

# Flame Sensor Module

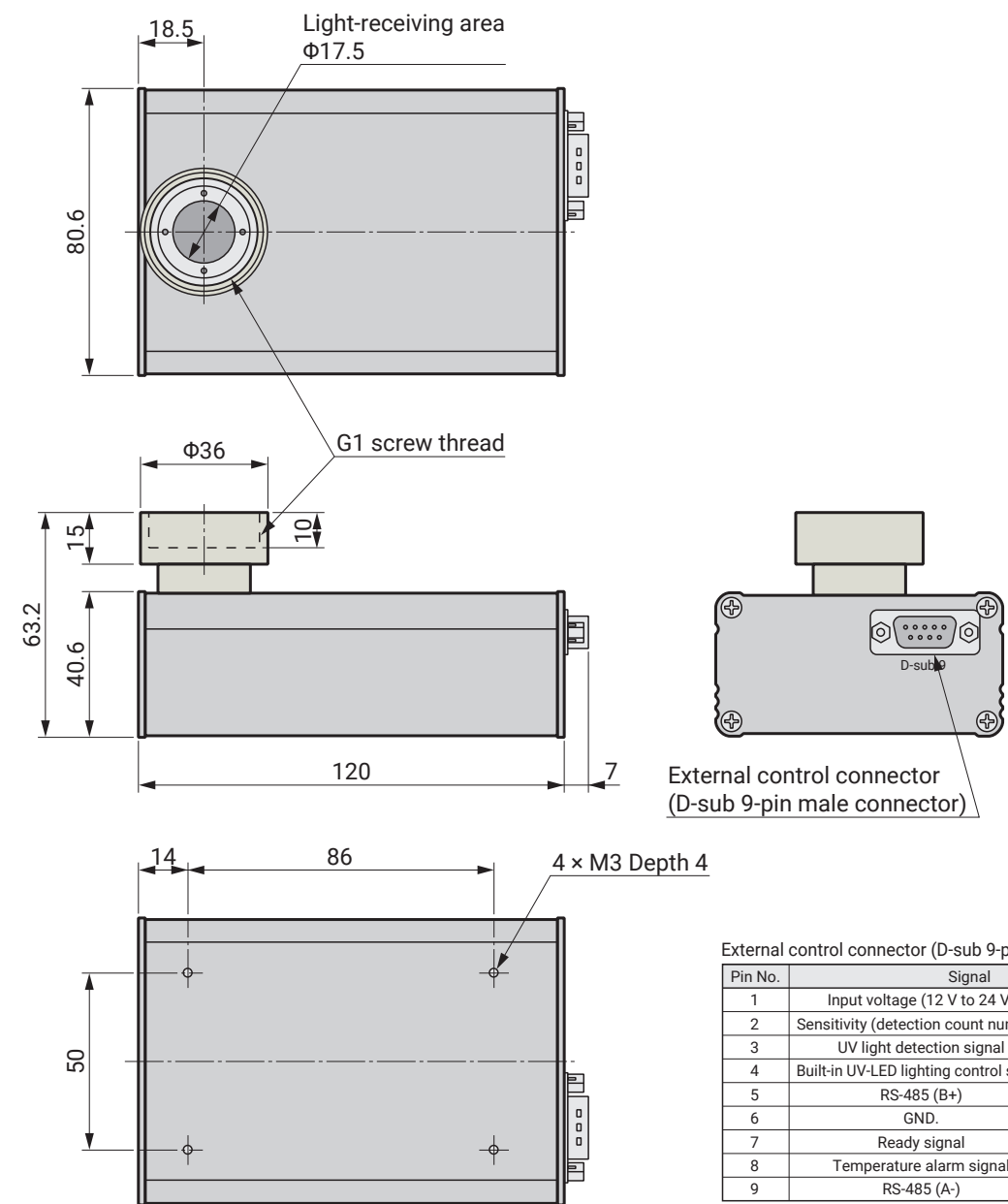


# Flame Sensor Module

A module that integrates the UVTRON® flame and discharge sensor with a driver circuit and a signal processing circuit for background noise processing and other tasks. It can be used to easily detect UV light simply by inputting DC voltage. The module acquires information such as sensitivity (detection count number) and a UV light detection signal via a D-sub connector, and can perform UVTRON® operation checks using the built-in UV-LED. The light-receiving unit is fitted with a G1 screw thread so that it can be easily installed on combustion devices.



