

# RATE OF RISE HEAT DETECTOR WITH ADDRESS MODULE



## 6120L

# TERMODIFERENCIJABILNI JAVLJAČ POŽARA

## 1. INTRODUCTION

The Rate of rise heat detector is designed to provide early warning of a fire condition reacting upon a sensitive rate of rise in temperature and/or upon reaching a fixed temperature threshold.

## 2. STRUCTURE AND FUNCTION

The detector consists of two parts: a base and a detectors head. The latter comprises a circuit board and a chamber with head sensitive element. The contact plates are fixed to the base.

The detector head is fixed on the base by the means of bayonet joints. When locating the detector head on the base, make sure the bench mark stands about 20 mm before the respective bench mark on the base, then rotate clockwise to fix. The bench marks should fully coincide when fixed. A flat point screw is provided on the detector head to prevent unauthorized removal. A 2 mm tip screwdriver is required for locking and unlocking.

The principle of function of the detector is based on the ohmic resistance alteration in the thermistor as a result of the ambient temperature change. It detects a rise in temperature by sensing a differential in circuit resistance caused by changes in the state of the thermistors.

Upon activation the detector illuminates two red LEDs, situated on the detector head (360° visibility). The LEDs can be reset and extinguished by momentarily removing the power source.

Detector's type and sensitivity are marked.

On fig.2 is shown DIP switch for the addresses and the address number label. The DIP switch is protected by a transparent cover. Address assignment is made through the DIP switch, according Fire Control Panel FS6000 Instruction Manual, Appendix 9. Fire detectors addressing is made via special communication protocol.

## 3. PREPARING THE DETECTOR FOR OPERATION

### 3.1 Connection diagram

Connection diagram of a fire detector base to two-wire fire alarm line, using shielded wire, is shown on fig.3. Shielded wire is strongly recommended for reducing electromagnetic interferences.

### 3.2 Mounting

Separate the base from the detector head by turning the detector head in an anti-clockwise direction.

Feed the connection cable through the cable entry in the center of the base. Fix the address label on its appropriate place. Pull the protection cover and assign the necessary address through the DIP switch. After completion replace the cover and press until a "click" sound is heard.

Note: DIP switch should not be set to middle (null) position, because it would cause an incorrect reception of a fire detector address by the fire control panel.

Replace the detector head on the base by offering the detector head to the base ensuring bench marks are no more than 20 mm apart. Rotate the detector head in a clockwise direction to complete location.

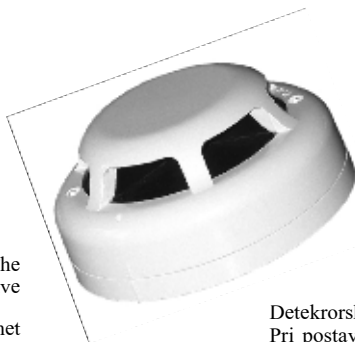
Lock the detector head to the base by screwing the flat point screw, using a 2 mm tip screwdriver, ensure not to over tighten.

### 3.3 Testing

Test is made when the fire detector is connected to FS6000 Fire control panel and according the provided test procedures. Place a permanent magnet on the detector heads surface at the point marked test periphery. The twin LEDs will illuminate. After removing the magnet the LEDs should remain lit until reset by momentary interruption of the power supply. In addition a simulation test of real fire conditions should be completed by a heat probe.

## 4. WARRANTY

The manufacturer guarantees compliance with EN 54 Standard, Part 5. The warrant period is 36 months from the date of purchase, providing that requirements stated in the service schedule have been observed.



## 1. UVOD

Termodiferencijabilni javljač požara je namenjen za otkrivanje požara u ranoj fazi ragujući na brzinu porasta temperature ili pri prelasku maksimalne zadate temperature.

## 2. STRUKTURA I PRINCIP RADA

Detektor se sastoji iz dva osnovna dela: kućišta i glave detektora. Glava detektora se sastoji od štampane ploče i termo elementa. Kontaktni priključci su fiksirani na kućištu.

Detektorska glava je pričvršćena na kućište bajonetnom vezom.

