

Instruction Manual

DISKURE[™] 4SCAN-TC



Contents:

1. Description	2
2. Technical Data	3
3. Instruction for Use	4
3.1. Execution of a measuring cycle:	4
3.2. Installation of the evaluation software to a computer	6
3.3. Uploading data to a computer	7
4. Certificate of Calibration and Guarantee Card	10

Subject to change without prior notice

1. Description

DISKURE™ 4SCAN-TC

+ UV-A energy mW/cm² + UV-A dose mJ/cm²
+ UV-B energy mW/cm² + UV-B dose mJ/cm²
+ UV-C energy mW/cm² + UV-C dose mJ/cm²
+ Full UV energy mW/cm² + Full UV dose mJ/cm²
+ temperature °C

The DISKURE™ 4SCAN-TC Microprocessor Integrator is a self-contained, high quality UV measuring instrument. It is designed to measure, record and display peak UV intensity, UV dosage and temperature in the UV curing process.

It is equipped with three different UV sensors and one temperature sensor for the individual measuring of

UV-A 315 – 410 nm
UV-B 280 – 315 nm
UV-C 230 – 280 nm
Full UV - 230 – 410 nm
Temp 0 to 230° F / 0 to 110° Centigrade

With these three different UV -bands plus the total UV band and an extra temperature measuring, most of the measuring requirements of UV curing applications can be covered. Due to its three different UV sensors and the integrated microprocessor the DISKURE™ 4SCAN-TC can measure, record and display the peak of the UV -energy (mW/cm²) for each UV -band individually plus the peak of total UV energy.

Additionally, this UV -Integrator is calculating the UV -dosage (mJ/cm²) of the UV energy supplied during the time of exposure of one measuring cycle. The UV -dosage is calculated for each UV -band (UV-A, UV -B and UV -C) individually and as total Integral of UV -dosage over all three UV -bands.

This allows to determine not only the total energy, but also how that energy is delivered, i.e., what intensity and dose at what UV -band.

An extra sensor measures temperatures from 0 to 230° F / 0 to 110° Centigrade

The four sensors are on the back of the unit which also serves as a heat shield. After completion of the measuring cycle all measuring results can be scrolled through on the built in 2 x 16 digit LCD display.

A special AUTO-OFF feature that turns off the unit automatically after one minute serves as energy saving and extension of the battery service life.

As an option, this microprocessor integrator is available with an USB ComPort and an evaluation software for downloading the data to a computer to show, edit and store a history of the measuring results of the entire measuring cycle as graphic charts (mW/cm²) and (mJ cm²) and (°F)

Item 2.4. DISKURE™ 4SCAN-TC

Graphic Chart:

USB ComPort
for uploading
data to a computer



2. Technical Data

Spectral ranges:	UV-A	315 – 410 nm
	UV-B	280 – 315 nm
	UV-C	230 – 280 nm
	Full UV	230 – 410 nm
Temperature range:	32 to 230° F / 0 to 110° Centigrade	
Max. Power Input	0 to 5,000 mW/cm ²	
Measuring range:	0 to 2,000 mW/cm ²	
Display range:	0 to 60,000 mJ/cm ²	
Sampling rate:	0.005 sec (200/sec)	
Recording cycle:	30 sec.	
Display:	LCD, 2 x 16 digits	
Power source:	2 x long life 3.6 V Lithium Battery	
Power consumption:	20 µA	
Battery service life:	2,000 hrs	
Dimensions:	Ø 5.5" (140 mm), height ½" (13 mm)	
Weight:	approx. 9 ounce (500 g)	
Operating temperature:	32° to 113° F / 0 to 45° Centigrade	
Heat protection:	Heat shield on back plate	
Base Accuracy:	± 5 %	

While on the conveyer belt, the DISKURE™ 4SCAN-TC Microprocessor Integrator can withstand max. 230° F / 110° Centigrade for up to 10 seconds. The temperature of the housing should not exceed 113° F / 45° Centigrade.

