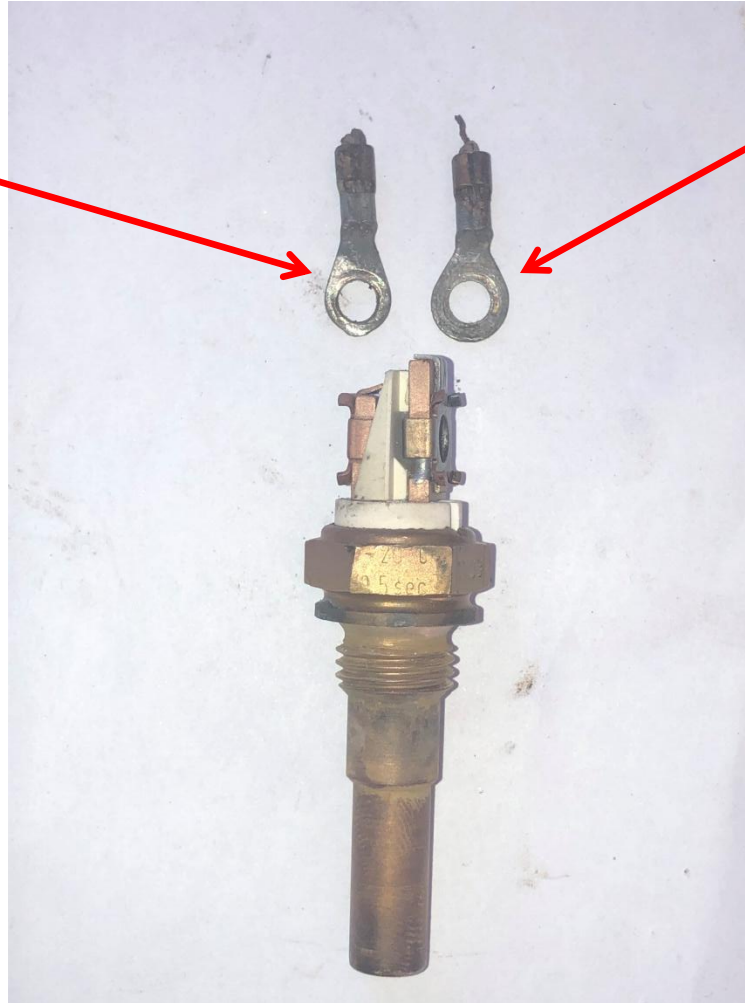


W113 Thermo Time Switch Pin Coding

+12 V heater circuit **G**
supply

Smaller of the two
eyelets.

Connects to the +12
volt starter motor



W Ground

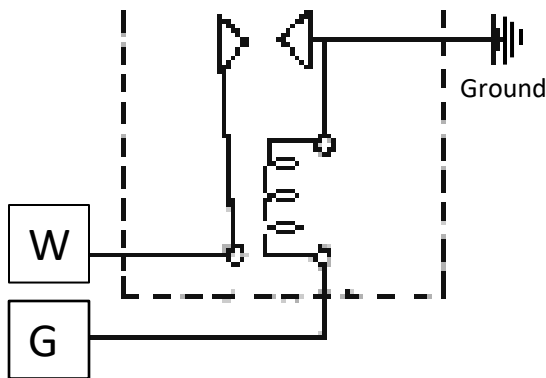
Eyelet is larger of the
two eyelets.

Connects to the cold
start valve relay

Bosch Design Thermo Time Switch (TTS) Function

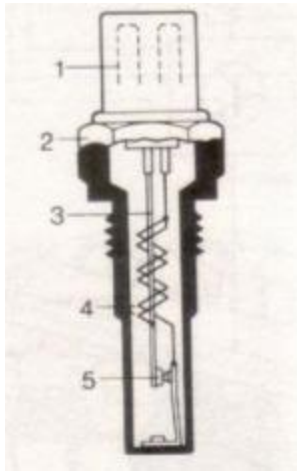
Cold start enrichment is triggered by a CSV relay sending +12V current to the cold start valve. This relay has a ground circuit connected to the thermo time sensor via pin 'G' on the sensor.

TTS diagram



The thermo time switch provides the “switch timing” as follows:

- Wire G is a +12 volt supply that is connected to starter motor (whenever the starter is cranking, the TTS is being supplied current)
- This +12 V supply heats the bi-metallic strip (3) inside the sensor, ‘bending’ the strip
- Bending action opens / closes the ground circuit contacts (5) at the tip of this strip to the relay at (W)
- Duration of this opening depends on time of voltage supply (cranking) and coolant temperature
- As coolant temp increases, switch duration while closed, decreases (less fuel is required for warm motors)



