



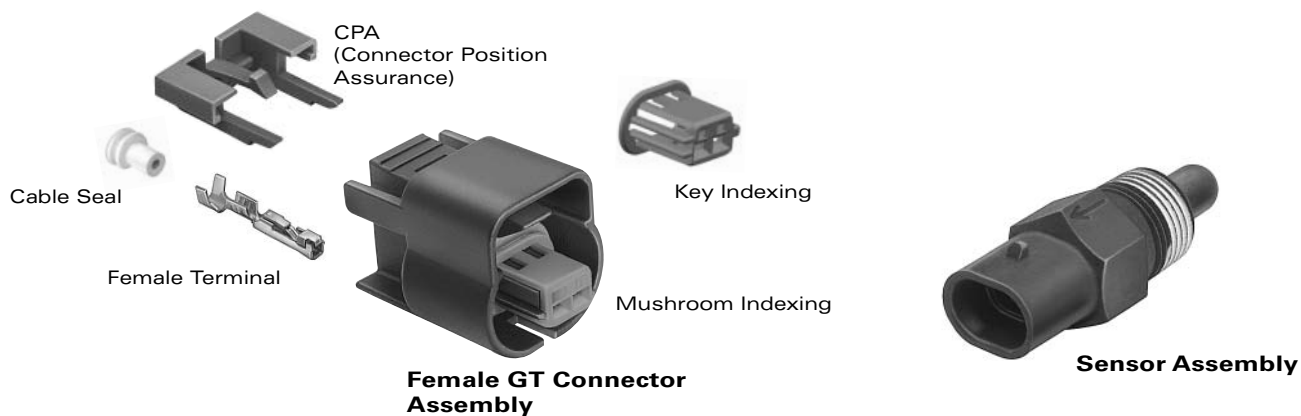
Air

**Description**

Air temperature sensors are continuous function devices that change resistance inversely proportional to temperature. These sensors consist of two major components: the high temperature thermoplastic shell and a thermistor pre-mold sub-assembly. The plastic shell is custom designed to meet specific mounting and packaging requirements. Containing an NTC thermistor, the patented pre-mold assembly is inserted into the shell.

Typical Application

The air sensors measure the engine intake air temperature in the manifold, in the intake air duct, and in the air cleaner. They provide a signal to the Powertrain Control Module (PCM).



150 GT Connector Assemblies Sealed

Cavities	Connector Part #	Cover/Indexing	Color	Material
2	15336004	Shrouded/Mushroom	Black	PA6 10% GF & 20% GB
2	15335987	Shrouded/Key	Black	PA6 10% GF & 20% GB
2	15449028	Unshrouded/Mushroom	Black	PBT 20% GF

Mating options, 150.2 Metri-Pack Pull-to-Seat Connectors: 12162193, 12162194, 12162195, 12162197, 12162198, 12162199.



150 GT Female Terminals Sealed

Part #	Cable Range (mm ²)	Material	Plating
15326266	0.50-0.35	Tin Brass	Tin
15326267	1.00*-0.75	Tin Brass	Tin

*Accommodates 1.00 European Ultra Thin Wall Cable.
Accommodates 0.80 SAE Ultra Thin Wall Cable.

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

Air Temperature Sensors

Cavity Indexing	Air Temp. Sensor	Color	Material
Mushroom	12110446	Black	PEI 30% GF
Key	12146830	Gray	PEI 30% GF
Key	12129596	Black	PA66 HS 33% GF
Key	12160244	Black	PBT 30% GF
Key	12160245	Black	PBT 30% GF
Key	12160246	Black	PBT 30% GF



GT Cable Seals

Reel Part #	Loose Part #	Cable Dia.	Material	Color
12191155	15366022	1.47-1.85	Silicone	Green
—	15305351	1.70-2.10	Silicone	Yellow

