

Measurement Technique Recommended Measurement Combinations of Sensors and Monitors

Please note: We offer the adjustment of the sensors according to your requirements.

	PRO2	PRO3	PRO5	PRO8	PRO10.4	PRO10.4-U2	PRO10.4-SLS	PRO11	PRO15	PRO15-SLS	PRO16P	PRO16I	PRO16U3	PRO16PI	PRO16PU3	PRO20	UV-Compact	IF01	IF02	IF03
SiC-SV01	x	x	x	x	x			x	x		x				x	x	x	x	x	x
SiC001	x	x	x	x	x			x	x		x				x	x	x	x	x	x
SiC001-PG	x	x	x	x	x			x	x		x				x	x	x	x	x	x
SiCT001-PG	x	x	x	x				x			x				x	x	x	x		x
SiC003	x	x	x	x	x			x	x		x				x	x	x	x	x	x
SiC003-PG	x	x	x	x	x			x	x		x				x	x	x	x	x	x
SLS-SiC003								x			x									
SLS-SiC003-PG								x			x									
SLS-SiC004								x			x									
SLS-SiC004-PG								x			x									
SiC007-P	x	x	x	x	x			x	x		x				x	x	x	x	x	x
SiC007-P-PG	x	x	x	x	x			x	x		x				x	x	x	x	x	x
SiC007-I					x			x					x		x		x			
SiC007-I-PG					x			x					x		x		x			
SiC007-U2							x													x
SiC007-U2-PG							x													x
SiC007-U3															x		x	x		
SiC007-U3-PG															x		x	x		
SiC007-U10																				x
SiC007-U10-PG																				x
SiC021-I					x			x					x		x		x			
SiC021-I-PG					x			x					x		x		x			
SiC021-U2							x													x
SiC021-U2-PG							x													x
SiC021-U3															x		x	x		
SiC021-U3-PG															x		x	x		
SiC021-U10																				x
SiC021-U10-PG																				x
SiCDVGW001-LP							x													x
SiCDVGW001-MP							x													x
SiCDVGW002-LP							x		x											x
SiCDVGW002-MP							x		x											x
SiCONORM001-LP							x													x
SiCONORM001-MP							x													x
SiCONORM002-LP							x		x											x
SiCONORM002-MP							x		x											x

Sensors and Monitors for the Digital Operation System

Digital Sensors	Accessories	UV-Monitors
P-SiC003	Interface IF03	PRO11
P-SiC003-PG	for connection of the following analog sensors:	PRO20
P-SLS-SiC003		PLC
P-SLS-SiC004	SiC-SV01	
P-SiC007	SiC001/SiC001-PG	
P-SiC021	SiCT001-PG	
P-SiCDVGW	SiC003/SiC003-PG	
P-SiCONORM	SiC007-D	

to be used for measurement in UV-units



- daylight blind (see diagram below)
- standard without uvc-filter
- limitation of spectral sensitivity with uvc-filter on request
- PG versions without plug connection between sensor and cable



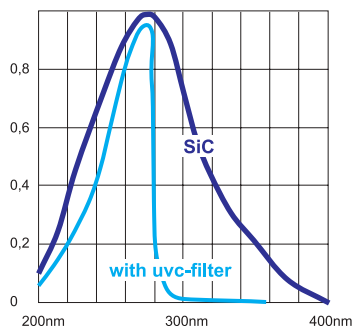
Available Sensor Types

type	thread/length for mounting	wrench size [mm]	diameter [mm]	length [mm]	weight [g]	suitable monitor types
SiC-SV01	-	-	17,5	38,5	140 (including 1m cable)	PRO2, PRO3, PRO5, PRO8, PRO10.4, PRO11, PRO15, PRO16, IF01, IF02, IF03
SiC001	G 1/4" / 14mm	19	21,7	49 (with plug: 84)	55 (+115g cable and plug)	
SiC001-PG	G 1/4" / 14mm	19	21,7	61	125 (including 1m cable)	
SiCT001-PG	G 1/4" / 14mm	17	20	57	85 (including 1m cable)	
SiC003	G 3/4" / 11mm	32	37	52 (with plug: 87)	195 (+115g cable and plug)	
SiC003-PG	G 3/4" / 11mm	32	37	63	270 (including 1m cable)	
SiC001 for UV-Compact	G 1/4" / 14mm	19	21,7	49 (with plug: 84)	55 (no additional cable)	UV Compact

Add "-F" for sensor with uvc filter.
SiC003/SiC003-PG are also available as digital sensors for digital operation system, please order P-SiC003/P-SiC003-PG.

Technical Specification

diode type:	silicon carbide (SiC) 0,25*0,25mm ²	body:	stainless steel 1.4305 (SiCT001-PG: Teflon)
spectral range:	210...400nm (with uvc-filter: 210...280nm)	flare angle:	26°
max. pressure:	SiC001(-PG)/SiCT001-PG/SiC003(-PG):10bar SiC-SV01: diode is sealed with quartz window-protection against humidity only		
connection:	SiC001/SiC003: connector M12, mounting cable with plug included, length 2.90m SiC001 for UV-Compact: connector M12, no additional cable delivered SiC001/SiC001 for UV-Compact/SiC003: IP65 if inserted and screwed with straight M12 connector SiC-SV01, SiC001-PG/SiCT001-PG/SiC003-PG: cable length 1m (up to 2,90m on request)		



Limitation of spectral sensitivity with uvc-filter available on request for use with medium pressure lamps.

Shielding connection must not be used as earth connection for safety reasons.

for the measuring / monitoring of UV irradiation



- adjusted versions with current or voltage output
- photodiode output versions also available
- PG versions without plug connection between sensor and cable

- suitable as plug-in sensor in measurement window MF001
- daylight blind (see diagram below)
- standard without uvc-filter
- limitation of spectral sensitivity with uvc-filter on request

Available Sensor Types

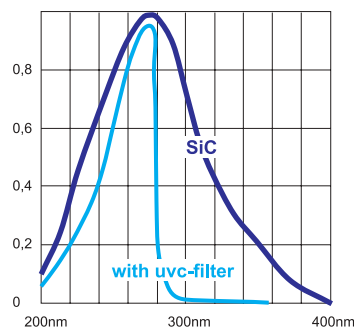
sensor type	signal	output value	adjusted value*	min. load resistance R_{min}	max. load resistance R_{max}
SiC007-P	photodiode output	diode current	-	-	-
SiC007-P-PG	photodiode output	diode current	-	-	-
SiC007-I	current output	4 - 20mA	20mA	-	9V⇒330Ω / 24V⇒1kΩ
SiC007-I-PG	current output	4 - 20mA	20mA	-	9V⇒330Ω / 24V⇒1kΩ
SiC007-U2	voltage output	0 - 2V	2V	220Ω	-
SiC007-U2-PG	voltage output	0 - 2V	2V	220Ω	-
SiC007-U3	voltage output	0 - 3V	3V	270Ω	-
SiC007-U3-PG	voltage output	0 - 3V	3V	270Ω	-
SiC007-U10	voltage output	0 - 10V	10V	660Ω	-
SiC007-U10-PG	voltage output	0 - 10V	10V	660Ω	-

* other values on request. Add "-F" for sensor with uvc filter.

All sensors are also available as digital sensors for digital operation system. Please order P-SiC007.

