



Chipsmall Limited consists of a professional team with an average of over 10 year of expertise in the distribution of electronic components. Based in Hongkong, we have already established firm and mutual-benefit business relationships with customers from,Europe,America and south Asia,supplying obsolete and hard-to-find components to meet their specific needs.

With the principle of “Quality Parts,Customers Priority,Honest Operation,and Considerate Service”,our business mainly focus on the distribution of electronic components. Line cards we deal with include Microchip,ALPS,ROHM,Xilinx,Pulse,ON,Everlight and Freescale. Main products comprise IC,Modules,Potentiometer,IC Socket,Relay,Connector.Our parts cover such applications as commercial,industrial, and automotives areas.

We are looking forward to setting up business relationship with you and hope to provide you with the best service and solution. Let us make a better world for our industry!



## Contact us

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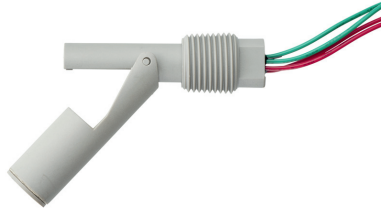
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# TSF80 Series

## 1/2" NPT External Mount with Temperature Sensing



The TSF80 series is a compact external fitting device, via 1/2" NPT thread, with a high specification thermistor so capable of sensing both liquid level and temperature.

The device is mounted through a 1/2" NPT boss, so does not require access to the inside of the tank.

Typical applications include vending machines, commercial washing machines and evaporator units.

They are manufactured in a variety of materials, to suit most commonly used liquids.

The switch action may be reversed by rotating the device through 180°.

- Compact design with temperature sensing
- 1/2" NPT thread for external mount
- 25VA & 100VA versions
- WRAS Approved versions

| Technical Specification | TSF83     | TSF84                          | TSF88                        | TSF86                           |
|-------------------------|-----------|--------------------------------|------------------------------|---------------------------------|
| Material                | Nylon     | Polypropylene<br>WRAS approved | Polypropylene<br>UL approved | Polyphenylene<br>Sulphide (PPS) |
| Colour                  | Black     | Opaque                         | White                        | Grey                            |
| Temp. Range °C          | -20 / +75 | -20 / +100                     | -20 / +100                   | -10 / +120 *                    |
| °F                      | -4 / +167 | -4 / +212                      | -4 / +212                    | +14 / +248 *                    |
| Min. Fluid SG           | 0.85      | 0.85                           | 0.85                         | 0.85                            |
| Must close level (SG=1) | 7mm       | 8mm                            | 8mm                          | 9mm                             |
| Must open level (SG=1)  | 20mm      | 20mm                           | 20mm                         | 24mm                            |

\* Maximum temperature requires ETFE cable to be specified.

| Electrical Specification | 25W (Y code) | 100W (H code) |
|--------------------------|--------------|---------------|
| Contact Form             | N/O (N/C)    | N/O (N/C)     |
| Switching Power Max      | VA           | 100           |
| Switching Voltage AC Max | V            | 240           |
| Switching Voltage DC Max | V            | 120           |
| Switching Current Max    | A            | 0.6           |
|                          |              | 1             |

All ratings are for resistive load only.

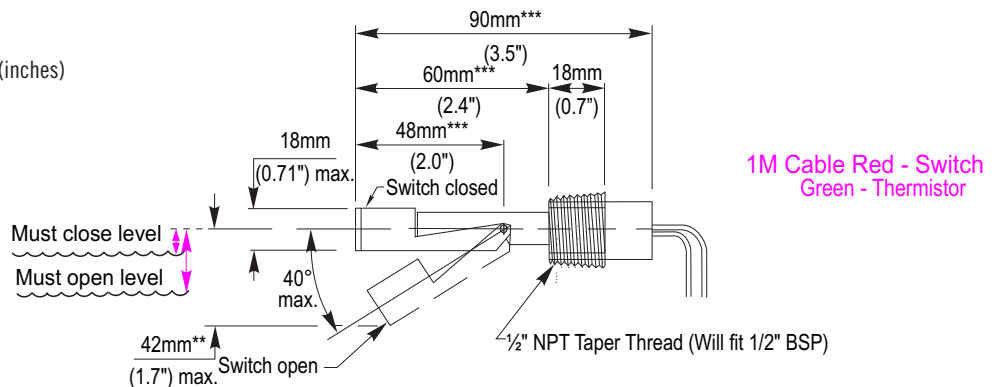
| Thermistor Specification       |                                   |
|--------------------------------|-----------------------------------|
| Nominal Temperature Resistance | 10k Ohm at 25°C                   |
| Resistance Tolerance           | +/- 1% (25°C) to +/- 4.3% (120°C) |
| Operating Temperature Range    | -20°C to +120°C                   |
| Temperature Sensing Accuracy   | +/- 0.2°C (0°C to +70°C)          |
| Beta Value                     | 3892K (0/50°C)                    |
| Response Time                  | <1 sec                            |
| Dissipation Constant           | 0.75mW/K                          |

| Standard Parts | Material | Temperature     | Max Power | Leadouts         | Output      |
|----------------|----------|-----------------|-----------|------------------|-------------|
| TSF83H100D     | Nylon    | -20°C to +75°C  | 100VA     | 100cm PVC 16/0.2 | SPNO + Temp |
| TSF83Y100D     | Nylon    | -20°C to +75°C  | 25VA      | 100cm PVC 16/0.2 | SPNO + Temp |
| TSF84H100D     | PP       | -20°C to +100°C | 100VA     | 100cm PVC 16/0.2 | SPNO + Temp |
| TSF84Y100D     | PP       | -20°C to +100°C | 25VA      | 100cm PVC 16/0.2 | SPNO + Temp |
| TSF86H050T     | PPS      | -10°C to +120°C | 100VA     | 50cm ETFE 19/0.2 | SPNO + Temp |
| TSF86H100D     | PPS      | -10°C to +100°C | 100VA     | 100cm PVC 16/0.2 | SPNO + Temp |
| TSF86Y050T     | PPS      | -10°C to +120°C | 25VA      | 50cm ETFE 19/0.2 | SPNO + Temp |
| TSF86Y100D     | PPS      | -10°C to +105°C | 25VA      | 100cm PVC 16/0.2 | SPNO + Temp |
| TSF88H100D     | PP (UL)  | -20°C to +100°C | 100VA     | 100cm PVC 16/0.2 | SPNO + Temp |
| TSF88Y100D     | PP (UL)  | -20°C to +100°C | 100VA     | 100cm PVC 16/0.2 | SPNO + Temp |

Custom versions can be made for particular applications. Please contact Cynergy3 with your requirements.

### Mechanical Dimensions

All dimensions are in millimeters (inches)



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- \*\* 49mm TSF86
- \*\*\* Add 10mm to dims, TSF86



ISO9001 CERTIFIED  
TSF80 2017

www.cynergy3.com