



Wire position sensor

DST X800

Description

The Danfoss DST X800 wire position sensor is developed to ensure a robust and high-performance solution mobile hydraulic applications. The stability control of e.g. a crane, telehandler or aerial platform is kept under control with draw wire sensors that determine the withdrawal of lateral stabilizers at different positions. On same applications the draw wire on the boom could prevent overturn of the machine.

Danfoss DST X800 series uses contactless Hall technology with measurement ranges up to 8.3 meter.

The sensor is designed for off-highway applications and resistant to shock and vibrations and with high electromagnetic compatibility and comes with both analog or CANopen output.

Single and redundant sensor types are available, making the complete portfolio suitable for safety-critical applications.

Features & benefits

- Hall effect technology for almost infinite sensor life time
- Single or redundant range: 1.8 – 8.3 m
- Output: Analog or CANopen
- Linearity: < ±0.5% FS
- Electrical connector: M12 or cable
- IP protection level IP67

Ordering

Product code numbers

Ordering for DST X800

Output signal	Configurations	Code no.
36 V; 0.5 – 4.5 V;	1 x M12 5p; Single; 1,800 mm	098G2000
36 V 0.5 – 4.5 V;	1x M12 8p; Redundant; 1,800 mm	098G2001
36 V; CANopen	1 x M12 5p; Single; 1,800 mm	098G2002
36 V; CANopen	1x M12 8p; Redundant; 1,800 mm	098G2003
36 V; 0.5 – 4.5 V;	1 x M12 5p; Single; 4,800 mm	098G2004
36 V; 0.5 – 4.5 V;	1x M12 8p; Redundant; 4,800 mm	098G2005
36 V; CANopen	1 x M12 5p; Single; 4,800 mm	098G2006
36 V; CANopen	1x M12 8p; Redundant; 4,800 mm	098G2007
36 V; 0.5 – 4.5 V;	1 x M12 5p; Single; 8,300 mm	098G2008
36 V; 0.5 – 4.5 V;	1x M12 8p; Redundant; 8,300 mm	098G2009
36 V; CANopen	1 x M12 5p; Single; 8,300 mm	098G2010
36 V; CANopen	1x M12 8p; Redundant; 8,300 mm	098G2011

Other on request.

Ordering code - on request

Sensor type	
Wire transducer	S

Electrical connections	
M12 - 4-p connector	M
M12 - 5-p connector	N
M12 - 8-p connector (only for redundant versions)	O
Cable	F

Numbers of connectors	
Cable connection	O
1 male M12-4-p connector (single version) or 1 male M12-5-p connector (single or half-redundant version) or 1 male M12 8- p connector (only redundant version)	1
2 male M12-4-p connectors (redundant version) or 2 male M12-5-p connectors (redundant version)	2
1 male M12-5-p connector and 1 M12- 5-p female connector (only for IN-OUT CANopen version)	3

Circuit type	
Single	S
Redundant	R
Half-redundant	H

Measuring range	
Measuring range (specify)	xxxx
Available strokes: 1,800 mm; 2,300 mm; 3,300 mm; 4,300 mm; 4,800 mm; 5,300 mm; 6,300 mm; 7,300 mm; 8,000 mm; 8,300 mm	

Supply voltage	
10...36 V DC	H

Output type	
0.5...4.5 V DC (powered at 10 – 36 V DC)	A1
0...10 V DC output (powered at 11...36 V DC)	A2
4...20 mA output (powered at 10...36 V DC)	A3
CANopen output (powered at 10...36 V DC)	C1

Certificate	
No certificate attached	0
Linearity curve to be attached	L

Version	
Standard	033

Accessories	
No accessories	X
FLA033: fixing flange, A version	A
FLA034: fixing flange, B version	B
CON293: 4-pin female mating connector M12x1; IP67	C
CON469: 8-pin female mating connector M12x1; IP67	D
CON031: 5-pin female mating connector M12x1; IP67	E

Cable length	
No cable	00
2000 mm	20
Other on request	

Example of ordering: DST X800-SN2R4300HC1 0033X00

S	Wire sensor
N	M12 c onnector 5-pin
2	2 male 5-pin connector
R	Redundant
4300	4300 mm stroke
H	10 – 36 V DC

C1	CANopen
0	No certificate
033	Standard
X	No accessories
00	Cable length (on request)

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.

