

Corporate Office:

301, Punit Indl. Premises, Turbhe Naka, Navi Mumbai - 400 705.

Tel.: +91 22-2761 1176 / 77 / 78 / 79 / 80, 2761 8431
3245 9901 / 02 / 06 / 18 / 31 Fax: +91 22-2761 8421

E-mail: sales@contechindia.in / info@@contechindia.in

Website: www.contechindia.com

Factory: Plot No. EL-221 TTC Indl. Area, MIDC (Electronic Zone), Mhape, Navi Mumbai-400 710.

Tel.: +91 22-2761 8366, 6516 2341 Fax: +91 22-2761 8374

ELECTRONIC WEIGHING SCALE

CTM / CTT / CTH / CPL / CPF / CCS SERIES







OPERATING MANUAL

CONTECH

1

CONTENTS

- 1. Introduction
- 2. Installation
- 3. Operation of the Scale
- 4. Print Option
- 5. Bi-directional RS-232 interface
- 6. Storage of Weights in Memory
- 7. Auto Power Off
- 8. Piece Counting Mode
- 9. Set Point Facility
- 10. Operating in Tare / Zero Mode
- 11. Set up Function

We thank you for choosing $Contech^{\otimes}$ CTM/CTT/CTH/CPL/CPF/CCS series weighing scale for your weighing needs. These scales use some of the latest and most advanced computing powers to give maximum flexibility and utility to the user.







Features:

- Multiple weighing units, Gram, kilo gram, Carat, Tola, Litre.
- Feather touch membrane keyboard.
- Optional Battery backup facility.
- Piece counting facility, up to 25 different types.
- Storage of weights in memory and printing, up to 100 weights.
- Power saving mode.
- Bi-directional RS232 interface to interface with computers and printers.
- Selectable baud rate.
- Set point facility up to 3 limits.
- Auto Power off.
- Peak Hold facility.
- Date and time facility.
- Multiple Print options with Sr. no., Date, Time and weight in Horizontal /
- Vertical Mode.
- Automatic zero tracking.
- User selectable Tare/Zero mode option with Net/gross facility for minimum use.

1. Unpacking:

Unpack the balance. Save the packing container for future use.

2. Electrical Requirements:

The balance requires very stable power. It works on 230V AC supply with **PROPER EARTHING**. The power outlet used for the balance should not be shared with any other devices which draws current in inconsistent manner like Air Conditioner or Refrigerator etc.

3. Environmental Requirements:

For best results, the balance should be placed on a level surface which is free from drafts. It should not be exposed to direct sunlight or radiated heat. Table used for balance should be sturdy and should not transmit vibration from other equipments and free from the movement of people. No vibration producing equipment should be operated on the same platform as balance.

4. Start Up:

Power is supplied to the scale through a 3 core AC mains cord attached to the scale. Insert the 3 pin plug of the power supply onto a proper mains outlet. Switch on the balance using the switch on the scale.

Scale goes through self test and subsequently starts displaying weight.



key to display zero weight.

NOW THE SCALE IS READY FOR WEIGHING.

NOTE: With battery backup option, there is a need to charge the battery regularly to prevent loss of backup time. The scale can be switched off using the switch provide on the scale. Do not switch off the main power to the scale even when the scale is not in use. Keeping the mains power on will charge the battery and will be ready to use when the input power fails.

1) FOR CHANGING WEIGHING UNITS.

key, the scale will show 5EE UP

for some time

and will display the current weighing unit, say grams



keys to change the mode and

Press



key to select or

key to discard the changes.

Note that all weighing functions except the basic weighing unit need to be enabled using SEL UP functions.

Refer section on SEL UP for more details.

2) FOR CHANGING DATE, TIME AND SERIAL NO.



key, the scale will show SEL UP for some time

and will display the current weighing unit, say grams -9--

Press



key once again, the scale will show,

FILL-! (If Fill option is on)

Press SETUP key once again, the scale will show

FILL-2 (If fill option is on and limit is set to SET-2 or above)

key once again, the scale will show Press SETUP

F(L) = -3 (If fill option is on and limit is set to SET-3)



key once again, the scale will show

where DD is the current date. Use rear and keys to change



date and press (PRINT) key to store the date.





Press key to skip date entry.

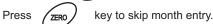
The scale will display

mn MM

where MM is the current month. Use rand and keys to change month



and press (PRINT) key to store the month.



The scale will display

Yr YY

where YY is the current year. Use where YY is the current year. Use where YY is the current year.





and press



PRINT key to store the year.

Press



key to skip year entry.

The scale will display

hh.mm.ss

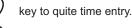
where hh.mm.ss is the current time.

(3)

Press



key to change the time or



key, the scale will show,

where xx is the hour. Use And and key to change hour.

key to save. Press (zero) key to skip hour entry.



