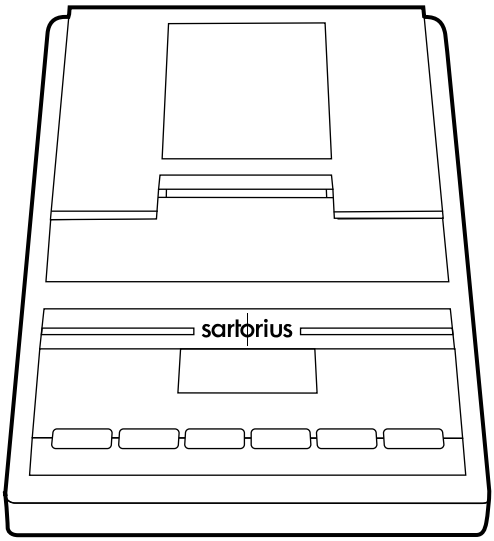
98647-001-33

Sartorius
YDP 03-0CE

Data Printer
Operating Instructions



sartorius

Contents

Intended Use

Model YDP 03-0CE is a data printer designed to receive weighing data from a connected weighing instrument and to print them on plain paper (roll width: 57.5 mm). Text and data are printed with up to 24 characters per line.
This data printer is equipped with a real-time clock. After the printer has been configured according to the required settings, it is suitable for use in legal metrology.

The data printer meets the quality standards of the chemical and pharmaceutical industries, in compliance with the requirements of GLP (Good Laboratory Practice) and GMP (Good Manufacturing Practice).

In addition to recording individual weighing data, the data printer can generate a statistical evaluation of weighing data. All values transferred from an on-line weighing instrument are stored. The following can be computed/printed out:

– Number of weighing operations

– Mean value

– Standard deviation

– Variation coefficient

– Minimum value/weight

– Maximum value/weight

– Difference between the maximum and minimum value/weight

Data are transferred either automatically or manually by pressing a key.

Safety Precautions

The data printer complies with the
EC Directives and Standards for electrical equipment and electromagnetic compatibility.

Use only rechargeable AA batteries of the following type: nickel-cadmium UM-3, order no. 69Y03136.

Avoid draining the batteries excessively; otherwise, this will reduce their recharging capacity.

Used batteries are hazardous waste and must be properly disposed of according to your local hazardous waste disposal regulations.

When this unit is powered externally, use only an original Sartorius AC adapter (see "Accessories"). The printer must be supplied with external power via an AC adapter, if one of the following devices is connected:

– an MP8-1/MP8-2 balance with
  Data Input software
– an infrared dryer, model 7393…/YDU01L
– an external keyboard, such as 73392

When cleaning the data printer,
make sure that no liquid enters the printer housing: use only a moist cloth to wipe down the housing.

- Deactivate the ISO/GLP-compliant printout function for the following instruments:
  – GT/PT/QS/QT/XQ balances and scales (MP 10 processor)
  – QS/TS scales (MP 12 processor)
  – MA… moisture analyzers

o To change this setting, refer to the section entitled "Configuring an ISO/GLP-compliant Data Printout"

Installation

Equipment Supplied

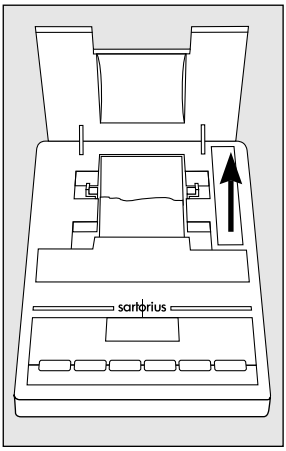
The following components are supplied:

– Interface cable for connecting the printer to a weighing instrument

– Black ink ribbon cassette (is installed)

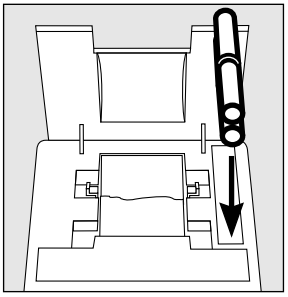
– 4 rechargeable batteries

– Paper roll



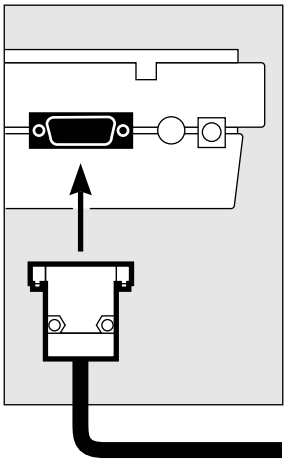
Installing the Rechargeable Batteries

- Remove the 4 batteries from the packaging (they are discharged)
- Lift the cover of the paper roll compartment
- To open the battery compartment, tilt back the cover



- Install the 4 rechargeable batteries in the battery compartment. Make sure that the poles match the + and – signs!
- To close the battery compartment, press down on the cover
- To close the paper roll compartment, lower the cover

– You cannot thread the paper roll until the printer has been turned on.

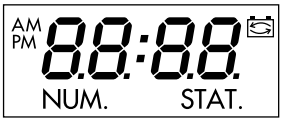


Connecting the Data Printer to a Weighing Instrument

- Connect the interface cable to the printer and the weighing instrument you are using. Secure the connection.