Product details

General data

Performance

Features	Specifications
Measuring range	Strokes 1800mm - 2300mm - 3300mm - 4300mm - 4800mm - 5300mm - 6300mm - 7300mm - 8000mm - 8300mm
Linearity factory verification@ 25 °C	< ± 0.5% FS
Long term repeatability	< ±3% FS (for 1.80m, 2.30m, 3.30m) < ±2% FS (for 4.30m, 4.80m, 5.30 m, 6.30m, 7.30 m, 8.00m, 8.30m)
Resolution	0.1mm CANopen output; 12 bit analog output
Speed	Max. 2 m/sec, typ. 1 m/sec
Typical acceleration	1 g
Durability	500,000 speed max. 1 m/sec acc. max. 0.5 g; 150,000 speed max. 2 m/sec acc. max. 1 g

Electrical specifications

Features	Specifications
Electrical connections	M12 (4, 5 or 8 pin) connector or Cable
Output signal	0.5 – 4.5 V DC, 0 – 10 V DC, 4 – 20 mA, CANopen
Supply voltage	10 – 36 V DC
Current consumption	< 10 mA/per channel (no load)
MTTFd [Years]	CANopen: 220 Analogue: 173 (Single channel)

Environmental conditions

Features		Specifications	
Operating temperature range		-40 – 65 °C	
EMC		Emission	EN 55011
		Immunity	EN 61236-3-2
Vibration stability	Sinusoidal	20 g, 10 Hz – 2,000 kHz	IEC 60068-2-6
Shock resistance	Impulsive on 3 axes	50 g, 11 ms	IEC 60068-2-27
IP rating		IP67 with female connector mounted	

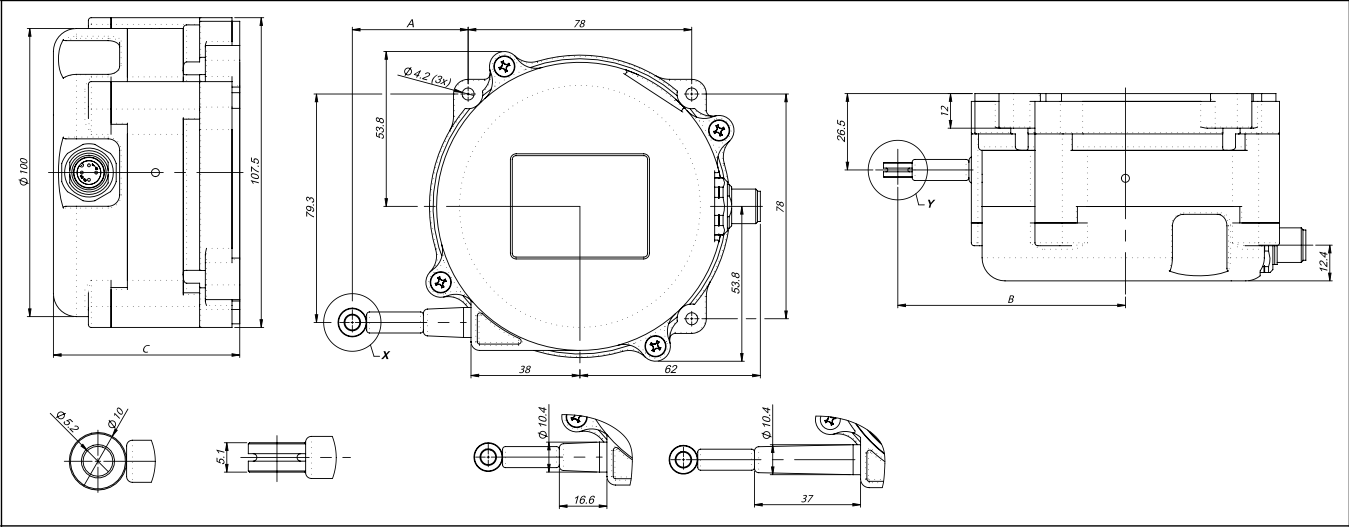
Mechanical characteristics

Features		Specifications
Materials	Enclosure	PBT (Polybutylene terephthalate)
	Wire	AISI 316; Ø0.85 mm nylon coating
Net weight		1,800 – 3,300 mm, 0.53 kg
		4,300 – 5,300 mm, 0.63 kg
		6,300 – 8,300 mm, 0.73 kg



