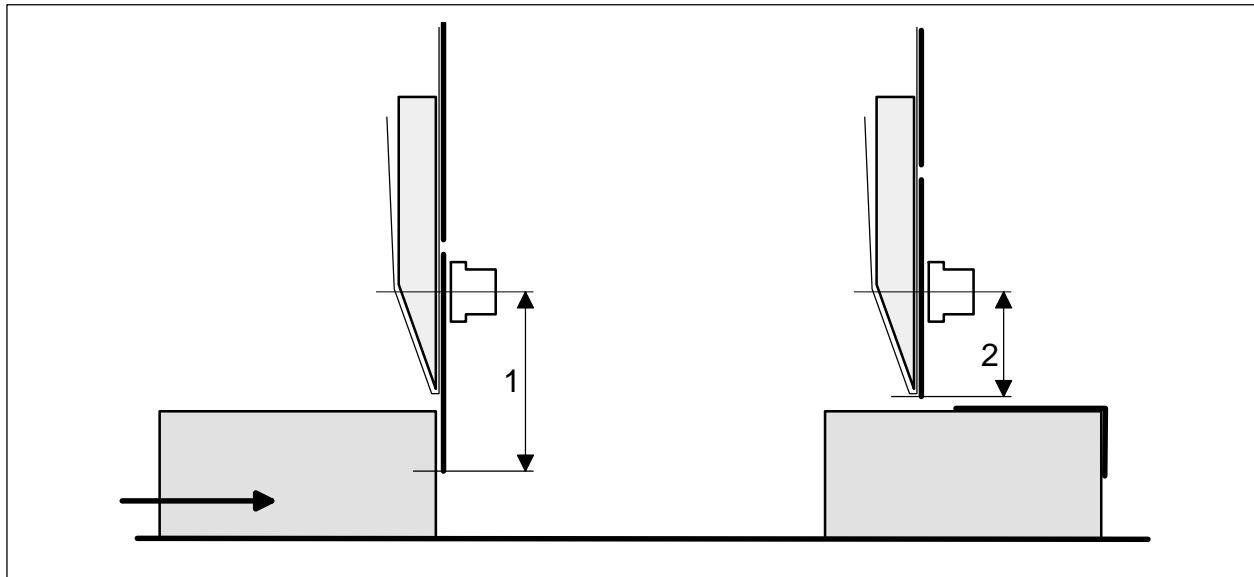
LABELLING MODE
MULTIPLE
Distance:      10 mm
    
```

User level: **programmer**
Operating Mode: **STOP**

Delayed Predisensing

In the **Delayed Predisensing** mode the predisensing **1** will only be tripped after release of the label scanner. Thus the following label will not be stuck on the good being still under the adapter.

After having selected the **Delayed Predisensing** mode, the stop value **2** has to be entered so that the label is perfectly dispensed and the following label does not contact. This value should not exceed the label length. It can be smaller or greater than the predisensing. Under '**Stop at**' specify after which length labelling should be stopped and passing of the goods should be waited for.



<p>LABELLING MODE</p> <p>Choice : Delayed Pre</p>
--

<p>DELAYED PREDISPENS.</p> <p>Stop at 25 mm</p>

User level: **programmer**
 Operating mode: **STOP**

Course:

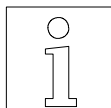
The dispensing process is started after the positioning delay and the goods have passed the goods scanner. In the first phase the label will be pulled forward as specified for the value '**Stop at**'. When the good leaves the goods scanner, dispensing will be continued to the next positioning delay with a fixed speed until predisensing.

Conditions:

- Multiple labelling mode and delayed predispensing mode exclude themselves mutually
- The position adjustment should be smaller than the goods length. If not, the second phase follows immediately the first one without waiting for the trailing edge of the goods.
- The minimum distance between the goods must be greater than the position value plus predispensing of the second labelling phase.
This distance is calculated as follows:

Predispensing - Stop position (When the predispensing length exceeds the stop position length)

Label length - stop position (When the predispensing length is smaller than the stop position length)



Note:

If the goods distance is shorter no labelling will be carried out !

Profiling (only Collamat® 9100)

The **Profiling** function is used, when a good with uneven surface should be labelled continuously. The dispensing speed is constant when labelling with even surface. The speed has to be varied during labelling of goods with not even surface, so the label can be stucked on without folds.

After having activated Profiling enter the speed factor, then the start point and the length to be labelled with normal speed. When the trailing edge of the label is reached before profiling is finished, it is braked with normal brake ramp until predispensing. If the factor is set to 100 %, the function is not activated. The function can be aborted with the **ESC** key. For more details see Technical Appendix.

PROFILING		
Factor :	100	%

PROFILING		
Start :	50	mm

PROFILING		
Length :	30	mm

User level: **programmer**
Operating mode: **STOP**

Store program

The **Store program** function allows to memorize the actual labeller and labelling parameters under a program number. 32 memory locations or program numbers are available. The actual program number is indicated as proposal. It can be overwritten or changed on the keyboard. Before memorizing a safety inquiry prevents a program to be overwritten by mistake. Entering can be aborted by the **ESC** key. By depressing the **ENTER** key, the data are memorized under the entered program number.

```
STORE PROGRAM

as number      10
```

```
PROGRAM      10
overwrite ?
break       [ESC]
execute     [ENTER]
```

User level: **programmer**
Operating mode: **STOP**

Program name

The **Program name** function is used to file a descriptive designation or an identification under a labelling program. The program name is entered with the numerical keyboard and terminated with the **ENTER** key. The figures **0...9** as well as the capital letters from **A...Z** and some special characters can be entered. When entering a character always start with a figure from 0...9. If a letter should be entered, the figure can be modified by the **UP** and **DOWN** keys until the wanted letter appears. The next number has to begin again with entering a figure. After having finished, terminate the function with the **ESC** key. The length of the program name is limited to 7 characters.

Example:

To enter the letter **A** proceed as follows:

Enter **1**. Then increase the figure with the **UP** key until the letter **A** appears, then release the key.

In this way all seven digits can be entered one after the other.

```
PROGRAM NAME

Choice:      TEST123
```

User level: **programmer**
Operating mode: **STOP**

Program presets (Setting default values of program)

The **Program Presets** function deletes all parameters and values of a program and re-sets them to the default value. The actual program number is shown as indicated as a proposal. It can be overwritten or changed with the keyboard. Before setting the default values a safety inquiry prevents a program to be overwritten by mistake. Entering can be aborted by the **ESC** key. By depressing the **ENTER** key, the data are memorized under the entered program number.