Technical Specification

diode type:	silicon carbide (SiC)	body:	stainless steel 1.4305
spectral range:	210...400nm (with uvc-filter: 210...280nm)	flare angle:	26°
supply voltage U_B: (current/voltage output)	9... 24V stabilised, $I \leq 25mA$ (min. 12V for SiC007-U10)	linearity within the initial voltage range:	2%
temperature drift:	0,03 W/m ² /K	max. pressure:	diode is sealed with quartz window- protection against humidity only
dimensions:	body-diameter: 20mm outer ring: 27mm	length: 86mm (SiC007) 95mm (SiC00-PG7, without cable)	weight: 120g (SiC007) 155g (SiC007-PG with 1m cable)
connection:	SiC007: connector M12 (Hirschmann cable plug ELST 5012), mounting cable with plug included, length: 2.90m SiC007-PG: cable length 1m		(other cable lengths on request)



Limitation of spectral sensitivity with uvc-filter available on request for use with medium pressure lamps.

Mounting Restrictions

Attention! The sensor is not suitable for directly use in water! The diode is sealed with quartz window-protection against humidity only. Please do not touch the surface of the sensor window.

We recommend the use of a sealing ring (O-ring, 20x1,5) in the outer ring.

Shielding connection must not be used as earth connection for safety reasons.

Do not connect or disconnect sensor-plug while supply voltage is switched on.

Measurement Technique UV-Sensor SiC021 with various output signals

for the measuring / monitoring of UV irradiation



- adjusted versions with current or voltage output
- daylight blind (see diagram below)
- standard without uvc-filter
- limitation of spectral sensitivity with uvc-filter on request
- PG versions without plug connection between sensor and cable

Available Sensor Types

sensor type	signal	output value	adjusted value*	min. load resistance R_{min}	max. load resistance R_{max}
SiC021-I	current output	4 - 20mA	20mA	-	9V⇒330Ω / 24V⇒1kΩ
SiC021-I-PG	current output	4 - 20mA	20mA	-	9V⇒330Ω / 24V⇒1kΩ
SiC021-U2	voltage output	0 - 2V	2V	220Ω	-
SiC021-U2-PG	voltage output	0 - 2V	2V	220Ω	-
SiC021-U3	voltage output	0 - 3V	3V	270Ω	-
SiC021-U3-PG	voltage output	0 - 3V	3V	270Ω	-
SiC021-U10	voltage output	0 - 10V	10V	660Ω	-
SiC021-U10-PG	voltage output	0 - 10V	10V	660Ω	-

* other values on request

Add "-F" for sensor with uvc filter.

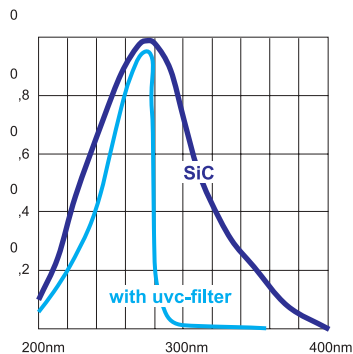
All sensors are also available as digital sensors for digital operation system. Please order P-SiC021.

Technical Specification

diode type:	silicon carbide (SiC)	body:	stainless steel 1.4305
spectral range:	210...400nm (with uvc-filter: 210...280nm)	flare angle:	26°
supply voltage U_B:	9... 24V stabilised, $I \leq 25mA$ (min. 12V for SiC021-U10)	linearity within the initial voltage range:	2%
temperature drift:	0,03 W/m ² /K	max. pressure:	10bar
dimensions:	thread: G1/4" wrench size: 19 body-diameter: 22mm	length: 67mm (SiC021) 78mm (SiC021-PG without cable)	weight: 77g (SiC021) 105g (SiC021-PG with 1m cable)
connection:	SiC021: connector M12 (Hirschmann cable plug ELST 5012), mounting cable with plug included, length: 2.90m SiC021-PG: cable length 1m (other cable lengths on request)		

Mounting Restrictions

Cover thread with teflon tape or ceramo paste before mounting.

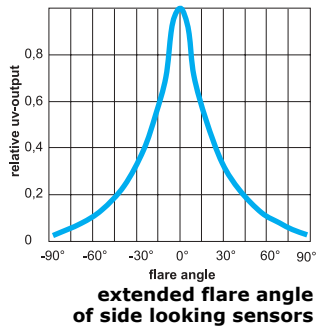


Limitation of spectral sensitivity with uvc-filter available on request for use with medium pressure lamps.

Shielding connection must not be used as earth connection for safety reasons.
Do not connect or disconnect sensor-plug while supply voltage is switched on.

Measurement Technique UV-Sensors with Extended Flare Angle (Side-Looking Sensors) for Monitoring of Relative UV-Intensities

to be used for measurement in UV-units



- daylight blind (see diagram below)
- standard without uvc-filter
- limitation of spectral sensitivity with uvc-filter on request
- PG versions without plug connection between sensor and cable
- integrated amplifier $\pm 5V$ (DC supply necessary)



Available Sensor Types

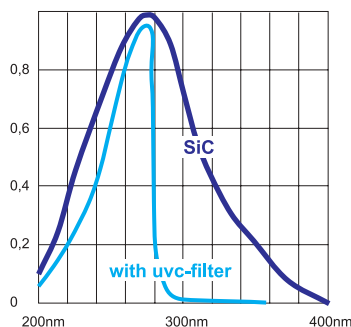
type	thread/length for mounting	wrench size [mm]	diameter [mm]	length [mm]	weight [g]	suitable monitor types
SLS-SiC003	G 3/4" / 11mm	32	37	70 (with plug: 120)	190 (+115g cable and plug)	PRO10.4 SLS, PRO15 SLS
SLS-SiC003-PG	G 3/4" / 11mm	32	37	81	270 (including cable)	
SLS-SiC004	-	-	21,5	75 (with plug: 127)	85 (+115g cable and plug)	
SLS-SiC004-PG	-	-	21,5	86	171 (including cable)	

Add "-F" for sensor with uvc filter.

All sensors are also available as digital sensors for digital operation system.
Please order P-SiC003/P-SiC003-PG/P-SiC004/P-SiC004-PG.

Technical Specification

diode type:	silicon carbide (SiC) 0,25*0,25mm ²	body:	stainless steel 1.4305
spectral range:	210...400nm (with uvc-filter: 210...280nm)	flare angle:	see diagram above
max. pressure:	10bar		
connection:	SLS-SiC003 / SLS-SiC004: connector M12, mounting cable with plug included, length: 2.90m SLS-SiC003-PG / SLS-SiC004-PG: cable length 1m (up to 2,90m on request)		
supply voltage:	$\pm 5V$		



Limitation of spectral sensitivity with uvc-filter available on request for use with medium pressure lamps.

Shielding connection must not be used as earth connection for safety reasons.

