

## RIV-601P/F IR flame detector remote test function

The **test** function makes it possible to remotely monitor the full detector operation both in **alarm** state or if **faulty**. This function is performed by powering a small incandescent bulb placed near the infrared sensor inside the detector. The bulb light is made pulsing by a built-in modulator circuit, in order to simulate a real flame.

If the test is held on for more than 5 seconds, then the detector goes into the alarm state just for a small time of 0.5 seconds, then it restarts the waiting cycle of 5 seconds. During all the time the test is on, the detector outputs a small alarm pulse of 0.5 second every 5 seconds. During this test pulse the front LED lamp is lighted for 0.5 seconds, the **S** terminal goes low for 0.5 seconds, and the relay contact too is activated for 0.5 seconds, i.e., the normally closed contact (**C-R**) opens for 0.5 seconds, and the normally open contact (**C-L**) closes for 0.5 seconds. If the detector is faulty, it does not respond to the test function, and no test pulse is generated. Therefore the test pulses do mean the detector is healthy, instead the absence of test pulses do mean the detector is faulty.

Please remember that this internal test does not allow to check the detector optical window integrity from a dust or dirt build-up but only the electronic circuit operation. Then if the optical window is dirty, the sensitivity is reduced, and the fire could not be detected, even if the test is ok. Anywhere, a small dust or dirt amount does not make the detector blind.

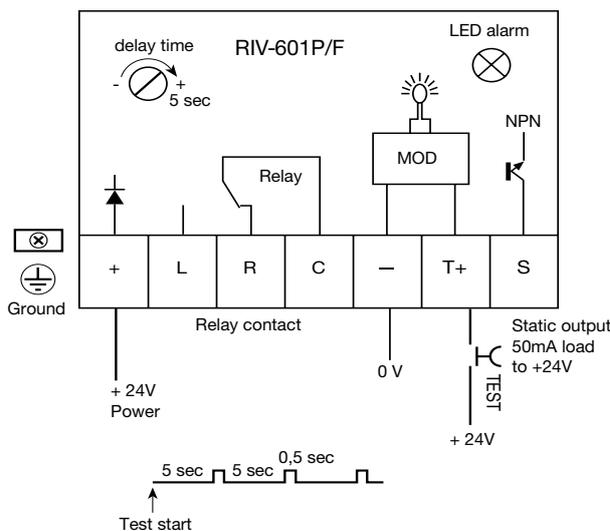
To externally check the detector, a cigarette lighter could be lighted in front of the detector, but it must be waived in order to create a real fire flame. For an automatic optical window integrity checking, the optional LAM-612 unit could be used, which will generate the test pulsing light from an external position to the detector window.

### Manual test

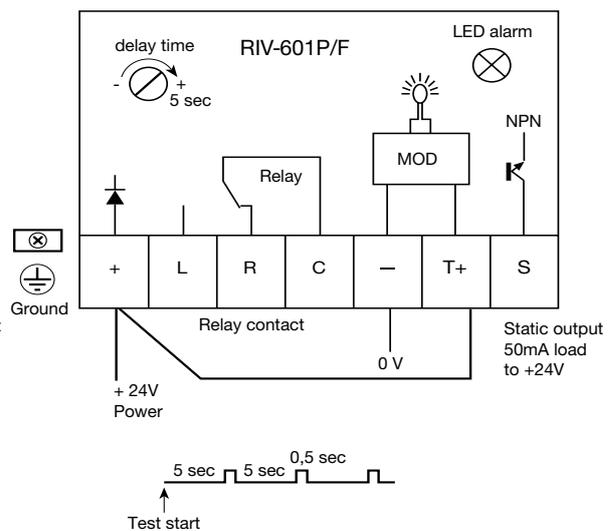
The **T+** terminal is connected to +24V through a normally open test pushbutton. Hold the push button on for at least 10-20 seconds. After 5 seconds the detector gives a short 0.5 seconds alarm pulse, then restarts and waits another 5 seconds to give a second 0.5 seconds pulse, etc., for as long as the pushbutton is held closed. As soon as the pushbutton returns open the test cycle is reset. During the manual test the alarm panel must disable all alarm outputs, or it must be able to recognise the short pulses only as a healthy detector state, since the fire alarm state is longer, at least 5 seconds.

### Automatic test

The **T+** terminal is wired to (+) terminal (+24 V). After the 5 seconds initial delay time the test pulses cycles are started. One 0.5 seconds alarm pulse is given every 5 seconds time period. In this case the alarm panel must be able to recognise the short pulses only as a healthy detector state, since the fire alarm state lasts longer, at least 5 seconds, in order to provide a fault warning signal if the test pulses are discontinued. With a standard alarm panel which cannot be programmed to recognise the test pulses, a more standard solution is suggested, as described in the following page, in which the test is used to cause a line short circuit fault warning signal.



Manual test



Automatic test