```

SET PROGRAM TO
default values

Program No.      10
    
```

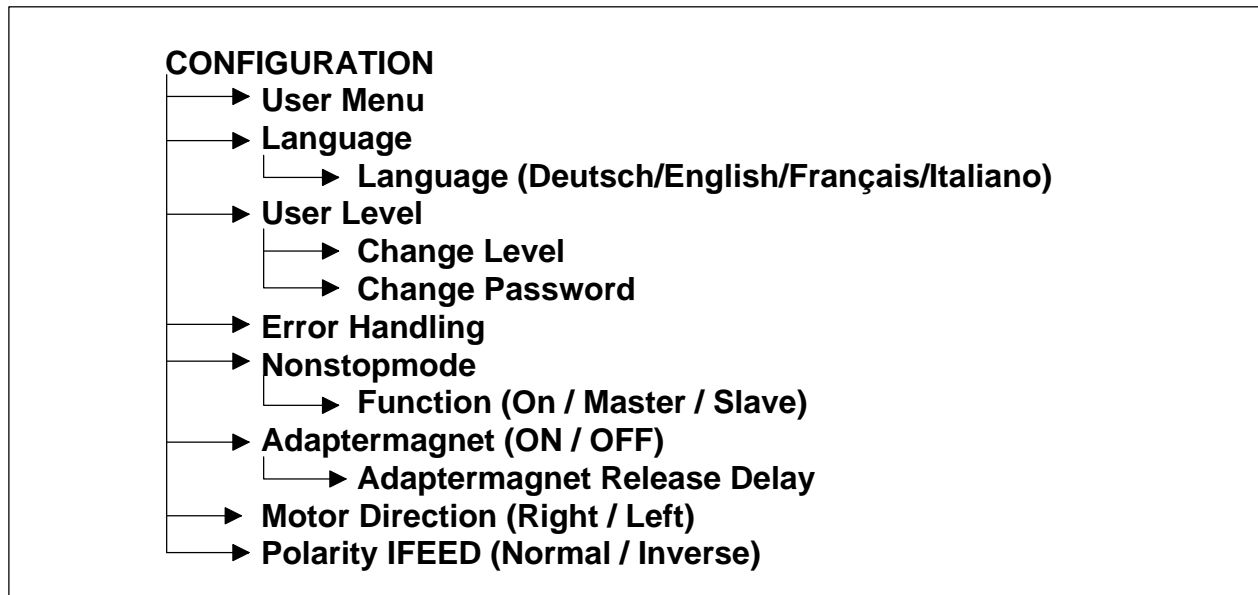
```

PROGRAM      10
overwrite ?
break       [ESC]
execute     [ENTER]
    
```

User level: **programmer**
Operating mode: **STOP**

The 'CONFIGURATION' menu tree

In the 'CONFIGURATION' menu tree the functions required to configure the labeller can be called up and operated. The 'CONFIGURATION' menu tree comprises the following functions:



The indication of the 'CONFIGURATION' menu tree is as follows:

```

CONFIGURATION
User Menu
Language
User Level
Error Handling
Nonstopmode
Adaptermagnet
Motor direction
Polarity IFEED
  
```

User level: **programmer/operator**
 Operating mode: **RUN/STOP**

User Menu

The **User menu** function is used for the layout of the **Information display** menu indication. A varying content can be assigned to each indication line by the arrow keys. **ENTER** fixes the content and it is passed to the next line. With **ESC** the function is abandoned. The following figure shows an example of the layout.

The topmost line indicates the program number and the operating condition:

USER MENU	>1<	User level:	programmer
Speed.	50.0 m/Min	Operating mode:	STOP
Counter	123456		
Position	10.0 mm		

The following texts can be selected:

- Speed xx.xx/Min
- Position xxxx.x mm
- Mode Normal/Delayed Predisp./Multiple
- Preset Value xxxxxxx
- Counter xxxxxxx
- Name: xxxxxxx
- Predisp. xxxx.x mm
- Goods GSC2-3 xxx

Language

The **Language** function is used to select the user language by means of the arrow keys. **ESC** terminates the selection.

USER LANGUAGE	User level:	programmer/operator
Choice : English	Operating mode:	STOP

User level

The **User Level** function is used to define the access authorization of the programming functions and operating functions. It is distinguished between **programmer** and **user**. The **programmer** is authorized to program and change all parameters and functions of the labeller, but the **operator** is not authorized to make use of all functions.

```

USER LEVEL
▶ Change level
  Change Password
    
```

Change level

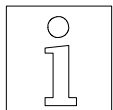
With the **up** and **down** keys it is possible to change the levels. With the **ESC** key the selection can be aborted or terminated:

```

USER LEVEL

Choice : Operator
    
```

User level: **programmer/operator**
 Operating mode: **STOP**



The difference between the user levels is only active, when a password is activated. The complete 'USER LEVEL' menu tree does not appear on the display and is not active, if a key operated switch is installed. In this case the authorization is accessed by the key operated switch.

Change password

This function allows to enter or change a password. The password serves to distinguish between the user levels. Enter the password with four digits. It is not indicated as plain text but the figures are replaced by # characters. If a password is already programmed, this must be entered before entering a new password.

```

CHANGE PASSWORD

Password old : ####
    
```

User level: **programmer**
 Operating mode: **STOP**

When entering a new password, it has to be confirmed once again. Enter the figures **'0000'** to delete the password.

```

CHANGE PASSWORD

Password new : ####
    
```

```

CHANGE PASSWORD

Confirmation : ####
    
```

Error handling

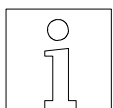
The behavior of the labeller after appearance of an error is programmed with the **Error Handling** function. Each error is indicated and **must** be acknowledged by the **ENTER** key. Each error can be programmed so that the labeller **STOPS** or the error message is only indicated. If the labeller is stopped due to an error, then the signal relays **ERROR** and **NOK** are energized. If the labeller is not stopped, only the relay **NOK** is energized. With the error key the error No. can be selected. Depress key **0** or **1** to select **Continue** or **Stop**. Depress the **POINT** key to suppress the error identification (**ignore**).