Turning On the Weighing Instrument and the Printer

- To power the weighing instrument, plug in the AC adapter/power supply
- Turn on the weighing instrument



> The printer will turn on automatically

> Self-test: all segments of the printer's display light up

Charging the Batteries during Initial Operation

- Charge the batteries by leaving the weighing instrument turned on

> The batteries are charged in the standby mode of the weighing instrument

> After 28 hours, the printer's batteries are charged

o If the symbol does not go out within 3 hours at the latest, change the batteries (see page 35)

Installing the Ink Ribbon Cassette

- To install the ink ribbon cassette, refer to "Maintenance" on page 33

Inserting the Paper Roll

- Insert the paper roll as described in "Maintenance" on page 33

Setting the Date and Time

- For instructions on setting the date and time, please refer to "Settings" on page 21

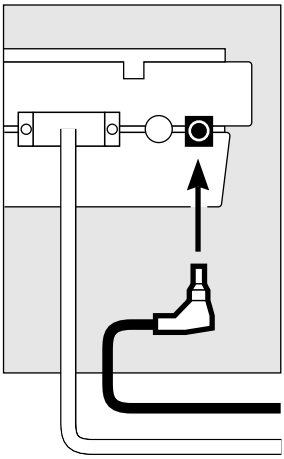
Supplying the Printer with External Power

The printer must be supplied with external power via an AC adapter (optional, see "Accessories"), if one of the following devices is connected:

– an MP8-1/MP8-2 with Data Input software

– an infrared dryer, model 7393…/YDU01L

– an external keyboard, such as 73392



- Plug the original Sartorius AC adapter into an electrical outlet
- Insert the right-angle plug into the jack on the right of the printer's rear panel

○ Install the rechargeable batteries: see page 6

○ Connect the printer and the weighing instrument by following the steps mentioned in the previous section

Operation

The data printer has 6 function keys for operation:

LF : Line Feed. Press the LF key to advance the paper by one blank line.

N/N̄ : Numbering Function ON/OFF. This is only possible if the numbering function (-P4-) in the menu "Interface Settings for the Data Printer" has been activated (page 24). The readout shown on the left will be displayed once the numbering function has been activated. The numbering function generates a consecutive index number from 001 to 999.

CN : Clear Number. This key resets the numbering function to "001"

STAT. : Statistical Evaluation of the Collected Values This is only possible if the statistics program (-A3-) in the "Statistics Applications" menu (page 28) has been activated. The readout shown on the left (an example for 12 values) will be displayed for every value read into the statistics memory.

DATE : Date: Print the Date and Time

[⊙] : Prints the values or reads them into the statistics memory:

Prints the data of the connected weighing instrument without statistics

With the statistics program (-A3- page 29):

Data Transfer in Manual Mode:
In this mode, the current data are transferred from the weighing instrument and read into the statistics memory. (The printing function can be turned either on or off).

Data Transfer in Automatic Mode:
In this mode, printouts are started automatically.

Printing the Data of the Connected Weighing Instrument

o If necessary, print several blank lines (line feed):
Press the [LF] key several times,
or keep it pressed for continuous line feed

```
12-DEC-95   10:25:38
```

o To print the date and time, press the [DATE] key

> The printout will be as shown on the left

```
001:      +   123.4  g
```

• To print data, press the [⊙] key

o To reset the numbering function, if necessary, press the [CN] key

o To turn off the numbering function, press the [N/N̄] key

Statistical Evaluation of the Data

The printer's built-in statistics program can process all values that are computed or weighed and transferred from an on-line weighing instrument. To use this function, you must activate the statistics program (-A3-) in the "Statistics Applications" menu (see "Settings"). When the program is activated, the code shown on the right will appear each time (approx. 0.5 sec.) to indicate that a particular value is being read into the statistics memory. The number of values read into the statistics memory is displayed.

STAT.

After you have pressed the ⊙ key, the values transferred will be read into the statistics memory. Data transfer in the manual mode allows you to preselect the specific values to be transferred by pressing ⊙. In the automatic data transfer mode, all values will be read into the statistics memory once you have pressed ⊙ a single time.

To print the statistics, press the ⇨STAT. key. Once the data have been printed out, the statistics memory will be cleared and either the time or the date will be displayed.

Configuring the Data Printer for Statistical Evaluation

Any of the following statistical values can be configured in the "Statistics Applications" menu so that it will be printed or not printed:

– Number of weighing operations	n	(-53-)
– Mean value	$\overline{x}$	(-54-)
– Standard deviation	s	(-55-)
– Variation coefficient	s_{rel}	(-56-)
– Sum of the individual values/weights	Σx	(-57-)
– Minimum value/weight	min	(-58-)
– Maximum value/weight	max	(-59-)
– Difference between the minimum and the maximum value/weight	diff	(-5 10)

Printing Individual Values

All values upon which the statistical evaluation is to be based will be printed out if you set the "Statistics Applications" menu as follows:

– Printout of the statistic program values = 1 (-A4-)
  (Factory setting = 1: all values will be printed)

If you now deactivate the numbering function by pressing the ☑N/N key, the individual values will not be printed. They will be read into the statistics memory. The counter on the display will increase by 1 for each value.

Numbering Each Value

All individual values printed will be numbered if you set the "Statistics Applications" menu as follows:

– Numbering function = 1 (-P4-)
  (Factory setting = 1)

NUM.

The symbol shown on the left will be displayed

You can deactivate the numbering function during subsequent operation of the printer by pressing the ☑N/N key

Taring Function

The weighing instrument will be tared automatically after data transfer, if you set the "Statistics Applications" menu as follows:

– Automatic taring = 1
  Setting: (-A2-)
  (Factory setting = 0)

This is a very convenient feature for the statistical evaluation of a series of weights, as you can consecutively place your samples on the weighing pan without having to remove them.