Dimensions

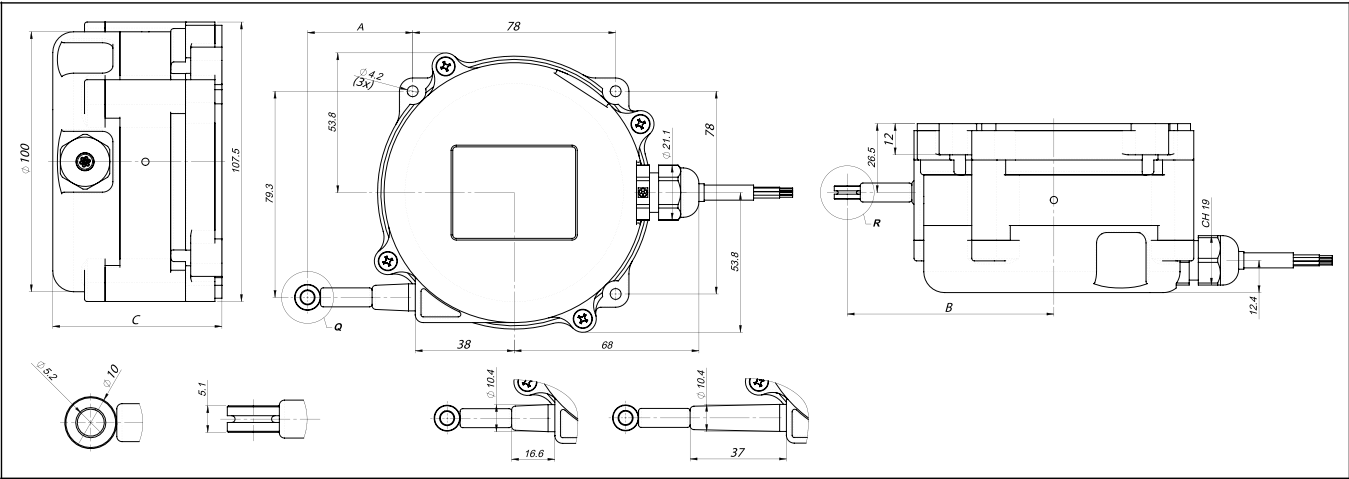
M12 version



Strokes - M12 version

Strokes	A	B	C
1,800 – 5,300	40.4	79.4	-
6,300 – 8,300	60.8	99.8	-
1,800 – 6,300	-	-	65
7,300 – 8,300	-	-	68