```
[ 0 / 1 ] Error-No.
[ 0 / 1 / . ] Cont./Stop
Continue at
Label Stock
```

User level: **programmer**
Operating mode: **STOP**

The following types of errors can be selected for error handling:

- Not Ready
- TUNIT / Paper end
- Position too short
- Max. Speed
- Label Stock
- Rewinder full
- No LSC-Adjust.
- Nonstop mode
- Label too long
- LSC Counter
- Drive not ready
- Undervoltage
- Profiling Speed
- Time Control
- Division by zero
- Predisensing too short



The exact description of the error messages and their prevention are described in the chapter 'Error messages' in the Technical Appendix.

Nonstop mode

The **Nonstop mode** function allows continuous labelling with two labellers. The dispensers are connected together and exchange signals. There is a difference between the two dispensers. The first labeller in feed direction is the **MASTER** labeller and controls the second labeller called **SLAVE** labeller. When selecting the nonstop mode the labeller has to be defined as **MASTER** or **SLAVE** with **up** or **down** key:

```
NONSTOPMODE
Function : MASTER
```

User level: **programmer**
Operating mode: **STOP**

Adapter magnet (only Collamat® 9100)

The **Adapter magnet** function is used to switch on and off the adapter magnet. If set to **ON**, the adapter is folded towards the good for each labelling operation. The time delay to reset the magnet has to be entered in the following menu. When set to **OFF**, the adapter remains in rest position. The function can be switched on and off by **UP** and **DOWN** keys. The **ESC** key terminates the function:

```
ADAPTERMAGNET

Function : ON
```

```
ADAPTERMAGNET
Release Delay

Time : 1.5      Sec
```

User level: **programmer**
Operating mode: **STOP**

Motor direction

The **Motor direction** function is used to specify the direction of rotation of the labeller motor with the arrow keys: right-hand rotation for right-hand labeller version, and left-hand rotation for left-hand labeller version.

```
MOTOR DIRECTION

Choice : Right
```

User level: **programmer**
Operating mode: **STOP**

Polarity IFEED

The **Polarity IFEED** function is used to fix the polarity of the monitor **IFEED** signal used to communicate with an outside control. The polarities **Normal** or **Inverse** can be selected with the arrow keys.

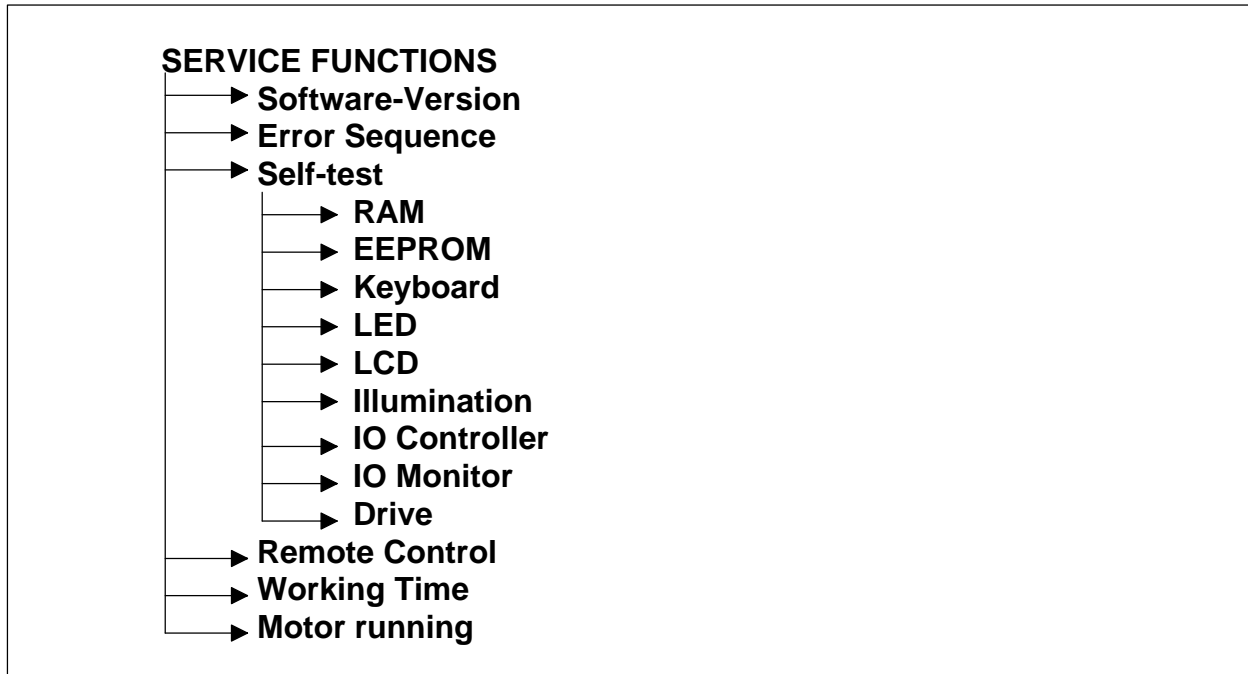
```
POLARITY IFEED

Choice : Normal
```

User level: **programmer**
Operating mode: **STOP**

The 'SERVICE FUNCTIONS' menu tree

The functions necessary for service and test of the labeller can be called up and operated in the 'SERVICE FUNCTIONS' menu tree.



The 'SERVICE FUNCTIONS' menu tree is indicated as:

```

SERVICE FUNCTIONS
Software-Version
Error Sequence
Selftest
Remote Access
Working Time
Motor running
    
```

User level: **programmer/operator**
Operating mode: **RUN/STOP**

Software-Version

With this function the actual **Software version** of the monitor can be interrogated. It is indicated during 3 seconds after switching on the monitor.

```

COLLAMAT 9100
Version 1.13
    
```

User level: **programmer/operator**
Operating mode: **RUN/STOP**

Error sequence

The **Error sequence** function is used to indicate the sequence of errors, occurred since calling up this function. The last 21 errors are indicated at the most. The type of error is listed in the Technical Appendix '**Error messages**'. The display only indicates the error number.

The cause of a labelling error and a labeller failure can mostly be determined thanks to the error history. The following figure shows an example of such an indication:

<pre> ERROR LOGFILE 9, 0,14,14, 9, 9, 0 5, 7, 9, 9, 2, 8, 3 0,11,12, 9, 3, 8, 9 </pre>	<pre> User level: programmer/operator Operating mode: RUN/STOP </pre>
---	---

Self-test

The **Self-test** function is used to test the electronics of monitor and drive. The Self-test makes an own menu available.

The '**SELF-TEST**' menu tree indications are as follows:

<pre> SELFTEST Test RAM Test EEPROM Test Keyboard Test LED Test LCD Test Backlight Test I/O Controller Test I/O Monitor Test Drive </pre>	<pre> User level: programmer Operating mode: STOP </pre>
---	--

Test RAM

The **Test RAM** function is used to test the RAMs of the monitor. A detected RAM error is indicated as follows.

<pre> TEST RAM Test ok </pre>
--

Test EEPROM

The **Test EEPROM** function is used to test the EEPROMs of the monitor. A detected EEPROM error is indicated as follows.