Data Transfer and Statistical Evaluation in the Manual Mode

Required Printer Configuration

You must set the following printer configuration in the "Statistics Applications" menu:

– Statistics program = 1 (-A3-)
(Factory setting = 1)
The symbol shown on the left will be displayed

– Data printout = 1 (-A4-)

– Data transfer manual/automatic = 0 (-PS-).

Recording and Evaluating Data

• Press the [▷|STAT.] key to clear the printer memory prior to initial data transfer

> Any previous values remaining will be evaluated first, then you will obtain a printout of the statistics. The statistics will be deleted.

• Place the first sample on the weighing pan

• Transfer the value by pressing the [⊙] key

> The value will be printed, if the printer has been configured accordingly

> The count of the transferred values will be displayed

If you have deactivated the automatic taring function (-A2-):

- Remove the sample from the weighing pan
- Place the next sample on the weighing pan
- Transfer the value by pressing the ⊙ key

> The values will be printed out (see example)

```
001:      +   123.6  g
002:      +   117.8  g
003:      +   119.1  g
```

If you have activated the automatic taring function (-A2-):

- Leave the sample on the weighing pan
- Add the next sample to the one already on the weighing pan
- Make sure that the expected total weight does not exceed the maximum capacity of your weighing instrument (otherwise, "H" will be displayed)
- Transfer the value by pressing the ⊙ key

> The values will be printed out

```
n                  12
x̄               99.8 g
s                3.55 g
srel             3.57 %
Σx             1203.4 g
min              96.0 g
max             103.2 g
Diff             7.2 g

  12-DEC-95   16:02:11
```

- To record consecutive weighing operations, follow the steps mentioned above. Then:
- Press the ›|STAT. key to obtain a printout of the statistics

> The values, as shown on the left, are automatically computed and printed out

> Once the data have been printed out, the statistics memory will be cleared

Vartext1, Vartext2

You can define a header consisting of 2 lines maximum, each with 24 characters maximum. These user-defined lines will be printed at the beginning of each hard copy, and are identified as Vartext1 and Vartext2. They are stored in the printer's non-volatile memory (to input headers, see "Settings" on page 27).

Data Transfer and Statistical Evaluation in the Automatic Mode

Data Transfer

The first value transferred must be greater than 30 scale intervals of the weighing instrument's display (e.g., > 3.0 g, if the weighing instrument displays decigrams). The weighing instrument must display a stability symbol (fluctuation > 1 scale interval). The first value read into the statistics memory is used as the reference value for the statistics. Afterwards, data transfer will be blocked until it is detected that the weighing instrument has been unloaded. This means that the load on the pan is below < 30% of the reference value.
The next value will be transferred and read into the statistics memory if it is >70% of the reference value.

Required Printer Configuration

You must set the following printer configuration parameters in the "Statistics Applications" menu:

– Statistics program = 1 (-A3-)

– Data transfer manual/automatic = 1 (-P6-)

Required Weighing Instrument Configuration

The weighing instrument must be configured as follows (see instructions for the weighing instrument connected):

– Auto print

– Data output with stability

Recording and Evaluating Data

- Press the [▷|STAT.] key to clear the statistics memory prior to initial data transfer

> Any previous values remaining will be evaluated first, then you will obtain a printout of the statistics. The statistics will be deleted.

- Place the first sample on the weighing pan
- To activate data transfer, press the [⊙] key

> The readout shown on the left will appear

> "STAT" will be displayed for approx. 0.5 sec.

> This value will be read into the statistics memory as the reference value

If you have deactivated the automatic taring function:

- Remove the sample from the weighing pan
- Place the next sample on the weighing pan

> The value will be automatically transferred when the weighing instrument displays the stability symbol

> Each value will be printed out (example)

```
001:      +   123.6  g
002:      +   117.8  g
003:      +   119.1  g
```

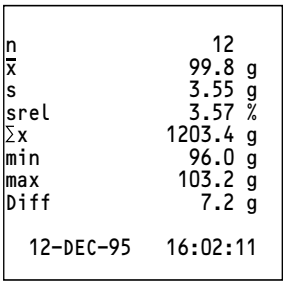
If you have activated the automatic taring function:

> The weighing instrument is automatically tared after initial data transfer

- Leave the sample on the weighing pan
- Add the next sample to the one already on the weighing pan
- Make sure that the expected total weight does not exceed the maximum capacity of your weighing instrument (otherwise, "H" will be displayed)

> The value will be automatically transferred when the weighing instrument displays the stability symbol

> The value will be printed out



- To record consecutive weighing operations, follow the steps mentioned above. Then:
- Press the [▷|STAT.] key to obtain a printout of the statistics

> The values, as shown on the left, are automatically computed and printed out

> Once the data have been printed out, the statistics memory will be cleared

Practical Example

Suppose you wish to weigh tablets and have their weights statistically evaluated. Let's assume that your weighing instrument is used in legal metrology.
You need to make the following settings:

– Generate an ISO/GLP-compliant printout = 1 (-A1-)
– Automatic taring after each data transfer = 1 (-A2-)
– Statistics program = 1 (-A3-)
– Printout after each data transfer = 1 (-A4-)
– Index number for each data printout (numbering function) = 1 (-P4-)
– Manual data transfer = 0 (-P6-)

o In addition, set the menu code for an ISO/GLP printout on your weighing instrument: refer to the "Installation and Operating Instructions" for this instrument.

- Press the [▷|STAT.] key to clear the statistics memory prior to initial data transfer

> Any previous values remaining will be evaluated first, then you will obtain a printout of the statistics.