Air

Chart A

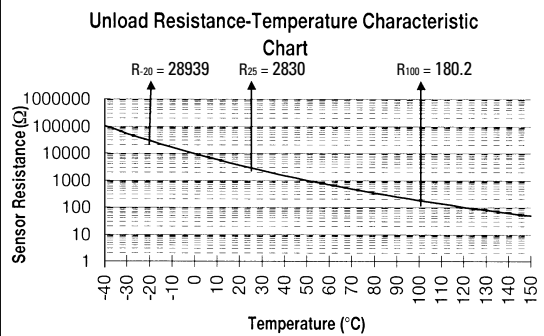
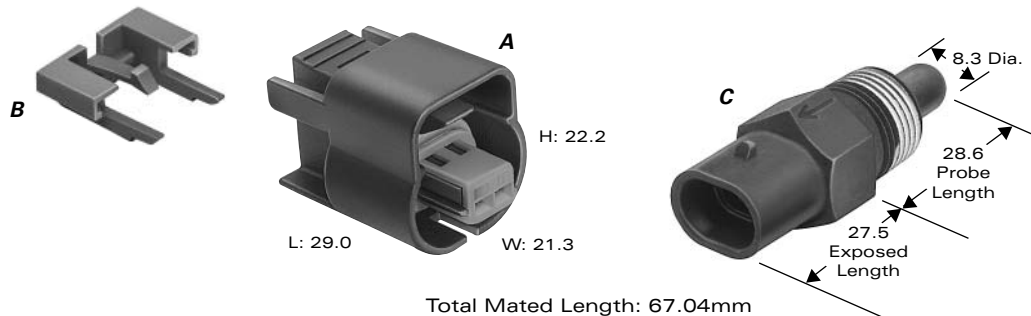
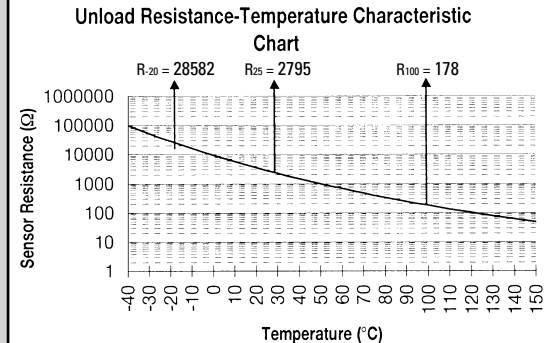


Chart B

**A. Part No: 15336004 (Shrouded)**

Material:	PA6 10% GF & 20% GB
	15449028 (Unshrouded)
Material:	PBT 20% GF
Description:	150 GT Connector Assembly 2F
Size:	29.0L x 22.2H x 21.3W
Color:	Black
Terminals:	See Page 8.2
Seals:	See Page 8.2
Mating Opt:	150.2 Metri-Pack Pull-To-Seat Connectors: 12162193, 12162194, 12162195

B. Part No: 15317832

Description:	CPA
Color:	Gray
Material:	PA6 10% GF & 20% GB

C. Part No: 12110446

Description:	Sensor Assembly 2M
Color:	Black
Material:	PEI 30% GF
Weight:	13.2g
Mounting Thread Size:	3/8" - 18 NPTF

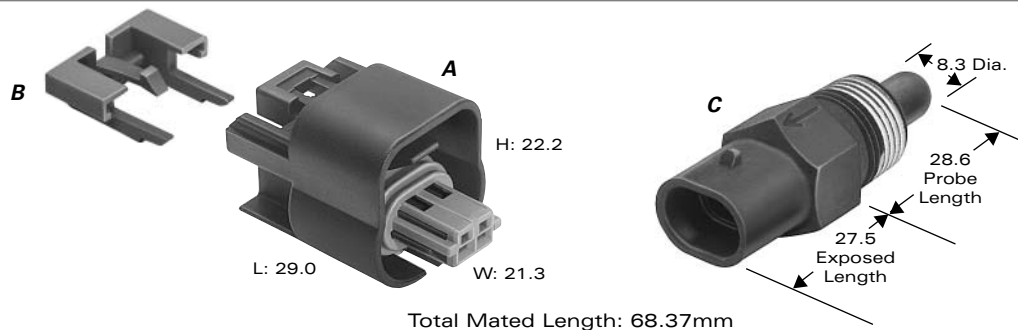
THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart A
DISSIPATION CONSTANT:	18mW/°C
THERMAL TIME CONSTANT:	60 seconds
ACCURACY:	See Chart A

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



Air

**A. Part No: 15335987**

Description:	150 GT Connector Assembly 2F
Size:	29.0L x 22.2H x 21.3W
Color:	Black
Material:	PA6 10% GF & 20% GB
Terminals:	See Page 8.2
Seals:	See Page 8.2
Mating Opt:	150.2 Metri-Pack Pull-To-Seat Connectors 12162197, 12162198, 12162199

B. Part No: 15317832

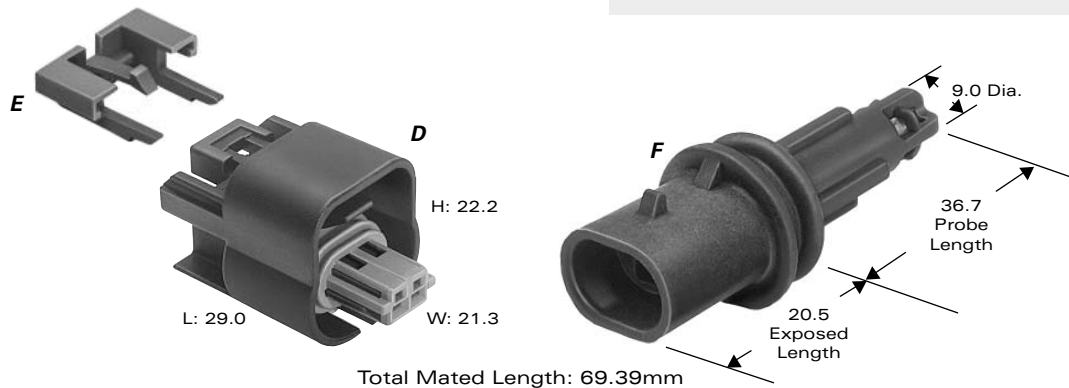
Description:	CPA
Color:	Gray
Material:	PA6 10% GF & 20% GB