```
TEST EEPROM

Test ok
```

Test keyboard

The **Test keyboard** function is used to test the keyboard of the monitor. All keys have to be depressed once for the test. The sequence for the test is indicated. Keys **F1...F5** are the function keys.

```
TEST KEYBOARD
F1 F2 F3 F4 F5

Press all Keys
```

```
TEST KEYBOARD
1 2 3 4 5 6 7 8 9 0
ESC . [ ] ENTER
Press all Keys
```

Test LED

The **Test LED** function is used to test the LED on the front panel. After selection of this function, all LEDs flash, until the function is aborted with the **ESC** key.

```
TEST LED

Test in progress
Quit with [ESC]
```

Test LCD

The **Test LCD** function is intended to test the LCD of the control panel. After selection of this function, all elements of the LCD flash, until the function is aborted with the **ESC** key.

```
TEST LCD

Quit with [ESC]
```

Test Illumination

The **Test Illumination** function is used to test the background illumination of the LCD. After selection of this function, the illumination of the LCD flashes, until the function is aborted with the **ESC** key.

```
TEST ILUMINATION

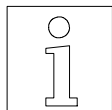
Quit with [ESC]
```

Test IO Controller

The controller p.c.board of the monitor can be tested with this function by a special test adapter. The function is only tested at the manufacturer of the monitor controller p.c.board. All inputs and outputs are tested in pairs. If an error is found, the faulty signal pair is shown on the display. But in built-in state of the controller p.c.board in the monitor, the following indication appears:

```
TEST I/O CONTROLLER

CSEE  -> GSC1
Test failed
```



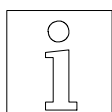
This function should not be called up without test adapter, otherwise the results will not be meaningful.

Test IO Monitor

The interface p.c. board and the connections of the monitor can be tested with this function by an additional diagnosis connector. All inputs and outputs are checked in pairs. If an error is found, the faulty signal pair will be indicated on the display. A defective interface p.c.board must be replaced. If no diagnosis connector is connected, the following indication will appear:

```
TEST I/O MONITOR

FEED  -> GSC1
Test failed
```



Note:
This function should not be called up without diagnosis connector, otherwise the results will be wrong.

Test drive

The stepper motor of the traction unit and the motor driver can be tested with the **Test Drive** function. For this test the paper web has to be removed. The speed of the stepper motor can be increased or reduced with the arrow keys. The test is terminated with the **ESC** key.

```
TEST DRIVE

Unload paper
Start with [ENTER]
```

```
TEST DRIVE

Speed ^ ^
Stop with [ESC]
```

Remote Control

The **Remote Control** function is used to adjust the labeller via the serial interface. This function is used to set the configuration in the factory. The monitor remains in remote mode until the menu is abandoned with the **ESC** key. In remote control mode the labeller is not operating.

```
REMOTE CONTROL

Serial Port active
9600 Baud 8 Bits
```

User level: **programmer**
Operating mode: **STOP**

Working time

The **Working time** function is used to indicate the total operating time of the monitor.

```
WORKING TIME

Totaly :      25 hrs
```

User level: **programmer/operator**
Operating mode: **RUN/STOP**

Motor running

The **Motor running** function is used to indicate the total feed length of the motor. The total length is indicated in km.

