

UVS-100

Digital UV sensor with RS-485 interface

Titanium

ul.Kusocińskiego 3

83 – 140 Gniew info@titanium.com.pl

tel +48 58 5305000, 5305005

Description: UVS-100 is complete digital, computerized UV sensor with RS-485 interface housed in case integrated with measuring window. Sensor can take measurements in 8 measuring ranges from $5 \mu\text{Wcm}^{-2}$ (50 mWm^{-2}) to 100 mWcm^{-2} (1000 Wm^{-2}). Maximum distance between sensor and monitor can reach up to 1000 m due to RS-485 industry standard transceiver installed in UVS-100.

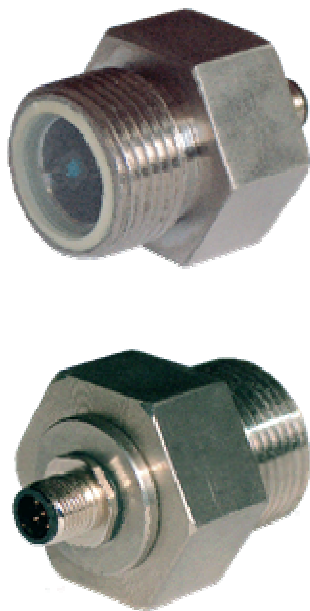
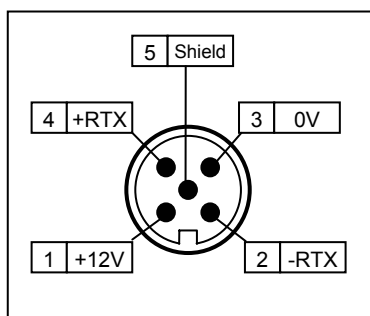


Fig. 1. Digital sensor UVS-100

Basic parameters of UVS-100

Design:	case integrated with measuring window
Dimensions:	47 x 57 mm
Thread:	G1 Whitworth
Weight:	150 g
Spectral range:	330 – 720 nm
Operating temperature:	0 to +60°C
Cable:	4-lead, shielded, 2x2 twisted pair
Cable length:	up to 1000 m
Interface:	2-wire RS-485
Bus terminator:	built-in, 150 ohm
Protocol:	PLS Q&R binary, other protocols on request
Supply voltage:	+12 VDC
Current consumption:	10mA max
Connector:	5-pin M12x1 sensor male connector
Connector signals:	1. +12V (power supply) 2. -RTX (RS-485) 3. 0V (power supply ground) 4. +RTX (RS-485) 5. Shield
Measuring mode:	auto-range, fixed range
Measuring ranges:	8 internal ranges providing sensing range from 50 mWm^{-2} ($5 \mu\text{Wcm}^{-2}$) to 1000 Wm^{-2} (100 mWcm^{-2}) relative in % of nominal value, absolute in approximated Wm^{-2} (not calibrated)
UV display:	



Signal name	UVS-100 side	UVM-200 side	Comments
	Female cable M12x1 5-pin connector	UVM-200 4-pin connector: UVS-200 sensor bus	
Sensor DC supply +12V	1	+12V	Twisted pair 1
RS-485: -RTX	2	-RTX	Twisted pair 2
Sensor DC supply: GND	3	0V	Twisted pair 1
RS-485: +RTX	4	+RTX	Twisted pair 2
Shield	5	0V or PE at UVM-200 installation site	Cable shield

Fig. 2. Sensor connector and cable: M12x1 male connector signal pin-out (left) – cable connections with UVM-200 (right)