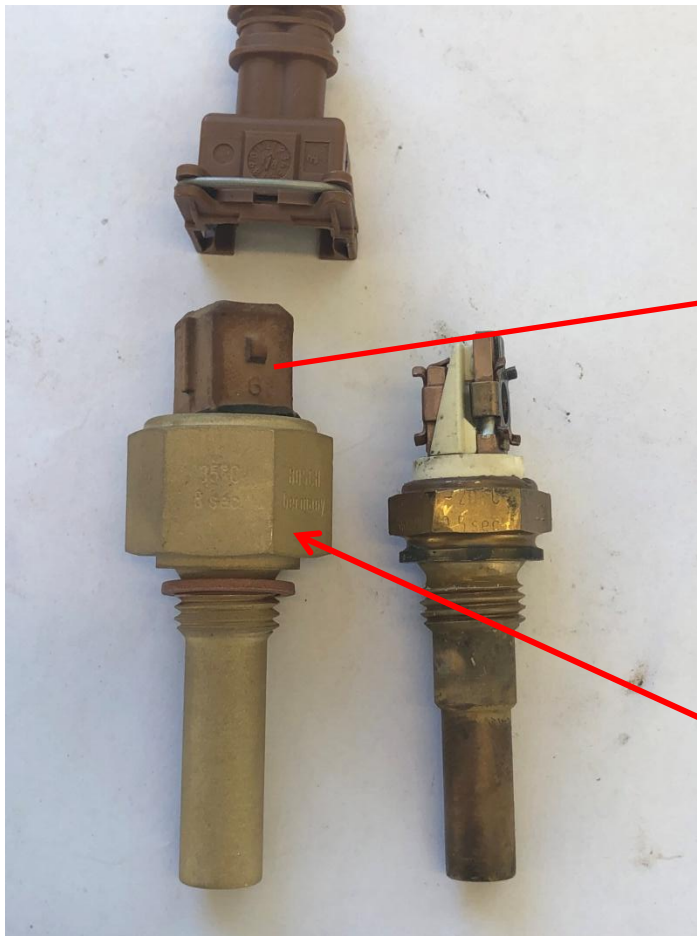
TTS
section
view

Bosch Design Thermo Time Switch (TTS) Usage

- This sensor was developed by Bosch and applied to many (OEM) fuel injection applications in the 1960s, 70s and 80s.
- The device was used by Volvo, Porsche, Jaguar, VW, Renault, Ferrari and DeLorean
- One of the earliest versions appears on the Mercedes W113
- The more popular version TTS (after 1970) MB used the molded connector pin style vs. the two threaded eyelets (W113)
- This style of mating connector was approved by MB and used extensively in the 1970s on the D-Jetronic fuel injection (W107)

Bosch Design Thermo Time Switch Comparison

Suggested replacement for the MB unit is Porsche Part no. 92860510102



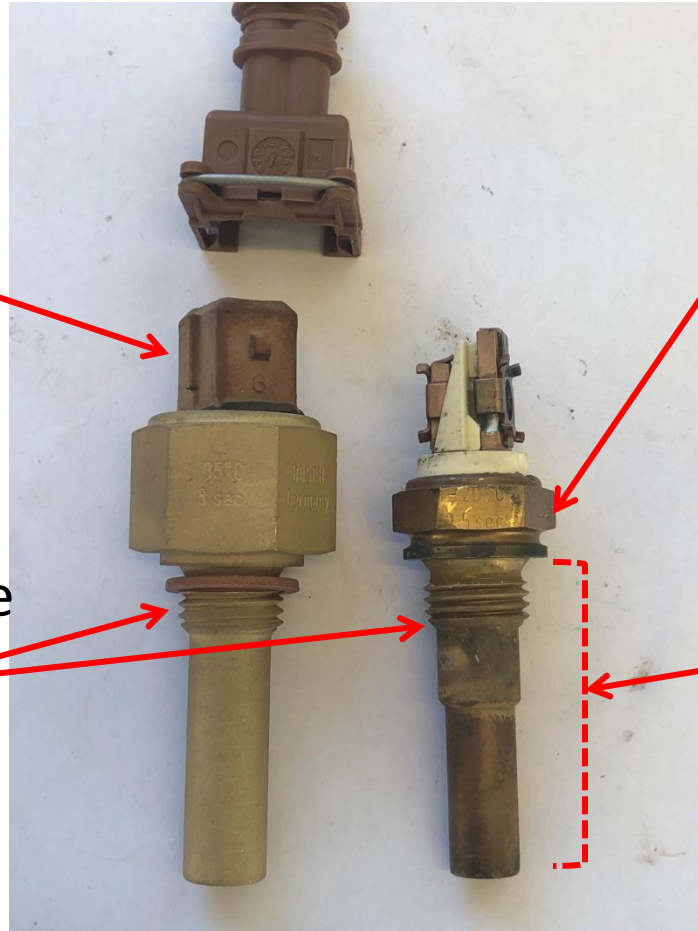
- Same Bosch coding incl. G and W molded into the connector
Porsche Part no. 92860510102
=Bosch Part no. 0 280 130 214