```
MOTOR RUNNING

Totaly :      2 km
```

User level: **programmer/operator**
Operating mode: **RUN/STOP**

TECHNICAL APPENDIX

Adjusting the predisensing

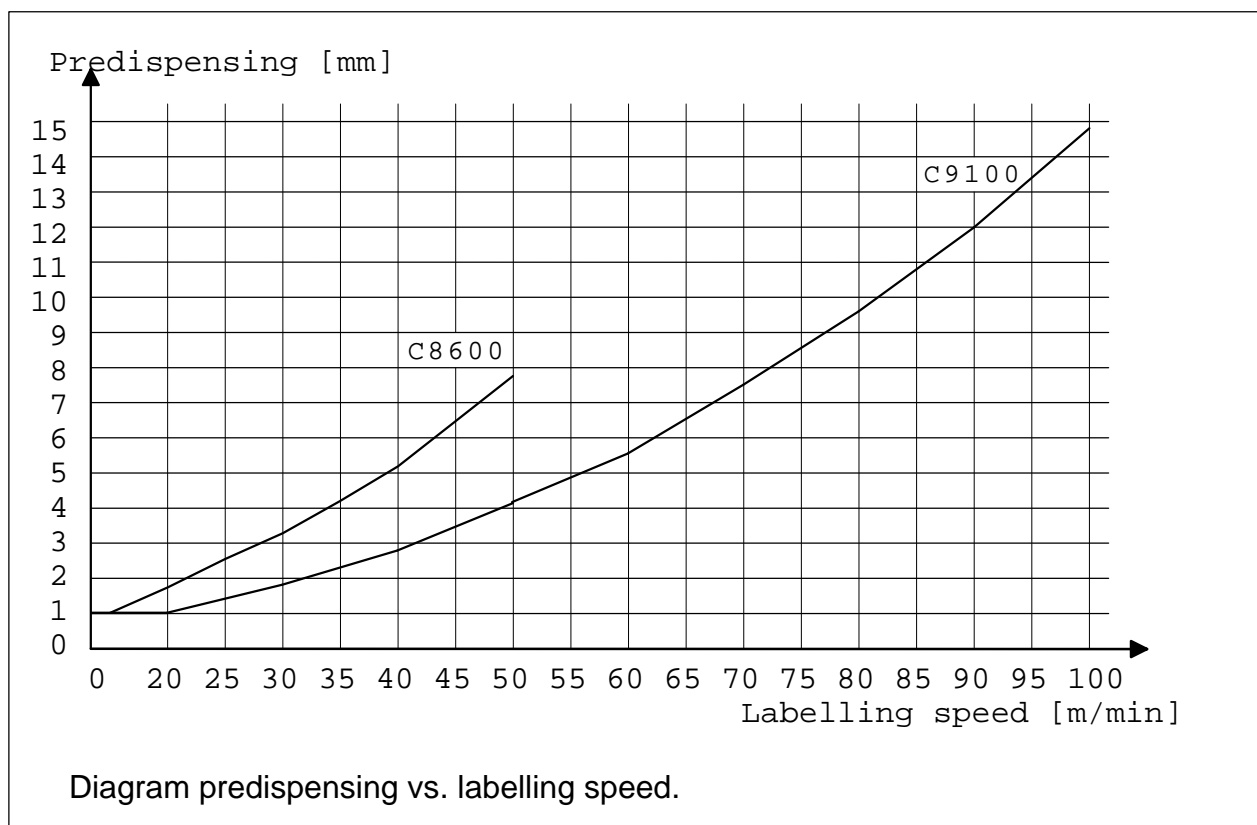
Predisensing is the length by which the label is pulled forward after detection of the leading edge of the label. Its value can be entered in 0.1 mm steps. The predisensing is normally used to optimize the label position. Adjust it so, that the label is stucked to the goods at the time, when it has the same speed as the goods. Only so the label position on the goods is always exact and does not vary.

If a new value is entered exceeding the old one, the label is pulled forward correspondingly.

But if the new value exceeds the old one, predisensing will be corrected only after one label has been dispensed.

If the entered predisensing length exceeds the label length, a malfunction of the labeller may result since the gap between labels is measured at a wrong time.

The minimum predisensing depends on the maximum labelling speed. The labeller needs more time at high labelling speed to brake the label after having detected its leading edge. The following diagram shows predisensing vs. labelling speed:



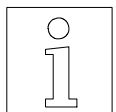
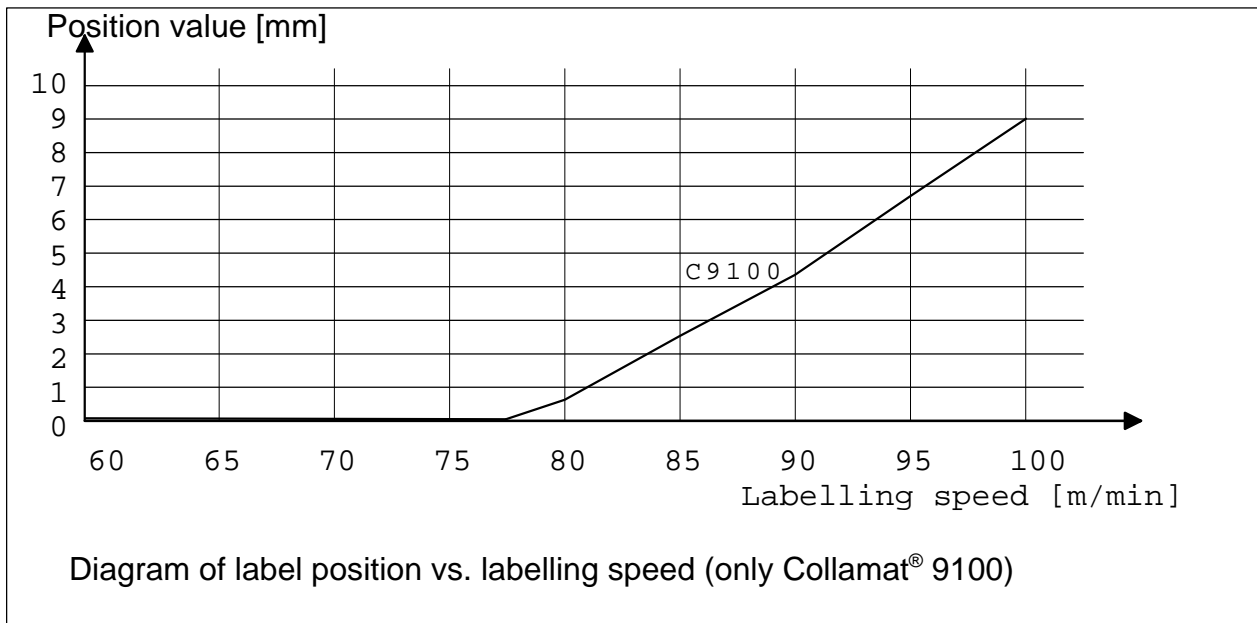
Adjusting the label position

The position value defines which distance the goods travel after scanning (detection) until the label is stuck on. With this function it is not necessary to shift the goods scanner to change the label position on the goods.

As the adjustment of the position value depends on the labelling speed, it has to be monitored continuously. The following values are monitored:

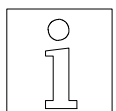
- Position value when entering a fixed speed
- Fixed speed with too small position value
- At measured labelling speed, the minimum position value

The minimum position value depends on the maximum labelling speed. The labeller needs more time at high speed to accelerate the label after detection of the goods. The following diagram shows the position value vs. labelling speed:



Four encoder steps are required at least when measuring the speed with the incremental encoder to calculate the actual speed. That means, that the minimum possible position is four times the encoder step length.

If the value of the position adjustment exceeds the distance between the goods, not each good will be labelled as the goods scanner is not monitored during labelling.



The position value and the predisensing influence both the position of the label on the goods. If predisensing is increased, the label will also be stucked more downstream.

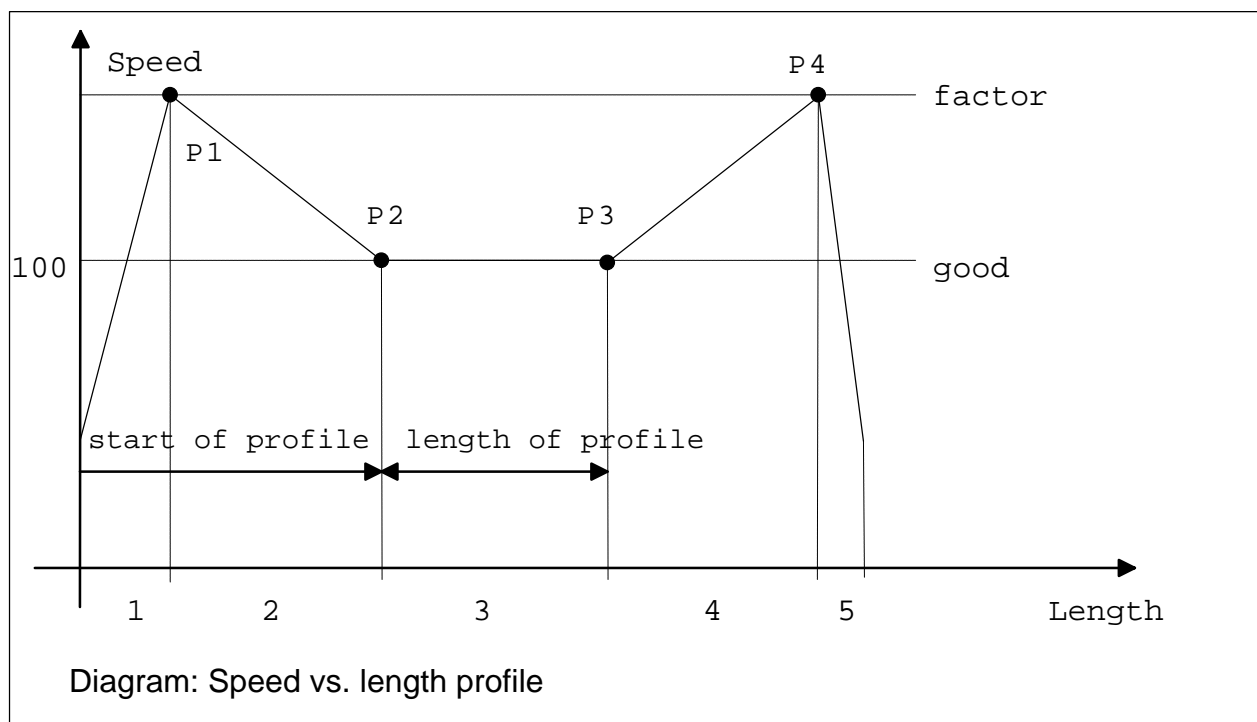
Adjusting the Profiling

The Profiling function is used, if an uneven good has to be labelled continuously. The dispenser speed has to be varied according to a trapezoidal profile when labelling arched goods to stick on the label without folds. The Profiling can be adjusted in a broad range to label different good shapes. The ratio between the goods speed and the labelling speed, the beginning and length of action can be adjusted.

First the speed factor has to be entered. This factor depends on the inclination surface of the goods surface at the leading edge of the label. The factor is specified in percent of camber. 100 % correspond to the goods speed, and 200 % to the double speed (**P1** in diagram below).

The beginning of the profile (**P2** in diagram) and the length of the profile (**P2 - P3** in diagram) are now entered for normal speed labelling. In this case the value of labelling speed and of the goods speed are equal.