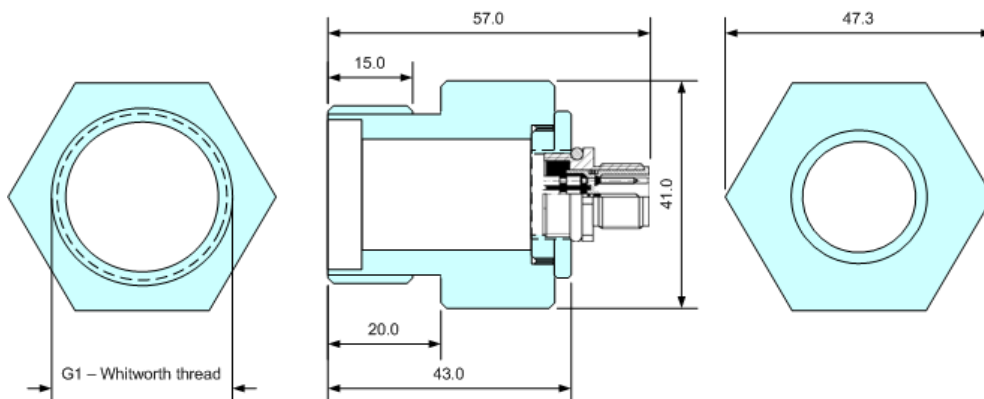


Fig. 3. UVS-100 - dimensions

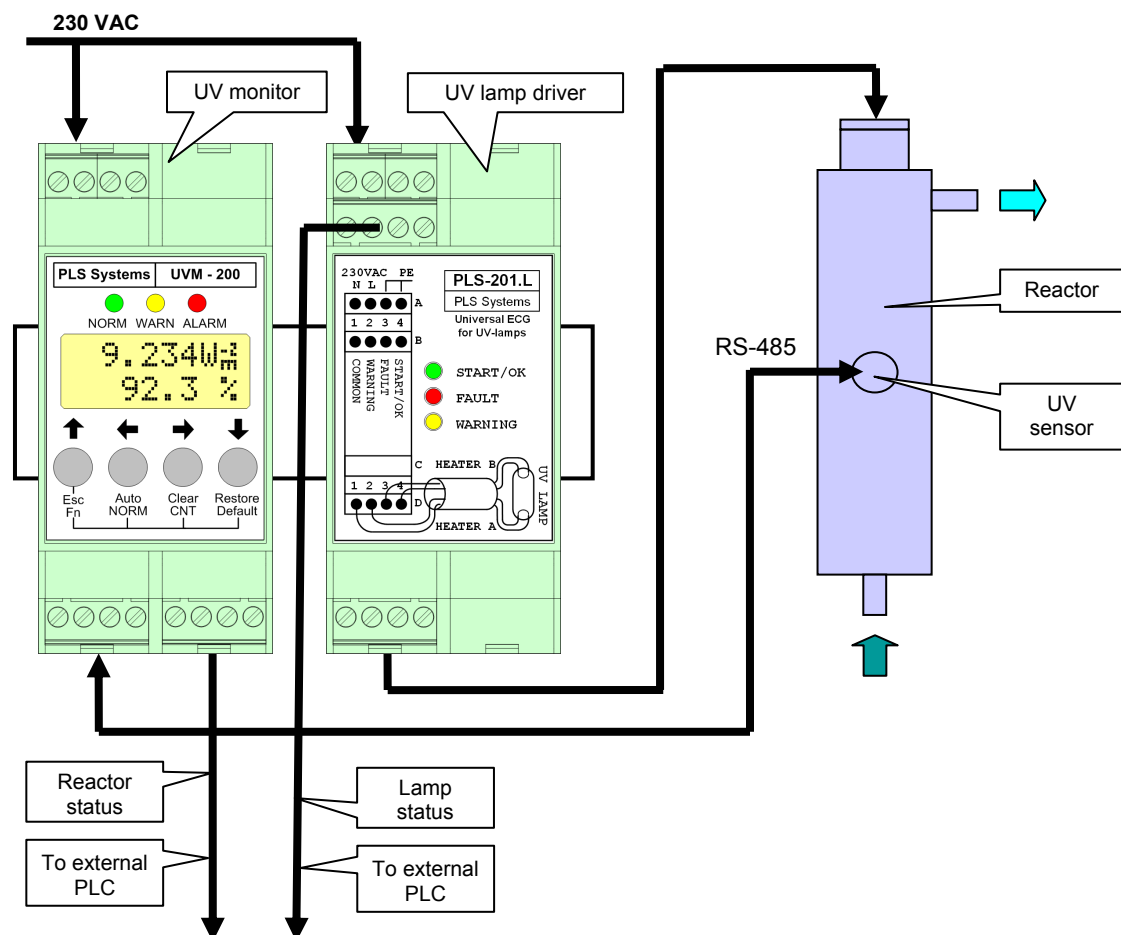


Fig. 4. Monitoring of UV level with UVM-200 and UVS-100 – lamp drive and lamp status monitoring with PLS-201.L

Digital UV sensor
UVS-100



M12 5-pin connector with RS-485 cable



Possible application fields:

- 1) Water purification installations - monitoring of UV level in purification reactors
- 2) Industry – monitoring of min-max UV level generated of various type of lamps in different industrial applications (UV curing, UV drying, UV lacquering, printing)
- 3) UV hazardous areas (air and room purification in hospitals, UV curing, UV drying, welding, printing, UV surface sterilization, etc.) – monitoring of maximal allowed level and dose calculation
- 4) Air purification systems – monitoring of minimal assumed UV level and dose
- 5) Environmental measurements – UV measurements in UVA, UVB and UVC band
- 6) All applications requiring long distances between sensor and monitor – up to 1000 m
- 7) Multi-sensor applications – up to 32 sensors can be connected to one RS-485 bus section



Monitor UVM-200

Fig. 5. Complete UV monitoring system:
UVS-100 digital sensor and UVM-200 monitor