



R4343D / R4343E

INSTRUCTION SHEET / BEDIENUNGSANLEITUNG / FEUILLE D'INSTRUCTION / FOGLIO D'ISTRUZIONE



Flame detector Relays

Flame Detector Relays R4343D and R4343E are essentially switches which, when used with the appropriate sensors, can signal the presence or absence of a flame or ultraviolet (UV) light.

- Flame current meter jack socket permits monitoring of flame signal strength.
- Plug-in mounts onto a subbase for surface mounting. (Housing meets IP40)

Flammenwächter

Die Flammenwächter R4343D und R4343E werden zusammen mit den geeigneten Flammenfühlern zur Flammenüberwachung in Industrieanlagen verwendet. Die Flammenwächter können auch zur Überwachung von UV-Strahlenquellen (z.B. elektr. Funken) benutzt werden.

- Flammenstrom-Prüfbuchse
- Steckverbindung zwischen Flammenwächter und Klemmenanschlusskasten. (Schutzart IP40)

Relais de Détection De Flamme

Les relais de détection de flamme R4343D et R4343E sont des organes de coupure qui, lorsqu'ils sont utilisés avec capteurs adéquats, peuvent signaler la présence ou l'absence, de flamme ou d'ultraviolet (UV).

- Un jack en face avant permet la mesure du courant de flamme.
- La partie embrochable se monte sur une embase pour montage mural (Degré de protection: IP40)

Relè rivelatore di fiamma

I relè rivelatori di fiamma R4343D e R4343E sono essenzialmente degli interruttori che quando usati con gli appropriati sensori possono segnalare la presenza o l'assenza di una fiamma.

- La presa per la misura della corrente di fiamma permette il controllo diretto dell'intensità del segnale di fiamma.
- L'unità ad innesto si monta su una sottobase (Contenitore che soddisfa i requisiti IP40).

R4343D, R4343E

SPECIFICATIONS

MODELS: R4343D Flame Detector Relay, for use with rectification - type flame detectors.
 R4343E Flame Detector Relay, for use with UV power tube flame detectors e.g. Honeywell C7027, C7035 and C7044.

ELECTRICAL RATING:

Two models available to operate at 115Vac, 230Vac (+ 10 % to - 15%), 50/60 Hz.

CONTACT: 2 isolated DPDT contacts. Rating: 2A at 0.65 power factor.

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 (standard models).
 Other timings available on request.

CLASSIFICATION: OOCRXO

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 R4343E: you have an internal fuse to protect your flame detector.
 F 0.032 A 250 VIF

Mount the subbase

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

Wire the subbase

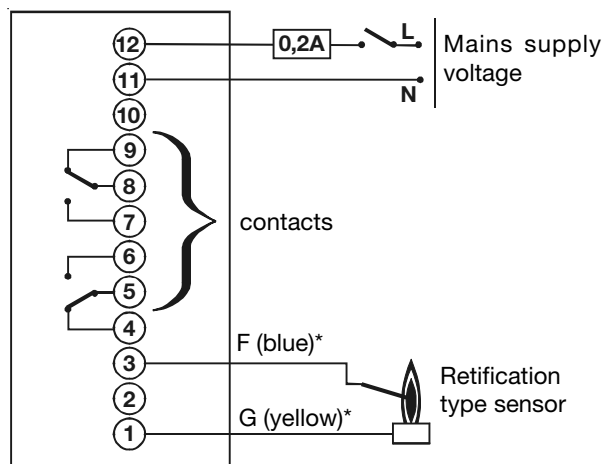
1. Wiring and overload protection should conform to local electrical regulations
2. Verify that the wiring is correct before plugging in the relay.

Mount relay on the subbase

1. Plug the relay into the subbase.
2. Secure the relay to the subbase by tightening the two captive screws on the relay face.
3. When installation is completed, check the flame current value as described below.

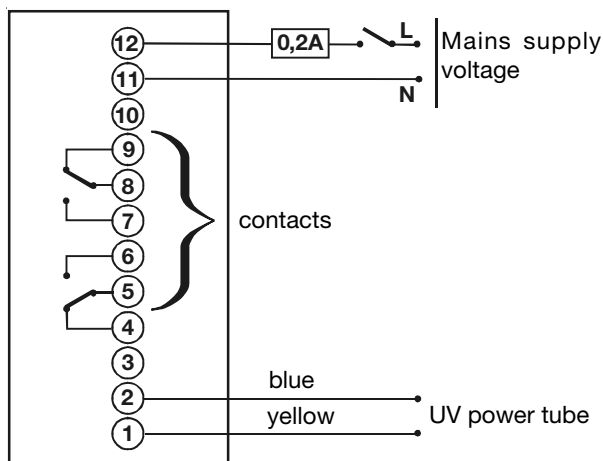
TYPICAL WIRING DIAGRAMS

R4343D (recommended)



* only for C7012A/C/G

R4343E (recommended)



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.

FLAME DETECTOR CHECKOUT

The performance of the relay depends upon how well the flame detector is installed. For guidance on how to properly install a flame detector, consult the burner/boiler manufacturer's instructions and the information packed with the detector.

Flame current check

The test jack on the face of the relay allows the value of the flame current to be easily measured. Use a Honeywell W136A micro ammeter (or equivalent), which has a plug for insertion into the test jack socket.

The expected maximum and minimum values of flame current for the various types of flame detectors are given in the table below together with hints on what to check if the current is unsteady or weak.

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.

Flame detector	Recommended condition	If less than minimum or unsteady*, check for	How to measure
Rectifying Flame Rod C7004B C7005A/B C7007A C7008A C7009A C7011A Q179A/B/C/D	2 - 5µA	Sufficient earthing area Good area connection. Proper positioning of flame rod in flame	Use a Honeywell W136 A micro ammeter or equivalent at meter jack
Rectifying Photocell C7003A C7010A C7013A C7014A	2 - 5µA**	Proper sighting. Clean lens and/or filter.	
Ultraviolet (rectifying) C7012A/C/G	Must be steady. Will be 3 - 6µA 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 µA microamperes.		

* Indicates a marginal installation, a defect in the circuit or a defective component.

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