Because of uneven radiation distribution of the UV light source and different type of construction of the measuring devices by different manufacturers, different readings may appear under the same measurement conditions.

Calibration:

In order to keep its full function and precision it is recommended to have re-calibration done once per year. Re-calibration will also be necessary after change of battery. PTB traceable calibration with certificate

Attention:

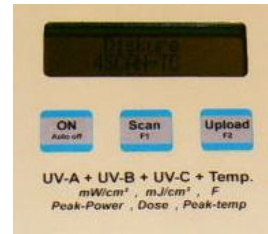
1. Please avoid shaking the DISKURE™ 4SCAN-TC Microprocessor Integrator.
2. Do not expose to excessive heat.
3. UV-light is hazardous to your health. Avoid direct UV -light to your eyes and to your body.

Warranty: 2 years from the date of purchase

3. Instruction for Use

3.1. Execution of a measuring cycle:

Turn on the DISKURE™ 4SCAN-TC by pressing the “ON” pushbutton left.



Press the “SCAN” button in the middle. The display shows a five seconds sequence in order to prepare the measuring.

When ready, the display will show “SCAN START in 10 sec.” The unit is now ready now for a measuring cycle.

This time allows the operator to approach the location and prepare for taking the measuring.



When this 10 second period has elapsed, the DISKURE™ 4SCAN-TC Microprocessor Integrator is starting its measuring sequence during a pre-set period of 30 seconds.

Place the instrument facing down to the conveyer belt. The sensors are on the back of the instrument. The back plate serves as a heat shield.



Within the 30 second pre-set measuring period the display shows “Scan 30 Sec”



After passage of the measuring cycle pick up the instrument and evaluate the results.

When the 30 second pre-set measuring period has elapsed, the measuring results will be displayed automatically showing the results in mW, mJ and temperature.

The measuring results will be displayed automatically by scrolling through the UV-bands UV-A, UV-B, UV-C and total UV, showing the results in mW and mJ.



The last scroll shows the temperature.



The measuring results of the last measuring sequence are stored internally and can be viewed anytime by pressing the button “Upload”.

To start a new measuring sequence proceed as described above, by pressing the “ON” button. Pressing the “SCAN” button will delete former measuring results by overwriting with the new measuring results.

In order to save battery energy the instrument features an automatic AUTO OFF function. If there is no action taken the instrument turns off automatically after the pre-set time has elapsed.



Subject to change without prior notice

3.2. Installation of the evaluation software to a computer

A special feature ComPort enables the DISKURE™ 4SCAN-TC to be connected to a Computer and to upload the measuring results for further editing by means of a special analyzing program software „ScanChart“(on CD attached).

Installation of the software „ScanChart“

1. Insert CD „Software ScanChart“.

If the Set-up should not start automatically, start manually by going to Explorer, CD-drive , Software, Set-Up.

2. Software installation by following the menu on-screen.

3. Choose a location to install the program on your computer, normally Drive C, Programs

Attention :

During installation you may be informed that a file being copied is not newer than the file currently on your computer, and that it is recommended that you keep the existing file.

Please confirm with „Yes“.

4. Installation of driver for USB.,

Connect USB-box of the UV/Microlog via UCB cable to a free USB Port of your computer. Occasionally you may be informed to install „USB-drive“(on CD attached).

If the upload function should not work on your computer, it will be necessary to install the respective driver from the CD „Software ScanChart“..

In the System control, system, hardware, hardware manager, +Connections (Com/LPT), click with the right mouse button on „hardware manager, +Connections (Com/LPT) “and choose „, actualise driver“.

You will be asked for automatic or manual search for the driver. Choose manual, select the CD and install the driver from the CD „Software ScanChart“.

When the driver of the USB-box has been installed successfully the respective number of the Comport appears in the line „Printer + ComPort „.

Upon opening the program „ScanChart“ you will be asked to enter the ComPort number.

Remark:

Upon the installation of the software „ScanChart“ on your computer automatically a new location file will be set up for the saving of all measuring results. This location is normally on drive C, Programs, ScanChart.