Press key, the scale will display

mm





where xx is the minute. Use $\begin{picture}(60,0) \put(0,0){\line(1,0){100}} \put(0,0){\line(1,0){$



Press key to save. Press zero key to skip minute entry.



Press key, the scale will display

where xx is the second. Use (R_{RRNT}) and (R_{RN}) key to change second.



Press key to save.

Press (ZERO) key to skip second entry.

Press key, the scale will display

where xxxx is the serial no. Use (FRINT) and (GN) key to change serial number.

Press



key to save.

Press ZERO

key to skip serial number entry.

CTM/CTT/CTH/CPL/CPF/CCS series weighing scales can be attached to a serial printer for your printing needs. Print out can be programmed to suit most of the printing requirements.

Note that the printer should have a serial port and baud rate of the scale and printer should be same. 2 baud rates are available with the scale i.e. 2400 and 4800.

Printing option and patterns are controlled by **4 SETUP** parameters. They are

- a) Print: There are 4 options

 - SingLE Press

key to start printing weight

and other details programmed as per (b), (c) and (d) below.

- SEb - Printing is initiated when the weight kept on the pan becomes stable.
- iii) ALL - All the displayed weights are printed along with other details programmed as per (b), (c) and (d) below.
- iv) **5LorEd** To print weights stored in memory along with details programmed as per (b), (c) and (d) below.
- b) Pr.fmt.: Printer format. Five printout formats are available.
 - i) PrF-1 - Only weight.
 - ii) PrF-2 - Serial no and weight.
 - iii) PcF-3 - Serial no, Date and weight.
 - iv) P-F-4 - Serial no., Time and weight.
 - v) P-F-5 - Serial no., Date, Time and weight.

- c) P-TYPE: Print type (Horizontal or Vertical)
 - i) 무는 남우든 1 Horizontal

Details will be printed horizontally.

Sr.No.	Date	Time	Weight
001	12.05.2002	13:25:00	4.545 kg
002	12.05.2002	13:27:05	4.234 kg

ii) P.ESPE 2 - Vertical

Details will be printed vertically in a slip form.

Sr.No.: 001 Date: 12.05.2002

Time: 13:25:00 Weight: 4.545 kg

- d) **TITLE**: Title for printout.
 - i) TLE-YES To enable title printing.
 - ii) TLE-no To disable title printing.

Set the above parameters (a) to (d) to your requirements and effect printing. These parameters are available in SETUP functions. Refer SETUP functions in chapter.

BIEDIRECTIONAL RS232-INTERFACE

Bi-directional RS-232 interface is provided in these scales to communicate with devices like computer, printer etc. The interface is provided through a nine pin D-type connector provided in the side connector plate of the scale. Connections are as below.

Pin 2 – RXD – Receive Data

Pin 3 - TXD - Transmit Data

Pin 7 – Ground.

The Serial data transmitted and received are in standard ASCII mode (+/-5V)-ASYNCHRONOUS, 8 BITS, NO PARITY, 1 STOP BIT.

Baud rate: 2400 OR 4800 SELECTABLE.

The data format for weight output is

<+/->WWWWWW.WWb <kg/lt> <CR><LF> (15 characters)

where WWWWWW.WW is the weight

b-blank space - 20 hex

CR-Carriage Return - 0D hex

LF-Line feed - 0Ahex

for example, weight 85.12 will be sent as

+000085.12bkg<CR><LF>

where <CR> is carriage return (0D hex) & LF is line feed (0A hex), b=BLANK SPACE. The balance could be controlled by an external device like computer with the following commands.

Z - Tares the balance.

W# - Number of times, the weight data is to be transmitted through the serial port. #can be any number from 1-9.



STORAGE OEWEIGHTS IN WIEMORY

Upto 100 weights can be stored in memory and recalled if required. The scale also computes the total weight of all the weights in memory. To use this option, set ACCU function to ON in SETUP functions. See relevant section.

a) Clear weights in memory.

Press



Immediately Press



key, the scale will display

StorE

Press (



key, the scale will display

CLEAR

Press



key, the scale will display

and weights in memory and total weight will be cleared.

b) Storing weight in memory.

Immediately Press



key

Keep the weight on the pan.

Press



key, the scale will display

StorE

Pres



key. Displayed weight will be stored in memory and

Total weight updated. Or

Press



key to quit storage.



c) Recalling weights from memory.



Immediately Press (PRINT)



key, the scale will display

StorE



key, the scale will display

no

followed by the stored weight

WW.WW.



keys to see weights stored.

ii) Press



key to end weight view and display total weight.

iii) Press



key to print the stored weights.

Refer Print option section for details.

(9)

CTM / CTT / CTH / CPL / CPF / CCS series weighing scales have a built in auto power off facility, where in the displays will be switched off, if any keys are not operated for approx. 5 minutes. This will reduce power consumption and if the scale is being used with battery, it can enhance the discharge time of battery.

