

TSpy Series Addressable Detectors

SAFETY MESSAGE TO INSTALLERS

People's lives depend on your safe installation of our products. It is important to read, understand and follow all instructions shipped with this product. Listed below are some other important safety instructions and precautions you should follow.

This product must be installed and maintained by a qualified electrician in accordance with NFPA 72 and National and local Electrical and fire codes, under the direction of the authority having jurisdiction.

Refer to 780-0920 rev A for guidelines on detector location, spacings, maintenance, and servicing tests under various environmental conditions and physical configurations.

Do not connect this product to system wiring when circuits are energized.

After installation and completion of initial system test, provide a copy of this instruction sheet to all personnel responsible for operation, periodic testing and maintenance of this equipment.

Failure to follow all safety precautions and instructions may result in property damage, serious injury, or death to you and others.

GENERAL

The TSpy series smoke and heat detectors employ advanced addressable analog communications. Built-in DIP switches are used to conveniently set the detector's address. The base has output terminals for connection to a remote LED.

TSpy detectors are compatible with Harrington Signal's FireSpy® Tracker fire alarm control panels (T1000, T2000 and T8000).

Refer to technical bulletin 780-0920 rev A for additional installation and maintenance information.

INSTALLATION

NOTE

Refer to the control panel's documentation to determine the maximum number of detectors that may be installed on a single circuit.

WARNING

To reduce the risk of electrical shock, make sure that all power has been turned off or disconnected prior to attempting to install wiring or connect power.

Installing the base

1. To ensure proper installation of the detector head to the base, all wires should be properly installed. Installed wiring must be secured in the terminals and lie flat against the base. Refer to Figure 2 for wiring.
2. The detectors are intended for mounting on a ceiling or wall in an open area. They must be installed in accordance with local codes.
3. The base can be mounted directly onto a standard electrical box (not

| Model | DIP switch addressable | Smoke sense | Heat sense | Remote LED |
|--------|---------------------------|----------------|------------|---------------|
| TS8-DP | • | • | | • |
| TS8-DH | • | | • | • |
| TS8-DM | • | • | • | • |

Table 2: Features comparison

| Specification | Rating |
|-----------------------------------|--------------------------------------|
| Listed | ETL, Standard UL268,521 |
| Use / Environment | Commercial / Indoor, dry |
| Operating voltage | 17 to 28 VDC |
| Standby current | 950uA @ 24 VDC |
| Max alarm current | 5mA @ 24VDC (LED on) |
| Max remote LED output current | 2mA @ 1.5 V |
| Operating Humidity | 10% to 93%, relative, non-condensing |
| Operating Temperature | 14 to 100 °F (-10 to 37.8 °C) |
| Height | 1.8 in. (46 mm) with base |
| Diameter (head) | 3.93 in. (100 mm) |
| Maximum detectors on one loop | 254 |
| Detector compatibility identifier | TS8D |
| Base compatibility identifier | TS8B4, TS8B6 |

Table 1: Specifications

supplied).

NOTE

Do not install the detector head until the area is thoroughly cleaned of construction debris, dust, etc. To prevent detector contamination and subsequent warranty cancelation, the smoke detector must remain covered until the area is clean and dust free.

Smoke detectors are not to be used with detector guards unless the combination has been evaluated and found suitable for that purpose.

Installing the head

1. Set the DIP switch to the desired address. Refer to Figure 3.
2. Mount the head to the base... a) align the detector head and detector base using the alignment marks shown in Figure 1, then b) twist the head clockwise until it stops.

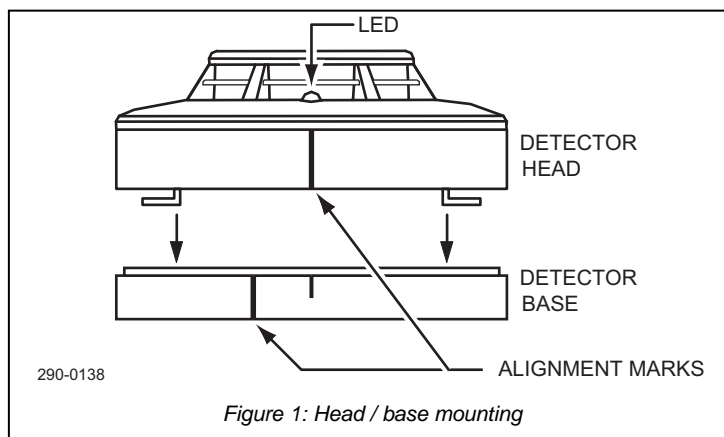
After all detectors have been installed, apply power to the control unit and activate detector communications. Finally, test all detectors (refer to TESTING).

