UV - monitor DUV 3.51 and DUV 3.51Z

This UV-monitor is the best solution if you need only the displaying of the UV-radiation power in a kind of a “traffic light”. The device delivers, in cooperation with a UV-sensor, percentage information of the UV-radiation power. They distinguish themselves mostly through their simple service and the possibilities of modifications and adaptations. So there are versions with other operating voltages or without case deliverable. The front side can be varied on the wish of the customer. In usual are the UV-Monitors built in control boxes. On special wish we deliver the complete control box with complete mounting of all desired components.

DUV 3.51 horizontal/vertical and DUV3.51Z

back of DUV 3.51 and 3.51Z (with red reset key)

Technical data

	DUV 3.51	DUV 3.51Z
operating voltage	230 V AC (±10%) 110 V AC, 24V DC possible on request	
input	signal from SiC-UV-sensors (diode) without internal amplifier (option Y1/2)	
working range	adapted on UV-low-pressure lamps, according to customer specification	
fine setting	at rear with potentiometer and LED monitors 110% at continuance light, below 110% long flashing (1 sec.), above 110%, short flashing (0.5 sec.)	
display	3 LED, standard threshold values: green LED > 75%, flashing-out of range yellow LED 75%...50% red LED < 50%, flashing-no signal *(threshold values adjustable on request)*	same as DUV 3.51 additional shows the flashing red LED the end of the lamp life (8000h, changeable on request)
output	standard: one relay output changeover contact 230 V/6A (L- and C- free) switching level 50% coupled on red LED (main alarm) *option:* second output, e.g. pre alarm at 75 % couplet on yellow LED	standard: two relay outputs changeover contact 230V/6A, (L- and C- free) relay 1: main alarm, switching level 50% coupled on red LED relay 2: service alarm, switches after course of 8000h and indicate the replacement of the lamps
dimensions	(W x H x D) 96 x 48 x 80 mm, built in depth minimum 85 mm	
contacts	screw-type terminal, separable from case	

optional: IP 65 protection cover for front side available on request

References for commissioning

The monitor is designed for the installation into switch boards. The supply voltage of 230 V AC is supplied by a power connector at the back of the device. This power connector also contains the input terminal for the sensor connection as well as the switching outputs.
The front panel contains three status LED, which depict the UV irradiation intensity that is recorded by the sensor. The analysis takes place in the gradations of > 75 %; 50 ...75 % and < 50 %. The LED < 50 % is coupled to a potential- free relay switching output (changeover switch Rel. 1) in order to activate an alarm signal in case of an falling below of the minimum irradiation power.
Optionally, the device can be equipped with a second switching output (changeover switch Rel. 2), which is assigned to the range of 50 …75 % of the irradiation intensity. A time delay of the switching outputs of approximately 1 s disables short fluctuations of the irradiation.
At the same time the LED signalise faults and exceeding of the measurement range:
LED <50% (red) flashes: sensor connection interrupted, UV irradiation source defect or UV irradiation or very low UV irradiation intensity
LED > 75 % flashes: UV irradiation intensity out of the adjusted measurement range (> ca. 140%)
The adaptation to the characteristic measurement range is fulfilled by the use of an adjusting device with an LED signal of “110 %”, which is accessible from the back. This adjustment is to be done after UV sources have been installed and a cleaning of the facility has been performed.

Assembly and Initiation

The monitor is conceived as a switch board device and to be installed into an opening with the dimensions of W x H: $92^{+0,8}$ x $45^{+0,6}$ mm. The mounting depth incl. free space for cable connections has a total size of approximately 85 mm. The fixation is executed via the provided spring clips.
The connection of the supply voltage, the switching outputs and the sensor takes place via the accordingly marked screw connector. The polarity of the sensor connection has to be kept in mind.
After applying the supply voltage, all LED and the switching outputs are activated for some seconds so that the proper function of the device can be ascertained. Before beginning the monitoring the device has to be adapted to the particular monitoring circumstances. To guarantee this an adjustment of the sensitivity of the device takes place with the aid of the adjustment control unit "Adj". (clockwise rotation increases the sensitivity) and the 110% LED. In order to relieve the adjustment, the LED begins to flash every seconds when approaching the 110% mark. Arriving at the 110% mark is signalled by a continuous light. Exceeding the 110% mark leads to a flashing with twice as fast frequency. A rough adjustment of the working range activates the formerly described fault evaluation of the front panel LED.

Options and special accessories

- splash water protection cap for front panel
  (so IP65 in the front area)
- second relay switching output 50... 75%
- hour meter (DUV 3.51Z)
- special design at customer’s option
  (e.g. low voltage supply)
- UV sensors of different designs with SiC-diode
- Option operating hour meter (DUV 3.51Z)

The signal monitor DUV 3.51Z shows additional with the flashing red LED the end of the lamp life (8000h). At the same time the second relay output is switched and indicate so the precautionary replacement of the lamps. In the case of power failure or disconnection of the monitor the time sustains in a memory.

Reset of the operating hour meter after lamp replacement

- Disconnect the monitor for the net supply
- Press the red button at the back side and connect at the same time to the net (all LED light up)
- Release the button, monitor goes back to the normal operation status

Call of the counter reading

- Press short the red button on the back side (all monitor functions, except the relay 1, will be switched off)
- 110 % LED on the back side flashes once for every 1000 h (e. g. 6 times flash means a time between 6000 and 7000 h)
- Monitor goes back to the normal operation status automatically

Accessories included in delivery

- - screw type terminals for cable connection
- - spring clips for the mounting