

Technical Specifications:

Range:	650Cd/m ² - 320 000 Cd/m ²
Density:	4.50D - 5.00D
* We strongly suggest DT-100 work with FV series LED viewers. With FV-2008, the maximum density of DT-100 would be > 5.00D.	
Optical Aperture:	3mm diameter
Probe Temperature compensated	
Display:	4 digit LCD
Accuracy:	0.03 D
Resolution:	0.01D
Repeatability:	0.02D
Detector:	Silicon photodiode
Power supply:	(AA/1.5V)x2-Alkaline Battery
Battery life:	1200 hours (Continuous duty, without illuminated)
Dimensions:	160mm x 65mm x 23mm
Weight:	760g

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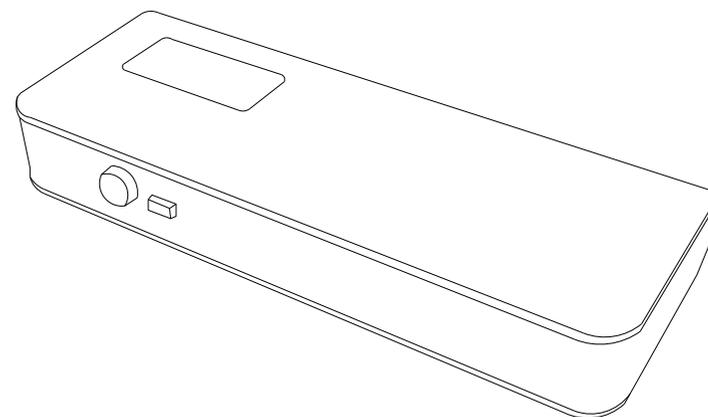
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Portable Digital Densitometer

User's Manual

LCNDT[®]

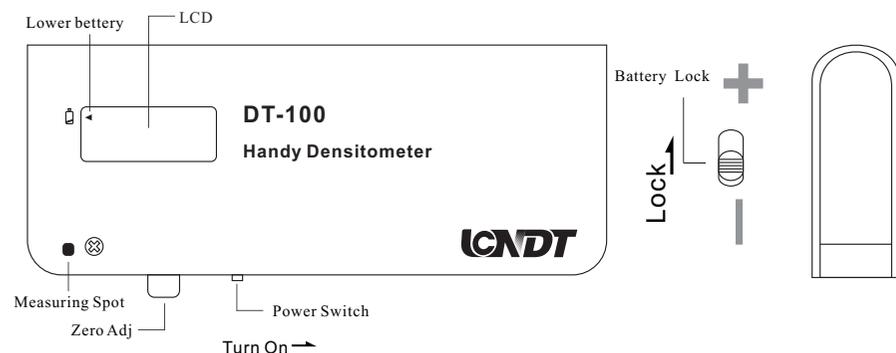


DT-100

Wen Zhou Lu Cheng NDT Equipment Corp.

Instruction:

The DT-100 is a robust, easy to use, portable densitometer for measuring the transmission density of x-ray film. The unit has been designed for using in one-site mobile darkrooms, laboratories and offices. The DT-100, with a extremely wide light range of between 650Cd/m and 320 000 Cd/m , has a density measuring range from 0D to 4.5D with an accuracy to within $\pm 0.03D$ over an aperture of 3mm in diameter. The operator simply places the film on the viewer (emulsion side up), places the probe on the film where the reading is required and the reading will appear on the 4 digit LCD screen with white light illuminated display. And a low battery warning indicator is provided on the digital display.



Measurement:

1. Turn on DT-100's power switch(1), then "---" appears which indicate waiting for Zeroing.
2. Place DT-100 on a film viewer. We strongly suggest work with LED film viewers, such as FV-2008, FV-2009, FV-2010 etc.
3. Keep the DT-100 on the viewer, pressed down the Zero adj(2), keep it down until 0.00 indication appears, then release the Zero adj(2).
4. Place the area of the specimen that you want to measure, then put Measuring Spot(3) of DT-100 on the area of the specimen.
5. Digital reading shows density of the specimen.
6. Short Press of Zero adj, the back light will turn on or off.

Program Mode

1. Enter into Program Mode:

Keep Zero button pressed down, then turn on power switch(1), until 8 arrows appears, then release the Zero button. It means you have entered into Program Mode.

2. F-x function

After entered into Program Mode, you will see F- x(x=0,1,2 or 3).

F0: original data, suit to our local market.

F1: suit to China market

F2: suit to U.S market (default)

F3: Null

Short press the Zero button, factor x will be turn between 0-1-2-3-0.

Note: the factor will save automatically

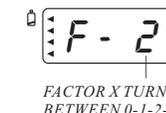
3. Advanced calibration function

In the F-x interface, long press Zero button, after display A .0B(A,B=0,1,2 ...or 9), release Zero button.

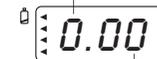
Short press the Zero button, factor B will turn between 0,1,2,3,...9,-9,-8,-7...-1,0.

Long press the Zero button, factor A will turn between 0,1,2,3,...9,0, and save the previous factor B.

In previous version, we can only set 1 factor(from -0.05 to +0.05), this factor will be valid from 0.00-5.00 H/D.



FACTOR A WILL TURN BETWEEN 0,1,2,...9,0



FACTOR B WILL TURN BETWEEN 0,1,2,...9,-9,-8,...-1,0

Now, we can set 20 factors(from -0.19 to +0.19), each factor be only valid for corresponding density range, see the table below:

Factor A	Valid Step range	Factor B
0	0 :0.1-0.5	-0.19 ~ +0.19
1	1 :0.5-1.0	-0.19 ~ +0.19
2	2 :1.0-1.5	-0.19 ~ +0.19
3	3 :1.5-2.0	-0.19 ~ +0.19
4	4 :2.0-2.5	-0.19 ~ +0.19
5	5 :2.5-3.0	-0.19 ~ +0.19
6	6 :3.0-3.5	-0.19 ~ +0.19
7	7 :3.5-4.0	-0.19 ~ +0.19
8	8 :4.0-4.5	-0.19 ~ +0.19
9	9 :4.5-5.0	-0.19 ~ +0.19

With the help of this function, we can just calibrate several certain density ranges, for example:

Density in strip	Density we measured	error
0.15	0.15	0.00
0.60	0.65	-0.05
1.60	1.55	+0.05

So we can set corresponding factor as below:

Factor NO.	Factor value
0	0.00(default)
1	-0.05
3	+0.05

After that, you will get the right measurement. For most of case, you don't need to calibrate, because we already have F0-F1-F2-F3 mode.