Cable version



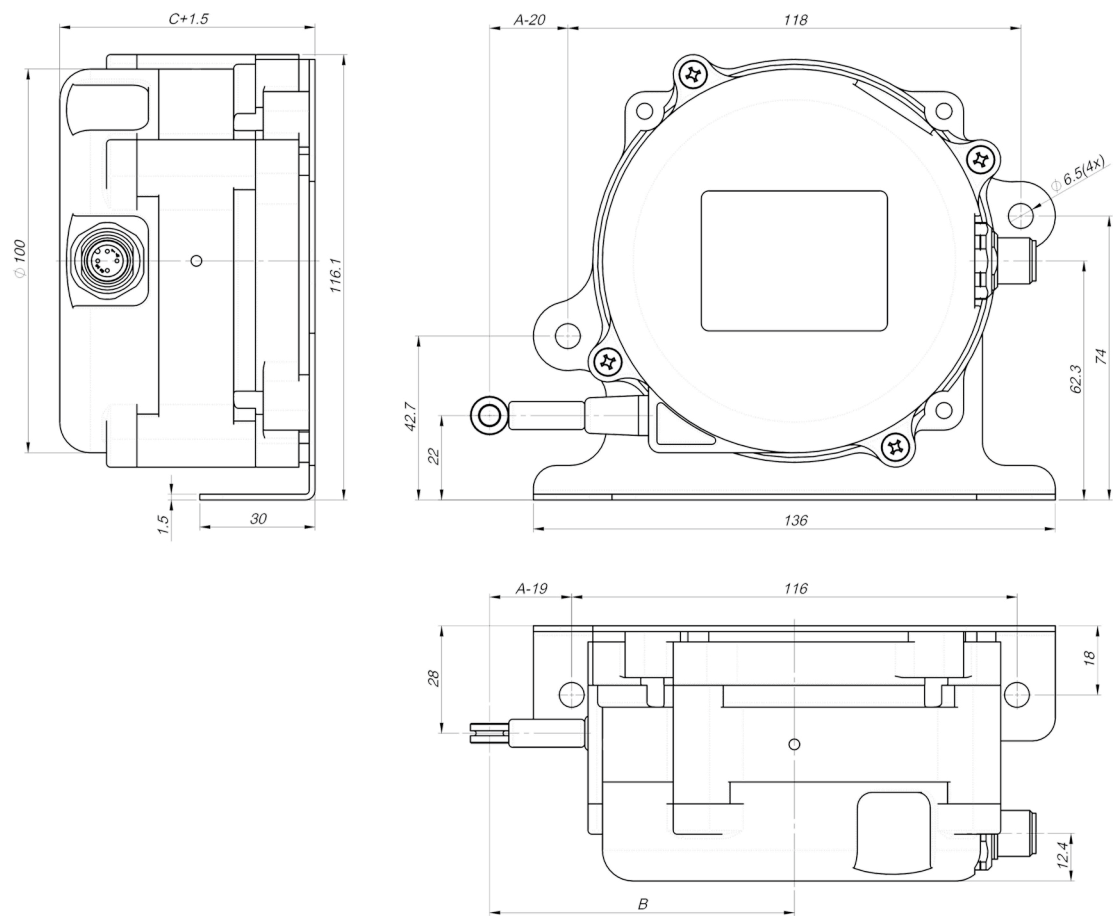
Strokes - cable version

Strokes	A	B	C
1,800 – 5,300	40.4	79.4	-
6,300 – 8,300	60.8	99.8	-
1,800 – 6,300	-	-	65
7,300 – 8,300	-	-	68

Note: Dimensions are in mm, unless stated otherwise.



Fixing flange - Model A (optional)