- Place the first tablet on the weighing pan
- Activate data transfer by pressing the [⊙] key

> When the weighing instrument has stabilized, this value will be transferred and read into the statistics memory as the reference weight

```
      SARTORIUS
    Model      BP6100
    S/N     040240772
    Id

    Date : 22-May-95
    Start:  10:25:14
    Ser. :

001:       +      9.81 g
```

> The example on the left shows a printout with an ISO/GLP header, which is only printed in the manual data transfer mode.
The last digit of the weight must be printed inversely because the verification scale interval (e) of the weighing instrument used in legal metrology is not equal to its actual scale interval (d).

> After data transfer, the printer transmits a signal to the weighing instrument so that the instrument will be tared.

- Leave the tablet on the weighing pan
- Add the next tablet to the one already on the weighing pan

> The weight is automatically read into the statistics memory when the weighing instrument has stabilized

```
002:       +     10.13 g
```

> The next weight is printed out (example)

> The weighing instrument is tared

When the weighing instrument displays a zero readout:

- Add the next tablet to the weighing pan
- Press the [⊙] key
- As described above, add the next tablet each time after the weighing instrument has been tared

When you have placed the last tablet on the weighing pan and the last weight is displayed and printed:

- Generate a statistical evaluation by pressing the [▷STAT.] key

> The statistical evaluation will be printed (in this case, only those values preset in the "Statistics Applications" menu: number of weighing operations, mean value, sum of the individual weights, minimum and maximum weights)

- Press the [CF] key on the weighing instrument

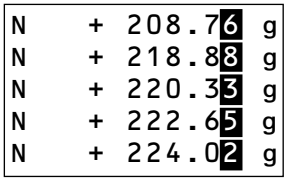
> The ISO/GLP footer will be printed

```
n                  12
x̄               9.98 g
Σx            120.34 g
min              9.60 g
max             10.32 g

    End   :  10:31:56

    Name :
```

Use in Legal Metrology in the EU and the Signatories of the Agreement on the EEA

The German Federal Institute of Physics and Metrology (PTB) has issued an independent test certificate, number D09-96.15, for the YDP03-0CE. Based on this certificate, the printer is allowed to be used in legal metrological applications in the EU and the EEA, provided that the printer is operated with weighing instruments verified for such use by an EC or national type-approval certificate.

– Set up the printer so that you will be able to see the weight readout of the connected weighing instrument



– For weighing instruments verified for use in legal metrology, where e≠d:
  Configure the data printer so that the last digit of the weight value is inversely printed (refer to the subsection "Menu – Interface Settings for the Data Printer" under "Settings")

  Important Note:
  For a weighing instrument where e = d and d < 0.1 mg, the last digit of the weight value may not be inversely printed.

– If your printer has the mark "M" on a green background, you can use the printer immediately in legal metrological applications, provided it is connected to a Sartorius weighing instrument verified for use in legal metrology.

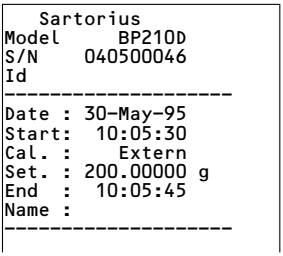
If the printer is **subsequently** connected to a verified weighing instrument already in use in legal metrology:

– Notify your local weights and measures inspection office, or
– Please contact your local Sartorius service center if you wish to have the data printer configured and prepared for verification for legal metrology.

The above does not concern printers that are immediately used in legal metrology.

ISO/GLP-compliant Data Printout

To obtain an ISO/GLP*-compliant data printout, the following information must head each data printout of every measurement:



– Manufacturer of the weighing instrument

– Model name

– Serial number

– Date and time for the start and finish of each measurement

– Operator/workstation ID

– Operator's signature

- To set the data printer for ISO/GLP-compliant data printouts: refer to the subsection "Configuring an ISO/GLP- compliant Data Printout" under "Settings" on page 23
- In addition, set the appropriate menu code on your weighing instrument: refer to the section on "ISO/GLP-compliant Record or Printout" in the Sartorius instruction manual

* ISO: International Organization for Standardization
GLP: Good Laboratory Practice

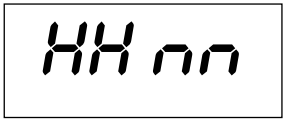
Setting the Date and Time

Select the "Set Date and Time" mode in one of two ways:
1) Turn on the data printer and the weighing instrument
When all display segments are lit,

- press the DATE key

or 2) During operation,

- press the DATE key for at least 5 seconds



> You will obtain the readout shown on the left, which stands for the hour (HH)

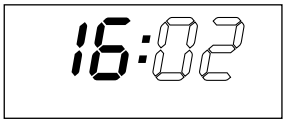
You can also exit the "Set Date and Time" mode during any of the following steps:

o To exit the mode, press the LF key, depending on the menu level

You can also return to the previous step during any of the following steps:

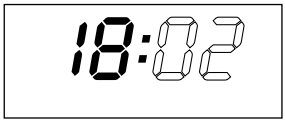
o To return to the previous step, press the LF key

- To select "Set the Hour," press the STAT. key



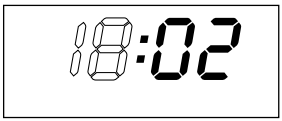
> You will obtain a readout as shown on the left; both the digits on the left will flash

- To set the hour, press the CN key or the N/N̄ key – several times, if necessary



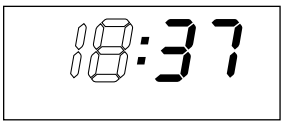
> You will obtain a readout as shown in the example on the left

• To store the setting, press the STAT. key



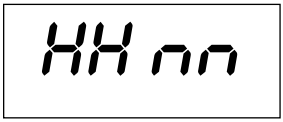
> You will obtain a readout as shown in the example on the left. Both the digits on the right will flash

