



# STP660

## Water Temperature Sensor

The STP660 simplifies product selection and improves control loop performance with its unique probe assembly. The shaft is simply extended and inserted into the pocket, ensuring a good contact. The STP sensor can be used with a vast range of other manufacturer's pockets when used in conjunction with the pocket adaptor DWA0001. The use of the adaptor avoids system drain downs and costly down time.

The STP660 has a 7s response time, making it the optimum choice for economic control solutions.

The above sensor is available with the standard 'Satchwell' temperature sensor output characteristic.

### FEATURES

- Head design has easily removable, lid.
- Simple wiring connections.
- STP shaft is variable in length - 100mm to 330mm.
- Sensor crown ensures good thermal contact with pocket end.
- Fast response - STP has a 7s response time.
- Range of pockets in brass or stainless steel available separately.
- Optional pocket adaptor ensures compatibility with pocket head sizes up to 30mm A/F neck dimension.
- Simple commissioning.
- Easily fitted: perfect for permanent or temporary situations.
- IP 65 as standard.

# SPECIFICATION

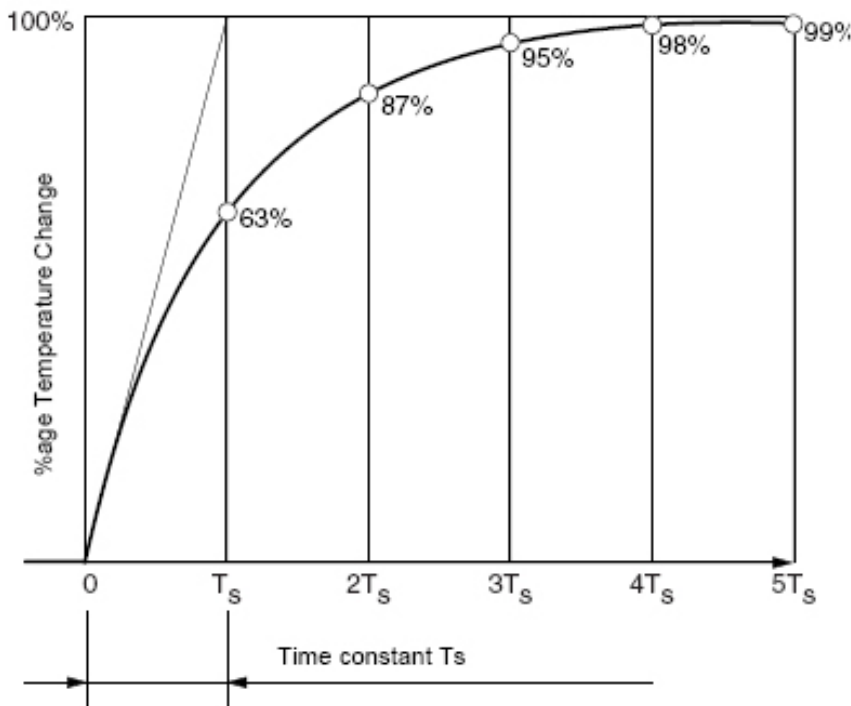
Mounting	Immersion
Min Stem Length	100mm
Max Stem Length	330mm
Resistance at 25°C	5502Ω
Temperature Sensing Range	-10 to 120°C
Compatible Controllers	BAS, CSC, CSMC, CXR, CXT, CZT, IAC, KMC, MMC, Satchwell MicroNet, Satchwell Σ (Sigma)
Protection Class	IP 65
Sensing Element	Negative Temperature Coefficient thermistor
Max Sensing Temperature	120°C
Time Constant	7 s
Wiring	2-wire non-polarised low voltage dc (Safety Extra Low Voltage (SELV))
Ambient Temperature Limits at Head	-40 to +70°C
Max Temperature in Storage/Transit	55°C
Min Temperature in Storage/Transit	-40°C
Max Humidity in Operation	95% RH
Min Humidity in Operation	0% RH
Max Humidity in Storage/Transit	95% RH
Min Humidity in Storage/Transit	0% RH
Head	Moulded base with lid (2 screw fixing).
Stem Material	Chromium plated Brass.
Terminals	Terminal block accepts 2 × 1.5mm <sup>2</sup> wires; larger sizes not recommended.
Accessories	DWA0001 Brass pocket adaptor DWA0002 Immersion pocket, 120mm, Stainless Steel DWA0003 Immersion pocket, 200mm, Brass DWA0004 Immersion pocket, 200mm, Stainless Steel DWA0005 Immersion pocket, 120mm, Brass
Characteristics	Non linear

Part Number	Order Code
STP660	5126080000

# SENSOR PRINCIPLES

A sensor does not transmit the change of a measured variable instantaneously. The delay in transmission (*time constant or lag coefficient*  $T_s$ ) can be shown in graphical form.