C. Part No: 12146830

Description:	Sensor Assembly 2M
Color:	Gray
Material:	PEI 30% GF
Weight:	13.8g
Mounting Thread Size:	3/8" - 18 NPTF

THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V DC
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart A
DISSIPATION CONSTANT:	18mW/°C
THERMAL TIME CONSTANT:	60 seconds
ACCURACY:	See Chart A

**D. Part No: 15335987**

Description:	150 GT Connector Assembly 2F
Size:	29.0L x 22.2H x 21.3W
Color:	Black
Material:	PA6 10% GF & 20% GB
Terminals:	See Page 8.2
Seals:	See Page 8.2
Mating Opt:	150.2 Metri-Pack Pull-To-Seat Connectors 12162197, 12162198, 12162199

E. Part No: 15317832

Description:	CPA
Color:	Gray
Material:	PA6 10% GF & 20% GB

F. Part No: 12129596

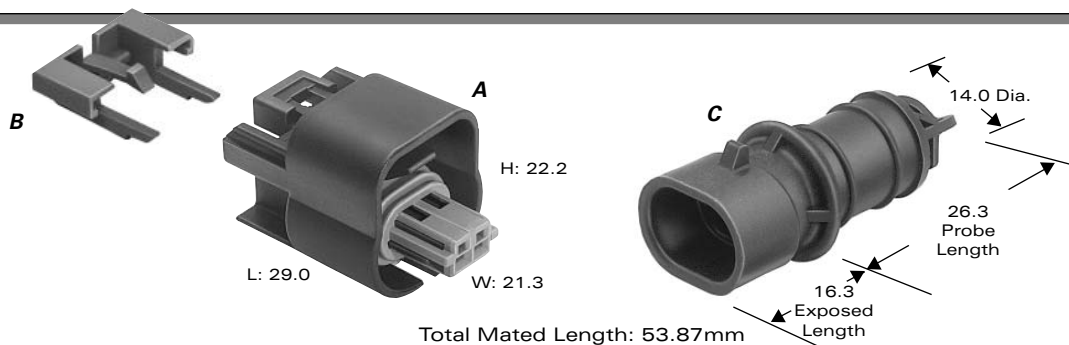
Description:	Sensor Assembly 2M
Color:	Black
Material:	PA66 HS 33% GF
Weight:	8.2g
Mounting:	Push

THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart A
DISSIPATION CONSTANT:	12mW/°C
THERMAL TIME CONSTANT:	<15 seconds
ACCURACY:	See Chart A

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Air

**A. Part No: 15335987**

Description:	150 GT Connector Assembly 2F
Size:	29.0L x 22.2H x 21.3W
Color:	Black
Material:	PA6 10% GF & 20% GB
Terminals:	See Page 8.2
Seals:	See Page 8.2
Mating Opt:	150.2 Metri-Pack Pull-To-Seat Connectors 12162197, 12162198, 12162199

B. Part No: 15317832

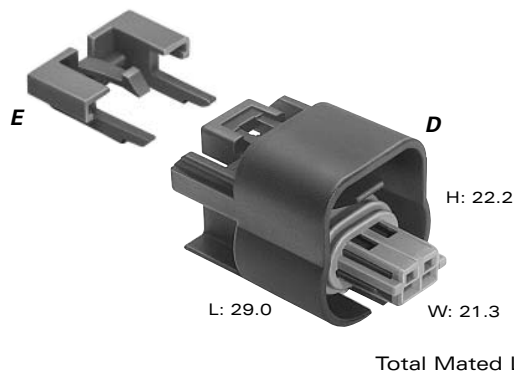
Description:	CPA
Color:	Gray
Material:	PA6 10% GF & 20% GB

C. Part No: 12160244

Description:	Sensor Assembly 2M
Color:	Black
Material:	PBT 30% GF
Weight:	5.5g
Mounting:	Push

