

INSTRUCTION
MANUAL

Printer

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Intended Use

Model **CPR02** is a data printer designed to receive weighing data from a connected weighing instrument and to print it 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.

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
- Variation coefficient
- Cumulative
- Standard deviation
- Minimum value/weight
- Maximum value/weight
- Difference between the maximum and minimum value/weight

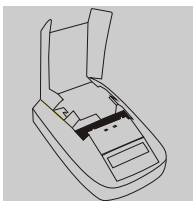
Data is transferred either automatically or manually by pressing a key.

Safety Precautions

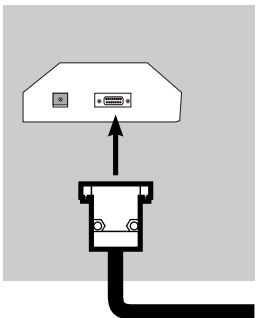
When cleaning the data printer, make sure that no liquid enters the printer housing: use only a moist cloth to wipe down the housing.

Installation

Equipment Supplied



- The following components are supplied:
- Interface cable for connecting the printer to a weighing instrument
 - Black ink ribbon cassette (is installed)
 - Paper roll
 - Power Supply Adapter
- You cannot thread the paper roll until the printer has been turned on.



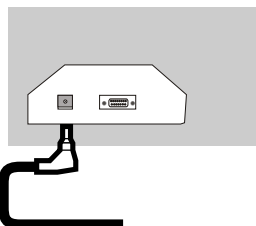
Connecting the Data Printer to a Weighing Instrument

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

Turning On the Weighing Instrument and the Printer

- § To power the weighing instrument, plug in the DC adapter/power supply

- § Turn on the weighing instrument



- > To Power the Printer, Plug in the DC Adapter / Power Supply.
> Printer will print the following Data with Current Date & Time.

```
CITIZEN SCALE, MUMBAI - 097.  
STATISTIC PRINTER  
3-JAN-2008 19:42:59
```

Installing the Ink Ribbon Cassette

- § To install the ink ribbon cassette, refer to "Maintenance" Page No...**15**

Inserting the Paper Roll

- § Insert the paper roll as described in "Maintenance" Page No...**14**

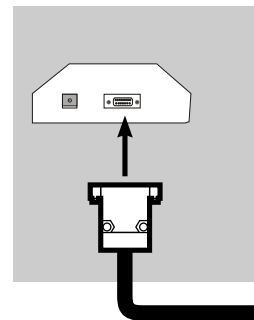
Setting the Date and Time

- § For instructions on setting the date and time, please refer to "Settings" on Page No... **8**

- § Plug the original company DC adapter into an electrical outlet

- § Insert the plug into the jack on the right of the printer's rear panel

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



Operations :

The data printer has 6 function keys for operation:

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

2 **N / \bar{N}** :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.


3 **CN** : Clear Number : This key resets the numbering counter

4 **STAT** : Statistical Evaluation : To enter in the stat mode. .

5 **Date** : Date : Print the Date and Time.

6 **Print** : Print : the values or reads them into the statistics memory and prints the data of the connected weighing instrument

Printing the Data of the Connected Weighing Instrument

§ If necessary, print required blank lines (line feed):
Press the  key several times,


```
12-AUG-2008 10:25:38
```


§ To print the date and time, press the  key

> The printout will be as shown on the left

```
01: + 123.4 g
```

§ To print data, press the  key

§ To reset the numbering function, if necessary, press the  key

§ To turn off the numbering function, press the  key


NUM.

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)

The symbol shown on the top right side will be displayed


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

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.

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.

The number of values read into the statistics memory is also displayed.

To print the statistics, press the  key. Once the data has been printed out, the statistics memory will be Cleared.

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 (s3)
- Mean value \bar{x} (s4)
- Variation coefficient srel (s5)
- Sum of the individual values/weights Σx (s6)
- Standard deviation s (s7)
- Minimum value/weight min (s8)
- Maximum value/weight max (s9)
- Difference between the minimum
and the maximum value/weight diff (s10)
- Set this to 1 if date is required at the
end of statistics readings date (s11)

Data Transfer and Statistical Evaluation in the Manual Mode

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

- Data transfer manual = 0 (-p5-).