• To set the minutes, press the CN key or the N/N̄ key – several times, if necessary



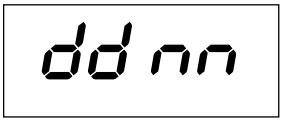
> You will obtain a readout as shown in the example on the left

• To store the setting, press the STAT. key



> You will obtain a readout as shown in the example on the left

• To select "Set Day, Month," press the CN key

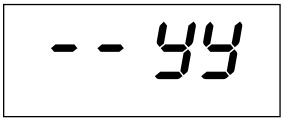


> You will obtain the readout shown on the left, which stands for the day (dd)

• To select "Set the Day," press the STAT. key

• Enter the day and month in the same manner as for the hours and minutes

• To select "Set the Year," press the CN key



> You will obtain the readout shown on the left, which stands for the year (YY)

• Enter the year (the last two digits) in the same manner as for the minutes

• To exit the "Set Date and Time" mode, press the LF key

Configuring an ISO/GLP-compliant Data Printout

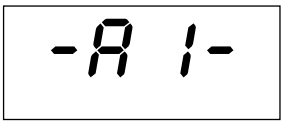
Select the "Statistics Applications" menu in one of two ways:
1) Turn on the data printer and the weighing instrument
When all display segments are lit,

- press the [STAT.] key;

or 2) During operation,

- press the [STAT.] key for at least 5 seconds

> You will obtain the readout shown on the left



- To select the setting "ISO/GLP-compliant Data Printout," press the [STAT.] key

> You will obtain a readout as shown in the example on the left
The point indicates the setting used until now

- To set "ISO/GLP-compliant Data Printout," press either the [CN] key or the [N/N] key until "1" is displayed

> You will obtain a readout as shown in the example on the left

- To store the setting, press the [STAT.] key
- To exit the "Statistics Applications" menu, press the [LF] key
- In addition, set the appropriate menu codes on your weighing instrument: refer to the section on "ISO/GLP-compliant Record or Printout" in the Sartorius instruction manual

```
      SARTORIUS
Model          BP6100
S/N         040240772
Id                564

Date :       22-May-95
Start:        10:25:14
Ser. :



End  :        10:25:32

Name :
```

> In all subsequent printouts, an ISO/GLP header and footer similar to the example shown on the left will be automatically printed

o To print the settings, press the [⊙] key

Menu – Interface Settings for the Data Printer

You can prevent the settings of this menu from being changed. To do so, enter a four-digit number (PIN number) that others cannot easily guess. If you lose or forget this number, please contact your local Sartorius Service Center for help.

When the printer is turned on, all settings are read into the printer's memory (EEPROM) and subsequently used during the operation.

To access the menu for "Interface Settings for the Data Printer,"

– press the [⊙] key when you start the printer; or

– press the [⊙] key for more than 5 seconds during operation

The [◁ LF], [▽N/N̄], [△ CN] and [▷STAT.] keys then have the cursor functions indicated by the corresponding arrows.

Access to both the *CodE* and *bAud* settings is shown in the flow chart given as an example on the next page. All setting options for the menu "Interface Settings for the Data Printer" are listed following this chart.

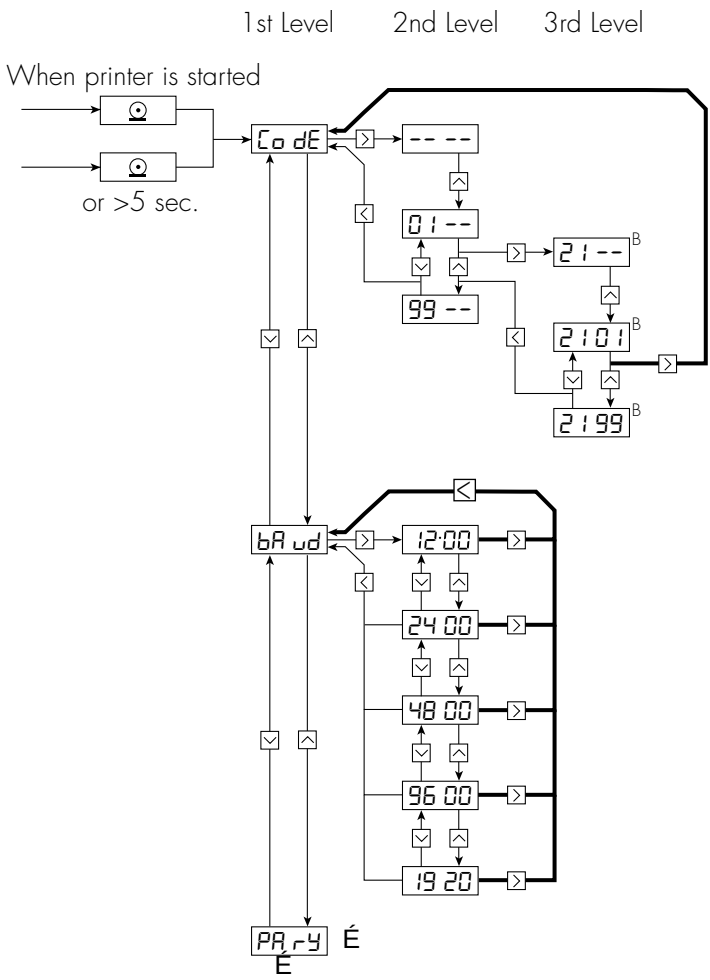
In the "Setup" menu, you can have the menu settings printed by pressing the [⊙] key

The letter at the end of the second line indicates whether menu settings can be changed:

