UV1

UV FLAME DETECTOR

SUITABLE FOR HYDROGEN FLAME MONITORING

UV1 is an UV detector that can be used for flame detection in gas, oil and mixed burners together with suitable Burner Control Unit or Flame Amplifier Device.
The core element is a gas-filled quartz glass bulb containing two electrodes to which an electrical voltage is applied. When an ultraviolet electromagnetic radiation hits the phototube, an ionization process is triggered leading to an electric discharge and the electrons emitted by the negative electrode are captured by the positive electrode, producing a current flow.
UV1 is a compact unit for industrial use, the body is made by thermal isolating material to avoid sensor overheating when applied on the burner head.
When the temperature at peepsight exceed 90°C it's advisable to insert the UCJ joint between the sensor and the burner, applying cooling filtered air flow.
Although UV1 is blind to sunlight, some discharge lamps produce UV emission that can be detected by the phototube.

SAFETY INFORMATION

Read and understand this manual before installing, operating, or servicing this unit. This unit must be installed according to this manual and local regulations. The drawings may show units without covers or safety shields to illustrate details. Disconnect power supply and follow all usual safety precautions before carrying out any operation on the device. Be sure to reinstall covers or shields before operating any devices.
The device is not user serviceable, a faulty device must be put out of order and sent back for servicing.

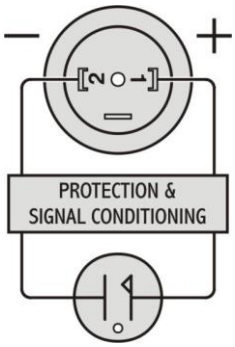
CONTRIVE manufactures products used as components in a wide variety of industrial systems and equipment. The selection and application of products remain the responsibility of the equipment manufacturer or end user.
CONTRIVE accepts no responsibility for the way its products are incorporated into the final system design. All systems or equipment designed to incorporate a product manufactured by CONTRIVE must be supplied to the end user with appropriate warnings and instructions as to the safe use and operation of that part.
Any warnings provided by CONTRIVE must be promptly provided to the end user.

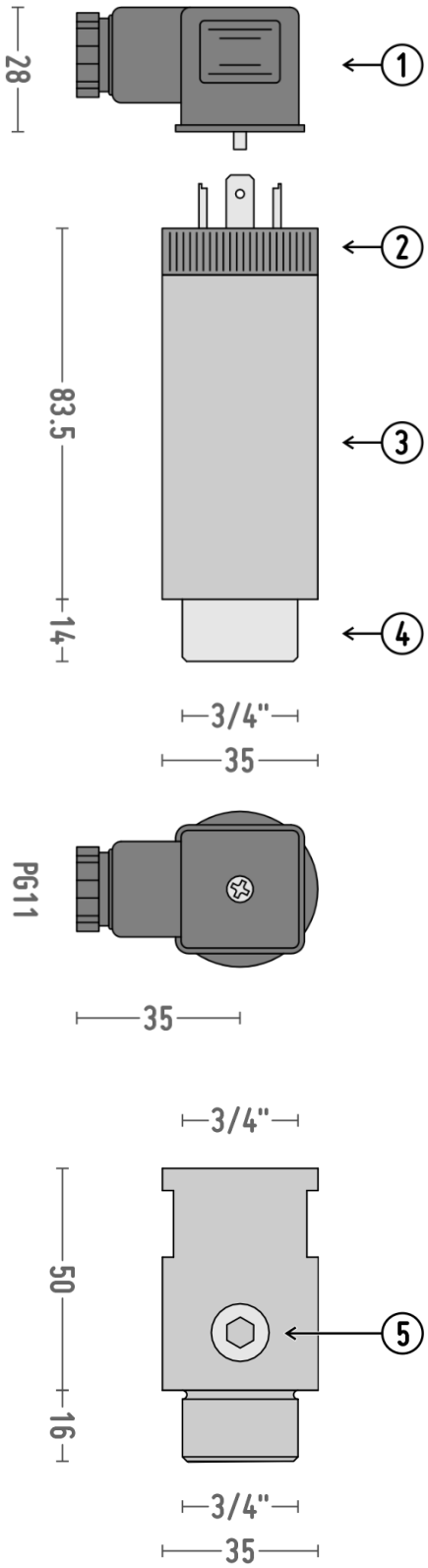
CONTRIVE guarantees for two years from the date of manufacture of its product to replace, or, at its option, to repair any product or part thereof (except fuses and with some limitations for tubes and photocells) which is found defective in material or workmanship or which otherwise fails to conform to the description of its sales order. CONTRIVE makes no warranty of merchantability or any other warranty express or implied. CONTRIVE assumes no liability for any personal injury, property damage, losses, or claims arising from misapplication of its products.