Recording and Evaluating Data

§ Press the \rightarrow 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

§ Print should come from Weighing Scale

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

- > The count of the transferred values will be displayed

§ Remove the sample from the weighing pan

§ Place the next sample on the weighing pan and
press print button key.

01:	+	123.6	g
02:	+	117.8	g
03:	+	119.1	g

Recording and Evaluating Data

§ Press the \rightarrow Stat. key to clear the statistics memory prior to
initial data transfer

- > The value will be printed out

01:	+	123.6	g
02:	+	117.8	g
03:	+	119.1	g

n	12
\bar{x}	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-AUG-2008 16:02:11	

§ To record consecutive weighing operations, follow the
steps mentioned above. Then:

§ Press the \rightarrow 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 has been printed out, the statistics memory
will be cleared

Settings :

Date:

How to enter into date and time menu?

Press button for **5 sec** at stand by mode or Press button for **2 sec** when printer is switched on.

Then printer will enter into setting mode of **date**.

Then with the help of and , the value will increase and decrease respectively.

After pressing the button the cursor will move to **month**.

Then with the help of and , the value will increase and decrease respectively.

After pressing the button the cursor will move to **year**.

Then with the help of and , the value will increase and decrease respectively.

After pressing the button the cursor will move to **time (hour)**.

Then with the help of and , the value will increase and decrease respectively.

After pressing the button the cursor will move to **time (minute)**.

Then with the help of and , the value will increase and decrease respectively.

To set the data of date and time press button once.

Data Menu:

How to enter into Data Menu?

Press button for **5 sec** at stand by mode or Press button for **2 sec** when printer is switched on.

Then printer will enter into setting mode of Data menu.

Then with the help of and , the value will increase and decrease respectively from "**Pass code**" to "**-C2-**".

To set the **Pass code**:

After pressing the button the cursor will display "**----**".

Then with the help of and , the value will increase and decrease respectively from "**01**" to "**99**", the first two digits will be selected.

After pressing the button the cursor will display "**XX--**".

Then with the help of and , the value will increase and decrease respectively from "**01**" to "**99**", the next two digits will be selected.

NOTE: 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

To change the settings enter the old password again.

Press button to confirm the settings or select the Pass code.

Press button to exit.

To set the **Baud rate**:

Press button to enter in the setting mode of Baud rate.

It gives the option for Baud Rate as

1200

2400

4800

9600

19200

Press button to select any one of them and the selected value will show "." sign.

EX: .9600

Designation	Display	Setting option
Print VARTEXT1	-S1- PRINT VERTEXT:	0 = no, 1 = yes on statistics printout
Print VARTEXT2	-S2- PRINT VERTEXT:	0 = no, 1 = yes on statistics printout
Print number of measurements	-S3- PRINT READ COUNT:	0 = no, 1 = yes
Print mean value	-S4- PRINT MEAN VALUE :	0 = no, 1 = yes
Print variation coefficient	-S5- PRINT STD. RELATIVE	0 = no, 1 = yes
Print sum of individual values	-S6- PRINT CUMMULATIVE:	0 = no, 1 = yes
Print standard deviation	-S7- PRINT STD. DEVIATION	0 = no, 1 = yes
Print minimum value	-S8-PRINT MINIMUM:	0 = no, 1 = yes
Print maximum value	-S9-PRINT MAXIMUM:	0 = no, 1 = yes
Print difference between maximum and minimum values	-S10- PRINT DIFFERENCE:	0 = no, 1 = yes
Print date/time	-S11- PRINT DATE/TIME:	0 = no, 1 = yes

Application Settings		
Program	Vers.	1.xx C
S1:Print TEXT1	ON	
S2:Print TEXT2	ON	
S3:Print n	OFF	
S4:Print X	OFF	
S5:Print srel	OFF	
S6:Print Σx	OFF	
S7:Print S	OFF	
S8:Print Min	OFF	
S9:Print Max	OFF	
S10:Print diff	OFF	
S11:Print date	ON	

HARD COPY OF THE STATISTICS MENU

§ To select the “Statistics Applications” menu,

- hold down the key when you start the printer;
or

- hold down the key for more than 5 seconds during printer operation

-To print the settings, press the key

-To exit the “Statistics Menu” , 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	

Printing a Hard Copy of the Interface 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.