After having passed the length of profile (**P3**), the labelling speed is increased (4) to the speed entered with the factor (**P4**), until the trailing end of the label is detected. From this point to predisposition it is decelerated (5). If the trailing end of the label is reached before the profile is finished it is stopped normally to predispsing.



To adjust profiling optimally, first labelling takes places normally so that the center of the label is placed in the wanted position. Then the function is optimized for best result by modifying the values **factor**, **start** and **length**. The position of the label is influenced by the change of the dispensing speed. Therefore the position must possibly be adapted to the dispensing speed.

Error messages

If during operation an error occurs, this will be indicated on the LCD by an **error message**. Each error message has to be acknowledged by the **ENTER** key. If several errors occur at the same time, they have to be acknowledged one after each other. All events causing an error message stop the labeller or only a warning message appears. An error causing a **labeller stop** activates the **ERROR** and **NOK** relay signals. If only a **warning** is indicated, only the **NOK** relay signal is activated. The acknowledgement with the **ENTER** key **deactivates** these signals.

The following table shows all possible error messages with their error number.

Error #	Error message	Error cause
1	Not ready	External signal READY not ready
2	TUNIT / Paper end	Traction unit not closed, end of paper reached
3	Position too short	Position value shorter than calculated (speed)
4	Max. speed	Measured speed higher than permitted max. value
5	Label stock	No label stock
6	Rewinder full	Rewinder full
7	No LSC-Adjust	No adjustment of label scanner possible
8	Nonstop mode	Error in one of the labellers in nonstop mode
9	Label too long	Label dispensed longer than entered label length
10	LSC Counter	A further gap was scanned during predispensing
11	Drive not ready	Motor driver card signals an error or is not ready
12	Undervoltage	Undervoltage of mains scanned
13	Profiling speed	Speed higher than max. speed
14	Time observing	Internal processor monitoring
15	Division by zero	Internal software error
16	Predispensing too short	Predispensing is too short for the actually measured speed

Error diagnosis

In the service part of the error sequence menu, all errors and warnings will be registered and indicated. This is helpful to trace back the error history of the labeller. Thus, if an error happens frequently, it can be better identified and eliminated. The error history also helps the technical operator in case of inquiries. Note the error numbers in indicated order for further inquiries.

The description of the particular error numbers and their error texts, causes and elimination will follow.

Error #1 Not ready

Cause:

A peripheral appliance (flat printer, hotstamp etc.) has not yet released the signal **READY** at the starting time of the labelling.

Solution:

Reducing the cadence. Reducing the time activated by the **READY** signal. If a G&S flat printer GS077D is used, reducing the printing time by trimmer P1.

Error #2 Predispensing/ End of paper

Cause:

1. The lock in the traction roller or the paper brake is open.
2. The label roll is empty.

Solution:

1. Close lock of traction roller or paper brake.
2. Insert a new label roll.

Error #3 Position too small

Cause:

The position value is too low for the actual labelling speed. The label is stucked in false position on the goods.

Solution:

Increasing the position value or reducing of labelling speed.

Error #4 Max. speed

Cause:

The measured goods speed is higher than the entered max. labelling speed. Labelling becomes faulty.

Solution:

Reducing the goods speed or, if possible, increasing the max. labelling speed.

Error #5 Label stock**Error #6 Rewinder full****Cause:**

