

## HD2021T...

- ▶ [ GB ]  
Transmitters for illuminance and irradiance measurements.



## GB GENERAL DESCRIPTION

The HD 2021T series allows conversion of photometric and radiometric quantities as illuminance (Lux) and irradiance ( $W/m^2$ ) - across, UVA, UVB, UVC spectral regions and 400 ÷ 1000nm band - into a 0 ÷ 10 voltage signal. The voltage output 0 ÷ 10 V (0 ÷ 1 V, 0 ÷ 5V, 4 ÷ 20mA on request for substantial orders) comes factory set calibrated to the full scale range specified at the time of order. HD 2021T transmitters wide range of applications include:

- Measurement of illuminance (HD 2021T) in offices and laboratories, manufacturing plants and production areas, commercial sites, theatres, museums, sports lighting, roadway lighting, tunnels and nursery-gardening systems.
  - Measurement of solar irradiance, within 400nm ÷ 1000nm spectral band (HD 2021T.1).
  - Monitoring tanning lamps irradiance within UVA (HD 2021T.2) and UVB (HD2021T.3) spectral regions, as well as efficiency control in filters for high pressure UV lamps.
  - Efficiency control in UV lamps used in water purification plants, where UVC (HD2021T.4) band irradiance needs to be constantly monitored.
- HD2021T transmitters can be installed either for indoor or outdoor applications (Protection: IP66). In case of extremely intense light sources measuring, the transmitter sensitivity can be reduced upon request. The HD 2021T series employs filters and photodiodes especially studied to adjust spectral response to a specific region of interest.

### Installation of transmitters

After choosing the right position where to install HD2021T, we need to provide the electric connections inside the transmitter. Loosen the four screws on the lid in order to lift it; the inside of the transmitter will look as in figure n.1. On the terminal board we will locate three terminals with the following tags:

GND → meaning the ground referred to power supply and output signal  
 +Vcc → where the positive pole of the power supply has to be connected (in case of continuous power being employed)

Vlux (output) → system output to be connected to the positive pole of a Multimeter or Data Logger

The sample below shows the installation of HD2021T illuminance transmitter monitoring lamps intensity. For this kind of application, HD2021T transmitters are generally installed on ceilings, close to the area where illuminance needs to be monitored (figure 2). Through a reference Luxmeter (ex. HD2102.1(2) with probe LP471 PHOT) previously placed in the operating area, we work on HD2021T potentiometer until we get to the desired reference value. HD2021T output is able to control several adjustable feeders at the same time.

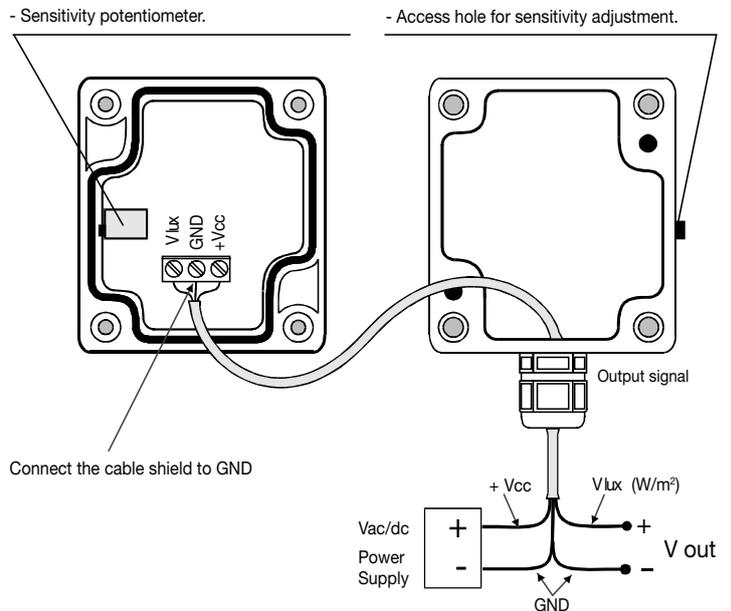


fig. 1

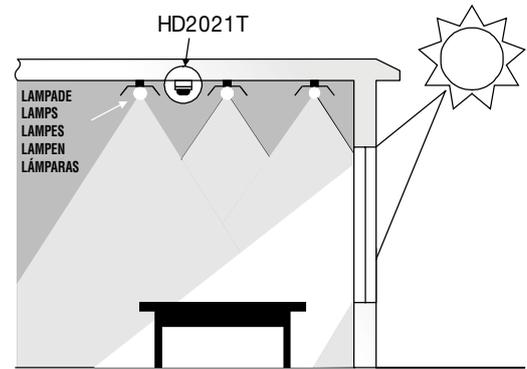


fig. 2

* The full scale value has to be selected in the fields A, B, C				
MODEL	A	B	C	X
HD 2021T	0.02÷2 klux	0.2÷20 klux	2÷200klux	Other ranges on request for at least 5 pcs per order
HD 2021 T1	0.2÷20 W/m <sup>2</sup>	2÷200 W/m <sup>2</sup>	20÷2000 W/m <sup>2</sup>	
HD 2021 T2	0.2÷20 W/m <sup>2</sup>	2÷200 W/m <sup>2</sup>	20÷2000 W/m <sup>2</sup>	
HD 2021 T3	2÷200 W/m <sup>2</sup>	20÷2000 W/m <sup>2</sup>		
HD 2021 T4	2÷ 200 W/m <sup>2</sup>	20÷2000 W/m <sup>2</sup>		