§ To print the settings, press the key

> 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 key

DESIGNATION	DISPLAY	SETTING OPTION
Passcode	PASSCODE:	100--9999
Data transmission baud rate (baud rate)	BAUD RATE:	1200,2400,4800, 9600,19200
Parity	PARITY:	Odd Even Space None
RS-232C handshake	RS232 HANDSHAKE MODE:	0 = hardware, 1 = software
Print using <CR, LF>	-P1- PRINT USING CR-LF:	0 = no, 1 = yes
Print flush, right-/left-hand margin	-P2- PRINT FLUSH MARGIN:	0 = right, 1 = left
Print Decimal points/commas	-P3- DECIMAL / COMMA:	0 = decimal points, 1 = commas
Numbering function on/off	-P4- NUMBERING FUNCTION:	0 = off, 1 = on
Inverse printing	-P5- INVERT PRINT	no inverse printing, last digit inverse, last 2 digits inverse, last 3 digits inverse
Manual/automatic data transfer	-P6- TRANSFER DATA:	0 = manual (indiv.) data transfer 1 = automatic data transfer
Date/time when printer starts	-P7- TIME-DATE PRINT:	0 = no, 1 = yes
Print VARTEXT1 when printer starts	-P8- VARTEXT1 PRINT:	0 = no, 1 = yes
Print VARTEXT2 when printer starts	-P9- VARTEXT2 PRINT:	0 = no, 1 = yes
Time display	-C1-TIME DISPLAY FORMAT	12, 24 hours
Date/time display	-C2- DISPLAY RTC	0 = date, 1 = time

Statistics Menu

How to enter into Statistics Menu?

Press button for **5 sec** at stand by mode or Press button for **2 sec** when printer is switched on.
Then printer will enter into setting mode of Statistics Menu.

Then with the help of and , the value will increase and decrease respectively from “-S1-” to “-S11-”.

To set the **Print Read Count**:

After pressing the button the cursor will display previous setting of the machine

It gives the option for Print Read Count:

0: NO
1: YES

Press button to select any one of them and the selected value will show “.” sign.
EX: .0: NO

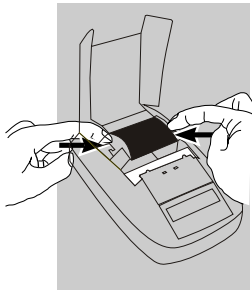
Maintenance

Changing the Paper Roll

To operate your data printer, the paper rolls must have the following specifications:

- 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




Remove the old roll core

§ Place a new paper roll on a flat surface

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

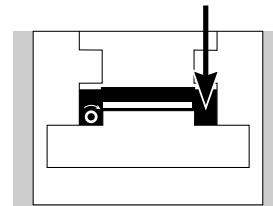
§ Using your other hand, thread the paper through the slot underneath the ink ribbon

§ To transport the paper through the ink ribbon cassette, press the  key several times.

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

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,

§ 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

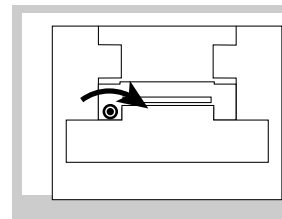
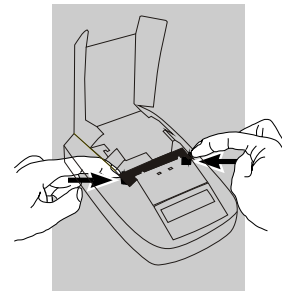
§ Insert a new ink ribbon cassette from the top

> The cassette will lock into place

§ 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



Specifications

Designation	Dimensions
Length	
Width	
Height	
Weight	
Operating temperature	
Storage temperature	