C: Change: Settings can be changed

L: Locked: Settings cannot be changed

```
Interface Settings
Program Vers.   1.xx  C
-----------------------
Baud rate       1200 bd
Parity          odd
Handshake       DTR/CTS
.
.
.
```



B = Example

—— = New value is stored

12:00 = Point indicates previously set value

Setting Options in the Menu "Interface Settings for the Data Printer"

Designation	Display	Factory Setting	Setting Options
Password	CodE		100 ... 9999
Data transmission rate (baud rate)	bAud	1,200	1,200; 2,400; 4,800; 9,600; 19,200
Parity	PAr-Y	odd	even, odd, 0, 1
RS-232C handshake	HAnd	0	0 = hardware, 1 = software
Print using <CR, LF>	-P1-	1	0 = no, 1 = yes
Print flush, right-/ left-hand margin	-P2-	0	0 = right, 1 = left
Print Decimal points/commas	-P3-	0	0 = decimal points, 1 = commas
Numbering function on/off	-P4-	1	0 = off, 1 = on
Inverse printing	-P5-	0	0 = no inverse printing, 1 = last digit inverse, 2 = last 2 digits inverse, 3 = last 3 digits inverse
Manual/automatic data transfer	-P6-	0	0 = manual (indiv.) data transfer 1 = automatic data transfer
Date/time when printer starts	-P7-	1	0 = no, 1 = yes
Print VARTEXT1 when printer starts	-P8-	0	0 = no, 1 = yes
Print VARTEXT2 when printer starts	-P9-	0	0 = no, 1 = yes
Time display	-C1-	24	12, 24 hours
Date/time display	-C2-	1	0 = date, 1 = time

Entry of the user-defined text for the 1st and 2nd lines (Vartext1, Vartext2):

• You will need a computer (PC) with a BASIC interpreter

The following BASIC program is used to transfer text via the interface of a connected computer (PC). The BASIC interpreter already installed on the computer executes this program.

```
CLS
PRINT      „              123456789012345678901234“
LINE INPUT „VARTEXT1 ? „, VarText1$
LINE INPUT „VARTEXT2 ? „, Vartext2$
OPEN „com1: 1200,0,7,1,CD0,DS0“ FOR RANDOM AS #1
PRINT #1,CHR$(27)+"j"+VarText1$+"_"+CHR$(13)+CHR$(10)
PRINT #1,CHR$(27)+"k"+Vartext2$+"_"+CHR$(13)+CHR$(10)
CLOSE #1
```

Menu – Settings for Statistics Applications

When the printer is turned on, all settings are read into the printer's memory (EEPROM) and subsequently used during operation.

To access the "Statistics Applications" menu,

– press the [STAT.] key when you start the printer; or

– press the [STAT.] key for more than 5 seconds during operation

The [LF], [N/N̄], [CN] and [STAT.] keys then have the cursor functions indicated by the corresponding arrows.

Access to both the individual settings is shown in the flow chart given as an example on the next page. All setting options for the "Statistics Applications" menu are listed following this chart.

To print the menu settings, press the [⊙] key

```
Application Settings
Program  Vers.   1.xx  C
-----------------------
A1:Mode ISO/GLP ON
A2:Tare func.   OFF
A3:Statistics   ON
```

The letter at the end of the second line indicates whether menu settings can be changed:

C: Change: Settings can be changed

L: Locked: Settings cannot be changed

Setting Options in the "Statistics Applications" Menu

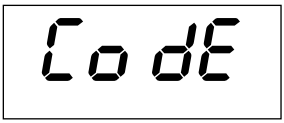
Designation	Display	Factory Setting	Setting Options
GLP/GMP printout	-A1-	1	0 = no, 1 = yes
Automatic taring	-A2-	0	0 = no, 1 = yes
Statistics program	-A3-	1	0 = no, 1 = yes
Data printout	-A4-	1	0 = no, 1 = yes
Transfer index header for values to the statistics	-A5-	0	0 … 50 (details upon request)
Print VARTEXT1 on statistics printout	-S1-	0	0 = no, 1 = yes
Print VARTEXT2 on statistics printout	-S2-	0	0 = no, 1 = yes
Print number of measurements	-S3-	1	0 = no, 1 = yes
Print mean value	-S4-	1	0 = no, 1 = yes
Print standard deviation	-S5-	1	0 = no, 1 = yes
Print variation coefficient	-S6-	1	0 = no, 1 = yes
Print sum of individual values	-S7-	1	0 = no, 1 = yes
Print minimum value	-S8-	1	0 = no, 1 = yes
Print maximum value	-S9-	1	0 = no, 1 = yes
Print difference between maximum and minimum values	-S10-	1	0 = no, 1 = yes
Print date/time	-S11-	0	0 = no, 1 = yes

Printing a Hard Copy of the Settings

- To select the "Interface Settings for the Data Printer" menu,

– hold down the [⊙] key when you start the printer; or

– hold down the [⊙] key for more than 5 seconds during printer operation



> You will obtain the readout shown on the left

- To print the settings, press the [⊙] key

```
Interface Settings
Program Vers.   1.xx   C
------------------------
Baud rate       1200 bd
Parity          odd
Handshake       DTR/CTS
P1:Send CR/LF   ON
P2:Print format right
P3:Decimal-Char point
P4:Num.function ON
P5:Inverse from OFF
P6:Print mode   Standard
P7:Date/Time    ON
P8:Print TEXT1  OFF
P9:Print TEXT2  OFF
C1:Time format  24h
C2:Display      Time
```

> You will obtain the readout shown on the left (Example: these are the factory settings)

