

UD-700-X PC software

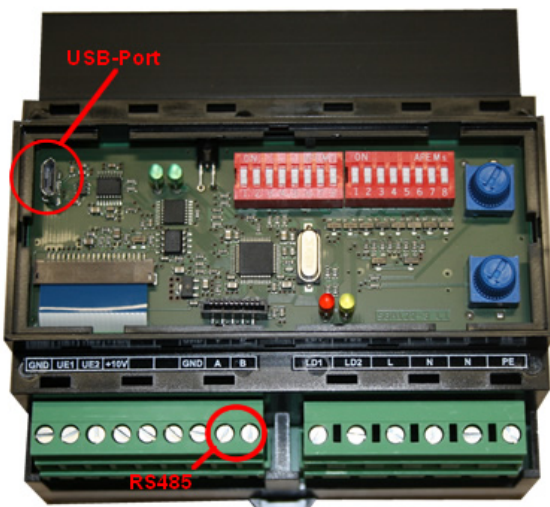
This software tool is for all **UD-700-X2** and **UD-700-X2-DALI** users who operate the dimmer in DMX, DALI or standalone mode and want to change functions or perform checks.

The **UD-700-X PC-Software** can be found under Downloads.

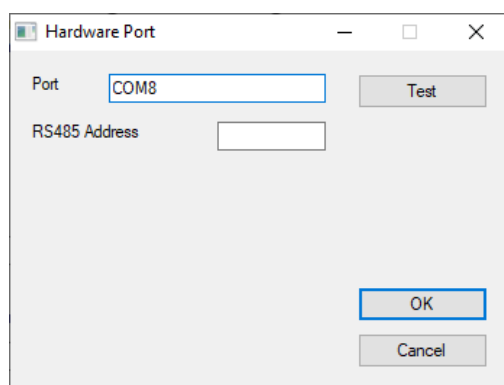
Preparation – Interfaces

The UD-700-X2 is parameterized and operated in ISYGLT mode as usual via the BUS interface. For DMX and standalone operation, a separate software is available. Communication from the PC to the dimmer is possible in 2 ways:

1. A USB Micro B connector is located under the cover. Connection via USB cable (USB type A to Micro B m/m)
or
2. via the terminals A and B of the dimmer, via RS-485 e.g. with a USB-to-serial RS-485 adapter.



The left 3 DIP switches for the mode must be set to OFF, OFF, ON.



If you are using the USB interface for the first time, the driver must be installed.

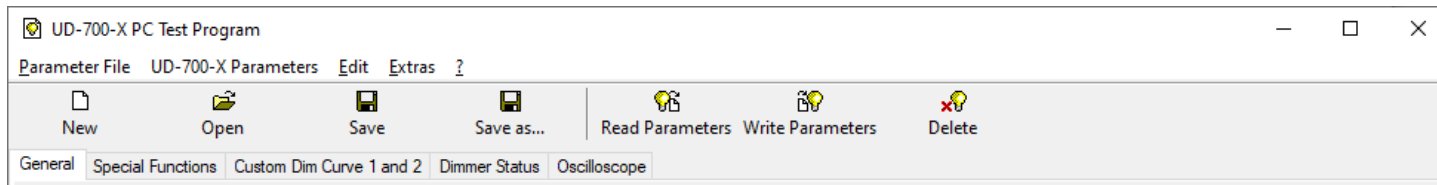
The connection from the dimmer to the PC must be established and the dimmer must be energized.

Start the **software**, select the function "Hardware Port" under "Extras" and click on "Test".

If a valid connection is detected, it is displayed in the "Port" field. Otherwise the message "Unable to detect Communication Port" appears.

If the port is not detected, the line connection, DIP switch setting and dimmer must be checked again.

