



Pressure transmitter

DST P110

For cooling applications

Description

The Danfoss Sensor Technology (DST) P110 is a compact & cost effective pressure transmitter that uses MEMS-based pressure sensing in a welded stainless-steel interface compatible with all refrigerants. The integrated electronics provide diagnostic capability and stable measurement for OEM installation.

Features & benefits

- Hermetically sealed media interface.
- High accuracy across broad temperature ranges.
- ARM-based micro-controller with diagnostics.
- High overload and burst pressure protects against pressure spikes.
- Strong vibration and shock resistance.
- Bi-metal (copper/stainless steel) low heat conduction solder tube version available.

Applications

- Data centres
- Chillers
- Transport refrigeration
- Commercial refrigeration systems
- Variable-speed HVAC equipment
- Heat pumps
- Variable refrigerant flow (VRF systems)

Ordering

Product code numbers

Standard ordering type

Type	Operating range	Units	Colour code electrical connector	Focus temperature range (1% TEB)	Pressure port	Code no.	Code no. I-Pack ⁽²⁾
DST P110	0 – 150	psia	Green	-20 °C – 40 °C	7/16 UNF, female ⁽¹⁾	075G1014	075G4003
	0 – 200	psia	Green	-20 °C – 40 °C		075G1016	075G4005
	0 – 400	psi sg	Black	0 °C – 80 °C		075G1019	075G4008
	0 – 500	psi sg	Black	0 °C – 80 °C		075G1021	075G4010
	-1 – 12	bar sg	Green	-20 °C – 40 °C		075G1013	075G4002
	-1 – 34	bar sg	Black	0 °C – 80 °C		075G1018	075G4007
	-1 – 49	bar sg	Black	-30 °C – 40 °C		075G1080	075G4058
	0 – 10	bar sg	Green	0 °C – 80 °C		075G1012	075G4001
	0 – 15	bar sg	Green	-20 °C – 40 °C		075G1085	075G4063
	0 – 20	bar sg	Green	-20 °C – 40 °C		075G1015	075G4004
	0 – 30	bar sg	Black	0 °C – 80 °C		075G1017	075G4006
	0 – 32	bar sg	Black	0 °C – 80 °C		075G1036	075G4019
	0 – 50	bar sg	Black	0 °C – 80 °C		075G1020	075G4009
	0 – 10	bar	Green	-40 °C – 40 °C	Solder tube	075G1072	075G4051
	0 – 30	bar	Black	0 °C – 100 °C		075G1071	075G4050
Electrical connection	0 - 45	bar sg	Black	0 °C - 80 °C	Round Packard, Metri-Pack	-	075G4108

⁽¹⁾ 1/4" flare with a deflator pin

⁽²⁾ I-Pack contains 60 pcs. per box for 7/16 UNF & 55 pcs. per box for solder tube

Electrical connector colour coding:

- Black: High pressure profile
- Green: Low pressure profile

CO2 application: Sensors with an overload pressure exceeding 90bar can be used for CO2 applications - see overload pressure specification in [Overload and burst pressure](#)

Note: For a detailed overview of our existing code numbers, please visit the Danfoss Product Store at store.danfoss.com. You can use the filtering options to find the right sensor for your specific needs.

Accessories code numbers

Cable accessories

Type	I-Pack Code no.	Qty/Box	Description
Cable with Metri-Pack 150 (Round) mating connector	060G8085	60 pcs.	0.8 m with outer sheath
Cable with Metri-Pack 150 (Round) mating connector	060g8086	60 pcs.	1.3 m with outer sheath
Cable with Metri-Pack 150 (Round) mating connector	064G0910 ⁽¹⁾	14 pcs.	10 m with outer sheath
Cable with Metri-Pack 150 (Round) mating connector	060G8245 ⁽²⁾	20pcs.	5m with outer sheath

⁽¹⁾ Multi Pack code number is 064G0950

⁽²⁾ Multi Pack code number is 060G8246

For more options and info, please go to <https://store.danfoss.com/>

Product details

General data

Total error band	± 1% FS (within specified temperature range ⁽¹⁾)
Durability, P: 10% - 110%	10 x 10 ⁶ cycles

⁽¹⁾ See code number table for focused accuracy ranges

Overload and burst pressure

Burst pressure	300 bar
Overload pressure	4 x FS pressure
Response time	< 2 ms

Environmental conditions

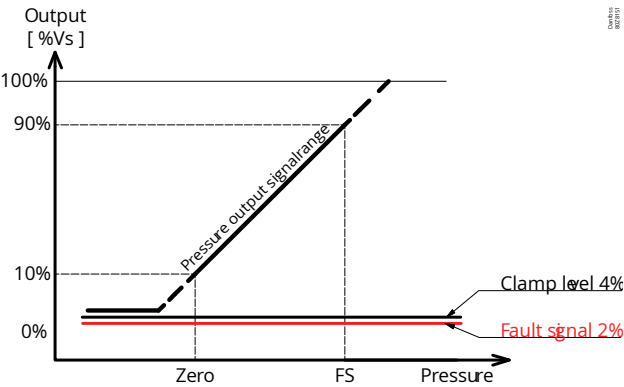
Media temperature range (ratiometric output)	-40 – 135 °C
Ambient temperature range (ratiometric output)	-40 – 125 °C ⁽²⁾
Storage temperature range	-40 – 125 °C
Voltage supply	5 V ± 10%
Load [R _L] (load connected to ground)	R _L ≥ 2 kΩ at 5 V DC
Output modes ⁽³⁾	Ratiometric (10 - 90% V _{ss})
Output limiting (clamping)	Low clamp 4% V _{ss} High clamp 99% V _{ss}
Over and reverse voltage	Protected to 16 V
Short circuit	Protected to 16 V
Miswiring	Protected
Diagnostic fault signal	2% V _{ss}
EMC compatibility	EN 61000-6-3 EN 61000-6-2
ESD	IEC 61000-4-2 8 kV contact, 15 kV air
Insulation resistance	>100M Ohm at 500 V DC
Vibration resistance	16.5 g (20-2000 Hz)
Shock resistance	1000 g (half sinus, 1 ms)
Enclosure material	AISI 304L Stainless steel and PBT (30% glass reinforced)
Material with media contact	AISI 304L Stainless steel; AISI 316L Stainless steel
Weight	approx. 61 g for solder tube & 62 g for female flare
Enclosure	IP 67