## Change in Temperature



The time taken to transmit 63% of the total change in the measured variable is referred to as the time constant or lag coefficient  $T_s$ .

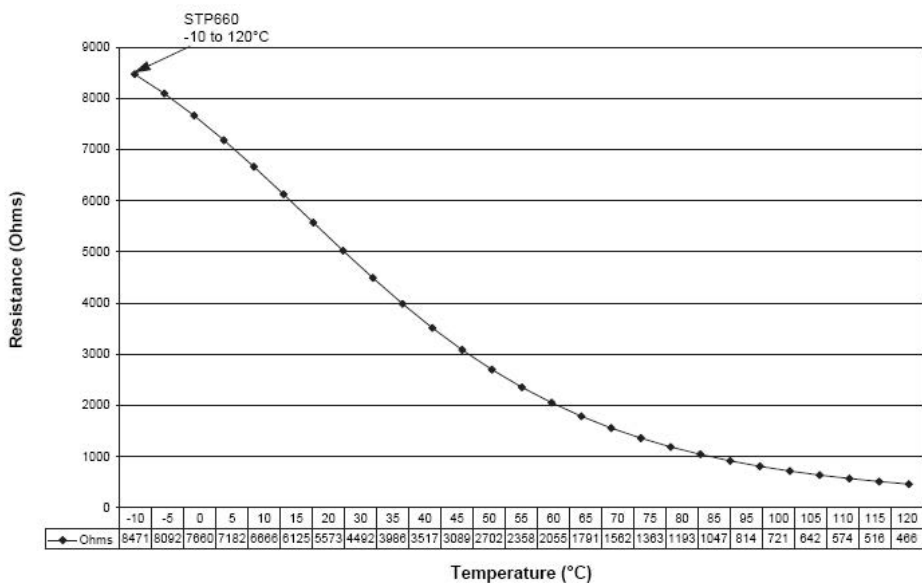
It takes a period equivalent to five times the lag coefficient to transmit approximately 99% of the change in measured variable.

The test is conducted for step temperature change from 20°C to 80°C.

## CHARACTERISTICS

### Sensor Temperature v Resistance

STP660: -10 to 120°C



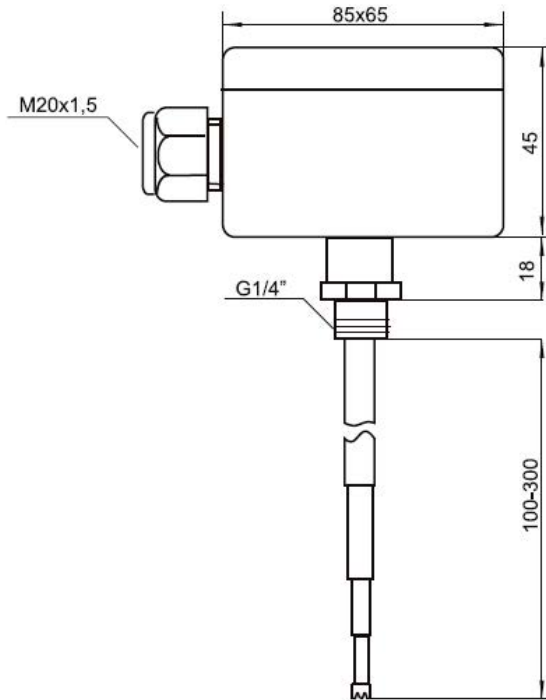
# WIRING DIAGRAMS

## Wiring Precautions

Refer to the datasheet relevant to the controller to which sensor is to be connected (see table on page 2).

Maximum resistance, 15Ω per core.

## Dimension Drawings



### Cautions

- Do not apply any voltages until a qualified technician has checked the system and the commissioning procedures have been completed.
- This sensor must only be used in conjunction with the appropriate controllers shown on Page 2.
- Observe wiring precautions given on the data sheet for the controller that the sensor will be connected to.
- Do not exceed the maximum ambient temperatures.
- Interference with parts under sealed covers invalidates the guarantee.
- Design and performance of TAC Satchwell equipment is subject to improvement and therefore liable to alteration without notice.
- Information is given for guidance only and TAC Satchwell does not accept responsibility for the selection and installation of its products unless information has been given by the company in writing relating to a specific application.
- A periodic system and tuning check of the control system is recommended. Please contact your local sales office for details.

Copyright © 2007, TAC  
All brand names, trademarks and registered trademarks are the property of their respective owners. Information contained within this document is subject to change without notice. All rights reserved.

PART NUMBER 03-00107-01-en



Europe / Headquarters  
Malmö, Sweden  
+46 40 38 68 50

Americas  
Dallas, TX  
+1 972-323-1111

Asia-Pacific  
Sydney, Australia  
+61 (0) 2 8336 6100

[www.tac.com](http://www.tac.com)