Measurement Technique UV-Sensors adapted to Special Regulations, Calibrated

according to German rule W294, resp. Austrian rule OENORM

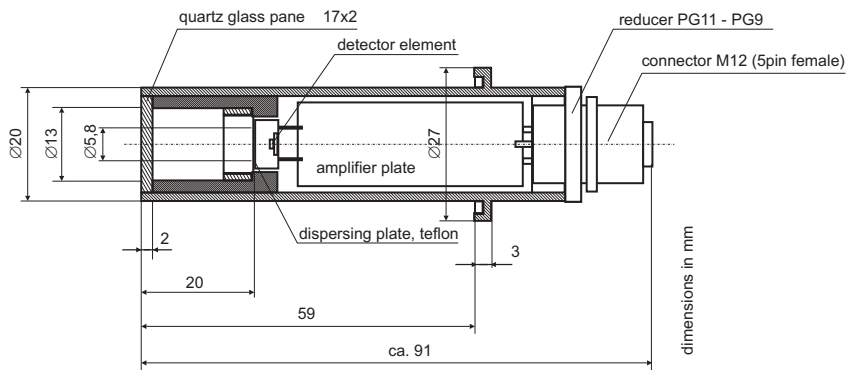


- suitable as plug-in sensor in measurement window MF001
- several supply voltages available
- several output signals available

Available Sensor Types

sensor type	signal	output value*	suitable monitor types	lamp types
SiCDVGW001-LP	voltage output	0...2V	PRO10.4 (0-2V)	low pressure lamps
SiCDVGW001-MP	voltage output	0...2V	PRO10.4 (0-2V)	medium pressure lamps
SiCDVGW002-LP	current output	4...20mA	PRO10.4	low pressure lamps
SiCDVGW002-MP	current output	4...20mA	PRO10.4	medium pressure lamps
SiCONORM001-LP	voltage output	0...2V	PRO10.4 (0-2V)	low pressure lamps
SiCONORM001-MP	voltage output	0...2V	PRO10.4 (0-2V)	medium pressure lamps
SiCONORM002-LP	current output	4...20mA	PRO10.4	low pressure lamps
SiCONORM002-MP	current output	4...20mA	PRO10.4	medium pressure lamps

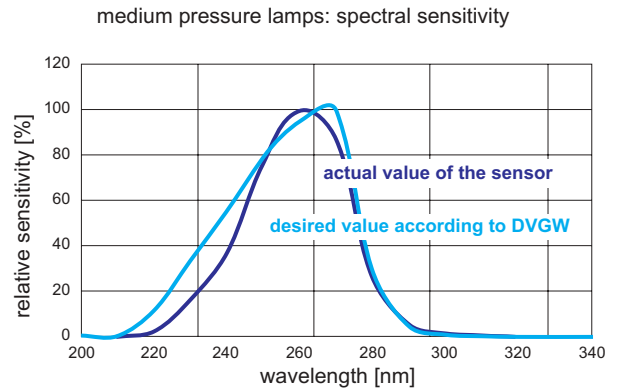
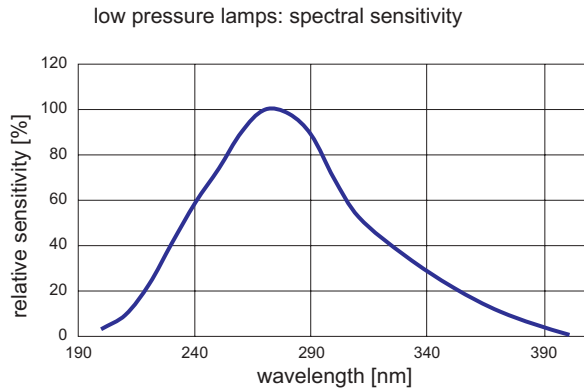
* output value 0...10V on request



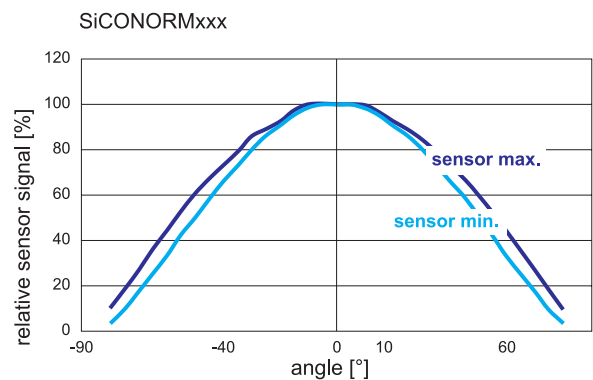
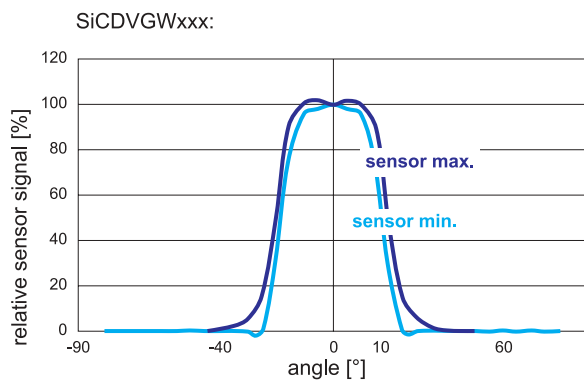
Technical Specification

uv-sensor:	silicon carbide-(SiC) diode 0,25*0,25mm ²	body:	stainless steel 1.4307
dimensions:	diameter of the body: 20mm diameter of the outer ring: 27mm length: 91mm insert length: 59mm	weight:	83g (without cable)
supply voltage U_B:	9... 15V stabilised	linearity within the initial voltage range:	2%
operation current:	SiCxx001: <10mA SiCxx002: <25mA	calibration:	according customers specification
temperature drift:	0,03 W/m ² /K	max. pressure:	10bar (only with MF001)
connections:	cable, length 2.90m, with plug M12 (Hirschmann cable plug ELWIST 5012)		

Spectral Sensitivity for Low and Medium Pressure Lamps



Characteristics



Measurement window MF001 for DVGW-sensors and ONORM-sensors

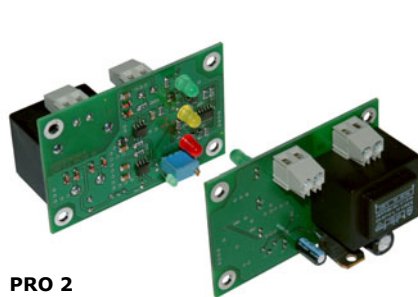
The uv-measurement window according to rule W294, suitable for input of DVGW Sensor SiCDVGW***, the uv-measurement window according to rule OENORM, suitable for input of ONORM Sensor SiCONORM***,

watertight up to 10bar,
consists of:

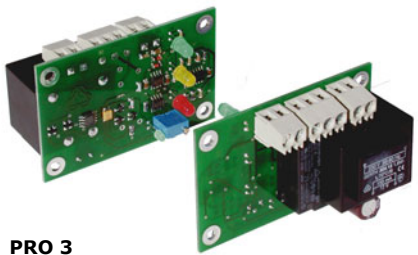
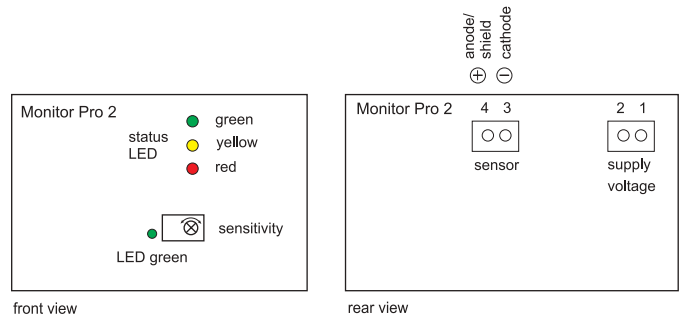
- stainless steel body:
length: 65mm / wrench size: 32 / thread: G1", 20mm long
weight: 365g
- hole for sensor input
Ø20 x 60mm with cap nut M30 x 2 to connect the sensor
- window made from quartz glass
Ø23 x 5mm