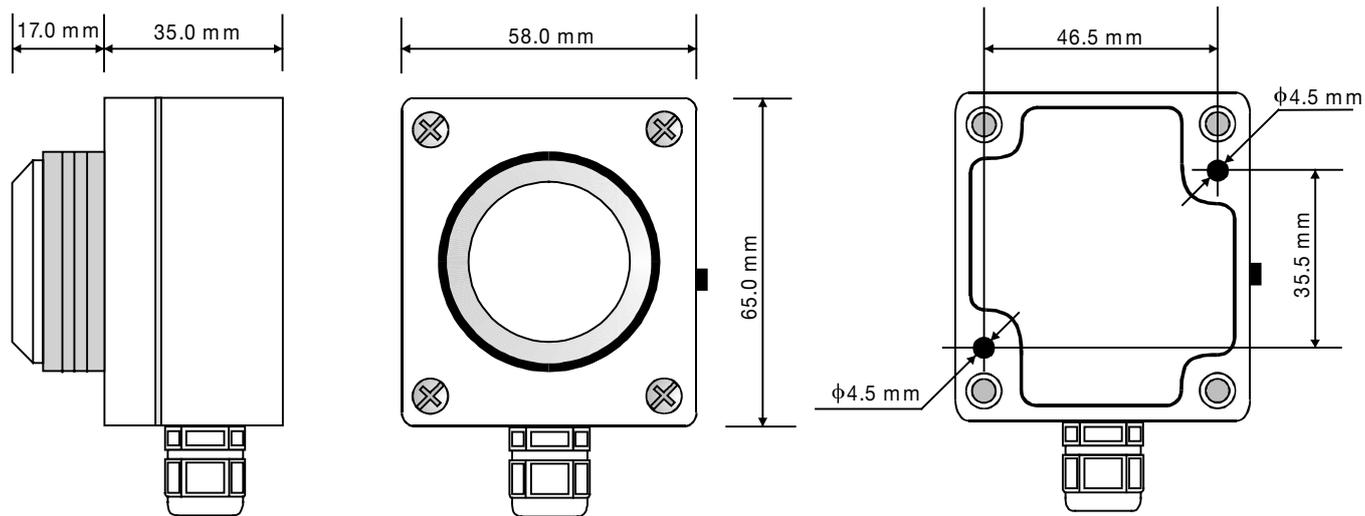
\*\* For voltage output 0÷10V please indicate: V  
 For current output 4÷20mA please indicate: A  
 i.e. HD2021TBA: Transmitter for illuminance range 0,2÷20klux, Output 4÷20mA

## TECHNICAL SPECIFICATIONS

	HD2021T	HD2021T.1	HD2021T.2	HD2021T.3	HD2021T.4
Sensor	Photodiode Si	Photodiode Si	Photodiode GaP	Photodiode SiC	Photodiode SiC
Spectral range	Curve V(l)	450 ÷ 1000 nm	UVA	UVB	UVC
Viewing angle	Corrected in accordance with the Cosine law				
Sensitivity	5-500 mV/lux	1-100 mV/(mW/m <sup>2</sup> )	1-100 mV/(mW/m <sup>2</sup> )	0.1-10 mV/(mW/m <sup>2</sup> )	
Output signal	0 ÷ 10 V (0 ÷ 1 V, 0 ÷ 5 V for at least 5 pcs per order) 4 ÷ 20mA				
Power supply	16 ÷ 40 Vdc or 24 Vac, for 0 ÷ 10 V output 10 ÷ 40 Vdc or 24 Vac for 0 ÷ 1 V, 0 ÷ 5 V output - 10 ÷ 40 Vdc for 4 ÷ 20 mA output				
Power consumption	10 mA				
Working temperature	-20 ÷ +60 °C				
Electrical protection	Protected against polarity inversions				
Maximum dimensions	58 mm x 65 mm x 52 mm				
Degree of protection	IP 66				
Maximum cable length	150 m				

**DIMENSIONS:**

HD2021T, HD2021T.1, HD2021T.2, HD2021T.3, HD2021T.4

**CE CONFORMITY**

Safety	EN61000-4-2, EN61010-1 LEVEL 3
Electrostatic discharge	EN61000-4-2 LEVEL 3
Electric fast transients	EN61000-4-4 LEVEL 3
High energy surge	EN61000-4-5 LEVEL 3
Voltage variations	EN61000-4-11
Electromagnetic interference susceptibility	IEC1000-4-3
Electromagnetic interference emission	EN55020 class B

Manufacture of portable and bench top instruments

Current and voltage loop transmitters

Temperature - Humidity - Pressure - Air speed - Light - Acoustics - pH

Conductivity - Dissolved Oxygen - Turbidity - Elements for weather stations - Thermal Microclimate



CENTRO DI TARATURA SIT N.124: Temperatura - Umidità - Pressione - Velocità dell'aria - Acustica - Fotometria/Radiometria

SIT CENTRE N°124: Temperature - Humidity - Pressure - Air speed - Acoustics - Photometry/Radiometry