THERMAL & ELECTRICAL PROPERTIES

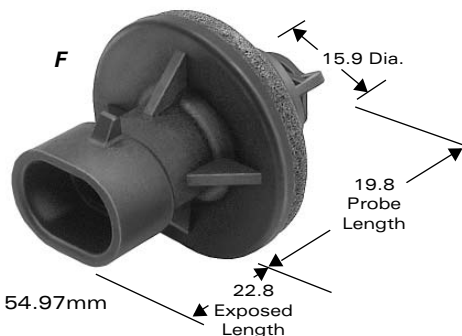
TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart B
DISSIPATION CONSTANT:	9mW/°C
THERMAL TIME CONSTANT:	<15 seconds
ACCURACY:	See Chart B

**D. Part No: 15335987**

Description:	150 GT Connector Assembly 2F
Size:	29.0L x 22.2H x 21.3W
Color:	Black
Material:	PA6 10% GF & 20% GB
Terminals:	See Page 8.2
Seals:	See Page 8.2
Mating Opt:	150.2 Metri-Pack Pull-To-Seat Connectors 12162197, 12162198, 12162199

E. Part No: 15317832

Description:	CPA
Color:	Gray
Material:	PA6 10% GF & 20% GB

**F. Part No: 12160245**

Description:	Sensor Assembly 2M
Color:	Black
Material:	PBT 30% GF
Weight:	8.9g
Mounting:	Clip

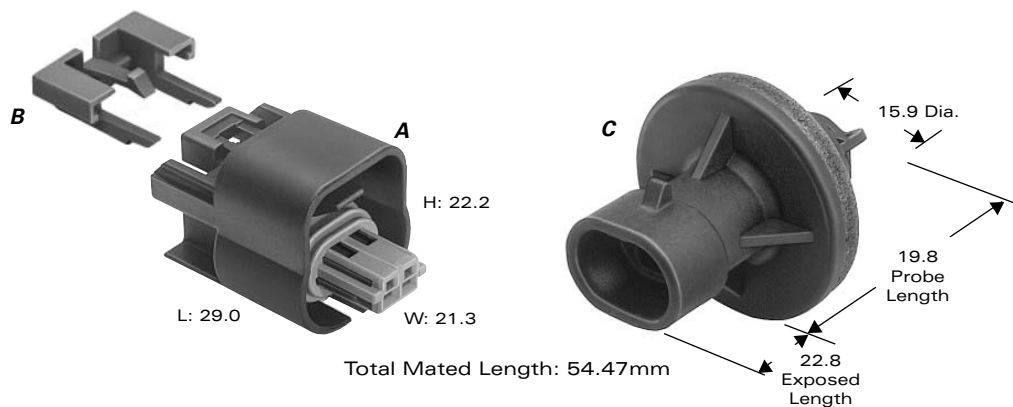
THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart B
DISSIPATION CONSTANT:	9mW/°C
THERMAL TIME CONSTANT:	<15 seconds
ACCURACY:	See Chart B

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Air



A. Part No: 15335987

Description:	150 GT Connector Assembly 2F
Size:	29.0L x 22.2H x 21.3W
Color:	Black
Material:	PA6 10% GF & 20% GB
Terminals:	See Page 8.2
Seals:	See Page 8.2
Mating Opt:	150.2 Metri-Pack Pull-To-Seat Connectors 12162197, 12162198, 12162199

B. Part No: 15317832

Description:	CPA
Color:	Gray
Material:	PA6 10% GF & 20% GB

C. Part No: 12160246

Description:	Sensor Assembly 2M
Color:	Black
Material:	PBT 30% GF
Weight:	9.3g
Mounting:	Twist Lock

THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart B
DISSIPATION CONSTANT:	9mW/°C
THERMAL TIME CONSTANT:	<15 seconds
ACCURACY:	See Chart B

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HVAC Air

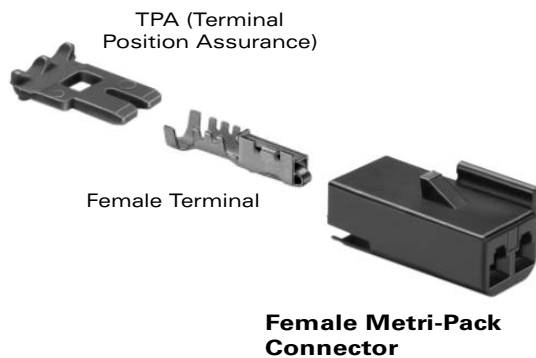


Description

The Heating Ventilation Air Conditioning temperature sensor is a continuous function device that changes resistance inversely proportional to temperature. The discharge air sensor consists of an NTC thermistor with a crimpless conductive path protected by a plastic body.

Typical Application

The discharge air sensor measures the inside air temperature and provides a signal to the automatic climate control unit.



