

EnergYTEK Corporation

Flame/UV detector Switch Instruction Sheet



Flame/UV Detector Switch are essentially switches which, when used with the appropriate sensors, can signal the presence or absence of a flame or ultraviolet (UV) light and flame rod.

SPECIFICATIONS

ELECTRICAL RATING: 115/230Vac ($\pm 10\%$), 50/60 Hz.

CONTACT: 3 isolated DPDT contacts. Rating: 5A.

AMBIENT TEMPERATURE LIMITS: -10 to + 60 °C

MAXIMUM RELATIVE HUMIDITY: 90% RH at + 40 ° C.

DEGREE OF PROTECTION: IP40

FLAME FAILURE RESPONSE TIME: Less than one second

CLASSIFICATION: CE LVD: SM2K09016, EMC: SE2K09028

INSTALLATION

IMPORTANT

1. Disconnect the power supply before beginning the installation.
2. Whenever possible, use the burner/boiler manufacturer's instructions. If these are not provided, follow the instructions below.

ONLY FOR FS-01: you have an internal fuse to protect your flame detector.

Mounting

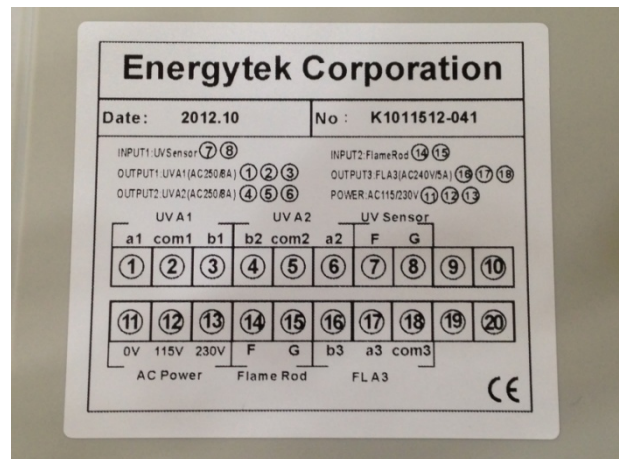
1. The switch may be installed in any plane, but the vertical is recommended.
2. Ensure that sufficient space is available to access the switch for servicing or removal.

Wire the switch

1. Wiring and overload protection should conform to local electrical regulations
2. Verify that the wiring is correct before power on.

TYPICAL WIRING DIAGRAMS

FS-01



FRONT PANEL



CHECKOUT AFTER INSTALLATION

Check the points on this list before starting the system

- That system overload protection is correct.
- That wiring connections are correct and that all terminal screws are tight.
- That the flame detector is correctly installed and that the correct flame detector is being used.
- That the burner is completely purged and ready to fire with the fuel lines purged of air.
- That the combustion chamber and flues are clear of fuel. That power is on at the system main switch.

Note that the following have an influence on flame detector performance.

- (1) Position, size and burning characteristics of the flame.
 - (2) Ambient temperature at the detector (except flame rod).
- See detector instruction sheet.

(3) Refractory - When refractory temperature exceeds 1370°C (2500°F), some ultra-violet radiation may occur. Lower refractory temperatures may affect photocells; see relevant data sheets.

(4) Temperatures of sensor

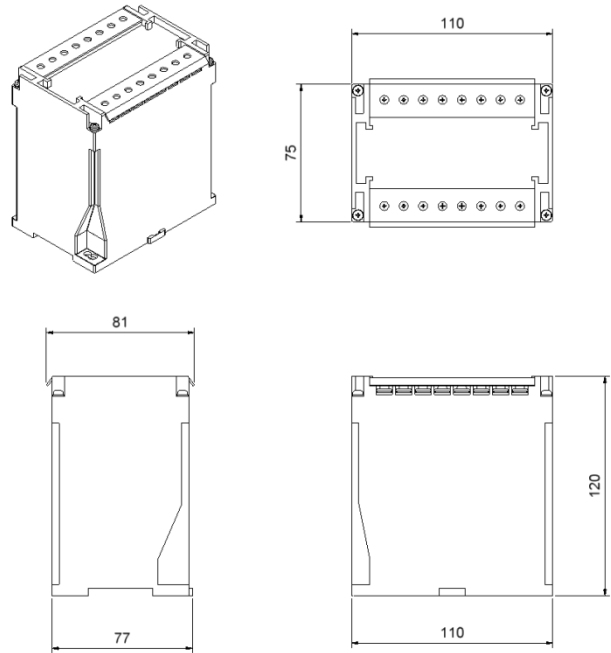
Flame rods: ensure suitable rod.

Other sensors: see relevant data sheets.

a detective component.