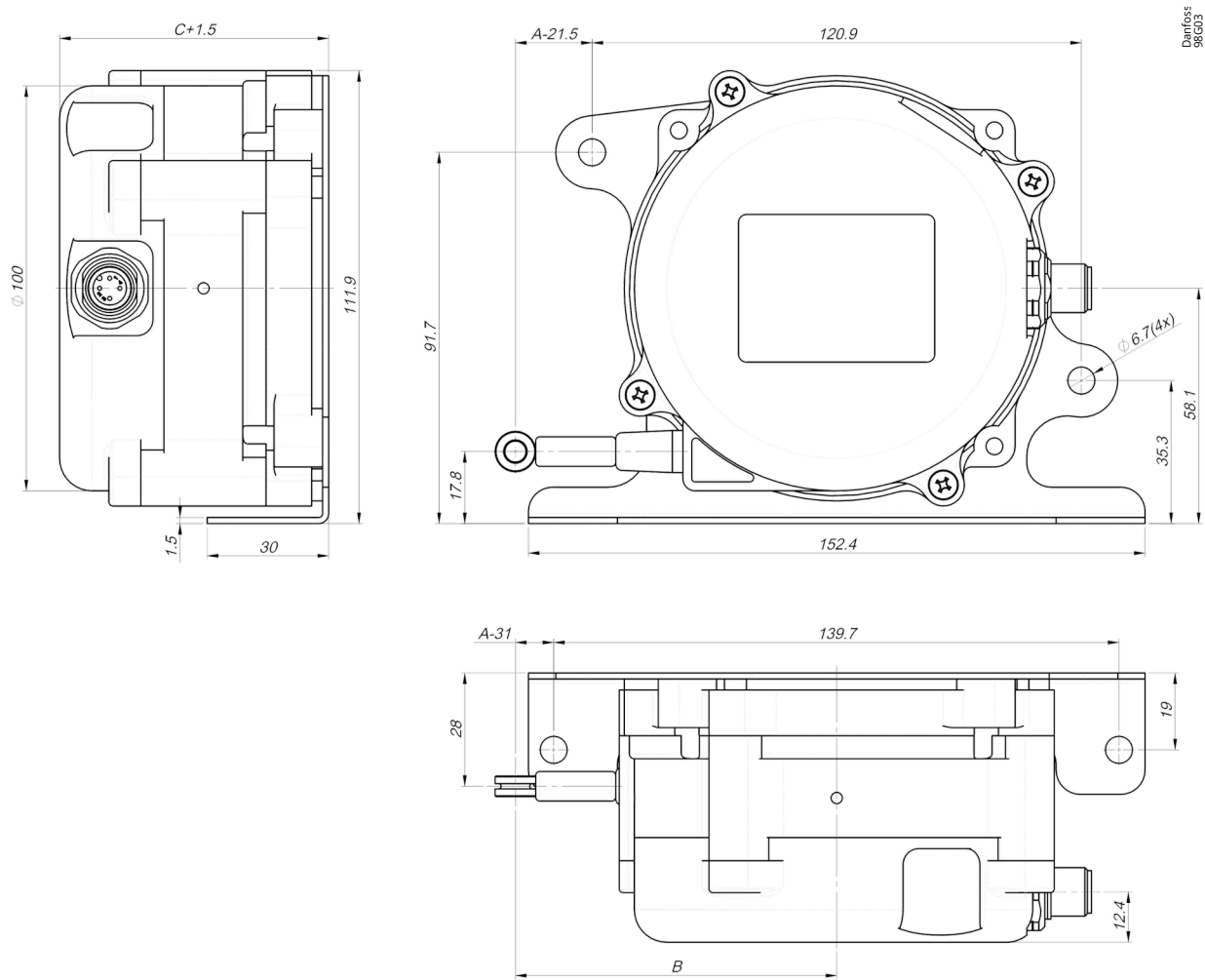


Danfoss
98602

Note: Dimensions are in mm, unless stated otherwise.



Fixing flange - Model B (optional)

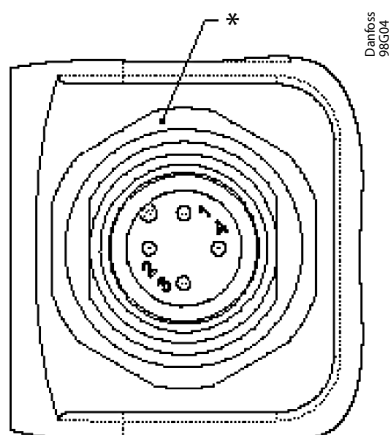


Note: Dimensions are in mm, unless stated otherwise.

Connections

M12 version

Single version - 4 pin



Analog output connections:

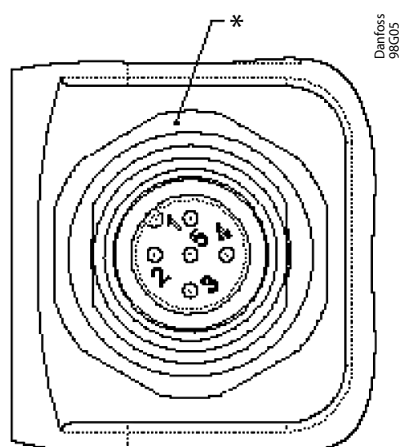
1.	+ Supply
2.	Ground
3.	Output
4.	N.C.

*	M12x1 4-pin male connector
---	----------------------------

CANopen output connections:

1.	+ Supply
2.	Ground
3.	CAN H
4.	CAN L

Single version - 5 pin



Analog output connections:

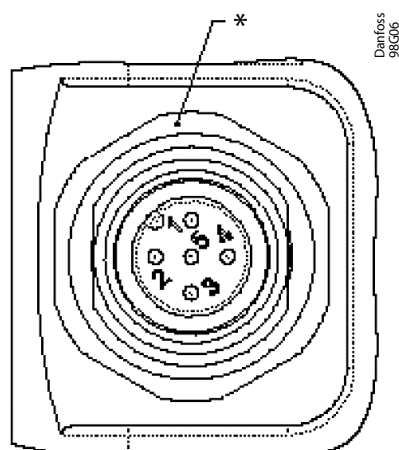
1.	+ Supply
2.	N.C.
3.	Ground
4.	Output
5.	N.C.

