



Electrical Installation

Temperature Sensors 1090173, 1090174



Revision history*Table of revisions*

| Date | Changed | Rev |
|----------------|------------------------------|------------|
| September 2015 | Minor layout revision | CB |
| July 2014 | Conversion to Danfoss layout | CA |
| May 2006 | Various | BA |
| February 2006 | Table corrected | AB |
| February 2006 | First edition | AA |

Contents**Literature references**

| | |
|---|---|
| Literature references..... | 4 |
| Latest version of technical literature..... | 4 |

Product overview

| | |
|--------------------------------------|---|
| Product image..... | 5 |
| Description/theory of operation..... | 5 |
| Electrical specifications..... | 5 |

Electrical installation

| | |
|------------------------|---|
| Pinout..... | 6 |
| Pin compatibility..... | 6 |
| Mating connector..... | 6 |

Electrical Installation 1090173, 1090174 Temperature Sensors

Literature references**Literature references***References*

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

Latest version of technical literature

Danfoss product literature is online at: <http://powersolutions.danfoss.com/literature/>

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.

Electrical Installation 1090173, 1090174 Temperature Sensors

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. |
|---|--|

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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