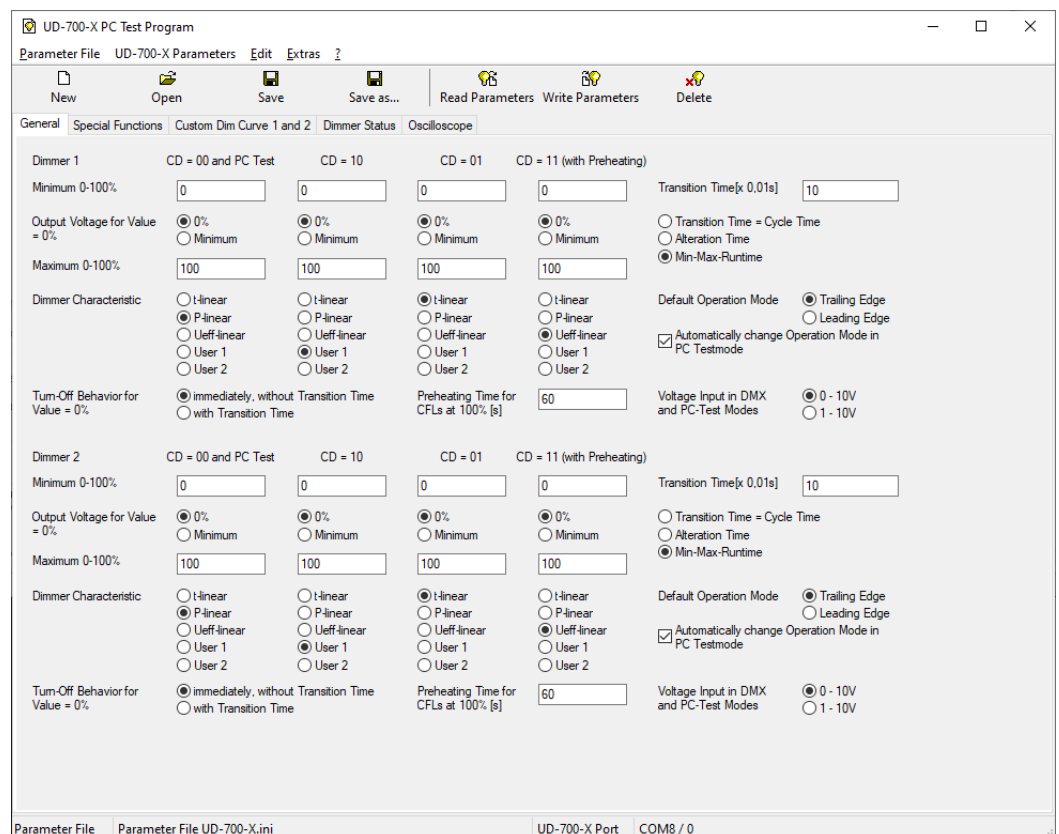
The basic functions of the program in the header line:



Function	Description
New	Create new configuration (preset with default values)
Open	Call up an existing, saved configuration
Save	Saving the current configuration
Save as	Saving the current configuration under a different name
Read Parameters	Reading parameter data from the dimmer
Write Parameters	Transfer the current parameters from the registers to the dimmer

Parameter basic setting

Here you will find basic settings for standalone and DMX operation. Please note the DIP settings:



Operating mode setting for DMX-512 and standalone operation with DIP switches "A" to "D"

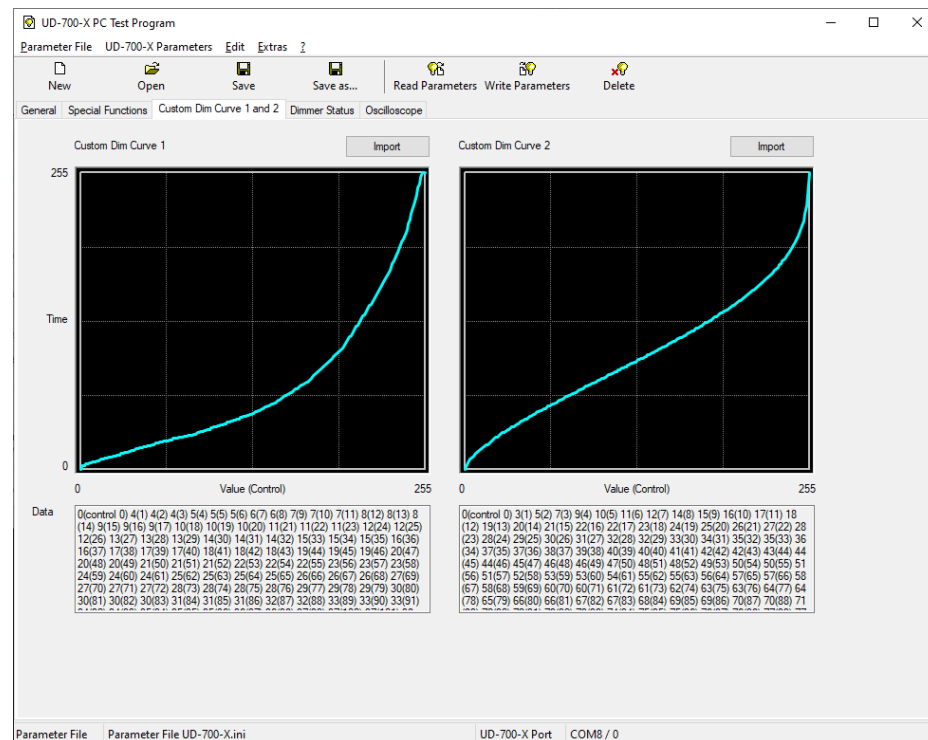
DIP-A	DIP-B	Operating mode
OFF	OFF	Automatic operating mode changeover, the start value is predefined with the PC program on the "General" tab.
ON	OFF	PAB Trailing Edge
OFF	ON	PAN Leading Edge
ON	ON	NonDim