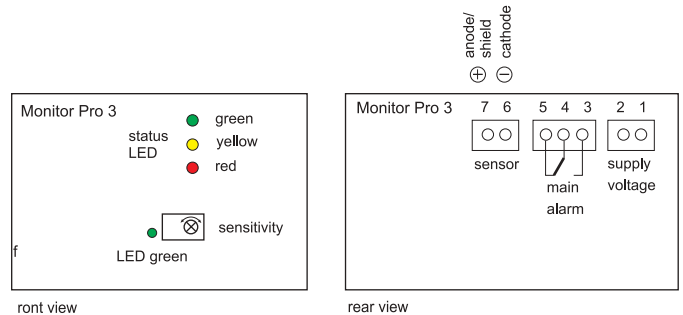
Measurement Technique
UV-Monitor PRO 2 with Status Indication by LED
UV-Monitor PRO 3 with Relay Contacts and Status Indication by LED
for monitoring of the relative uv-intensity, e.g. in uv disinfection systems



PRO 2



PRO 3



Available Monitor Types

			weight	suitable sensor types
PRO2	diode output	no relay contact	120g	SiC-SV01, SiCT001-PG, SiC001, SiC001-PG, SiC003, SiC003-PG, SiC007-P, SiC007-P-PG
PRO3	diode output	potential free relay contact, load: 5mA...1A/5V...230V AC 5mA...1A/5V...60V DC relay threshold 50%	150g	SiC-SV01, SiCT001-PG, SiC001, SiC001-PG, SiC003, SiC003-PG, SiC007-P, SiC007-P-PG

Functions:

- display of the relative uv-output with three LED's:
 - ⇒ GREEN: function o.k.
 - ⇒ YELLOW: pre-alarm
 - ⇒ RED: main alarm
- PRO 3: potential free relay contact in accordance with status indication for main alarm
- multi turn potentiometer for fine adjustment of sensitivity at 110%, shown through a green LED nearby the potentiometer

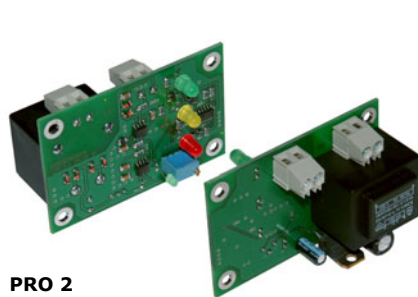
mains voltage:	230V AC ± 10% /50/60 Hz (115V AC/60Hz or 24V DC types available on request)	operating temperature:	0...40°C	storage temperature range:	-40°C...+70°C
measurement range:	adjustable for customer purpose by manufacturer				
status indication:	3 LED: green: function o.k. yellow: pre-alarm red: main alarm	switching thresholds:	red: 0 - 49% (main alarm) yellow: 50 - 74% (pre-alarm) green: > 74% (function o.k.) (or customers specification)		
dimensions (w/h/l):	(75/49/41)mm	mounting:	4 mounting holes Ø 3,8mm hole center distance: (65 x 38)mm		

Attention: Risk of electric shock!

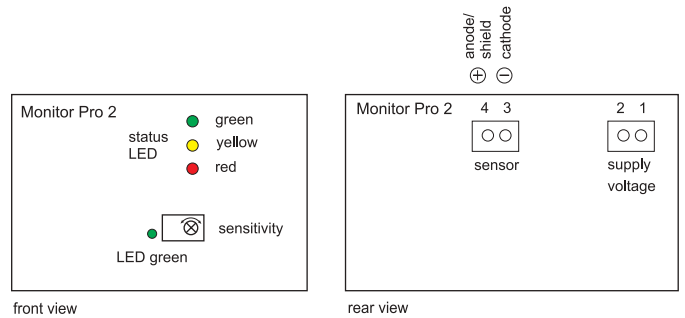
The device must be installed in a closed cabinet, otherwise lethal parts can be touched by hand.
The device may be installed by authorized personnel only, to make sure all applicable safety rules are fulfilled.

Please consider the safety instructions in the installation and operating manual.

Measurement Technique
UV-Monitor PRO 2 with Status Indication by LED
UV-Monitor PRO 3 with Relay Contacts and Status Indication by LED
for monitoring of the relative uv-intensity, e.g. in uv disinfection systems

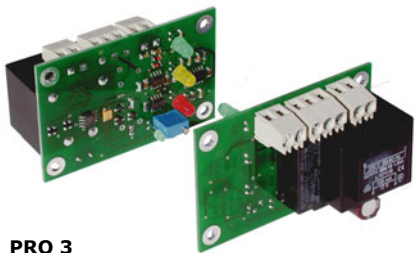


PRO 2

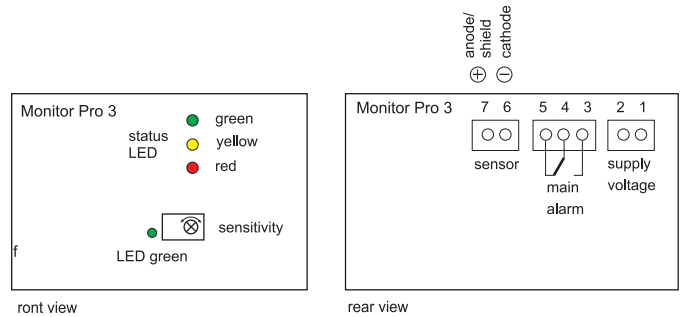


front view

rear view



PRO 3



front view

rear view

Available Monitor Types

			weight	suitable sensor types
PRO2	diode output	no relay contact	120g	SiC-SV01, SiCT001-PG, SiC001, SiC001-PG, SiC003, SiC003-PG, SiC007-P, SiC007-P-PG
PRO3	diode output	potential free relay contact, load: 5mA...1A/5V...230V AC 5mA...1A/5V...60V DC relay threshold 50%	150g	SiC-SV01, SiCT001-PG, SiC001, SiC001-PG, SiC003, SiC003-PG, SiC007-P, SiC007-P-PG

Functions:

- display of the relative uv-output with three LED's:
 - ⇒ GREEN: function o.k.
 - ⇒ YELLOW: pre-alarm
 - ⇒ RED: main alarm
- PRO 3: potential free relay contact in accordance with status indication for main alarm
- multi turn potentiometer for fine adjustment of sensitivity at 110%, shown through a green LED nearby the potentiometer

mains voltage:	230V AC ± 10% /50/60 Hz (115V AC/60Hz or 24V DC types available on request)	operating temperature:	0...40°C	storage temperature range:	-40°C...+70°C
measurement range:	adjustable for customer purpose by manufacturer				
status indication:	3 LED: green: function o.k. yellow: pre-alarm red: main alarm	switching thresholds:	red: 0 - 49% (main alarm) yellow: 50 - 74% (pre-alarm) green: > 74% (function o.k.) (or customers specification)		
dimensions (w/h/l):	(75/49/41)mm	mounting:	4 mounting holes Ø 3,8mm hole center distance: (65 x 38)mm		

Attention: Risk of electric shock!

The device must be installed in a closed cabinet, otherwise lethal parts can be touched by hand. The device may be installed by authorized personnel only, to make sure all applicable safety rules are fulfilled.

Please consider the safety instructions in the installation and operating manual.