Sensor Assembly

150 Metri-Pack Female Connector Unsealed

Cavities	Part #	Color	Material	TPA
2	12047662	Black	PA66 HS IM	15324070

HVAC Temperature Sensor

HVAC Temperature Sensor	Color	Material
12160947	Black	PA66 HS IM



150 Metri-Pack Female Terminals Unsealed

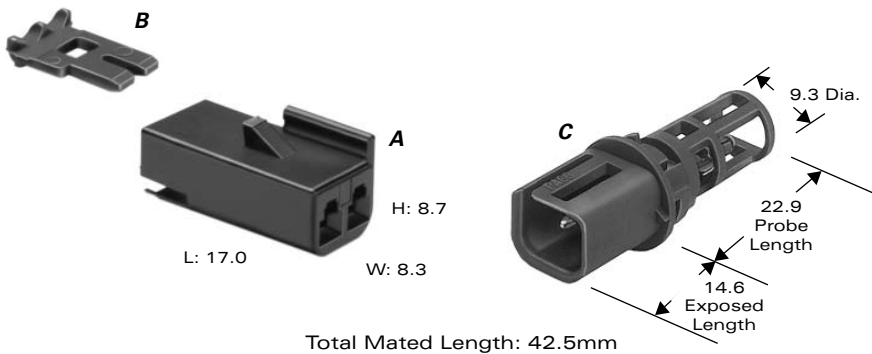
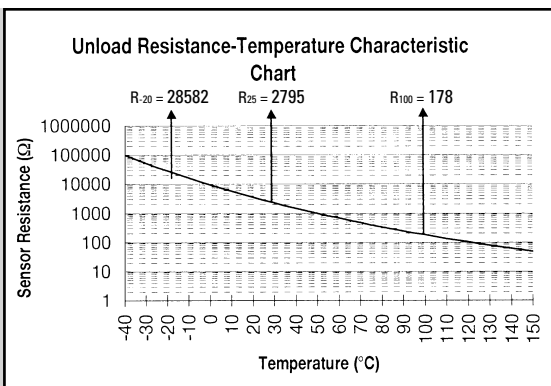
Part #	Cable Range (mm ²)	Material	Plating
12047767	1.0-0.80	Silicon Bronze	Tin
12064971	0.50-0.35	Silicon Bronze	Tin

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.



HVAC Air

Chart B

**A. Part No: 12047662 (Black)
12059249 (Cream)**

Description: 150 Metri-Pack Connector 2F
Size: 17.0L x 8.7H x 8.3W
Material: PA66 HS IM
Terminals: See Page 2.7

B. Part No: 15324070

Description: TPA
Color: Lt. Gray
Material: PA66 HS IM

C. Part No: 12160947

Description: Sensor Assembly 2M
Color: Black
Material: PA66 HS IM
Weight: 2.2g
Mounting: Twist Lock

THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 125°C
RESISTIVE RANGE (Ω):	See Chart B
DISSIPATION CONSTANT:	9mW/°C
THERMAL TIME CONSTANT:	8 seconds
ACCURACY:	See Chart B

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Coolant/Fluid

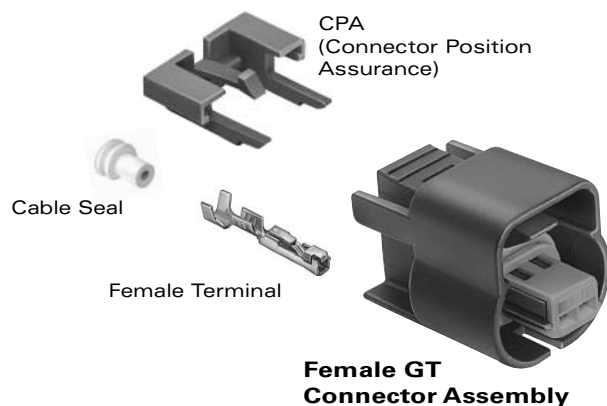


Description

Coolant/Fluid temperature sensors are continuous function devices that change resistance inversely proportional to temperature. These brass sensors consist of five major components: the brass shell, thermal grease, insulating sleeve, gasket, and insert molded connector. The shell utilizes customized thread and hex sizes per application requirements and the connector contains an NTC thermistor with a crimpless conductive path.

Typical Application

The brass sensors measure the temperature of the engine oil, the fuel or the engine coolant and provide a signal to the Powertrain Control Module (PCM).



Sensor Assembly

150 GT Connector Assemblies Sealed

Cavities	Connector Part #	Cover/Indexing	Color	Material
2	15336004	Shrouded/Mushroom	Black	PA6 10% GF & 20% GB
2	15449028	Unshrouded/Mushroom	Black	PBT 20% GF

Mating options, 150.2 Metri-Pack Pull-to-Seat Connectors: 12162193, 12162194, 12162195



150 GT Female Terminals Sealed

Part #	Cable Range (mm ²)	Material	Plating
15326266	0.50-0.35	Tin Brass	Tin
15326267	1.00*-0.75	Tin Brass	Tin

*Accommodates 1.00 European Ultra Thin Wall Cable.
Accommodates 0.80 SAE Ultra Thin Wall Cable.

