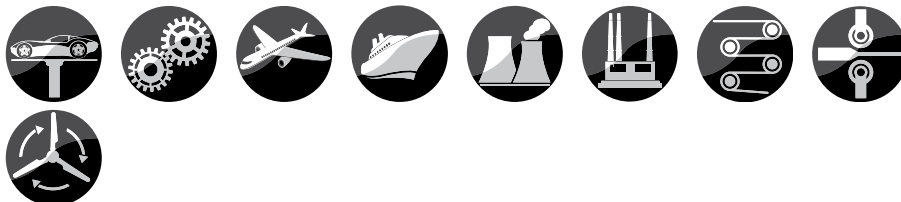


## ETS 1700 Series Temperature Switch with Display



### Applications



### Description

The electronic temperature switch ETS 1700 is used mainly together with the temperature probe TFP 100, which was specially developed for tank mounting.

The 4-digit display can indicate the actual temperature, one of the switching points or the maximum temperature.

The maximum temperature indicates the highest temperature which has occurred since the unit was switched on or was last reset.

The 4 switching outputs can be used to control heating and cooling processes in hydraulic systems, for example.

These 4 switching and switch-back points which are independent of each other can be adjusted very simply via the keypad.

For incorporation into monitoring systems (e.g. with PLC) an analog output (4 to 20 mA or 0 to 10 V) is also available.

### Special Features:

- 4-digit digital display
- Simple operation with key programming
- 4 limit relays, switching points and reset points can be adjusted independently
- Analog output signal selectable (4 to 20 mA or 0 to 10 V)
- Many useful additional functions
- Optional mounting position (*pressure connection on the top/bottom, keypad and display can be turned through 180°*)

### Approvals



CE mark is a mandatory conformity mark on many products placed on the single market in the European Economic Area

### Technical Details

Sensor Specifications	
Measuring ranges	32° to 212°F (0 to 100°C)
Accuracy	≤ ±2°F (1°C)
Temperature drift	≤ ±0.017% / °F max. zero point ≤ ±0.017% / °F max. range
Weight	Approximately 800 g
Output signal	4 to 20 mA, ohmic resistance max. 400 Ω 0 to 10 VDC, ohmic resistance min. 2 kΩ corresponds in each case to 0 to 100°C
External Temperature Sensor Specifications	
Rated Pressure for external sensor (TFP 100)	145 psi
Media temperature range	-40° to 257°F
Electrical connection	M18x1, 4 pole
Safety Sleeve Thermowell	
Parts in contact with medium	Nickel-plated Brass
Switching Specifications	
Type	4 relays with change-over contacts in 2 groups (common supply of each group connected)
Switching voltage	100mV to 250 V (AC or DC)
Switching current	0.009 to 2A
Switching power	400VA, 50 W (for inductive load use varistors)
Set point range	1.5 to 100% FS
Reset point range	1 to 99% FS
Switching cycles	> 20 million at minimum load > 1 million at maximum load
Environmental Condition	
Operating temperature range	-13° to 140°F (-25° to 60°C)
Storage temperature range	-40° to 176°F (-40 to 80°C)
CE mark	EN 61000-6-1 / 2 / 3 / 4
Vibration resistance to DIN EN 60068-2-6 at 0 to 500 Hz	≤ 5g
Environmental protection	IP 65
Electrical Specifications	
Supply voltage	22 to 32 VDC
Residual ripple supply voltage	≤ 10%
Current consumption	approximately 200 mA
Electrical connection	14 pole terminal block
Reverse polarity protection of the supply voltage, excess voltage, override and short circuit protection	Standard
Display	7 segment LED display, 4 digits, 13 mm high

## Model Code

### Display

- 01 = 4 digit °C
- 02 = 4 digit °F

### Measuring Range

- 100 = -13° to 212°F (0° to 100°C)

### Modification Number

- 000 = Standard

cable glands, mounting screw, a 5 pole female connector (Binder series 681) for connecting the separate temperature probe and a 10' sensor cable (LIYCY 4x0.25 mm<sup>2</sup>) are supplied with the unit.  
Other accessories, such as vibration mounts, etc. can be found in the Accessories section.

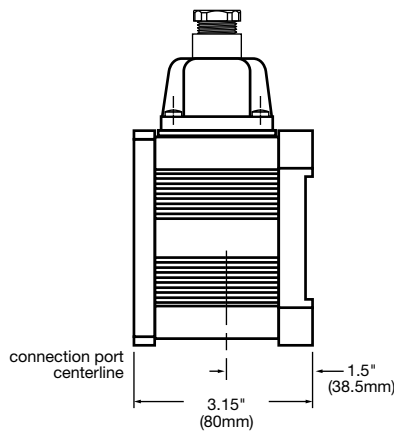
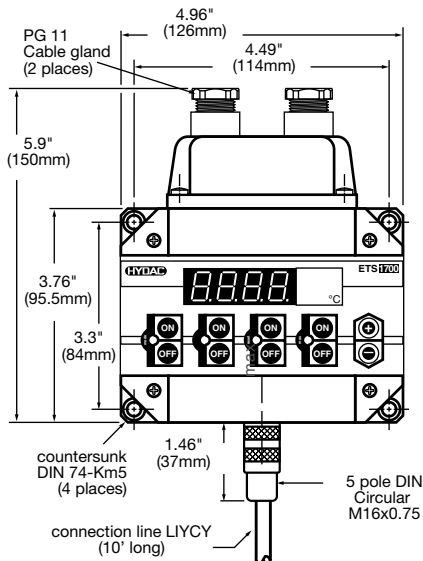
ETS 170 XX - X - 000

## Pin Connections

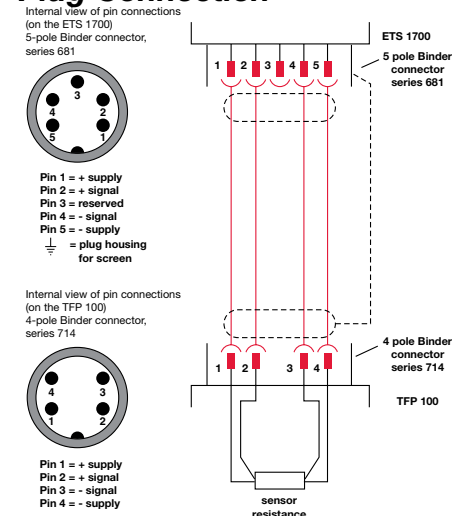
### Device Connection

Pin	
1	+U <sub>B</sub>
2	0 V
3	Analog output signal +
4	Analog output signal - (0 V)
5	Relay 1 N/C
6	Relay 1 N/O
7	Center relay 1 and 2
8	Relay 2 N/C
9	Relay 2 N/O
10	Relay 3 N/C
11	Relay 3 N/O
12	Center relay 3 and 4
13	Relay 4 N/C
14	Relay 4 N/O

## Dimensions



## Plug Connection



## TFP 100

## Safety Sleeve

External Sensor (TFP 100) must be used with TFP 100 thermowell.

TFP 100 Part Number: 00904696

TFP 100 Thermowell (Safety Sleeve) Part Number: 00906170