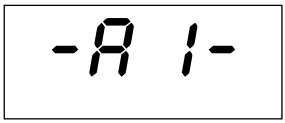
- To exit the "Interface Settings for the Data Printer" menu, press the [↵ LF] key

Printing a Hard Copy of the Settings for the "Statistics Applications" Menu

- To select the "Statistics Applications" menu,

– hold down the [STAT.] key when you start the printer; or

– hold down the [STAT.] key for more than 5 seconds during printer operation



> You will obtain the readout shown on the left

- To print the settings, press the [⊙] key

```
Application Settings
Program  Vers.   1.xx  C
------------------------
A1:Mode ISO/GLP ON
A2:Tare func.   OFF
A3:Statistics   ON
A4:Print value  ON
A5:Header        0
S1:Print TEXT1  OFF
S2:Print TEXT2  OFF
S3:Print n      ON
S4:Print x̄      ON
S5:Print s      ON
S6:Print srel   ON
S7:Print ∑x     ON
S8:Print min    ON
S9:Print max    ON
S10:Print diff  ON
S11:Print date  OFF
```

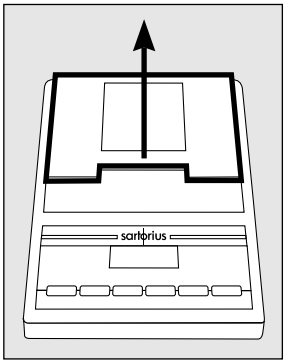
> You will obtain the readout shown on the left (Example: these are the factory settings)

- To exit the "Statistics Applications" menu, press the [LF] key

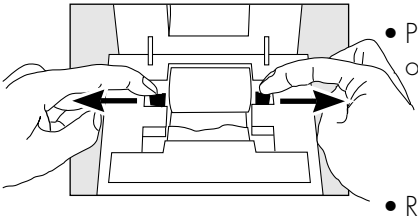
Troubleshooting Guide

Error Message	Causes	Solution
Err 1 flashes	Data in printer memory (EEPROM) are wrong (checksum is incorrect)	• Press any key > Factory settings are being loaded o Reconfigure the menus for "Printer Interface" and "Statistics Applications"
Err2 flashes	The input buffer of the input capacity has been exceeded	• Turn the weighing instrument off, then back on again
Err3 flashes	No control signals for printer	• Press any key • Check the rechargeable batteries o Recharge the batteries, if necessary o Change the batteries, if necessary
🔋 flashes	Battery power is too low	• Recharge the batteries (see "Maintenance")
_ Underlining on the printout	Transfer error in a data string	• Check to see if the interface parameters of the weighing instrument and printer match

Changing the Paper Roll



To operate your data printer, the paper rolls must have the following specifications:
(see "Accessories"):
– Standard paper roll
– Wood-free paper, 60 g
– Width: 57.5 ± 0.5 mm
– Diameter: 65 mm max.
– Core diameter: 8 mm min.



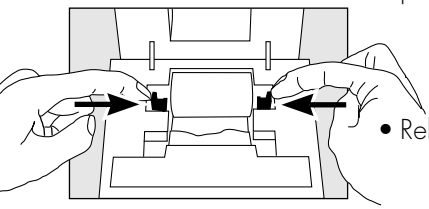
- To open the paper roll compartment, lift the cover
- Pull out the roll holders from both sides of the roll core as shown on the left
- Remove the old roll core

o Place a new paper roll on a flat surface

o The beginning of the paper must be on the bottom and facing you

- Use your thumb and index finger of one hand to hold the paper roll vertically above the paper roll compartment
- Using your other hand, thread the paper through the slot underneath the ink ribbon
- To transport the paper through the ink ribbon cassette, press the LF key several times or hold it down

> The paper will be threaded into, then out of the ink ribbon cassette

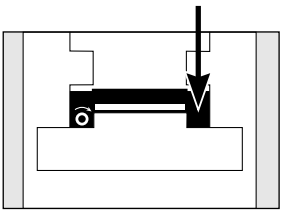


- To align the paper roll, hold it so that you can push both roll holders into the core
- Release the roll holders on both sides
- To close the paper roll compartment, lower the cover

Changing the Ink Ribbon Cassette

To operate your data printer, you must use a black ink ribbon cassette, type ERC-22 (see "Accessories").

- Lift the cover of the paper roll compartment
- To remove the paper from the ink ribbon cassette, turn the paper roll opposite to the paper feed direction

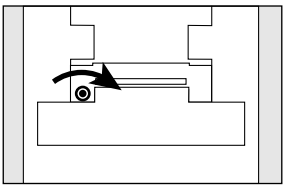


- Press down on the right side of the cassette

> The left side of the cassette will lift up

- Remove the cassette
- Insert a new ink ribbon cassette from the top

> The cassette will lock into place



o If necessary, turn the small tension wheel located on the left in the direction of the arrow until the ribbon is stretched taut in front of the paper

- To thread the paper, refer to "Changing the Paper Roll"
- Lower the cover of the paper roll compartment to close it

Charging the Batteries

If the symbol shown on the left lights up:

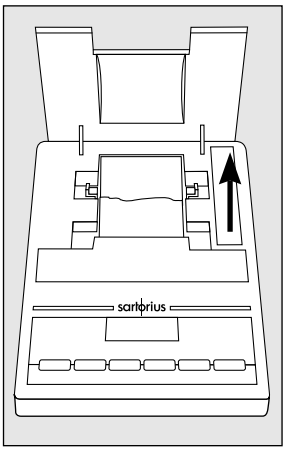
o Charge the batteries by leaving the weighing instrument turned on

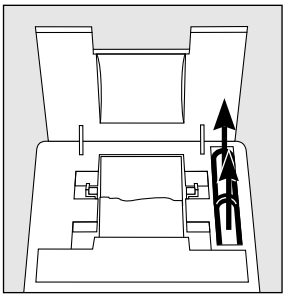
> The batteries are charged in the standby mode of the weighing instrument

> After 28 hours, the printer's batteries are charged

o If the symbol does not go out within 3 hours at the latest, change the batteries (see page 35)

Changing the Rechargeable Batteries





⚠ Avoid draining the batteries excessively; otherwise, this will reduce their recharging capacity.