Coolant/Fluid Sensors

Cavity Indexing	Coolant/Fluid Sensors	Color	Material	
			Housing	Connector
Mushroom	15326386	Black	Brass	PBT 30% GF
Mushroom	12146897	Black	Brass	PBT 30% GF



GT Cable Seals

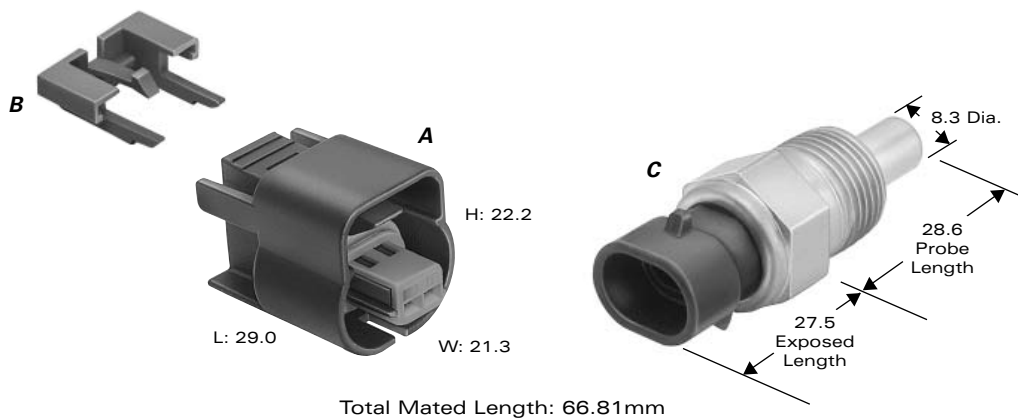
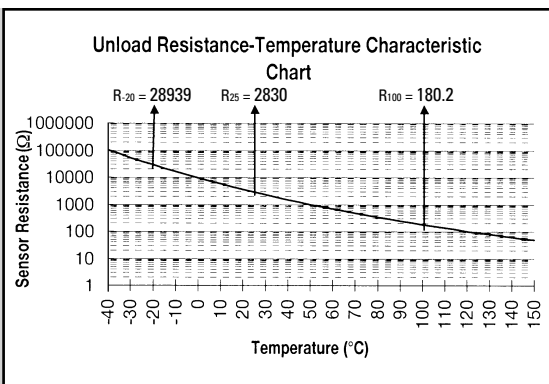
Reel Part #	Loose Part #	Cable Dia.	Material	Color
12191155	15366022	1.47-1.85	Silicone	Green
—	15305351	1.70-2.10	Silicone	Yellow

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Coolant/Fluid

Chart A

**A. Part No: 15336004 (Shrouded)**

Material: PA6 10% GF & 20% GB

15449028 (Unshrouded)

Material: PBT 20% GF

Description: 150 GT Connector Assembly 2F

Size: 29.0L x 22.2H x 21.3W

Color: Black

Terminals: See Page 8.9

Seals: See Page 8.9

Mating Opt: 150.2 Metri-Pack Pull-To-Seat Connectors
12162193, 12162194, 12162195**B. Part No: 15317832**

Description: CPA

Color: Gray

Material: PA6 10% GF & 20% GB

C. Part No: 15326386

Description: Sensor Assembly 2M

Color: Black

Material: Brass Housing; PBT 30% GF Connector

Weight: 39.5g

Mounting Thread Size: 3/8" - 18 NPTF

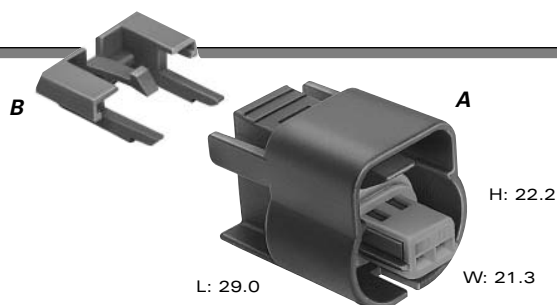
THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart A
DISSIPATION CONSTANT:	25mW/°C
THERMAL TIME CONSTANT:	20 to 30 seconds
ACCURACY:	See Chart A

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Coolant/Fluid

**A. Part No: 15336004 (Shrouded)**

Material: PA6 10% GF & 20% GB

15449028 (Unshrouded)