To come out of Auto Power Off mode, Press



key.

Ensure to enable this feature in the SFL ! P mode.

POWER SAVING MODE:

Power saving mode feature will further enhance the battery backup time by making switching off the display whenever the weight displayed is zero. The scale will come out of Power saving mode when the displayed weight is not zero.

Ensure to enable this feature in the SFL!P mode.

PEAK HOLD MODE:

Peak hold feature will enable the scale to hold the display to the maximum weight (Peak weight) displayed. When used in this mode, the scale will be continuously displaying the maximum or peak weight measured by the scale, even after the weight is removed from the pan.

For using this mode, this function should be enabled in the

mode.

SEL UP

For putting the scale into PEAK HOLD mode,

Press



and



keys simultaneously.

The scale will show.

-PER-

Press





keys simultaneously.

The scale will show,





keys simultaneously.

The scale will show.



Press Press



key to exit peak hold mode, the scale will display key to exit peak hold mode, the scale will display

Contech CTM / CTT / CTH / CPL / CPF / CCS series scales can be used for piece counting purposes. Piece calibration of 25 items can be stored in memory. Accuracy of piece counting depends on the uniformity in weight of the items and the sample size used for piece calibration. Better the weight uniformity and more the sample size, better will be the accuracy.

Use SETUP function to select proper piece counting mode before using. There is an option to select 1, 10, 25 or none piece counting modes. See relevant section in SETUP functions for more details.

Selection of piece counting memory (item).



key, the scale will display,

SEE UP for some time

Then it display the current unit say grams

-96-





key repeatedly till the scale displays



key to select PArt-1 mode. Or

The scale will display





key to select PR-E-2 and so on.

Piece Calibration

Select proper piece counting memory as mentioned above.

Make the Weight read zero by pressing the container/bags used should also be made zero.



key. Weight of any

Keep known number of pieces on the pan.



key., the scale will display





keys to change the number of pieces and make it

equal to the pieces kept on the pan.



key. The scale will display

Scale does piece calibration and displays the number of pieces on the pan, say

1 250

This facility enables the user to set up to 3 weights for comparison with the current weights to activate different events. This feature is controlled by 3 SETUP functions.

- 1. Fill - Make it FL-on
- 2. SEt Pt. - Make it SET-1, SET-2
- 3. F-TYPE - Make it F-TYPE1 or F-TYPE2 for event swapping depending on the requirement.

For setting weights, Press

key, the scale will show

SEE UP for some time

And will display the current weighing unit, say grams -9--



key once again, the scale will show,

Fill and followed by

XXXX.XX

Where XXXX.XX is the current set limit.





keys to change the limit.

To discard changes, Press



key to make the count zero.



key to save.

The scale will show

FILL-2 (If fill option is on and limit is set to SET-2 or above)

For some time and will display

XXXX.XX

Where XXXX.XX is the current set limit.



keys to change the limit.

To discard changes, Press



key.



key to save.

SETEPOINTEACHETY

Set Point 1:

User can set a weight any where in the range of the scale. Depending on the weight on the pan, the following events occur. Buzzer will work only in case of models where buzzer is provided. All outputs are TTL outputs provided additionally, if needed.

F-Type	Weight < Set Wt.	Weight = Set Wt.	Weight > Set wt.
Type 1	Buzzer ON	Buzzer OFF	Buzzer ON
	O/p High	O/p Low	O/p High
Type 2	Buzzer OFF	Buzzer ON	Buzzer OFF
	O/p low	O/p high	O/p Low.

Set Point 2:

User can set two weights any where in the range of the scale. Depending on the weight on the pan, the following events occur. Buzzer will work only in case of models where buzzer is provided. All outputs are TTL outputs provided additionally, if needed.

F-Type	Weight within	Weight = lower or	Weight is beyond
	Set Limit	Upper limit.	the limits.
Type 1	Buzzer ON	Buzzer OFF	Buzzer ON

O/p 1 high, if weight is more than first limit,

O/p 2 high, if weight is more than second limit.

O/p 1 low, if weight is less than or equal to first limit,

O/p 2 low, if weight is less than or equal to second limit.

SETPOINTEACHTY

F-Type	Weight within Weight = lower or		Weight is beyond	
	Set Limit	Upper limit.	the limits.	
Type 2	Buzzer OFF	Buzzer ON	Buzzer OFF	

O/p 1 low, if weight is more than first limit.

O/p 2 low, if weight is more than second limit.

O/p 1 high, if weight is less than or equal to first limit,

O/p 2 high, if weight is less than or equal to second limit.

OPERATING INTAREZERO MOD

TARE-ZERO mode, scale can be operated in its simplest mode.

In this mode,

Press

to make the weight zero.



key to make weight zero.



key to toggle between Gross and Net mode.