The label stock of the unwinder is empty or the rewinding disk of the rewinder is full.

Solution:

Replace empty paper roll or remove backing paper roll from rewinder disk.

Error #7 LSC-adjustment**Cause:**

Adjustment of label scanner not possible. The scanner is defective or it is scanned on label instead of gap, or the backing paper is not transparent enough.

Solution:

Shift gap under label scanner and adjust it again. Possibly exchange defective scanner.

Error #8 Nonstop mode**Cause:**

One of the labellers has an error. The nonstop mode does not function correctly. The error can be triggered by all error messages.

Solution:

Eliminate the error on the labeller. **Nonstop reset at both monitors.**

Error #9 Label too long**Cause:**

A leading label edge could not be scanned within the entered label length. The cause of this error can be as follows:

- Missing labels on the paper web
- Slippage of the traction unit or loss of steps of the stepper motor due to hits on the paper web or too high frictional force
- Value of label length is entered too short
- Predispensing greater than label length
- Value of label length shorter than suppression of label scanning
- Error of label scanning

Solution:

The following items may be helpful:

- Enter in general double or three times the value of the label length
 - Correct predispensing
 - Adjust suppression of label scanning
 - Check label scanner and possibly clean it
 - Use unwinder with double dancer roller
 - Reduce friction force of entire paper web
-

Error #10 Counter LSC**Cause:**

When braking the label, a gap was detected during predispensing. This happens in the case of transparent or very reflective labels.

Solution:

- Adjustment of suppression of label scanner
- Optimizing the positioning of label scanner
- Optimizing the label scanner sensitivity

Error #11 Drive not ready**Cause:**

The motor drive card indicates that it is not ready to drive the stepper motor.

Solution:

Switch off the monitor. Wait 10 seconds before switching on again. If the error did not disappear, the monitor is damaged and has to be repaired by a specialist.

Error #12 Undervoltage**Cause:**

During labelling a mains occurred causing the data to be backed up. The monitor continues to operate normally.

Error #13 Profiling speed**Cause:**

The max. profiling speed exceeds the maximum permissible labeller speed.

Solution

Reduce the goods speed or possibly increase the max. labeller speed.

Error #14 Time supervision**Error #15 Division by 0****Cause:**

An internal protective circuit has detected that the calculation time provided is exceeded or a calculation error is in the processor. The cause may be a very strong electromagnetic disturbance or a program error.

Solution:

Switch off and on the monitor. If the error persists, please note all monitor settings and contact your technical supporter.

Error #16 Predisping too short**Cause:**

At the actual measured speed the brake ramp exceeds predisping.

Solution:

Reduce the good speed or increase predisping.

Value table

Parameter	Value range	Default	Resolution	R/S	P/O
Speed C8600 fixed+measured C9100	0.5-50.0 m/min 0.5-80.0 m/min	3.0	0.1 m/min	R/S	P
Speed with encoder C8600 C9100	0.0-50.0 m/min 0.0-80.0 m/min	- -	0.1 m/min	R/S	P
Step length of encoder	1.00 - 9.99 mm	1.00	0.01 mm	S	P
Distance measuring light barrier	10.0 - 99.9 mm	14.0	0.1 mm	S	P
Max.speed C8600 C9100	3 - 50 m/min 3 - 100 m/min	50 80	1 m/min	S	P
Predispensing C8600 C9100	1 - 250 mm	0.0 10.0	0.1 mm	R/S	P/O
Position	0 - 1000 mm	0	0.1 mm	R/S	P/O
Label scanner sensitivity	0 - 99	40	1	S	P
Label length	5 - 2500 mm	100	1 mm	S	P
Label suppression	0 - 2500 mm	0	1 mm	S	P
Goods suppression	0 - 1000mm	0	1 mm	S	P
Adapter magnet time (only C9100)	on/off 0.0 - 2.0s	off 0.0	- 0.1 s	S	P
Labelling mode normal multiple delayed	on/off on/off (only C9100) on/off	on off off	- - -	S	P