DIP-C	DIP-D	Setting dimming characteristics such as min-max values, curves, etc. (PC program)
OFF	OFF	Parameters of the 1st column ("General" in the PC program UD-700-X2)
ON	OFF	Parameters of the 2nd column ("General" in the PC program UD-700-X2)
OFF	ON	Parameters of the 3rd column ("General" in the PC program UD-700-X2)
ON	ON	Parameters of the 4th column (with preheating setting for CFL) ("General" in PC program UD-700-X2)

Parameters Special Functions

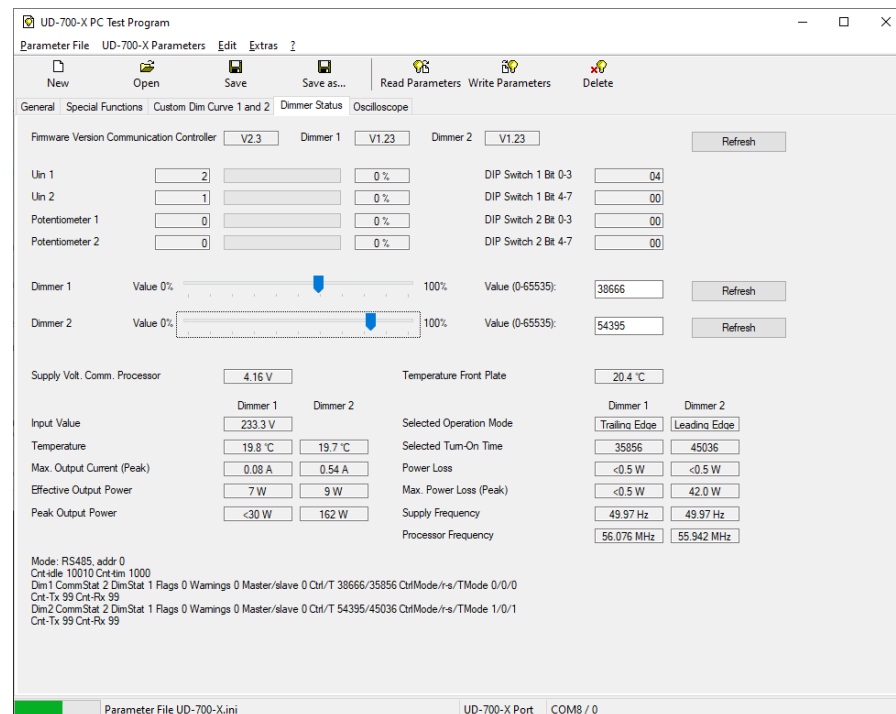
On this page you can set the emergency mode in case of a BUS failure, the functions of the internal potentiometers and the 0(1)-10V inputs and define the 1-button dimming function.