*	M12x1 5-pin male connector
---	----------------------------

CANopen output connections:

1.	N.C.
2.	+ Supply
3.	Ground
4.	CAN H
5.	CAN L

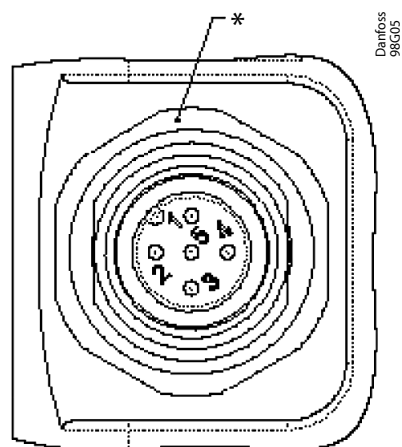
Half-redundant version



CANopen output connections:

1.	Ground
2.	+ Supply
3.	Ground
4.	CAN H
5.	CAN L

*	M12x1 5-pin male connector
---	----------------------------

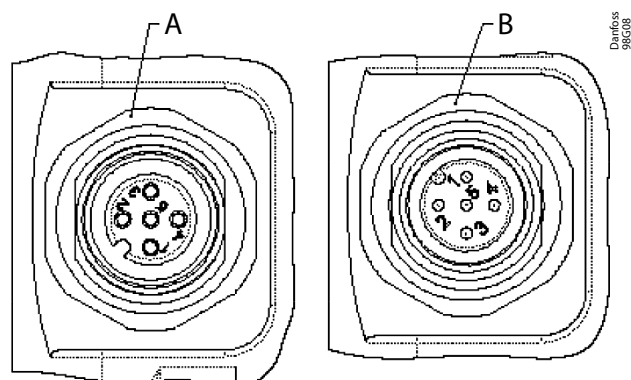
Redundant version**Analog output connections:**

1.	+ Supply 1
2.	Ground 1
3.	Output 1
4.	N.C.
5.	+ Supply 2
6.	Ground 2
7.	Output 2
8.	N.C.

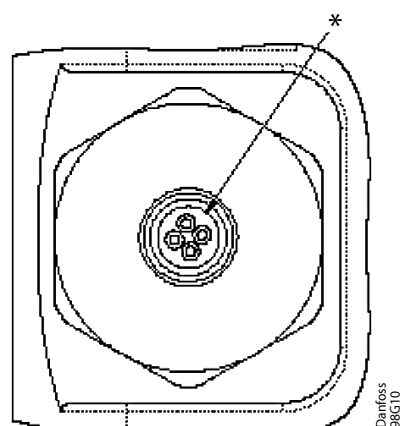
CANopen output connections:

1.	+ Supply 1
2.	Ground 1
3.	CAN H 1
4.	CAN L 1
5.	+ Supply 2
6.	Ground 2
7.	CAN H 2
8.	CAN L 2

*	M12x1 8-pin male connector
---	----------------------------

Single / Redundant / Half-redundant version**CANopen output connections:**

1.	Ground
2.	+ Supply
3.	Ground
4.	CAN H
5.	CAN L
A	M12x1 5-pin female connector
B	M12x1 5-pin male connector
8.	N.C.

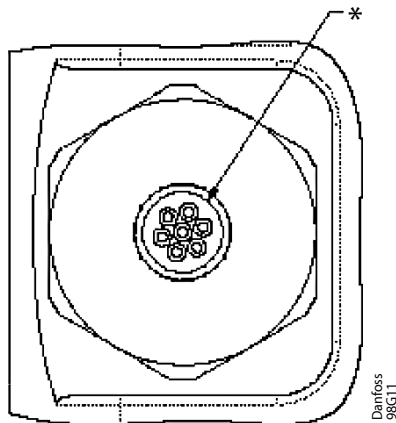
Cable version**IEC 60228 Cable****Connections:**

Red	+ Supply
Black	Ground
Blue	Out
White	N.C.