Dimensional outline (Unit: mm)



Weight: Approx. 295 g

## Specifications

### ●Flame sensor module C16956-02

Item			Description / Value	Unit
Equipped UVTRON®			R14388	—
Spectral response range			185 to 260	nm
Characteristics (at 25 °C)	Sensitivity *1	Typ.	10 000	min <sup>-1</sup> *5
	Background noise *2	Max.	5	min <sup>-1</sup> *5
	Expected life *3		25 000	h
Recommended operating conditions	Input voltage (DC)		12 to 24	V
	Quenching time		2 to 20	ms
Power consumption		Max.	1.2	W
Cooling method			Natural air cooling	—
Operating temperature range			-10 °C to +60 °C	—
Storage temperature range			-10 °C to +80 °C (no freezing)	—
Operating humidity range			20 % to 80 % (no condensation)	—
Storage humidity range			80 % or less (no condensation)	—
External control			Ready signal, UV light detection signal, sensitivity output, temperature alarm signal	—
Applicable standards	EMC standards		IEC 61326-1 Emission limits: CISPR 11 Group 1 Class A Immunity requirements: Table 2	—
	Safety standards			
	Environmental standards (RoHS)		EN 63000	
Shock resistance characteristics *4			1000	m/s <sup>2</sup>
Weight			Approx. 295	g

\*1: Value was measured at wavelength 200 nm and intensity of light 10 pW/cm².

\*2: Value was measured at recommended operating conditions under indoor lighting (approx. 500 lx).

\*3: Value for sustained electrical discharge at recommended operating conditions.

\*4: Value was measured at an action time of 11 ms using the IEC 60068-2-27 shock test method.

\*5: min<sup>-1</sup> indicates counts/min.

External control connector (D-sub 9-pin) connection

Pin No.	Signal	
1	Input voltage (12 V to 24 V)	Input
2	Sensitivity (detection count number)	Output
3	UV light detection signal	Output
4	Built-in UV-LED lighting control signal	Input
5	RS-485 (B+)	—
6	GND.	—
7	Ready signal	Output
8	Temperature alarm signal	Output
9	RS-485 (A-)	—

## Notes and requests on the product

<https://www.hamamatsu.com/all/en/support/disclaimer.html>

## Precautions for using flame sensor module

[https://www.hamamatsu.com/content/dam/hamamatsu-photonics/sites/documents/99\\_SALES\\_LIBRARY/etd/UVtron\\_TPT1038E.pdf](https://www.hamamatsu.com/content/dam/hamamatsu-photonics/sites/documents/99_SALES_LIBRARY/etd/UVtron_TPT1038E.pdf)

- Hamamatsu Photonics makes constant efforts to improve product quality and reliability, but this does not guarantee the product integrity of the product.  
Please implement a design providing ample safety (redundant design, fire spread prevention design, malfunction prevention design, etc.) within customer's equipment manufactured using the product in order to avoid personal injury, fire and damage to society that might possibly occur in the unlikely event of a failure of the product. In particular, when the product is used in a piece of equipment or an environment where the malfunction or failure of the product could result in personal injury, death or serious damage to property (hereinafter referred to as the "particular application"), the safety design must take into account the possible failures. We will not be liable for any use in such particular application unless we give our prior written consent by way of specification sheets, etc.
- Since the durability of the product varies depending on the operating environment and conditions, be sure to evaluate and confirm the operation of the product in the condition in which it is installed in the customer's equipment and in the actual operating environment. If any doubt arises about the safety of the product, please notify us as soon as possible and also be sure to implement technical measures for the above stated safety design (redundant design, fire spread prevention design, malfunction prevention design, etc.).
- When exporting the product (including cases when providing technology), please comply with export-related laws and regulations in your country, such as the Foreign Exchange and Foreign Trade Law of Japan, and be sure to obtain an export license or a service transaction license if necessary. Please contact our sales office for information on whether or not the product is subject to these export-related laws and regulations.
- The application examples described in our product literature are not intended to guarantee suitability for any particular application or the success or failure of any commercial use. No guarantee or license is granted for the enforcement of any intellectual property rights. We will not be held liable for any intellectual property rights issues that may arise with third parties as a result of using this information.
- When disposing of the product, take appropriate measures in compliance with applicable regulations regarding waste disposal, and correctly dispose of it yourself or entrust proper disposal to a licensed industrial waste disposal company. In any case, be sure to comply with the regulations in your country or state to ensure correct disposal.
- Please do not use the product in special environments such as in liquids, dust, or with high levels of corrosive gases.
- The product may malfunction due to unintentional UV light, such as sparks from arc welding or germicidal lamps. Take sufficient precautions for the area where the product is installed and used.
- When storing or transporting the product, keep it in the packing box. The product has passed the shock test method IEC 60068-2-27. However, if the packing box is dropped or bumped during storage or transportation, an excessive mechanical stress may have been applied, causing damage or degradation of characteristics. Handle with care and take adequate measures to avoid dropping and bumping. The product should be stored indoors at low humidity and stable room temperature where no corrosive gases are present and no condensation occurs.
- If the product fails due to manufacturing defects within one year after delivery, we will replace it free of charge. The scope of the warranty is limited to replacement of the product. The product will be out of warranty in the case of use in a particular application without our prior consent.

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Cat. No. TPT 1037E03  
SEP/2025 IP