⁽²⁾ Contact Danfoss for higher temperatures

⁽³⁾ 4-20mA output with reduced media temperature available upon request.

Output and diagnostics

Ratiometric example



Output range

Defines the measuring range of the sensor

Output clamp levels

Limit the pressure output signal if the pressure rises above or falls below the normal range

Sensor fault signal

Placed below the pressure output range. Output at this level signals a sensor fault

Harness fault detection

Low leakage current of the sensor allows the controller to recognize harness fault conditions. (Requires a pull-down or pull-up resistor at controller interface).

If the connected controller has an internal pull up or pull-down resistor at the analog channel input, then the loss of ground or supply voltage (Vss) connection to the sensor will result in a near Vss or near ground signal voltage.

Contact Danfoss for detailed information and requirements.

Dimensions

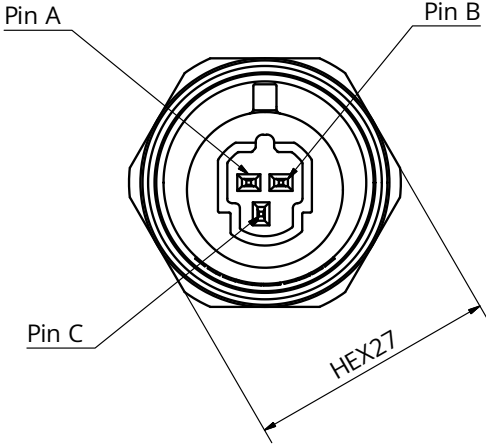
Metri-Pack 150 (Round)	Metri-Pack 150 (Round)
56.1 44.1 7/16-20 UNF Ø17 SAE female flare	74.85 46.35 1/4 inch Solder tube

Note: Dimensions are in mm, unless stated otherwise.



Connections

Electrical connection specifications

HEX 27	
Pin-plating	Tin (Sn)
	Pin A: ÷Supply Pin B: +Supply Pin C: Output

Certificates, declarations and approvals

The list contains all certificates, declarations, and approvals for this product type. Individual code number may have some or all of these approvals, and certain local approvals may not appear on the list.

When you click on the link you will be directed to the latest version of the 'Declaration of Conformity'. Products developed and sold before this date of issue conform to the directives/standards in force at the time of their sale.

Approval type	Title	Issuer	Approval topic
Electrical Safety Certificate	UL E510763	UL - Underwriters Laboratories inc.	
Explosive Safety Certificate	UL E227388	UL - Underwriters Laboratories inc.	UL-CSA, Explosive
Electrical Safety Certificate	UL E494625	UL - Underwriters Laboratories inc.	
EU-UK Declaration	Danfoss EU-UK 075R0010.04	Danfoss	UK RoHS, EU RoHS, EMC
Electrical Safety Certificate	UL E31024	UL - Underwriters Laboratories inc.	
Hygienic Certificate	NSF C0252992	NSF International	Drinking Water
Hygienic Certificate	NSF C302135	NSF International	Drinking Water
UA Declaration	Danfoss UA 2023-01-10 Regulators PL01 PL04	Danfoss	PED, Pressure
Pressure Safety Certificate	LLC CDC EURO-TYSK UA.TR.089.1015.05-22	LLC CDC EURO TYSK - Ukraine	Pressure
Manufacturer's Declaration	Pressure Equipment Directive (PED)	Danfoss	PED, Pressure
UA Declaration	Danfoss UA 2024-07-25 cooling sensors	Danfoss	EMC, LVD
EAC Declaration	EAC KZ 7100841.13.12.00005	EAC - Eurasian Customs Union	EMC
Hygienic Certificate	NSF C863837	NSF International	Drinking Water
Export Control Declaration	Pressure & Temperature Sensors	Danfoss	
Export Control Declaration	Refrigerant Leakage Sensor	Danfoss	
Manufacturer's Declaration	Source of Ignition	Danfoss	Functional Safety
Hygienic Certificate	WRAS 260302024	WRAS - Water Regulations Advisory Scheme	Drinking Water
Electrical Safety Certificate	UL 61010 Component Process Control Equipment	UL - Underwriters Laboratories inc.	

Electrical Safety Certificate	<u>UL121201 Component Process Control Equipment Hazardous Locations</u>	UL - Underwriters Laboratories inc.	
Electrical Safety Certificate	<u>UL121201 Component Refrigeration Hazardous Locations</u>	UL - Underwriters Laboratories inc.	
Electrical Safety Certificate	<u>UL 60730 Component Controllers Refrigeration</u>	UL - Underwriters Laboratories inc.	
EU Declaration	<u>PPWR_Packaging EU PL04</u>	Danfoss	Packaging

Contact details

Online support

Danfoss offers a wide range of support along with our products, including digital information, software, mobile apps and expert guidance. See the possibilities below.



The Danfoss Design center

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