Pri postavljanju detektorske glave u kućište reperi na kućištu i glavi treba da su udaljeni oko 20 mm pre upadanja u žleb posle čega okrenećemo glavu detektora u smeru kazaljke na časovniku. do završavanja. Reperi moraju biti poklopljeni. Pljosnati vijak završivač je predviđen za sprečavanje neovlašćene demontaže. Odvijač od 2 mm je potreban za zaključavanje odn. otključavanje. Princip rada detektora se zasniva na promeni omskog otpora termistora kao rezultat promene spoljašnje temperature. On detektuje porast temperature očitavajući razliku u otpornom kolu uslovljenu promenama stanja termistora.

Posle aktiviranja LED indikatori svetle crveno, i smešteni su u glavi detektora (vidljivo u krugu 360°). LED indikatori mogu biti resetovani samo momentalnim kratkim prekidom napajanja detektora.

Na detektoru su označeni tip i osetljivost detektora. Na slici 2 prikazan je DIP prekidač za adresiranje i oznaka adrese javljača. DIP prekidač je zaštićen providnim poklopcem. Postavljanje adrese javljača vrši se preko DIP prekidača, prema Uputstvu adresne centrale FS6000, Poglavlje 9. Adresiranje javljača se omogućava specijalizovanim protokolom.

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## 3. PRIPREMA JAVLJAČA ZA RAD

### 3.1 Shema veze

Shema veze kućišta javljača i dvožilnog voda sa širmom je prikazana na slici 3. Širm se obavezno preporučuje zbog otklanjanja elektromagnetnih interferenci.

### 3.2 Montaža

Razdvojiti kućište od glave detektora okrećući ga suprotno kretanju kazaljke na satu.

Provući kabli kroz centralni otvor na kućištu. Pričvrstiti kućište za zid ili plafon odgovarajućom vijčanom vezom. Izvršiti ožičenje kao što je prikazano na slici 3. Postaviti oznaku adrese na odgovarajuće mesto. Ukloniti zaštitni poklopac i dodeliti adresu pomoću DIP prekidača. Vratiti zaštitni poklopac pritiskajući ga dok se ne čuje zvuk "klik".

Napomena: DIP prekidač ne setovati u srednji (multi) položaj zato što će usloviti netačnu detekciju požara protivpožarne centrale.

Vratiti glavu detektora u kućište tako da reperi budu udaljeni oko 20 mm. Okrenimo glavu detektora u smeru kazaljke na satu do završavanja.

Osigurajmo glavu detektora za kućište pomoću završivača, ne pretežući, pomoću dvomilimetarskog odvijača.

### 3.3 Test

Test se sprovodi kada je javljač vezan za protivpožarnu centralu prema predviđenoj test proceduri. Staviti permanentni magnet na površinu glave detektora na mestu TEST. Indikatori treba da svetle. Posle pomeranja magnet indikatori moraju i dalje da svetle sve do resetovanja indikatora.

Test se može izvršiti i sondom za topli vazduh.

## 4. GARANCIJA

Proizvođač garantuje da proizvod odgovara EN 54, Part 5. Garancijski rok je 36 meseci od dana kupovine, samo pod uslovima navedenim u servisnom planu.

