



Technical Information

1090173, 1090174 Temperature Sensor

Product Electrical Installation



Revision history*Table of revisions*

Date	Changed	Rev
July 2014	Conversion to Danfoss layout	CA
May 2006	Various	BA
February 2006	Table corrected	AB
February 2006	First edition	AA

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Literature references**Literature references***References*

Literature ID number	Title	Description
BLN-95-9063	1090173, 1090174 Temperature Sensor Technical Information	Complete product electrical and mechanical specifications
11007104	PLUS+1® Compliant 1090173 Temperature Sensor function blocks User's Guide	Compliant function blocks set-up information
11007117	PLUS+1® Compliant 1090174 Temperature Sensor function blocks User's Guide	Compliant function blocks set-up information

Latest version of technical literature

Up to date technical literature is available at: www.powersolutions.danfoss.com

Product overview
Product image
1090173, 1090174 temperature sensors

Description/theory of operation

1090173 (liquid) and 1090174 (air) temperature sensors are thermistor-type temperature sensors. The resistance of the sensing element is a function of temperature of the measured fluid. The relationship between measured temperature and sensing element resistance is non-linear. The PLUS+1® Compliant temperature sensor compliant function block algorithm is designed to provide a measured temperature output for a given resistance.

Electrical specifications
Measured temperature versus sensing element resistance

Measured Temperature °C	Resistance Ω Nominal	Resistance Ω Tolerance
50	810.9	± 5%
80	283.0	± 5%
100	152.9	± 8%
125	76.9	± 8%

The liquid and air temperature sensors are specifically designed to interface with PLUS+1® devices that have AIN/TEMP/Rheo input pins. When configured in the TEMP/Rheo mode, the input pin has a 1.33 KΩ pull up resistor to + 5 Vdc. It will provide up to 3.75 mA current to the temperature sensor which can be measured.

Maximum over-voltage: Battery voltage should never be applied to the temperature sensors.

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Electrical installation
Pinout
Pinout

2 pin Delphi-Packard® Metri-Pack™ 150 series connector	Connect either pin to a PLUS+1 controller AIN/TEMP/Rheo input pin and the other to the controller ground.
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Pin compatibility
PLUS+1® module pin type

Pin	Function
Either sensor pin may be connected to this device pin	Power ground -
Either sensor pin may be connected to this device pin	AIN/Temp/Rheo

Mating connector
Parts list

2 pin connector	Quantity	Ordering number
Connector	1	Packard, 12162197
Terminal (16 to 18 gauge)	2	Packard Metri-Pack, 2124075-1
Mating connector kit	1	Danfoss K23436



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