Measurement Technique UV-Monitor PRO 5/ PRO 8 with Relay Contacts and Status Indication by LED

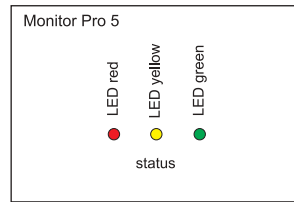
for monitoring of the relative uv-intensity, e.g. in uv disinfection systems



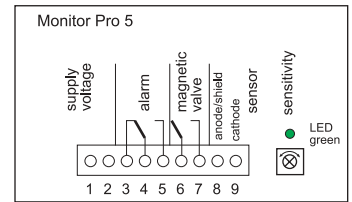
PRO 5



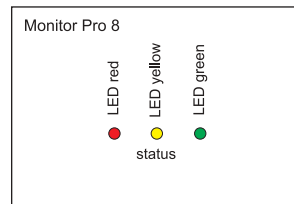
PRO 8



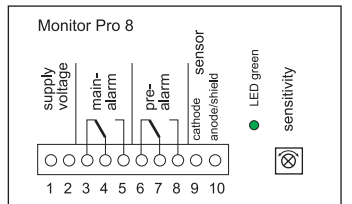
front view



rear view



front view



rear view

Available Monitor Types

monitor type	sensor signal	suitable sensor types	switching thresholds	relay contact load	dimensions (w/h/l):	mounting	weight
PRO5	diode output	SIC-SV01, SICT001-PG, SIC001, SIC001-PG, SIC003, SIC003-PG, SIC007-P, SIC007-P-PG	red: 0...49% (main alarm) yellow: 50...74% (pre-alarm) green: > 74% (function o.k.)	50...200mA/24V...230V AC 100...500mA/24V...60V DC	(72/72/77)mm	cut-out according DIN43700 (68 ^{+0,7} x 68 ^{+0,7})	240g
PRO8	diode output	SIC001-PG, SIC003, SIC003-PG, SIC007-P, SIC007-P-PG	(or customers specification)	50...200mA/24V...230V AC 50...500mA/24V...60V DC	(96/48/80)mm	cut-out according DIN43700 (92 ^{+0,8} x 45 ^{+0,6})	250g

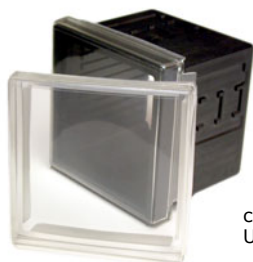
Functions

- display of the relative uv-output with three LED's:
 - ⇒ GREEN: function o.k.
 - ⇒ YELLOW: pre-alarm
 - ⇒ RED: main alarm
- potential free relay contacts in accordance with status indication:
 - ⇒ PRO 3, PRO 5: main alarm
 - ⇒ PRO 8: pre-alarm, main alarm
- multi turn potentiometer for fine adjustment of sensitivity at 110%, shown through a green LED nearby the potentiometer (available at front or back side of the monitor)

Technical Specification

mains voltage:	230V AC ± 10% /50/60 Hz (115V AC/60Hz or 24V DC types available on request)	operating temperature:	0...40°C	storage temperature range:	-40°C...+70°C
measurement range:	adjustable for customer purpose in wide range				
status indication:	LED green: function o.k. LED yellow: pre-alarm LED red: main alarm	relay contact for alarm:	potential free relay contact		

Accessories - cover for uv monitors for protection level IP65 at front



cover for
UV-Monitor PRO5



cover for
UV-Monitor PRO8

Measurement Technique UV-Monitor PRO 5/ PRO 8 with Relay Contacts and Status Indication by LED

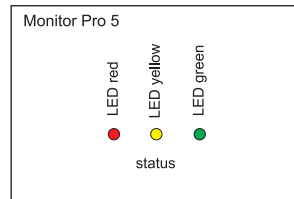
for monitoring of the relative uv-intensity, e.g. in uv disinfection systems



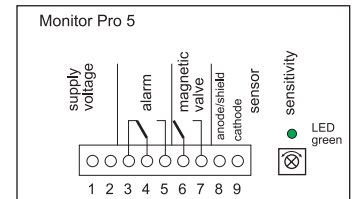
PRO 5



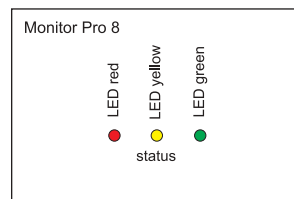
PRO 8



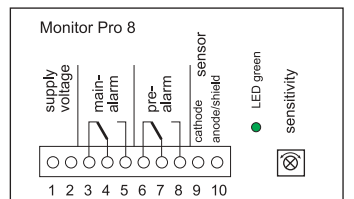
front view



rear view



front view



rear view

Available Monitor Types

monitor type	sensor signal	suitable sensor types	switching thresholds	relay contact load	dimensions (w/h/l):	mounting	weight
PRO5	diode output	SIC-SV01, SICT001-PG, SIC001, SIC001-PG, SIC003, SIC003-PG, SIC007-P, SIC007-P-PG	red: 0...49% (main alarm) yellow: 50...74% (pre-alarm) green: > 74% (function o.k.)	50...200mA/24V...230V AC 100...500mA/24V...60V DC	(72/72/77)mm	cut-out according DIN43700 (68 ^{+0,7} x 68 ^{+0,7})	240g
PRO8	diode output	SIC001-PG, SIC003, SIC003-PG, SIC007-P, SIC007-P-PG	(or customers specification)	50...200mA/24V...230V AC 50...500mA/24V...60V DC	(96/48/80)mm	cut-out according DIN43700 (92 ^{+0,8} x 45 ^{+0,6})	250g

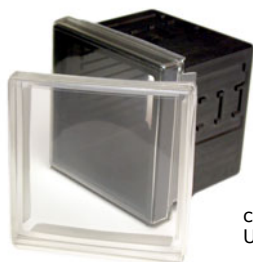
Functions

- display of the relative uv-output with three LED's:
 - ⇒ GREEN: function o.k.
 - ⇒ YELLOW: pre-alarm
 - ⇒ RED: main alarm
- potential free relay contacts in accordance with status indication:
 - ⇒ PRO 3, PRO 5: main alarm
 - ⇒ PRO 8: pre-alarm, main alarm
- multi turn potentiometer for fine adjustment of sensitivity at 110%, shown through a green LED nearby the potentiometer (available at front or back side of the monitor)

Technical Specification

mains voltage:	230V AC ± 10% /50/60 Hz (115V AC/60Hz or 24V DC types available on request)	operating temperature:	0...40°C	storage temperature range:	-40°C...+70°C
measurement range:	adjustable for customer purpose in wide range				
status indication:	LED green: function o.k. LED yellow: pre-alarm LED red: main alarm	relay contact for alarm:	potential free relay contact		

Accessories - cover for uv monitors for protection level IP65 at front



cover for UV-Monitor PRO5

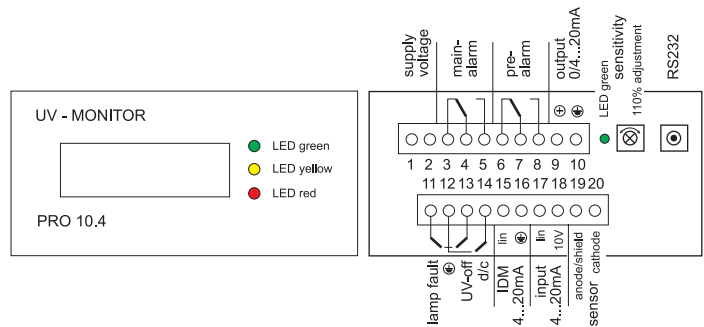


cover for UV-Monitor PRO8

Measurement Technique UV-Monitor PRO10.4 with Relay Contacts and Status Indication by LED and LCD

for monitoring and evaluation of relative and absolute uv-intensity (depending on sensor type)
and for displaying the specific irradiation, determined from flow rate measurement and reactor vessel volume