Multiple quantity distance	2 - 24 pcs. 0 - 5000 mm	2 10	1 pcs. 1 mm	S	P
Delayed stop at	1 - 250 mm	10	1 mm	S	P
Profiling factor (only C9100) start length	100 - 200 % 1 - 500 mm 1 - 500 mm	100 1 2.5	1 % 1 mm 1 mm	S	P
Programs	1 - 32	1	-	S	P/O
Program identification	7 digits	blank	-	S	P
User levels	2	1	-	S	P/O
Password	0000 - 9999	0	-	S	P
Languages	8	De	-	S	P/O
Direction of rotation	left / right	R	-	S	P
Polarity IFEED	pos. / neg.	pos.	-	S	P
Nonstop mode	on/off	off	-	S	P
User menu	3 lines	-	any	S	P
Error handling	15 messages	0	any	S	P
Counter	999.999	-	1	R/S	P/O
Preset counter	999.999	0	1	R/S	P/O
Counter selection	GSC, LSC, EXT	GSC	-	S	P
R = RUN		S = STOP			
P = Programmer		O = Operator			

MAINTENANCE

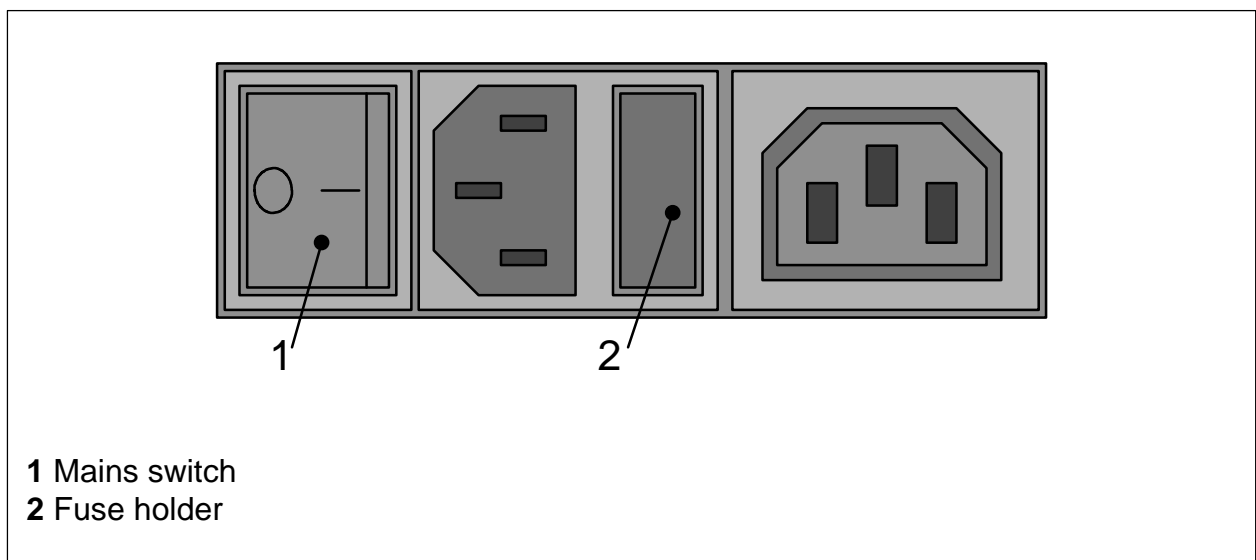
Cleaning

Clean the control panel with a cleansing agent without solvent. Be carefully that no cleansing agent or humidity penetrates into the monitor what may damage electronic components.

Fuses

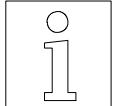
The 2 mains fuses are installed on the rear panel near the mains switch. The monitor must be switched off and disconnected from the mains to exchange the fuses. The figure below shows the fuse holder. The fuses must be replaced by the same type.

Mains voltage	Rating	Part Number
110....120V AC	10AT/250V slow blow. (2 fuses)	7403.0833
220....240V AC	5AT/250V slow blow. (2 fuses)	7403.0822



Repairs

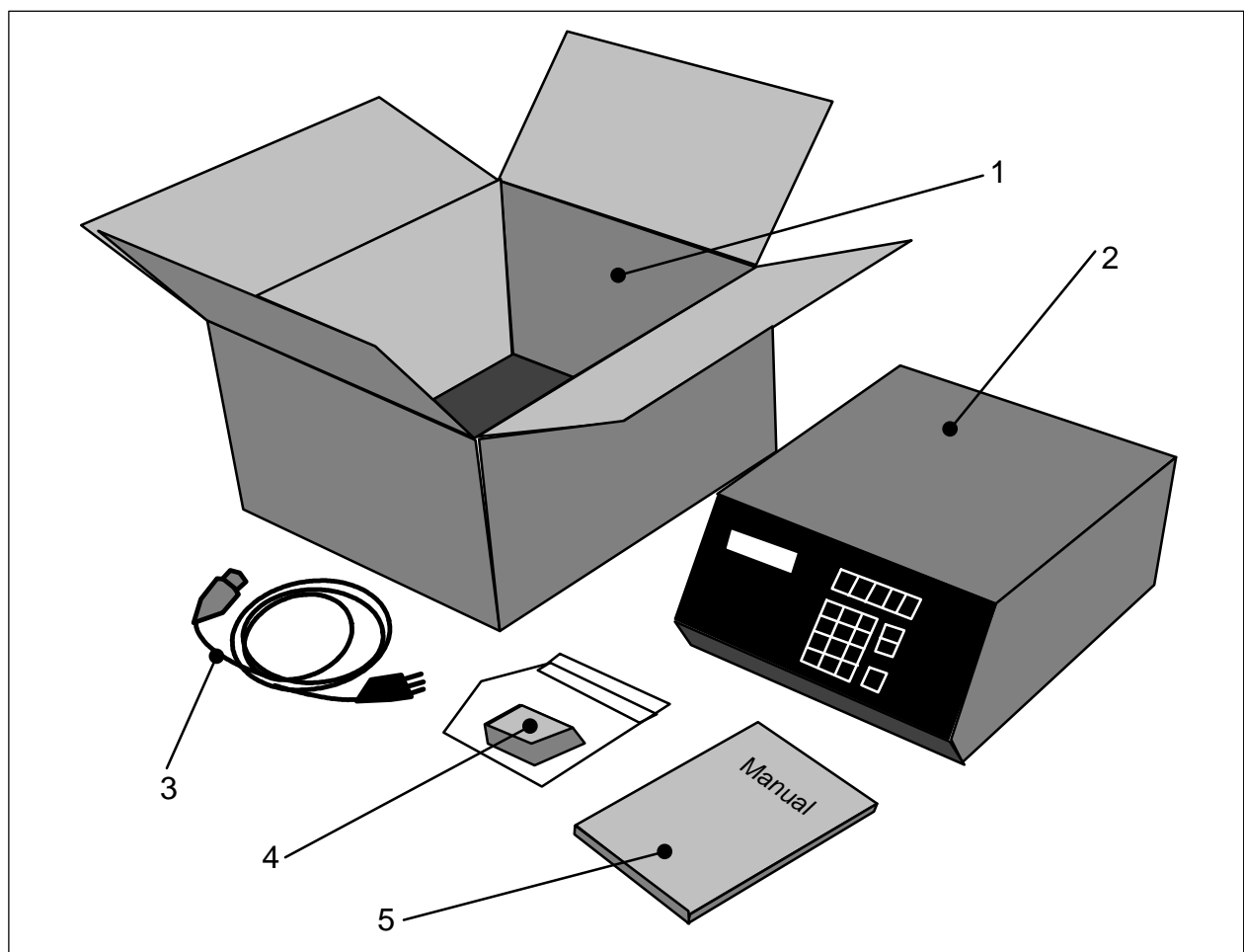
A defective monitor may only be opened and repaired by special trained personnel. Repair indications and instructions to eliminate errors are contained in the Technical Manual.



The guarantee will become void in case of improper repairs and interventions.

Packing

The monitor is shipped in a special shock-proof package. For shipping, only this package may be used. For damages due to wrong packing and shipping we refuse any guarantee. The following figure shows all parts which are shipped in the package:

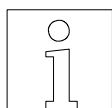


1. Packing box
2. Monitor C8600 or C9100
3. Power cord
4. GSC and Relay connectors unassembled
5. Operating Instructions Monitor C8600/C9100

For unpacking place the packing box **(1)** on a stable table or platform and open it carefully. Be careful that the monitor **(2)** is not scratched by tools. Now take the monitor **(2)** carefully out of the package and place it on its heatsink in the position (as shown in figure on page 44). The monitor must not be placed on its back panel. This may damage it. Now unpack the Operating Instructions **(5)**, the power cord **(3)** and the relay connector **(4)**, and place it on the table as shown in the figure (page 44).

The packaging material and the packing box should be kept for later shipping.

For packing proceed in reverse order. First place the power cord and the relay connector in the box. Then fix the monitor in the packing box with the packing material and as last put the Operating Instructions behind the monitor. Now the packing box can be closed for shipping.



For shipping damages due to wrong packing no guaranty will be given. The monitor must be shipped in its original transportation packing.

Technical data of monitor

Data	C8600	C9100
Dimensions	375 * 305 * 155	
Weight	15 kg	15.5 kg
Ambient temperature	5...+40 °C	
Storage temperature	-10...+60 °C	
Air humidity	15...95% not condensing	
System of protection	IP40	
Supply voltage	110, 120, 130, 220, 230, 240V AC	
Voltage tolerance	± 10%	
Power consumption	305 VA	480 VA
Fuse rating 110-120V AC 220-240V AC	2 fuses 10AT (slow blow) 2 fuses 5AT (slow blow)	
Frequency	50-60 Hz	
Mains socket 110-130V AC 220-240V AC	2 A max. 1 A max.	

The information in these Operating Instructions reflects the state at the publication date. Subject to technical alterations.