SETUP functions control the basic operation of the balance. There more than 20 parameters, which can be set by the user to suit the requirements. The following are these parameters.

•	·		•
MENU NAME	FUNCTION	OPTIONS	DESCRIPTION
1. FRCE	Factory setting		
00 . 6		To select factory set	parameters.
2. PArtS	Piece counting modes	PArt-1	
		To select single piec PArt.10	e counting memory.
		To select 10 piece c	ounting memory.
		PArt.25	
		To select 25 piece on no.PArt	ounting memory
		To disable piece cou	inting.
3. BRUd	Baud rate setting	bd2400	
	_	To select 2400 baud	rate
		bd4800	
D 1		To select 4800 baud	l rate
4. Print	Print modes set	Single	
		Send stable weight	• .
		when Prn key is pre	essed.
		Stb	a a a wi a l w a wt
		Send weight through	n seriai port iding becomes stable.
		All	iding becomes stable.
		Send weight continu	iously
		StorEd	lously.
		Send stored weights	s through serial port
5. AUE0-0	Auto zero setting	A-0	p
	, tate 20.0 00tm.ig	Autozero disabled.	
(Ability of the scale to remain at zero, when there is no weight on the pan.			ight on the pan.)
` •		A-1	. ,
		Autozero to half acc	uracy of scale.
		A-2	
		Autozero to full accu	ıracy of scale.
		A-3	
		Autozero to twice the	e accuracy of scale.





SETUPEUNCTIONS

6. **H**[[] - Weight storage mode. AC-nO

Weight storage disabled

AC.YES

Weight storage enabled

7. Fill mode option fL-Off

Fill mode disabled

fL.On

Fill mode enabled

Carat weighing disabled

Crt.On

Carat weighing enabled

9. Litre weighing Lt1-Off

Litre mode disabled

Lt1.On

Litre mode enabled

10. RPO - Auto Power Off. APO-Off

Auto Power off disabled

APO.On

Auto Power off enabled

11. PSm - Power saving mode. PSm-Off

Power saving mode disabled PSm.On

Power saving mode enabled

12. P-HoLd - Peak hold mode. PHf-Off

Peak hold mode disabled

PHf.On

Peak hold mode enabled

13. 3d-5Et - Third decimal mode. P3d-Off

Third decimal mode disabled

P3d.On

Third decimal mode enabled

SETUPEUNCTIONS

14. E.ELE	- Title printing.	TLE-Off TLE.On	Title printing disabled Title printing enabled
15. P-LYPE	Select printing mode.	P.tYPE1 P.tYPE2	Horizontal Printing mode Vertical Printing mode
16. Pr.FmE	Select print formats.	Prf-1 Prf-2 Prf-3 Prf-4 Prf-5	Only weight Sr.no. Weight Sr.no., Date, Weight Sr.no., Time, Weight Sr.no., Date, Time, Weight
17. rS 232	Select S type N type	S type N type	RS - 232 standard RS - 232 numeric
18. SEL-PL	Select set point mode	SEt-1 SEt-2 SEt-3	Single set point 2 set points. 3 set points
19. F-LYPE	Select set point type	FTYPE-1 FTYPE-2	+ve Logic outputs for fill application -ve Logic outputs for fill application
^{20.} ConF19	Select tare/zero or Full function mode	T-Z A-f	Simple Tare and Zero mode. Full Function mode.





SETUP FUNCTIONS

ENTERING SETUP MODE

Switch Off the scale. Switch on the machine keeping the the scale displays



key pressed. Do not release this key until

SEt UP

And subsequently displays -FACt-

For changing between the menu mentioned above Press



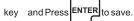
For selecting the menu, Press



key.

For changing the parameters, Press







to quit SETUP mode.

Default parameters.

- 0. u.u p.u. u o		
PArtS	PArt-1	To select single piece counting memory.
BAUd	bd4800	To select 4800 baud rate
Print	Single	Send stable weight through serial port
Auto-O	A-1	Autozero to half accuracy of scale.
ACCU	AC-nO	Weight storage disabled
FiLL	fL-Off	Fill mode disabled
CArAt	Crt-Off	Carat weighing disabled
LitrE-1	Lt1-Off	Litre mode disabled
APO	APO-Off	Auto Power off disabled
Psm	PSm-Off	Power saving mode disabled
P-HoLd	PHf-Off	Peak hold mode disabled
3d-SEt	P3d-Off	Third decimal mode disabled
titLE	TLE-Off	Title printing disabled
P-tYPE	P.tYPE1	Horizontal Printing mode
Pr.fmt	Prf-1	Only weight
SEt Pt	SEt-1	Single set point
f-tYPE	FTYPE-1	+ve Logic outputs for fill application
Config	T-Z	Simple Tare and Zero mode.
RS 232	S Type	select S type