Accepted by DVGW and OENORM



Available Monitor Types

monitor type	sensor signal	suitable sensor types
PRO10.4	diode output or current output	SiC-SV01, SiC001, SiC003, SiC007-P, SiC007-P-PG, SiC007-I, SiC007-I-PG, SiC021-I, SiC021-I-PG, SiCDVGW002-LP, SiCDVGW002-MP, SiCONORM002-LP, SiCONORM002-MP
PRO10.4-U2 (0-2V)	voltage output	SiCDVGW001-LP, SiCDVGW001-MP, SiCONORM001-LP, SiCONORM001-MP, SiC007-U2, SiC007-U2-PG, SiC021-U2, SiC021-U2-PG
PRO10.4-SLS	diode output	(side looking sensors) SLS-SiC003, SLS-SiC003-PG, SLS-SiC004, SLS-SiC004-PG

Functions:

- LCD-Display: uv-intensity in % or W/m² (in case of calibrated sensor); 3 front LED: operating status
- accepts a wide variety of sensor types: photo diodes, current sensors (Austrian ÖNORM or German DVGW), voltage sensors on request
- adjustment of end value in %:
 - ⇒ coarse adjustment of sensitivity* in 8 steps,
 - ⇒ fine adjustment in a small range by special multi turn potentiometer (if a photodiode is used),
 - ⇒ display of 110% - value at rear panel (green LED flashes)
- adjustment of end value in W/m²

depending on the sensor type* (using a calibrated sensor with standard current port: 4-20mA; 0-20 mA; 0-2 V on request)

- two potential free relay contacts indicate pre alarm and main alarm condition, switching thresholds can be programmed*
- internal real time clock for counting purposes*
- internal hour counter to determine the total operation time of the system
- user programmable hour counter e.g. for counting operation hours of the lamps
- end of lamp life time display*, after reaching the programmed value the yellow LED is blinking
- two display modes to display either uv-intensity value or the user programmable

hour counter can be programmed by a switch input at the rear side of the device

- contact for fault of lamp alarm; by shorting this contact externally the red LED is blinking and the main alarm relay operates
- input to sense operation mode "UV-off". If the unit does not work continuously this contact stops counting of operation hours and uv measuring, the last counter reading remains stored; to prevent alarm during starting up or switching on again, a delay time can be programmed*
- internal operating cycle counter*
- RS232 - port for service at the rear panel of the device

*can be programmed by manufacturer and/or by customer by service device SER10 or by PC (software MONITOR_ORGANIZER required)

Technical Specification

mains voltage:	230V AC ± 10% /50/60 Hz (115V AC/60Hz or 24V DC types available on request)	operating temperature:	0...45°C	protection level:	IP00 (IP65 at front on request)
measurement range:	adjustable for customer purpose in wide range				
status indication:	LCD: 3 digits, 9mm height	3 LED (front): green: function o.k. yellow: pre-alarm red: main alarm	1 LED (back): adjustment of sensitivity green: >110%		
relay contact for alarm:	potential free relay contact	relay contact load:	50-500mA at 24V-230V AC 100-500mA at 24V-60V DC		
dimensions (w/h/l):	(96/48/134)mm	mounting:	cut-out according DIN43700 (92 ^{+0,8} x 45 ^{+0,6})		
weight:	300g				

Accessories - cover for uv monitors for protection level IP65 at front

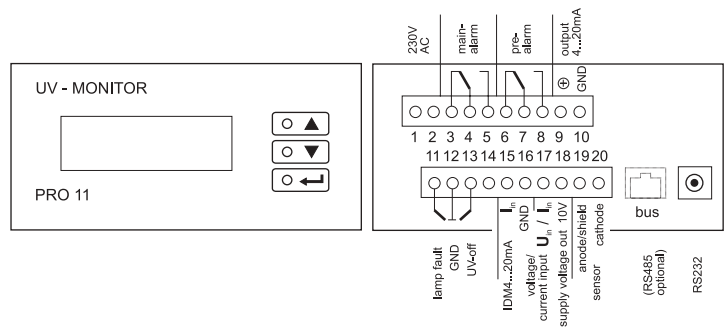


cover for
UV-Monitor PRO10

For use in dry environment only!
for side looking sensors please order uv-monitor PRO10.4 SLS

Measurement Technique
UV-Monitor PRO11 with Relay Contacts
and Status Indication by backlighted LCD

for monitoring and evaluation of relative and absolute uv-intensity (depending on sensor type)
and for displaying the specific irradiation, determined from flow rate measurement and reactor vessel volume



Available Monitor Types

monitor type	sensor signal	suitable sensor types
PRO11PI-I	diode output or current output	SiC-SV01, SiC001, SiC001-PG, SiC003, SiC003-PG, SiC007-P, SiC007-P-PG, SiC007-I, SiC007-I-PG, SiC021-I, SiC021-I-PG, SiCDVGW002-LP, SiCDVGW002-MP, SiCONORM002-LP, SiCONORM002-MP
PRO11PU3-I	diode output or voltage output	SiC-SV01, SiC001, SiC001-PG, SiC003, SiC003-PG, SiC007-P, SiC007-P-PG, SiCDVGW001-LP, SiCDVGW001-MP, SiCONORM001-LP, SiCONORM001-MP, SiC007-U3, SiC007-U3-PG, SiC021-U3, SiC021-U3-PG

Functions:

- LCD-Display:
 - ⇒ synchronous readout of uv-value (1st row of display) and operating hours (2nd row of display),
 - ⇒ green (normal), yellow (pre-alarm) and red (main alarm) back lighting,
 - ⇒ uv-intensity in %, W/m² or mW/cm² (in case of calibrated sensor)
- accepts a wide variety of sensor types: photo diodes, current sensors, voltage sensors on request
- automatic adjustment of end value (using a photodiode)
- adjustment of end value in W/m² depending on the sensor type*
 - (using a calibrated sensor)
- two potential free relay contacts indicate pre alarm and main alarm condition, switching thresholds can be programmed*
- internal real time clock for counting purposes*
- internal hour counter to determine the total operation time of the system
- user programmable hour counter e.g. for counting operation hours of the lamps
- end of lamp life time display*, after reaching the programmed value display shows "exchange lamp"
- contact for fault of lamp alarm; by shorting this contact externally the display shows "lamp error"
- input to sense operation mode "UV-off";
- if the unit does not work continuously this contact stops counting of operation hours and uv measuring, the last counter reading remains stored; to prevent alarm during starting up or switching on again, a delay time can be programmed*
- internal operating cycle counter*
- RS232 - port for service at the rear panel of the device
- optional RS485 - port for digital operation system
- language can be adapted

*can be programmed by manufacturer and/or by customer

Technical Specification

mains voltage:	230V AC ± 10% /50/60 Hz (115V AC/60Hz or 24V DC types available on request)	operating temperature:	0...45°C	protection level:	IP00 (IP65 at front on request)
measurement range:	automatic adjustment	output signal:	4...20mA		
status indication:	LCD: 2*12 digits, 14,5mm height	backlight colour:	green: function o.k., yellow: pre alarm, red: main alarm		
relay contact for alarm:	2 potential free relay contacts	relay contact load:	50-500mA at 24V-230V AC 100-500mA at 24V-60V DC		
dimensions (w/h/l):	(96/48/114)mm	mounting hole:	cut-out according DIN43700 (92 ^{+0,8} x 45 ^{+0,6})		
weight:	300g				