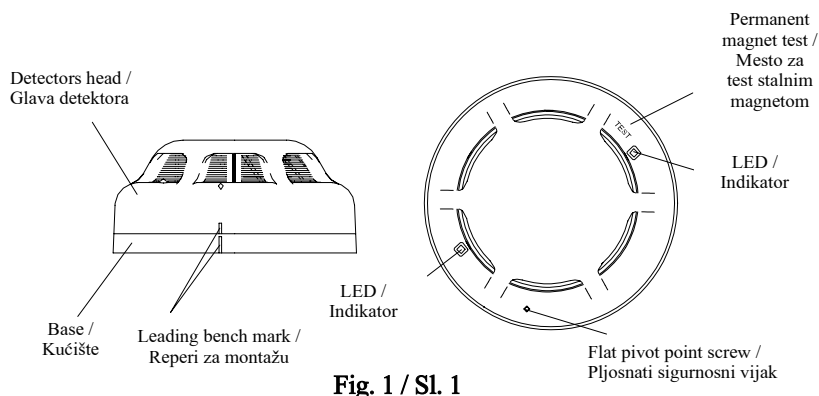


Fig. 1 / Sl. 1

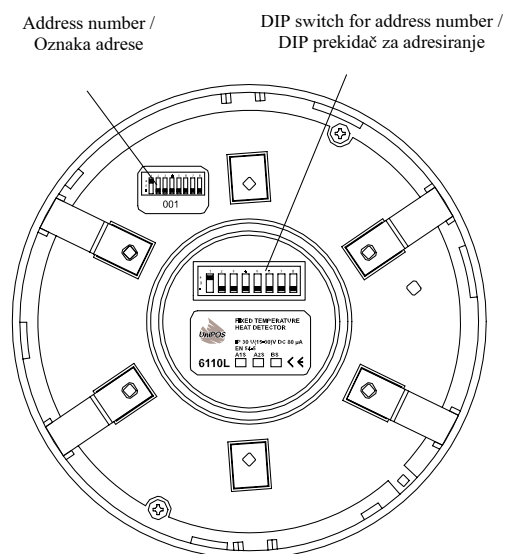


Fig. 2 / Sl. 2

## TEHNICAL DATA / TEHNIČKE KARAKTERISTIKE

<b>Supply voltage</b> / Radni napon	– 22.5 (±7.5) V DC
<b>Average current consumption in quiescent state</b> Srednja potrošnja struje u radnom režimu	– 80 µA at (pri) 22.5 V DC
<b>Sensitivity</b> / Osetljivost	– EN 54/5 – Class A1S, A2S or (ili) BS (Table 1 / Tabela 1)
<b>Response time</b> / Vreme reagovanja	– EN 54/5 (Table 2 / Tabela 2)
<b>Protected area</b> / Površina zaštite	– 35 m <sup>2</sup> at (pri) 3.5 m height
<b>Permanent magnet test option</b> / Test stalnim magnetom	– available / da
<b>Type of the line to the fire control panel</b> / Tip veze linije na centralu	– two wire / dvožilna
<b>Remote indicator option (connection is made through a build in 4.7 kΩ resistor)</b> Mogućnost uključanja paralelnog indikatora (veza moguća preko ugrađenog otpornika od 4.7 kΩ)	– available / da
<b>Level of protection</b> / Stepen zaštite	– IP30
<b>Operational temperature range</b> / Radni opseg temperatura	– minus 10°C / plus 90°C
<b>Relative humidity resistance</b> / Relativna vlažnost	– 90 (+3 -2) at (pri) 40°C
<b>Dimensions (with base)</b> / Dimenzije (sa osnovom)	– <b>diameter</b> / prečnik – Ø 106 mm – <b>height</b> / visina – 48 mm
<b>Weight (inc. base)</b> / Težina (sa osnovom)	– 0.160 kg

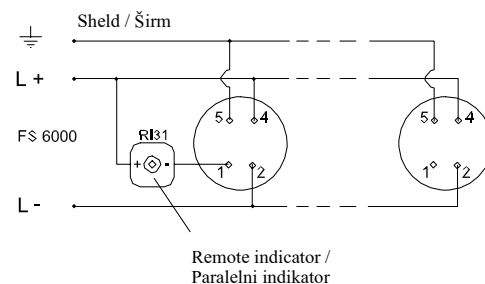


Fig. 3 / Sl. 3

### SERVICE SCHEDULE / SERVISNI PLAN

	Task / Zadatak	Periodicity / Periodičnost
1	Check for physical damage / Provera vidljivih mehaničkih oštećenja	weekly / nedeljno
2	Test correct operation / Provera radne sposobnosti u realnim uslovima	monthly / mesečno
3	Preventive cleaning against dust contamination / Preventivno čišćenje prašine	every 6 months / polugodišnje
4	Preventive cleaning and inspection of contacts / Preventivno čišćenje i provera veza	Annually / godišnje

Table 1 / Tabela 1

FIRE DETECTOR / Detektor Class / Klasa	Application temperature / Upotrebna temperatura		Operational temperature / Radna temperatura	
	Typical / tipična	max	min	max
A1	25	50	54	65
A2	25	50	54	70
B	40	65	69	85

Table 2 / Tabela 2

Rate of rise / Brzina porasta °C/min	Class A1 / Klasa A1		Class A2, B / Klasa A2, B	
	Lower limit / Donja gr. min/sec	Lower limit / Donja gr. min/sec	Lower limit / Donja gr. min/sec	Lower limit / Donja gr. min/sec
1	29:00	40:20	29:00	46:00
3	7:13	13:40	7:13	16:00
5	4:09	8:20	4:09	10:00
10	1:00	4:20	2:00	5:30
20	0:30	2:20	1:00	3:13
30	0:20	1:40	0:40	2:25