Custom Dim Curves



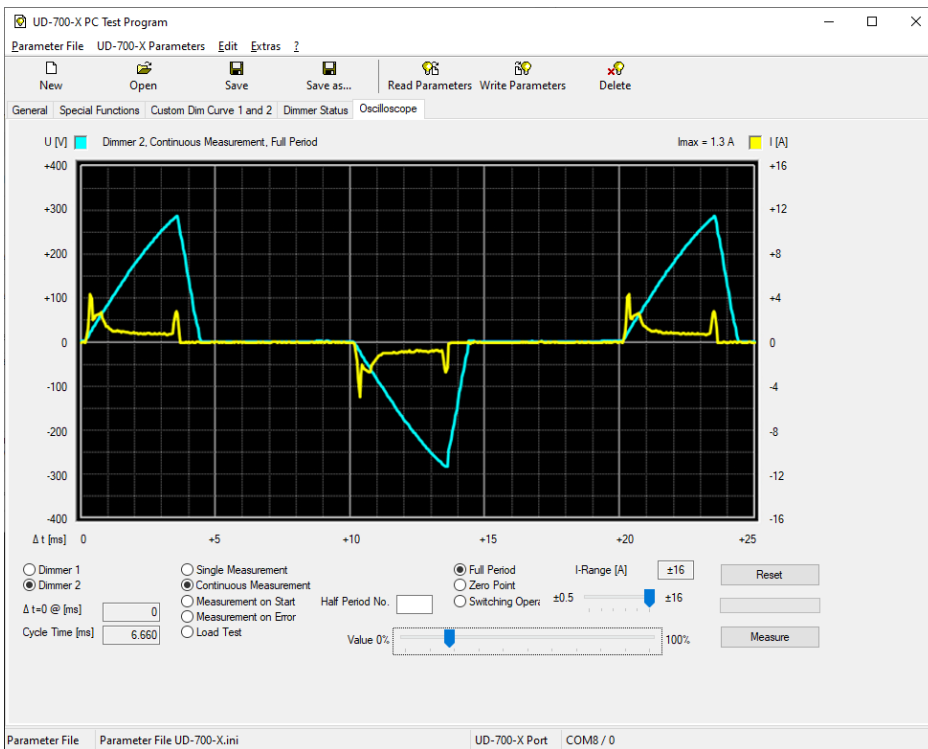
Here 2 individual user curves can be imported via a text file with 256 support points each.

Dimmer Status



On the status page you can see information about firmware, analog inputs, potentiometers, DIP switches, voltages, currents and powers. In addition, the two dimming channels can be operated with the sliding potentiometers.

Oscilloscope



With the oscilloscope function, the channel selected on the left (dimmer 1 or 2) can easily be checked with different measuring methods. This allows the load to be checked for excessive current peaks, especially when retrofit lamps are in operation.

Determination of the number of lamps

Traditional illuminants

Determining the maximum number of light sources that can be connected is relatively easy with traditional light sources – see table.

Light sources	Power/ electricity	Loss transformer	UD-700-X2 per channel (700W)	UD-700-X2 parallel (1400W)
Number of illuminants				
Halogen lamps 230V				
Halogen lamp 20W	20W		35	70
Halogen lamp 30W	30W		23	46
Halogen lamp 46W	46W		15	30
Halogen lamp 57W	57W		12	24
Halogen lamp 77W	77W		9	18
Halogen lamp 116W	116W		6	12
Halogen R7s				
Halogen R7s 48W	48W		14	29
Halogen R7s 80W	80W		8	17

Halogen R7s 120W	120W		5	11
Halogen R7s 160W	160W		4	8
Halogen R7s 230W	230W		3	6
Halogen R7s 400W	400W		1	3
Bulbs 230V				
Bulb 15W	15W		46	93
Bulb 25W	25W		28	56
Bulb 40W	40W		17	35
Bulb 60W	60W		11	23
Bulb 100W	100W		7	14
LV halogen lamps 12V				
LV halogen lamp 10W	10W	approx. 10% of	63	126
LV halogen lamp 14W	14W	approx. 10% of	45	90
LV halogen lamp 20W	20W	approx. 10% of	31	63
LV halogen lamp 25W	25W	approx. 10% of	25	50
LV halogen lamp 33W	33W	approx. 10% of	19	38
LV halogen lamp 35W	35W	approx. 10% of	18	36
LV halogen lamp 48W	48W	approx. 10% of	13	26
LV halogen lamp 50W	50W	approx. 10% of	12	25
Fluorescent lamps with VIP90/2				
S/E 5W	0,18A		16	33
S/E 7W	0,175A		17	34
S/E 9W	0,17A		17	35
S/E 11W	0,16A		18	37
D/E 10W	0,19A		15	31
D/E 13W	0,165A		18	36
D/E 18W	0,22A		13	27
D/E 26W	0,315A		9	19
L 18W	0,37A		8	16
L 24W	0,34A		8	17
L 36W	0,43A		6	13
L 58W	0,67A		4	8
F 18W	0,375A		8	16
F 24W	0,345A		8	17
F 36W	0,44A		6	13