Accessories - cover for uv monitors for protection level IP65 at front

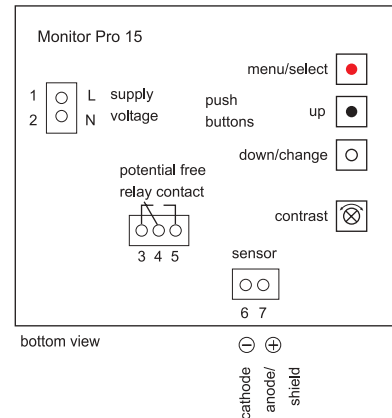
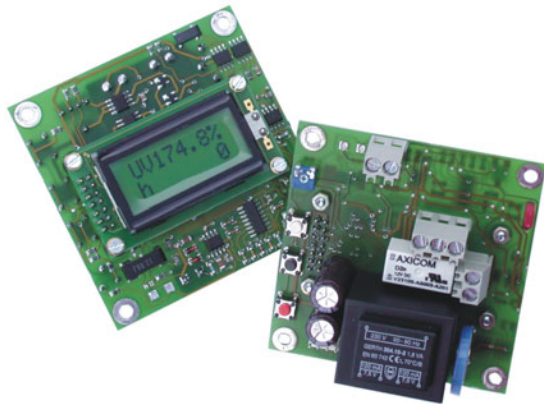


cover for
UV-Monitor PRO11

For use in dry environment only!
for side looking sensors please order uv-monitor PRO11SLS

Measurement Technique UV-Monitor PRO15 with Relay Contacts, Status Indication by LCD, Integrated Hour Counter

The monitor is intended for monitoring of the relative uv-intensity.



Available Monitor Types

monitor type	supply	suitable sensor types
PRO15 /230V AC	230V AC ± 10% 50/60Hz 1,8W	SiC-SV01, SiC001, SiC001-PG, SiC003, SiC003-PG, SiC007-P, SiC007-P,-PG
PRO15 /115V AC	115V AC ± 10% 50/60Hz 1,8W	on request:
PRO15 / 12V DC	12V DC ± 10% 50/60Hz 1,8W	SLS-SiC003, SLS-SiC003-PG, SLS-SiC004, SLS-SiC004-PG
PRO15 / 24V DC	24V DC ± 10% 50/60Hz 1,8W	

Monitoring Features

- synchronous readout of uv-value (1st row of display) and operating hours (2nd row of display)
- menu operation by buttons

uv-value monitoring:

- relative uv-intensity (in %)
- message "UV-value low" in case of uv-value below switching threshold
- adjustment of sensitivity (automatic end adjustment)

Monitor Pro15 types for sidelooking sensors (SLS) available on request hour counter:

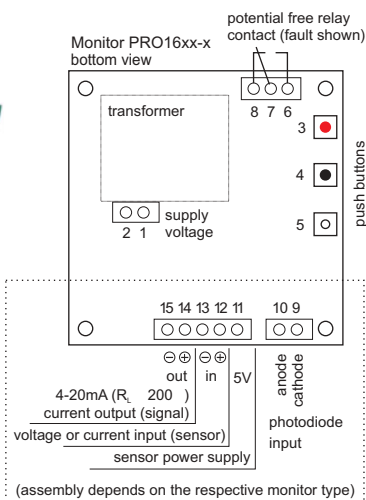
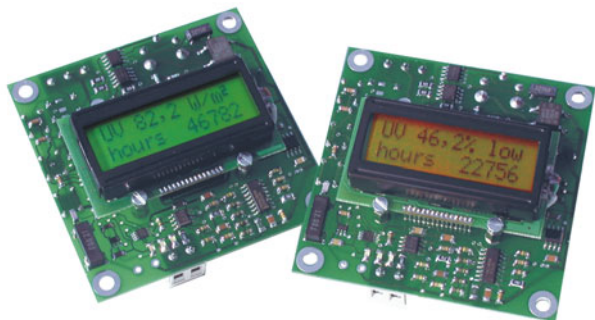
- internal real time clock
- total operation time
- programmable lamp hour counter
- programmable lamp lifetime
- message "exchange lamp" in case of reached end of lamp lifetime

Technical Specification

mains voltage:	see monitor type	CE-conform:	yes
mains frequency:	45...65Hz	ambient temperature:	0...40°C
display:	2*8 digits, adjustment of contrast by potentiometer		
handling:	menu-driven handling and programming by 3 push-buttons		
language:	alternatively English or German (other languages on request)		
dimensions (w/h/l):	(72,5/44/72,5)mm	weight:	170g
relay contact for alarm:	potential free relay contact	load: 50-200mA at 24V-120V AC 50-500mA at 5V- 24V DC	pin assignment: pin 3: normally off contact pin 4: change-over contact pin 5: normally on contact
running time of the clock:	approx. 8 years		

UV-Monitor PRO16 with Relay Contacts, Status Indication by LCD, Integrated Hour Counter

The monitor is intended for monitoring of absolute/relative uv-intensity.



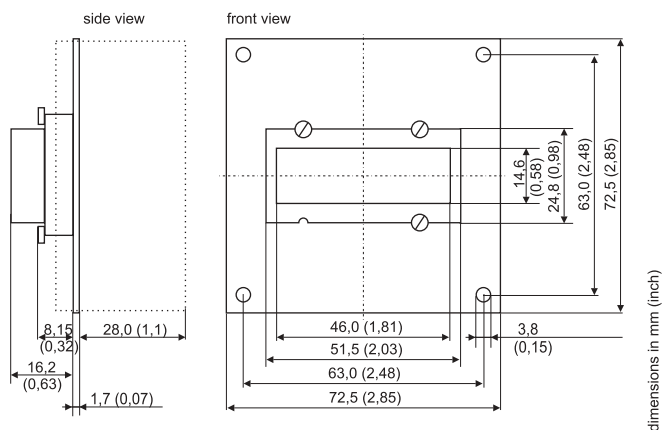
Features

- various input types
- uv intensity
 - absolute measurement by using a calibrated sensor
 - relative measurement by using a photodiode
- automatic sensitivity adjustment (photodiode)
- 2*12 digit display (red/green backlight)
- internal clock
- global and user hour counter
- adjustable end of lamp lifetime alarm
- adjustable uv-low alarm
- fault relay - potential free relay contact
- menu lock

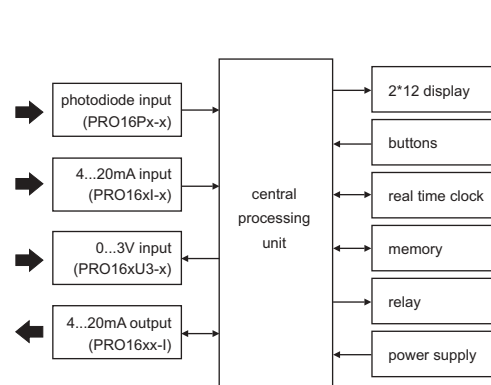
Available Monitor Types

	PRO16P	PRO16I	PRO16U3	PRO16I-I	PRO16U3-I	PRO16PI	PRO16PU3	PRO16PI-I	PRO16PU3-I
photodiode input	x					x	x	x	x
4...20mA current input		x		x		x		x	
0...3V voltage input			x		x		x		x
4...20mA current output				x	x			x	x
absolute measurement		x	x	x	x	x	x	x	x
relative measurement	x	x	x	x	x	x	x	x	x
sensor power supply +5V DC stabilised		x	x	x	x	x	x	x	x