TESTING

All alarm signal services, releasing devices, and extinguisher systems should be disengaged while testing and must be re-engaged immediately at the conclusion of testing.

Testing the smoke sensor

1. Allow smoke from a cotton wick or a test smoke aerosol to enter the detector-sensing chamber for at least 10 seconds.
2. The detector will signal an alarm condition and illuminate the red LED.
3. Clear smoke out of the chamber before resetting the LED to prevent interference with the detector's normal sensitivity readings.
4. If the LED does not illuminate, the detector is too insensitive or defective and must be returned for servicing.



Testing the heat sensor

The heat sensor is tested by subjecting it to a flow of warm air (150 to 180°F). A domestic hair dryer may be used for this.

1. Turn on the heat source and verify that the temperature is within the correct range and is stable.
2. From a distance of several inches, direct the warm air at the guard protecting the thermistor. The detector will signal an alarm condition within 30 seconds and illuminate the red LED.
3. Upon alarm, immediately remove the heat source.
4. If the detector fails to signal an alarm within 30 seconds, it is too insensitive or defective and must be returned for servicing.

MAINTENANCE

A vacuum cleaner may be used to clean dust from the detector head. Cleaning at least once every 12 months is recommended. A maintenance schedule should be set up and followed according to local regulations.

CAUTION

Do not attempt to disassemble the factory sealed smoke detector. This assembly is sealed for your protection and is not intended to be opened for servicing by users. Opening the detector head will void the warranty.

ORDERING INFORMATION

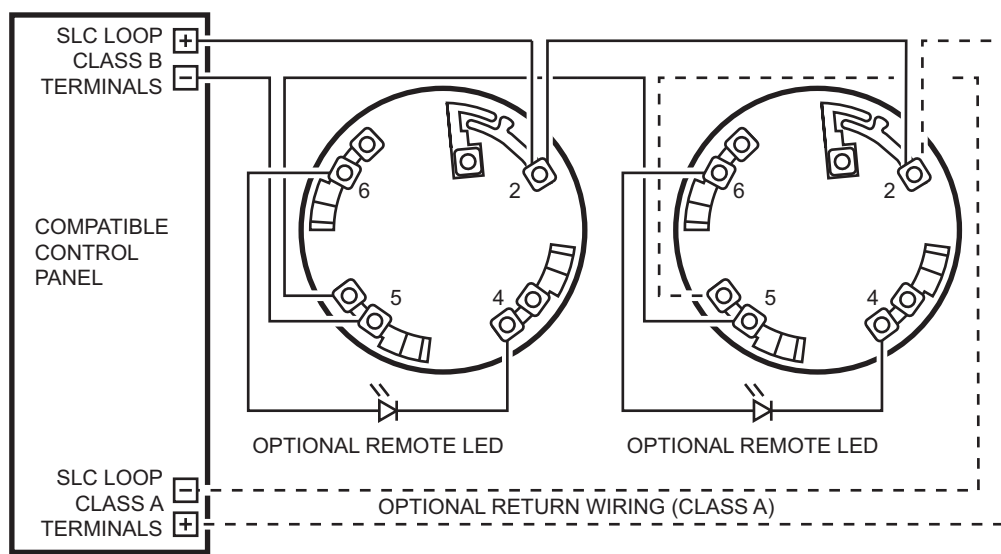
| Description | Model / Stock No. |
|-------------------------------------|-------------------|
| Photo smoke detector | TS8-DP |
| Heat detector (rate of rise/ fixed) | TS8-DH |
| Multisensor detector (photo/heat) | TS8-DM |
| 6" Base (for above heads) | TS8-B6 |
| 4" Base (for above heads) | TS8-B4 |

SERVICE

To get help with problems or questions not covered in these instructions, contact:

Technical Service Department
Harrington Signal Inc.
2519 - 4th Avenue
Moline, IL 61265
(800) 577-5758

FireSpy is a registered trademark of Harrington Signal Inc.