PORSCHE



W113 Thermo Time Switch Alternative

Feature Comparison



Porsche Part with
molded connector
< \$145 new

Mercedes Part with
screws & eyelet
termination
~\$700 new

Both devices have
M12 x 1.5 thread
pitch

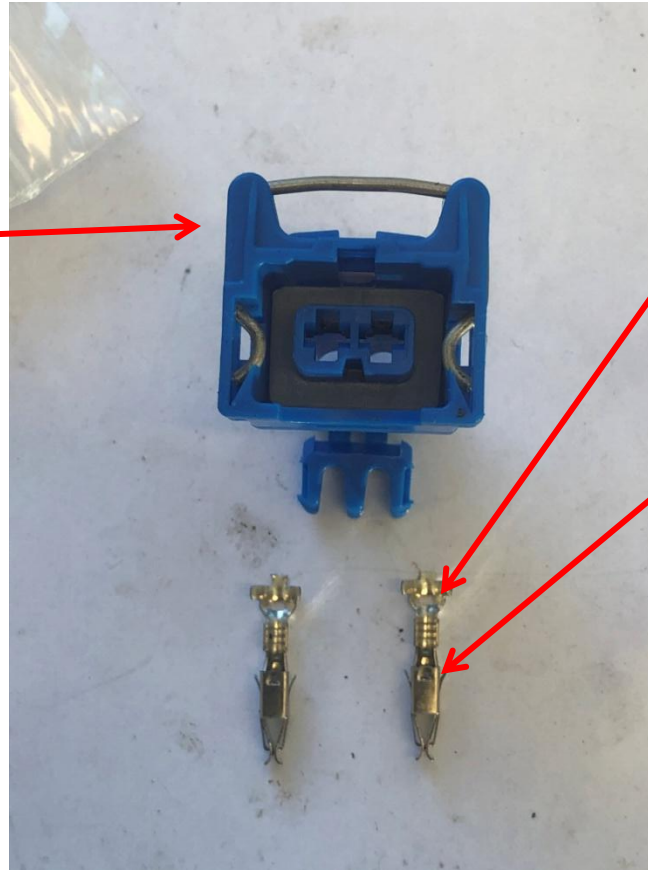
Both devices are
the same (wet)
length

Both devices offer ~8
seconds of CSV function
at 35°C coolant temp.

Bosch Design Thermo Time Switch

Mating Connector Details

Bosch used a
Tyco / AMP
2 pin
connector and
pins about \$12
from Ebay



Two pins
crimped or soldered

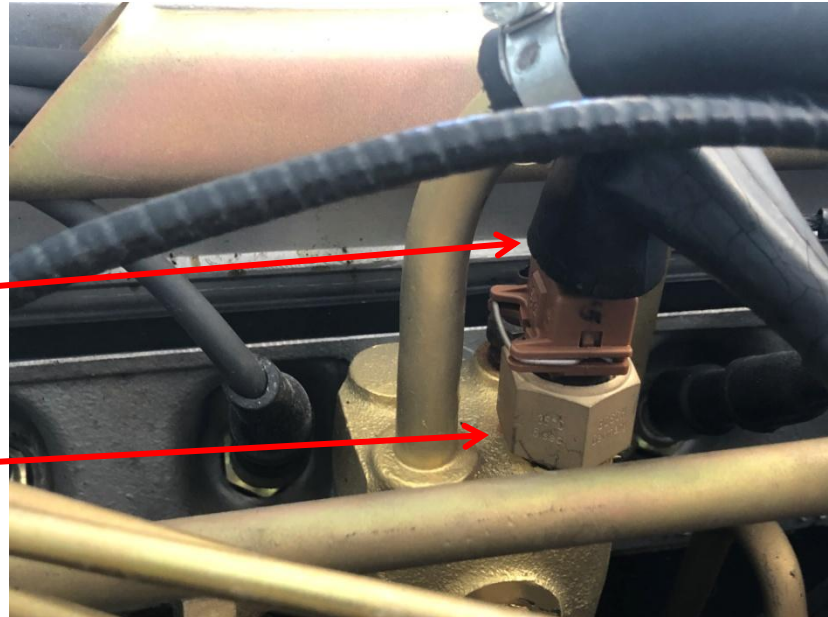
Double barb feature
locks them into the
connector housing

Swap: remove original TTS and the two eyelets from the harness at the TTS, replace the two eyelets with the above Tyco pins. Push crimped pins into the Tyco housing, paying close attention to the correct W and G positions.

Bosch Design Thermo Time Switch Fitting

Porsche Style TTS
installed with Tyco / AMP
2 pin connector using the
stock MB W113 rubber
boot

24mm hex nut



This swap is completely reversible. You can recrimp or solder the two eyelets to the engine harness and reinstall and OEM TTS sensor in the future.