

T H E R M O M E T R I C S
A C O M M I T M E N T T O E X C E L L E N C E

CTS

Coolant Temperature Sensor



The Coolant Temperature Sensor (CTS) monitors the temperature of the coolant that is being pumped around the battery to cool the battery module of EV/PHEVs. If the battery module starts to overheat, the Coolant Temperature Sensor relays a signal to the Battery Management System (BMS). The BMS uses this information to prevent battery packs from any damage and maximize the performance.

Applications

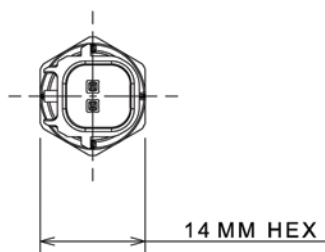
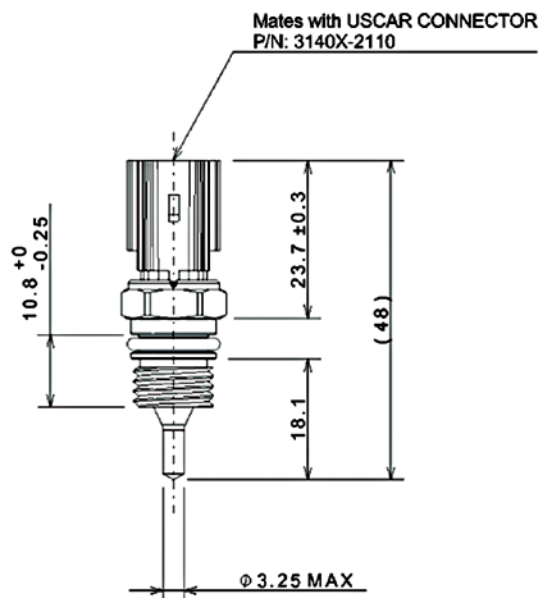
- Battery Coolant Temperature
- HVAC refrigerant lines
- P/No : WTF083B001

Features

- Integral connector with compact size
- Existing field-proven design
- Alternate RvT curves and terminal plating available
- Various dimensions to meet package requirements

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CTS Specifications



Operating Temperature Range

-40°C to 100°C

Storage Temperature Range

-40°C to 125°C

R @ 110°C

2828Ω ± 1.3%

Response Time

5 seconds from 25°C to 85°C in water

Temperature Accuracy

R@25°C ±0.3°C

Housing Material

PBT-GF15 Connector with 14mm Hex
Machined 12L14 Steel, Zinc with trivalent chromium

Beta (25/85)° C

3975K ±0.75%

Connector

USCAR 064 Sealed (IP67)

Mating Connector

USCAR 3140x-2110

R vs. T

Temp. (°C)	Resistance (Ω)	Resistance Accuracy		Temperature Accuracy	
		-%	+	+°C	-°C
-40	94331	-3.9	4.0	0.58	-0.61
-35	68175	-3.6	3.7	0.57	-0.59
-30	49796	-3.4	3.5	0.55	-0.57
-25	36743	-3.2	3.3	0.53	-0.55
-20	27377	-3.0	3.0	0.51	-0.52
-15	20590	-2.8	2.8	0.49	-0.50
-10	15626	-2.6	2.6	0.47	-0.48
-5	11960	-2.4	2.4	0.45	-0.46
0	9231	-2.2	2.2	0.43	-0.43
5	7180	-2.0	2.0	0.40	-0.41
10	5628	-1.8	1.8	0.38	-0.38
15	4444	-1.6	1.6	0.35	-0.35
20	3533	-1.5	1.5	0.32	-0.33
25	2828	-1.3	1.3	0.30	-0.30
30	2278	-1.5	1.5	0.34	-0.34
35	1847	-1.6	1.6	0.39	-0.39
40	1506	-1.8	1.8	0.44	-0.44
15	1235	-1.9	1.9	0.49	-0.49
50	1018	-2.1	2.1	0.54	-0.55
55	844	-2.2	2.2	0.59	-0.60
60	703	-2.3	2.4	0.65	-0.66
65	589	-2.5	2.5	0.70	-0.71
70	495	-2.6	2.6	0.76	-0.77
75	418	-2.7	2.8	0.81	-0.83
80	355	-2.8	2.9	0.87	-0.89
85	303	-2.9	3.0	0.93	-0.95
90	259	-3.1	3.1	0.99	-1.02
95	222	3.2	3.3	1.05	-1.08
100	192	-3.3	3.4	1.12	-1.15

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