Material: PBT 20% GF

Description: 150 GT Connector Assembly 2F

Size: 29.0L x 22.2H x 21.3W

Color: Black

Terminals: See Page 8.9

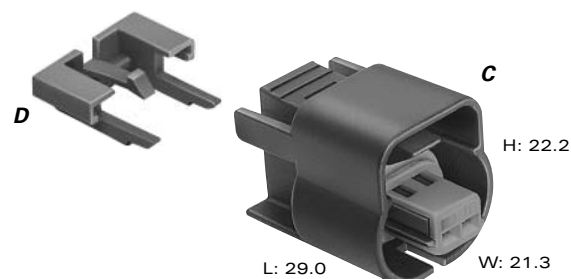
Seals: See Page 8.9

Mating Opt: 150.2 Metri-Pack Pull-To-Seat Connectors
12162193, 12162194, 12162195**B. Part No: 15317832**

Description: CPA

Color: Gray

Material: PA6 10% GF & 20% GB



Total Mated Length: 67.21mm

C. Part No: 15336004 (Shrouded)

Material: PA6 10% GF & 20% GB

15449028 (Unshrouded)

Material: PBT 20% GF

Description: 150 GT Connector Assembly 2F

Size: 29.0L x 22.2H x 21.3W

Color: Black

Terminals: See Page 8.9

Seals: See Page 8.9

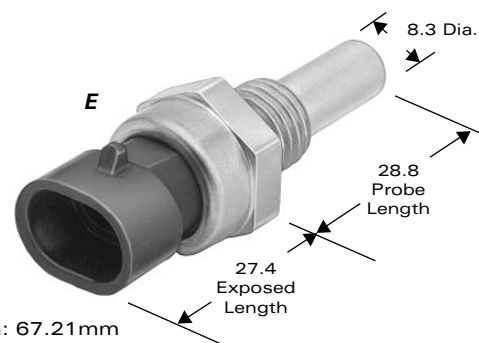
Mating Opt: 150.2 Metri-Pack Pull-To-Seat Connectors
12162193, 12162194, 12162195**D. Part No: 15317832**

Description: CPA

Color: Gray

Material: PA6 10% GF & 20% GB

THERMAL & ELECTRICAL PROPERTIES	
TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart A
DISSIPATION CONSTANT:	25mW/°C
THERMAL TIME CONSTANT:	20 to 30 seconds
ACCURACY:	See Chart A

**E. Part No: 12146897**

Description: Sensor Assembly 2M

Color: Black

Material: Brass Housing; PBT 30% GF Connector

Weight: 23.2g

Mounting Thread Size: M12 X 1.5

THERMAL & ELECTRICAL PROPERTIES	
TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart A
DISSIPATION CONSTANT:	25mW/°C
THERMAL TIME CONSTANT:	20 to 30 seconds
ACCURACY:	See Chart A

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Transmission

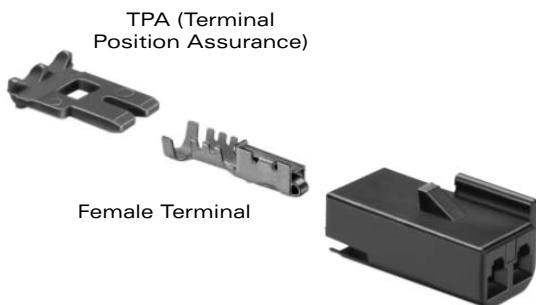


Description

Transmission temperature sensors are continuous function devices that change resistance inversely proportional to temperature. The two primary types of sensors that monitor the automatic transmission fluid are: the metal stator temperature sensor and the plastic sump temperature sensor. The stator sensor consists of a brass or stainless steel shell, thermal grease, insulating sleeve, gasket, and insert-molded connector containing an NTC thermistor. The sump sensor consists of a high temperature plastic shell and a patented pre-mold sub-assembly that contains an NTC thermistor with a crimpless conductive path.

Typical Application

These sensors measure the fluid temperature in two transmission environments: in-line near the stator and the sump tank. A signal is provided to the Powertrain Control Module (PCM).



TPA (Terminal Position Assurance)

Female Terminal

Female Metri-Pack Connector



Sensor Assembly

150 Metri-Pack Female Connector Unsealed

Cavities	Part #	Color	Material	TPA
2	12047662	Black	PA66 HS IM	15324070

Transmission Temperature Sensors

Transmission Temp. Sensors	Color	Material	
		Housing	Connector
12160855	Black	Brass	PA66 HS IM
12129691	Md. Gray	PA66 HS IM	—



150 Metri-Pack Female Terminals Unsealed

Part #	Cable Range (mm ²)	Material	Plating
12047767	1.0-0.80	Silicon Bronze	Tin
12064971	0.50-0.35	Silicon Bronze	Tin

NOTE: Specifications in this catalog are for general reference only and are subject to change without notice. To verify product information, please contact a Delphi representative.