All data sets uploaded from the DISKURE™ 4SCAN-TC will automatically given a name consisting of the year, month, date, hour, minute and second, the upload was done, and saved on your computer. E.g.: „2005-08-26_18h17m13s.mdb“

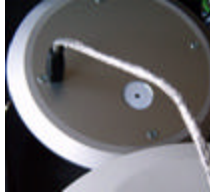
These files can be opened any time with your program „ScanChart“ or the program „Windows -Access“ (numerical data only) for further display or editing.

Attention :

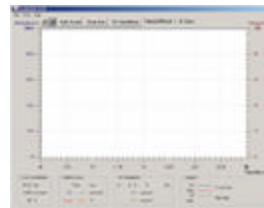
The data set of the last measuring cycle keeps stored in the memory of the DISKURE™ 4SCAN-TC until it is overwritten by a new measuring.

3.3. Uploading data to a computer

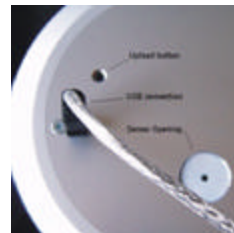
Connect the USB-box with the USB-cable of the DISKURE™ 4SCAN-TC to the corresponding ComPort of your computer.



Start the program „ScanChart“ on your computer. You will be asked to enter the correct ComPort.



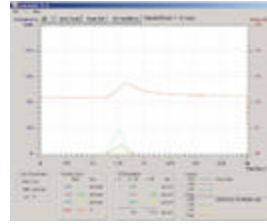
With the USB cable connected put the DISKURE™ 4SCAN-TC face down and press the small button next to cable connection. (Make sure that the DISKURE™ 4SCAN-TC is on.)



The program recognizes the data transfer and the following will be displayed:



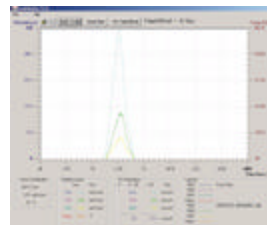
When the data transfer has been completed the measuring results will be displayed automatically on your computer.



The evaluation of a measuring cycle will be automatically displayed as a graphic chart. Additionally, all single measuring data of one measuring cycle can be displayed and stored as numerical charts in the program „Windows-Access“.

The automatic graphic display of the measuring data can now be further edited to optimize the evaluation of the desired information.

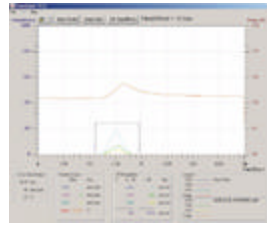
By pressing the function „Autoscale“ on the upper edge of the graph the measuring curve will automatically be adjusted in size to fill out the whole display area.



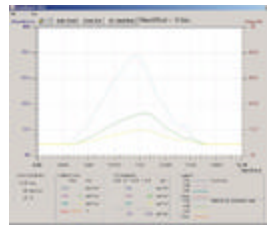
By clicking a certain point in the graphic measuring curve the corresponding numerical value will be displayed in the lower edge in mW/cm^2 .



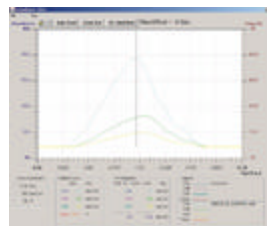
Manual calculation of an integral (UV-Dose) from existing UV measuring results:
Press and hold the left mouse button and draw a frame over the desired area of your graphical measuring curve.



The hereby selected area will be thus displayed enlarged and the corresponding numerical value will be shown in the lower edge as: „UV-Integration“ in mJ/cm^2 . It will also be displayed a time information about the selected area.



Upon mouse click to the tip of the displayed integral the numerical value of the UV-energy in mW/cm^2 will be additionally displayed in the area „Hairline Cursor“ below left.



Additionally it is possible to import measuring data from another file into the file open to compare measuring results directly, numerically as well as graphically.



Subject to change without prior notice

4. Certificate of Calibration and Guarantee Card