Retrofits – LED-energy saving lamps

The whole thing then becomes more complex with retrofit lamps (LED and ESL). The manufacturer's data sheet should be observed first. Is the light source dimmable? In which area can dimming be carried out? Which type of dimming (phase cut or phase cut) is recommended?

However, more precise information is often missing - the UD-700-X2 can be used to check this right away. This can be done directly in the plant, or in the planning stage in advance with individual light sources. When testing individual light sources, we recommend testing

with several (3-5 pieces), as these light sources also have certain tolerances. For simplicity's sake, here is an example with just one single OSRAM PARATHOM® PAR16 50 36° ADVANCED, which was measured at the test station with the UD-700-X2 and then the result checked on site at the customer's premises.

Execution of the test:

- Connect OSRAM LED to output 1
- Connect dimmer with USB cable to PC
- Connect dimmer to 230V voltage
- Start the "UD-700-X PC Test Program" software
- under "Extras" test and confirm the hardware connection
- Default setting: phase segment
- Now on the page "Dimmer Status" move the slider for channel 1 from minimum to maximum and observe the maximum current.

Here it can be seen that the highest operating current is 0.21A at approx. 90% dimming setting.

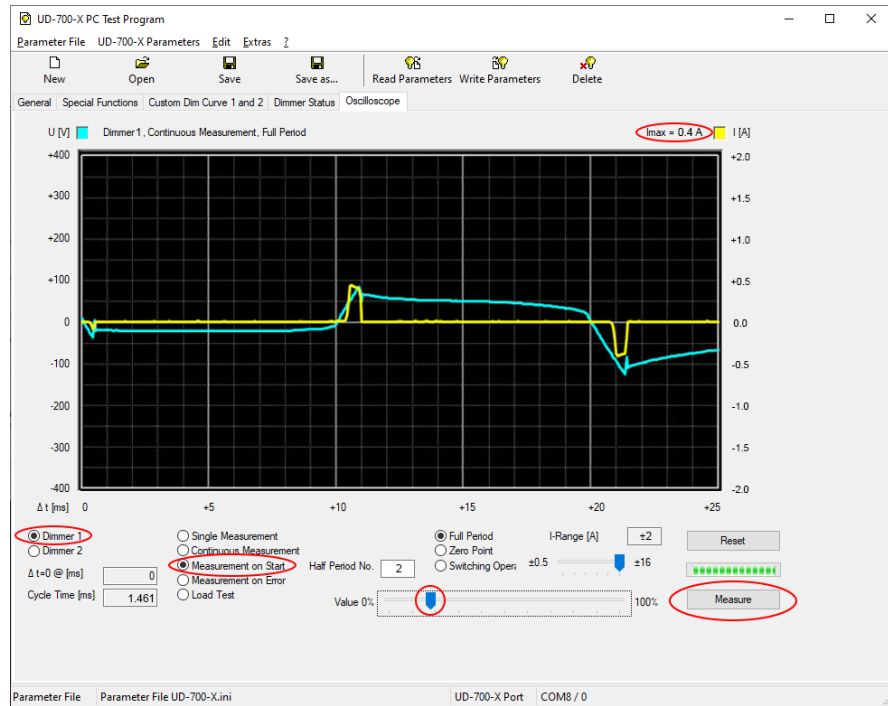
The screenshot displays the 'UD-700-X PC Test Program' software interface. The 'Dimmer Status' tab is active, showing two dimmer channels. Dimmer 1 is set to 100% dimming, and its output current is highlighted as 0.21 A. The interface also shows various other parameters such as supply voltage, temperature, and power loss.