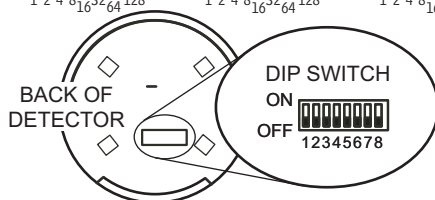
CAUTION: DO NOT USE LOOPED WIRES UNDER TERMINALS.
BREAK WIRE RUN TO PROVIDE MONITORING OF CONNECTIONS.

290-0137

Figure 2. Wiring.

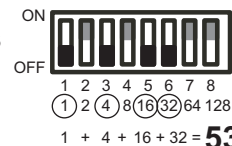
ADDRESS SETTINGS

| 1 2 3 4 5 6 7 8 | 1 2 3 4 5 6 7 8 | 1 2 3 4 5 6 7 8 | 1 2 3 4 5 6 7 8 | 1 2 3 4 5 6 7 8 | 1 2 3 4 5 6 7 8 | 1 2 3 4 5 6 7 8 | 1 2 3 4 5 6 7 8 |
|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|----------------------|
| 1 | 16 | 32 | 48 | 64 | 80 | 96 | 112 |
| 2 | 17 | 33 | 49 | 65 | 81 | 97 | 113 |
| 3 | 18 | 34 | 50 | 66 | 82 | 98 | 114 |
| 4 | 19 | 35 | 51 | 67 | 83 | 99 | 115 |
| 5 | 20 | 36 | 52 | 68 | 84 | 100 | 116 |
| 6 | 21 | 37 | 53 | 69 | 85 | 101 | 117 |
| 7 | 22 | 38 | 54 | 70 | 86 | 102 | 118 |
| 8 | 23 | 39 | 55 | 71 | 87 | 103 | 119 |
| 9 | 24 | 40 | 56 | 72 | 88 | 104 | 120 |
| 10 | 25 | 41 | 57 | 73 | 89 | 105 | 121 |
| 11 | 26 | 42 | 58 | 74 | 90 | 106 | 122 |
| 12 | 27 | 43 | 59 | 75 | 91 | 107 | 123 |
| 13 | 28 | 44 | 60 | 76 | 92 | 108 | 124 |
| 14 | 29 | 45 | 61 | 77 | 93 | 109 | 125 |
| 15 | 30 | 46 | 62 | 78 | 94 | 110 | 126 |
| 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 |
| 128 | 144 | 160 | 176 | 192 | 208 | 224 | 240 |
| 129 | 145 | 161 | 177 | 193 | 209 | 225 | 241 |
| 130 | 146 | 162 | 178 | 194 | 210 | 226 | 242 |
| 131 | 147 | 163 | 179 | 195 | 211 | 227 | 243 |
| 132 | 148 | 164 | 180 | 196 | 212 | 228 | 244 |
| 133 | 149 | 165 | 181 | 197 | 213 | 229 | 245 |
| 134 | 150 | 166 | 182 | 198 | 214 | 230 | 246 |
| 135 | 151 | 167 | 183 | 199 | 215 | 231 | 247 |
| 136 | 152 | 168 | 184 | 200 | 216 | 232 | 248 |
| 137 | 153 | 169 | 185 | 201 | 217 | 233 | 249 |
| 138 | 154 | 170 | 186 | 202 | 218 | 234 | 250 |
| 139 | 155 | 171 | 187 | 203 | 219 | 235 | 251 |
| 140 | 156 | 172 | 188 | 204 | 220 | 236 | 252 |
| 141 | 157 | 173 | 189 | 205 | 221 | 237 | 253 |
| 142 | 158 | 174 | 190 | 206 | 222 | 238 | 254 |
| 143 | 159 | 175 | 191 | 207 | 223 | 239 | |
| 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 | 1 2 4 8 16 32 64 128 |



Default setting shown
(all positions set to OFF)
This is address 255.
Address 255 is not a
valid loop address.

EXAMPLE:
ADDRESS 53



Add up the binary
weight of each
switch that is in the
ON position.

Figure 3: DIP switch addressing