Transmission

Chart B

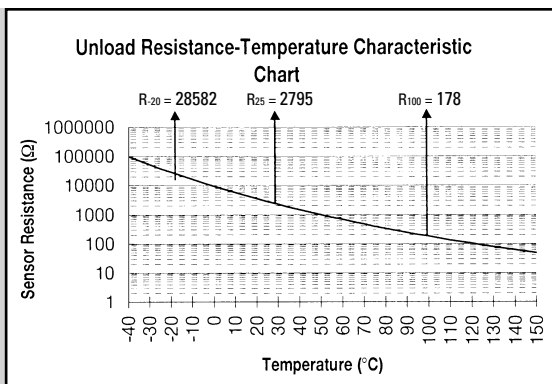
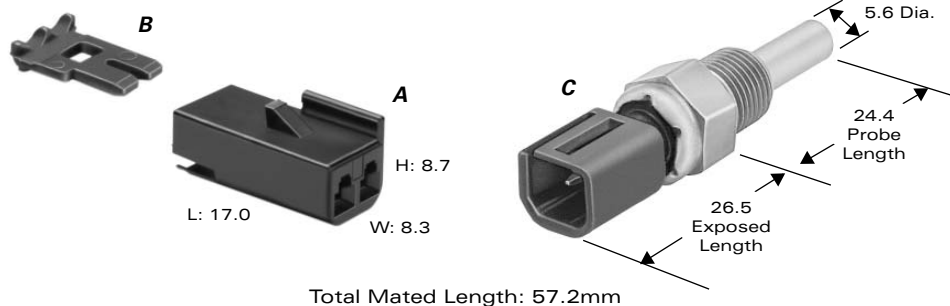
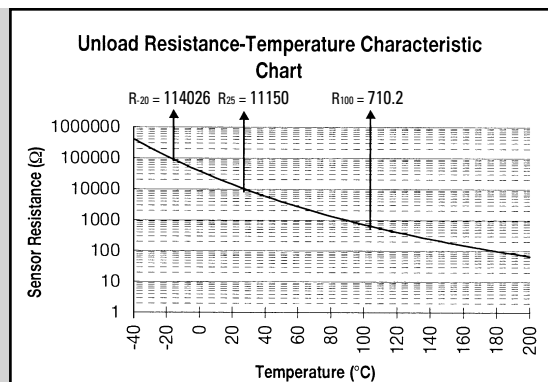


Chart C



**A. Part No: 12047662 (Black)
12059249 (Cream)**

Description: 150 Metri-Pack Connector 2F
Size: 17.0L x 8.7H x 8.3W
Material: PA66 HS IM
Terminals: See Page 8.12

B. Part No: 15324070

Description: TPA
Color: Lt. Gray
Material: PA66 HS IM

C. Part No: 12160855

Description: Sensor Assembly 2M
Color: Black
Material: Brass Housing; PA66 HS IM Connector
Weight: 12.2g
Mounting Thread Size: 1/8"-27 PTF

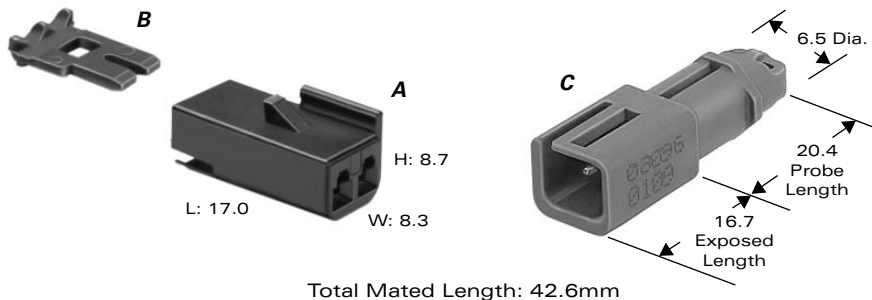
THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	
SENSOR TIP:	-40°C to 200°C
CONNECTOR:	-40°C to 150°C
RESISTIVE RANGE (Ω):	See Chart C
DISSIPATION CONSTANT:	12mW/°C
THERMAL TIME CONSTANT:	10 seconds
ACCURACY:	See Chart C

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Transmission



**A. Part No: 12047662 (Black)
12059249 (Cream)**

Description:	150 Metri-Pack Connector 2F
Size:	17.0L x 8.7H x 8.3W
Material:	PA66 HS IM
Terminals:	See Page 8.12

B. Part No: 15324070

Description:	TPA
Color:	Lt. Gray
Material:	PA66 HS IM

C. Part No: 12129691

Description:	Sensor Assembly 2M
Color:	Md. Gray
Material:	PA66 HS IM
Weight:	2.8g
Mounting:	Clip/Tie

THERMAL & ELECTRICAL PROPERTIES

TYPICAL VOLTAGE SUPPLY:	5V dc
OPERATING TEMPERATURE:	-40°C to 135°C
RESISTIVE RANGE (Ω):	See Chart B
DISSIPATION CONSTANT:	12mW/°C
THERMAL TIME CONSTANT:	5 seconds
ACCURACY:	See Chart B

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