** Do not permit signal to exceed 5 μ A as it could shorten photocell life.

Flame detector	Recommended condition	If less than minimum or unsteady*, check for
Rectifying Flame Rod C7004B C7005A/B C7007A C7008A C7009A C7011A Q179A/B/C/D	2 - 5 μ A	Sufficient earthing area Good area connection. Proper positioning of flame rod in flame
Ultraviolet (rectifying) C7012A/C/G	Must be steady. Will be 3 - 6 μ A microamperes	Proper sighting. Clean lens and/or filter. An unsteady signal indicates the detector is viewing an unstable part of the flame
Ultraviolet (power tube) C7027A, C7035A, C7044A	Must be steady. Will be 3.5 - 7.5 μ A microamperes.	



* Indicates a marginal installation, a defect in the circuit or

Honeywell®紫外線火焰偵測及火焰感應棒偵測開關使用說明



本偵測開關基本上是利用連接至本開關之合適的火焰棒或紫外線偵測器，來檢知火焰或紫外線存在於否，以作動內部之繼電器，以達到控制之目的。

規格

電源：115/230Vac (± 10 %), 50/60 Hz

接點：3組獨立DPDT接點。電流：5A

操作環境溫度：-10 至 + 60 °C

操作環境最大溼度：90% RH at + 40°C

防護等級：IP40

火焰失效反應時間：小於一秒

認證字號：CE LVD:SM2K09016、EMC:SE2K09028

安裝

注意

1. 安裝前請先移除電源。
2. 盡可能參照燃燒機或鍋爐廠商之操作手冊。如廠商無提供操作手冊，請參照以下說明。

僅限於FS-01：本檢知開關內部電路設有保險絲，以保護您的檢知器

安裝

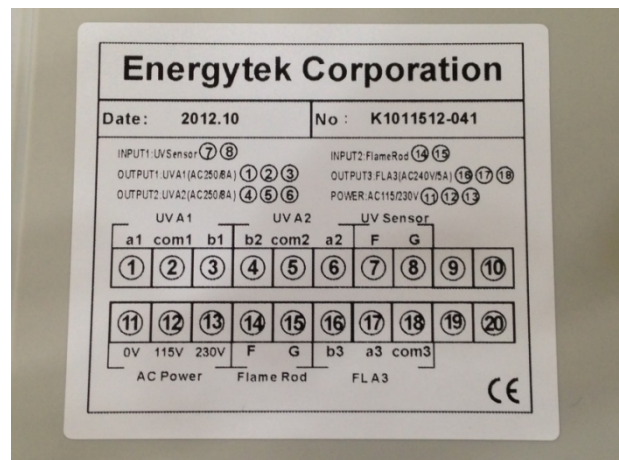
1. 本開關可裝置於控制箱之任何部位，安裝時請以垂直方式安裝。
2. 安裝時確保留有足夠的空間以備日後維修或拆除之用。

接線

1. 接線及過載保護須符合當地法規
2. 啟動前請再一次的確認接線是否正確

接線圖

FS-01



前方面板



安裝後確認

啟動前請先確認下列之重點

- 確認系統之過載保護是否裝置正確
- 確認接線是否正確，其接點固定螺絲是否鎖緊
- 確認是否連接合適之火焰檢知器及其接線是否正確
- 確認燃燒機及燃料管路是否清氣完成以備啟動
- 確認燃燒室及煙道是否淨空、主電源是否啟動

注意：下列狀況可能會有影響火焰檢知器之性能

- (1) 火焰之位置、尺寸及其外觀特性
- (2) 火焰開關之環境操作溫度(火焰棒除外)
- (3) 斷熱材料-當斷熱材料的溫度超過1370°C (2500°F)時，斷熱材料可能會產生紫外線。

(4) 檢知器溫度：

火焰棒或紫外線檢知器：確認是否使用合適之火焰棒或紫外線檢知器。

其他檢知器：請參照相關資料

* 表示最低限度之安裝，在電路上可能有缺陷請偵錯

**訊號電流請勿超過5 μ 安培，超過可能會降低光電元件之壽命

火焰檢知器	建議使用電流	如低於最小操作限度或不穩定*時請依下列說明執行檢查
各種火焰棒 Honeywell® C7004B C7005A/B C7007A C7008A C7009A C7011A Q179A/B/C/D	2 - 5 μ A	充分的接地、 火焰棒於火焰之適當位置
紫外線檢知器 Honeywell® C7012A/C/G C7027A C7035A C7044A	3 - 7.5 μ A	適當的看見火焰、 清潔視窗玻璃、 不穩定的火焰信號 代表看到局部火焰