⚠ Use only standard AA rechargeable batteries of the following type: nickel-cadmium UM-3, Sartorius order no. 69Y03136.

- Lift the cover of the paper roll compartment
- To open the battery compartment, tilt back the cover
- Remove the 4 batteries

⚠ Used batteries are hazardous waste and must be properly disposed of according to your local hazardous waste disposal regulations.

o If you have any questions, please contact your local Sartorius Service Center

- Install the 4 rechargeable batteries in the battery compartment. Make sure that the poles match the + and – signs!!
- To close the battery compartment, press down on the cover
- To close the paper roll compartment, lower the cover

Cleaning the Data Printer

⚠ When cleaning the data printer, make sure that no liquid enters its housing

⚠ Please do not use any aggressive cleaning agents (solvents or similar agents)

- Disconnect the power supply by unplugging the interface cable (connecting the weighing instrument) from the rear panel of the printer

o If you are using an external power supply, unplug the AC adapter from the electrical outlet (mains supply)

- Use cloth moistened with a mild detergent (soap) only to wipe down the printer housing
- After cleaning, wipe down the printer with a soft, dry piece of cloth

Accessories

Product		Order No.
Spare paper rolls (box of 5)		6906937
Ink ribbon cassette		6906918
AC adapter with specifications rated for	Europe	6971412
	U.K.	6971414
	USA	6971413
	Australia	6971411
	South Africa	6971410
Set of rechargeable batteries (4 nickel cadmium, UM-3, type AA)		69Y03136
Interface cable for connecting the printer to a weighing instrument or other device of an older design series (MP technology), for use in residential areas (EN55022, Class B)		Available on request

Specifications

Designation	Dimensions
Length	230 mm
Width	158 mm
Height	80 mm
Weight (without batteries, paper roll)	approx. 800 g
Operating temperature	0 to +40 °C
Storage temperature	–40 to +70 °C

Electromagnetic Compatibility

CE Marking

The equipment complies with the following Directive:

Council Directive 89/336/EEC
"Electromagnetic Compatibility (EMC)"

Applicable European Standards:

Limitation of emissions:

EN 50081-1	Residential, commercial and light industry
EN 50081-2	Industrial environment

Defined immunity to interference:

EN 50082-1	Residential, commercial and light industry
pr EN 50082-2	Industrial environment

Important Note:

The operator shall be responsible for any modifications to Sartorius equipment and for any connections of cables or equipment not supplied by Sartorius and must check and, if necessary, correct these modifications and connections. On request, Sartorius will provide information on the minimum operating specifications (in accordance with the Standards listed above for defined immunity to interference).

Important Information for Connecting Devices of an Older Design Series:

If you connect this printer to weighing instruments or devices of an older design series (MP technology), they might exceed the permissible limits designed to provide reasonable protection against harmful radio interference in residential areas (EN55022, Class B).
For this reason, please observe the following:

Warning!

This a Class A device that can cause radio interference in residential areas. In this case, the user may be required to correct the interference by taking appropriate measures at his own expense.

You can order a special Sartorius interface cable (accessory) that complies with the radio interference limits for operation of equipment in residential areas.

Information on Radio Frequency Interference

Warning!

This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause interference to radio communications. It has been tested and found to comply with the limits for a Class A computing device pursuant to Subpart J of Part 15 of FCC Rules, which are designed to provide reasonable protection against such interference, when operated in a commercial environment. Operation of this equipment in a residential area is likely to cause interference, in which case the user, at his own expense, will be required to take whatever measures may be required to correct the interference.

Physikalisch-Technische Bundesanstalt

Braunschweig und Berlin

Prüfschein *Test certificate*

Nr. D09-96.15

ausgestellt von *issued by*	Physikalisch-Technische Bundesanstalt Bundesallee 100 D - 38116 Braunschweig Bundesrepublik Deutschland
benannte Stelle *notified body*	0102
gemäß *in accordance with*	EN 45501 (1992), WELMEC-Dokument 2, OIML R 76-1 (1992) soweit anwendbar *as far as applicable*
ausgestellt für *issued to*	Sartorius AG Weender Landstraße 94 - 108 37070 Göttingen Bundesrepublik Deutschland
für *in respect of*	Drucker zum Anschluß an geeichte nichtselbsttätige Waagen mit serieller Schnittstelle *Printer to be connected to verified non-automatic weighing instruments with serial interface*
Typ *type*	**YDP03-OCE..**
Hersteller *manufacturer*	Sartorius AG, Göttingen

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The essential characteristics of this device, the conditions to be observed and the specification of the relevant documentation are set out in the Appendix hereto, which forms part of this test certificate and comprises 4 pages. The device meets the requirements, as far as applicable; it may be used for purposes subject to legal control in connection with approved non-automatic weighing instruments provided that the conditions mentioned are observed.

Im Auftrag
By order

Brandes

PHYSIKALISCH-TECHNISCHE BUNDESANSTALT 40

Braunschweig, 01.Juli 1996
Geschäftszeichen: 1.13-96.143
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The status of the information, specifications and
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