Parameter	Dimmer 1	Dimmer 2
Input Value	231.8 V	
Temperature	30.0 °C	29.5 °C
Max. Output Current (Peak)	0.21 A	0.00 A
Effective Output Power	8 W	0 W
Peak Output Power	53 W	0 W

Additional parameters shown in the interface include:

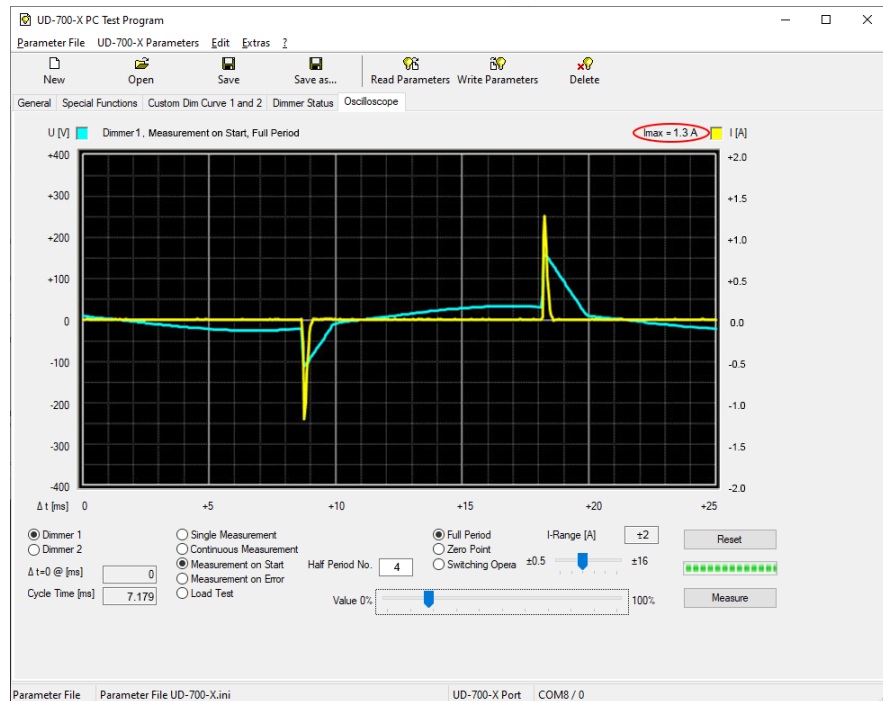
- Supply Volt. Comm. Processor: 4.16 V
- Temperature Front Plate: 28.4 °C
- Selected Operation Mode: Trailing Edge
- Selected Turn-On Time: 48675
- Power Loss: <0.5 W
- Max. Power Loss (Peak): 6.7 W
- Supply Frequency: 50.00 Hz
- Processor Frequency: 55.884 MHz

Now the inrush peak current is checked. Here select "Measurement on Start" and e.g. "Half Period No. 2" (if necessary also carry out tests with other settings). Setting "Dimmer 1", slider to the left, click "Measure" button, now pull up slider slightly. Here you can see that the peak current is 0.4 A.



Countercheck in leading-edge phase control mode: On the "General" page, select "Leading Edge" on the right under "Default Operation Mode" and click on "Write Parameters" at the top.

Here is the test in the Osci function. Procedure as described above. Attention, the peak current here is **1.3A per LED illuminant!**



Specification:
Operating mode remains **phase segment!**

The dimmer is designed for a continuous operating current of 3A per channel. The peak currents may be 8A. This results in a calculated $8A / 0.4A = 20$ LED lamps.

That would be the worst case.

The detected continuous peak current is 0.21A. Depending on the installation, the line resistance is also favourable, depending on the distance to the dimmer and the illuminants from each other. That's why we use the mean value - 0.3A - as a basis - which corresponds to 26 LED light sources.

Our customer has a BAR counter with 28x50W halogen lamps = 1400W
Now it has been converted to the OSRAM PARATHOM™ PAR 16 50 35° (7W).

We have measured with the UD-700-X2 in the plant:

Peak current during measurement of the 4. Half period = 8.2A (28 pieces)
Continuous operating peak current = 4.2A

Test with **leading-edge phase control**: Overcurrent >> automatic switch-over to phase segment

Conclusion:

The existing UD-500-M2 with UD-1000-S could be replaced by a channel of the UD-700-X2. At our discretion, sufficient reserves are available. The system can therefore be operated without hesitation.