Dimensions



Block schematic



Technical Specification

mains voltage:	230V AC ± 10% 50/60Hz 2W	CE-conform:	yes
mains frequency:	45...65Hz	ambient temperature:	0...40°C
display:	2*12 digits, green or red back lighting for status indication, adjustment of contrast by menu		
handling:	menu-driven handling and programming by 3 push-buttons		
language:	alternatively English or German		
dimensions (w/h/l):	(72,5/44/72,5)mm	weight:	200g
relay contact:	load: 20-200mA at 24V-120V AC / 20-500mA at 5V- 24V DC		
running time of the clock:	approx. 8 years		

Please consider the safety instructions in the installation and operating manual
For use in dry environment only

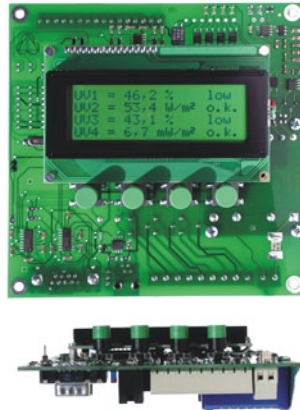
Tel: +49 (0) 6131 986759 • Fax: +49 (0) 6131 986763
www.uv-consulting.de • Mail: service@uv-consulting.de
Technische Änderungen sowie Irrtümer vorbehalten.

Measurement Technique UV-Monitor PRO20 for Analog and Digital Multi-Sensoring

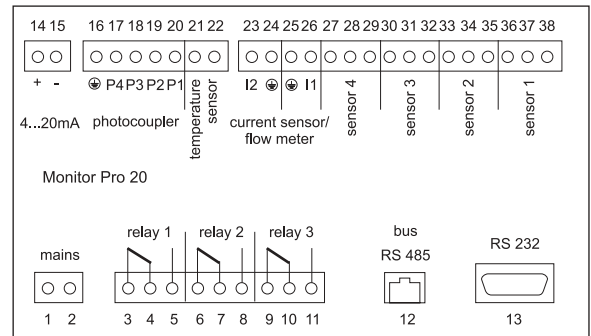
for monitoring and evaluation of relative and absolute uv-intensity
(depending on sensor type)
and for displaying the specific irradiation,
determined from flow rate measurement and reactor vessel volume



PRO 20



PRO 20-S



Functions:

- LCD-Display:
 - ⇒ different (customer specific) display modes,
 - ⇒ green, yellow and red back lighting,
 - ⇒ uv-intensity in % or W/m² (in case of calibrated sensor)
- accepts a wide variety of sensor types: photo diodes, current sensors (Austrian OENORM or German DVGW), voltage sensors on request
- automatic adjustment of end value
- adjustment of end value in W/m² depending on the sensor type* (using a calibrated sensor with standard current port: 4-20mA; 0-20 mA; 0-2 V on request)
- input for temperature sensor
- three potential free relay contacts indicate pre alarm and main alarm condition, switching thresholds can be programmed
- four optic isolated gate inputs for switching purposes
- internal buzzer (disengageable) for status indication
- internal real time clock for counting purposes
- internal hour counter to determine the total operation time of the system
- user programmable hour counter e.g. for counting operation hours of the lamps
- end of lamp life time display, after reaching the programmed value display shows "exchange lamp"
- contact for fault of lamp alarm; by shorting this contact externally the display shows "error lamp"
- calculation of the specific irradiation by E_e and flow
- language can be adapted
- extensive customer specific menu system editable (different languages)

Technical Specification

mains voltage:	230V AC ± 10% /50/60 Hz (115V AC/60Hz or 24V DC types available on request)	operating temperature:	0...45°C	protection level:	IP00 (IP65 at front on request)
sensor ports:	4 diode-output-sensors (optional: current or voltage output)	suitable sensor types:	P-SiC003, P-SiC003-PG, P-SiC007, P-SiC021, P-SLS-SiC003, P-SLS-SiC004, P-SiCDVGW, P-ONORM		
additional ports:	2 additional inputs for current-output sensors or flow meter		with Interface IF03: SiC-SV01, SiC001, SiC001-PG, SiCT001-PG		
relay contact load:	50-500mA at 24V-230V AC 100-500mA at 24V-60V DC	1 interface for digital sensor bus (digital operation system)			
measurement range:	adjustable for customer purpose in wide range	1 measurement input for temperature			
status indication:	LCD 4*20 digits with green, yellow and red back lighting for status indication	1 RS232-port for service			
dimensions (w/h/l):	with housing (PRO 20): (143/143/67)mm		without housing (PRO 20-S): (134/134/45)mm		
weight:	300g	mounting:	cut-out according DIN43700 (138 ^{+1,0} x 138 ^{+1,0})		

for the adjustment of the uv system parameters



SER10

Service device SER10

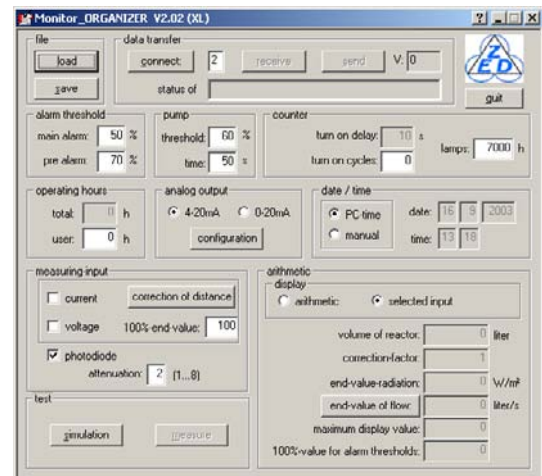
Functions:

- automatic change to the service mode, after the connection of the service device
- display and setting of the internal monitor clock
- display of the total operating hour counter
- display and reset of the user programmable hour counter
- set of lamp operation time
- display and change of the delay time after "UV-off"
- display and change of the threshold for main alarm
- display and change of the threshold for pre alarm
- configuring of sensor input (current input or fotodiode)
- coarse adjustment of input sensitivity (8 steps) if a fotodiode is used
- adjustment of end value (1...1999W/m²) if a current or voltage sensor is used
- display and reset of the operating cycle counter
- a 9V block battery is required

Technical Specification SER10

power supply:	9V (battery or accumulator)
operating temperature:	0...45°C
storage temperature range:	-40°C...+60°C
weight:	200g
accessories:	interface cable, instructions
status indication:	LCD 3 digits, 9mm heighth
dimensions (w/h/l):	(60/125/25)mm
protection level:	IP00

For use in dry environment only!



MONITOR_ORGANIZER

Software MONITOR_ORGANIZER V2.02eng

Functions:

- display of all data from the UV-Monitor PRO10
- setting and storage of new configurations at the Monitor PRO10
- adjustment of the alarm value thresholds for operation of the potential free relay contacts
- display and change of the delay time after "UV-off"
- display of the operating cycle counter
- setting of lamp operation time
- special function to turn on and off of a pump contact (by request)
- display of total hour counter
- display and change of user programmable hour counter
- selection of a standard current port
- date/ time adjustment
- selection of sensor input
- special function for calculating of specific irradiation based on intensity, flow rate and reactor vessel volume on request
- configuration can be saved at PC harddisk
- language can be adapted