Connections:

Red	+ Supply
Black	Ground
Blue	CAN H
White	CAN L

*	IEC 60228 Cable 4 pole 0.34 mm ² PUR OD 4.4 mm
---	---

IEC 60228 CableDanfoss
98G11**Connections:**

White	+ Supply CH1
Brown	Ground CH1
Green	Out CH1
Yellow	N.C.
Grey	+ Supply CH2
Pink	Ground CH2
Blue	Out CH2
Red	N.C.

*	IEC 60228 Cable 4 pole 0.34 mm ² PUR OD 5.8 mm
---	---

Connections:

White	+ Supply CH1
Brown	Ground CH1
Green	CAN H CH1
Yellow	CAN L CH1
Grey	Supply CH2
Pink	Ground CH2
Blue	CAN H CH2
Red	CAN L CH2

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	Certification body	Approval topic
EU-UK Declaration	Danfoss EU-UK 098R0010.04	Danfoss	UK RoHS, EU RoHS, EMC
Pressure Safety Certificate	LLC CDC EURO-TYSK UA.TR.089.1015.05-22	LLC CDC EURO TYSK - Ukraine	Pressure
UA Declaration	Danfoss UA 2024-07-25 cooling_sensors	Danfoss	EMC, LVD
Export Control Declaration	Refrigerant Leakage Sensor	Danfoss	
UA Declaration	Danfoss UA 2023-01-10 Regulators PL01 PL04	Danfoss	PED, Pressure
Export Control Declaration	Pressure & Temperature Sensors	Danfoss	

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

Discover the Design Center, our advanced digital platform that streamlines product selection. With integrated tools and enhanced type pages, it's simpler than ever to access product information and documentation, and to select the right products. Check the availability of Danfoss products at partner locations and enjoy seamless transitions from selection to purchase with our basket-to-basket functionality. Whether you're buying from our distributors or directly from the Product Store, the Design Center simplifies your experience. Learn more at: designcenter.danfoss.com.



The Danfoss product store

The Danfoss Product Store is a one-stop shop available 24/7 for our customers, no matter where you are in the world or what area of industry you work in. Browse our catalog, check product details and documentation, view your prices and product availability, and quickly finalize your purchase. Start browsing at: store.danfoss.com.



Danfoss Partner Portal/Product Data tool

Designed to support you with easy access to product data extracts, essential resources, tools, and information. The Partner Portal provides a centralized hub for product documentation, training materials, marketing assets, and technical support, ensuring you have everything you need to succeed and grow your business with Danfoss. The Partner Portal is available 24/7 at: partner.danfoss.com and is ready to support your business.



Find technical documentation

Find technical documentation you need to get your project up running. Get direct access to our official collection of data sheets, certificates and declarations, manuals and guides, 3D models and drawings, case stories, brochures, and much more. Start searching now at: documentation.danfoss.com.



Danfoss Learning

Danfoss Learning is a free online learning platform. It features courses and materials specifically designed to help engineers, installers, service technicians, and wholesalers better understand the products, applications industry topics, and trends that will help you do your job better. Find your local Danfoss website here: learning.danfoss.com.



Get local information and support

Local Danfoss websites are the main sources for help and information about our company and products. Find product availability, get the latest regional news, or connect with a nearby expert - all in your own language. Find your local Danfoss website here: danfoss.com.

Danfoss A/S

Climate Solutions . danfoss.com . +45 7488 2222

Any information, including, but not limited to information on selection of product, its application or use, product design, weight, dimensions, capacity or any other technical data in product manuals, catalogues description, advertisements, etc. and whether made available in writing, orally, electronically, online or via download, shall be considered informative, and is only binding if and to the extent, explicit reference is made in a quotation or order confirmation. Danfoss cannot accept any responsibility for possible errors in catalogues, brochures, videos and other material. Danfoss reserves the right to alter its products without notice. This also applies to products ordered but not delivered provided that such alterations can be made without changes to form, fit or function of the products. All trademarks in this material are property of Danfoss A/S or Danfoss group companies. Danfoss and the Danfoss logo are trademarks of Danfoss A/S. All rights reserved.