RECEIVING

Please perform the following tasks after receiving the product:

- Inspect the unit for damage. If the product appears damaged upon receipt, contact the shipper immediately.
- If you have received the wrong model or the device does not function properly, contact your supplier.
- Store the product in a dry place, see technical specification for temperature limit.





[mm]

WIRING DIAGRAM

1	POSITIVE TERMINAL USUALLY CONNECTED TO GROUND
2	NEGATIVE TERMINAL USUALLY CONNECTED TO AMPLIFIER INPUT

CONNECTION WITH REVERSED POLARITY DOES NOT DAMAGE THE DETECTOR BUT PRODUCES NO USEFUL FLAME SIGNAL

CLASS II DEVICE
CONNECTION TO PROTECTION GROUND IS NOT REQUIRED

TECHNICAL DATA

SPECTRAL RESPONSE	185 … 260 nm
OPERATING VOLTAGE	200 … 280 VAC
SENSITIVITY	5000 cpm
OPERATING TEMPERATURE	-40 … +125°C
PROTECTION CLASS	IP65
OPERATING LIFE	> 20.000 hours @ 50°C
VIBRATION	0,5 G MAX
RELATIVE HUMIDITY	NON CONDENSING 10 … 90%
MOUNTING POSITION [1]	ANY
WEIGHT	160 g

[1] DO NOT INSTALL ON TOP IN VERTICAL POSITION WHEN COMBUSTION PRODUCTS CAN FILL THE VOLUME IN FRONT OF THE SENSOR

1	DIN43650 – ISO4400 CONNECTOR 2 POLES + EARTH – PG11
2	DIN43650 – ISO4400 SOCKET 2 POLES + EARTH
3	EPOXY GLASS BODY GRAY POLYESTER COATING
4	¾" BURNER HEAD CONNECTION NICKEL PLATED BRASS

INTERNAL QUARTZ GLASS PROTECTION
TRANSMITTANCE > 92% @190 nm
WITH MINERAL FIBER SEALING GASKETS

OPTIONAL COOLING JOINT

EPOXY GLASS – GRAY POLYESTER COATING

5	¼" COOLING AIR CONNECTION FITTED WITH STAINLESS STEEL GRUB SCREW

WEIGHT 75 g

1450.01.00

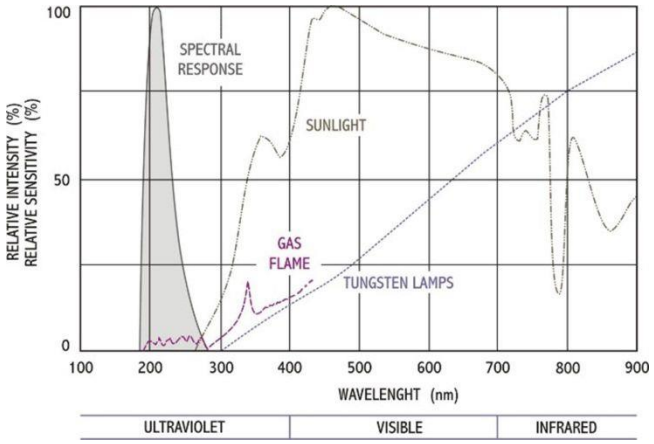
UV FLAME SENSOR

1450.0J.00

COOLING JOINT

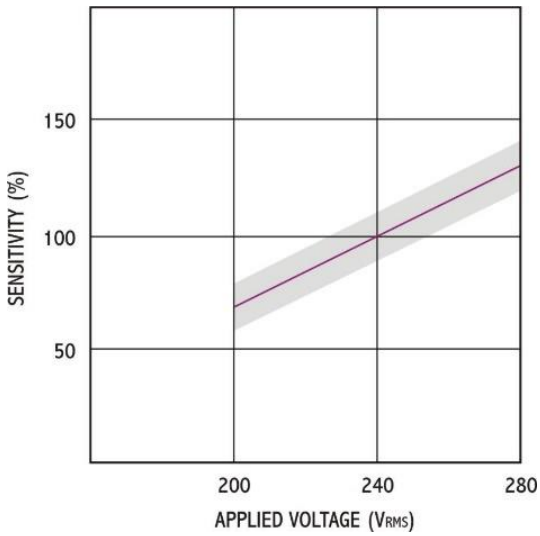
SPECTRAL RESPONSE vs LIGHT SOURCES

Sensitivity shows no response in the visible region and is limited to a very narrow region of the ultraviolet spectrum typical of radiation by gas and oil flames.



SENSITIVITY vs SUPPLY VOLTAGE

Sensitivity increases as the voltage applied to the sensor increases, which must always be kept within the operating range to avoid malfunctions and damage.



NOTICE

When Contrive products are combined with equipment manufactured by others and/or integrated into systems designed or manufactured by others, the Contrive warranty pertains only to Contrive products and not to any other equipment or to the combined system or its overall performance. Certification invalid or not applicable in such cases.

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