



Pressure transmitter

MEP

For use in mobile hydraulic, industrial hydraulic and air compressor applications

Description

MEP 2200 and MEP 2250 versions:

- For use in mobile hydraulic applications
- Dual output

Output 1: Switch output

- Hysteresis 1% FS
- Time constant 1 ms

Output 2: Analogue output

- Ratiometric or absolute voltage output

MEP 2600 and MEP 2650 versions:

- For use in mobile hydraulic, industrial hydraulic and air compressor applications
- Single output

Output 1: Switch output

- Hysteresis 1 – 8% FS
- Time constant 8 – 512 ms
- Immunity towards VFD

The series are available in 2 versions:

- MEP 2200, MEP 2600 – without integrated pulse-snubber
- MEP 2250, MEP 2650 – with integrated pulse-snubber

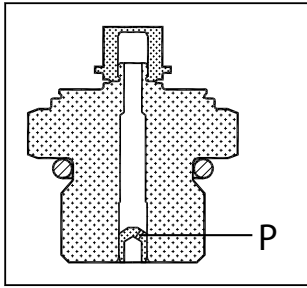
The integrated pulse-snubber offers a high degree of protection against cavitations and liquid hammer. The well thought out design results in excellent vibration stability and an exceptional robustness. The high degree of EMI protection equips the electronic pressure switch to meet most requirements.

Features & benefits

- Designed for use in severe OEM applications
- Excellent long term stability with zero drift
- No leakages due to fully welded design
- Wetted parts made of stainless steel
- For medium and ambient temperatures up to 125 °C
- Dual output versions with switch function and an analogue output signal:
 - 0 – 5 V, 1 – 5 V, 1 – 6 V, 0 – 10 V, 10 – 90% ratiometric voltage as additional output
- Switch versions with customized hysteresis and time constant
- A wide range of pressure and electrical connections
- EMC protection up to 100 V/m
- Thermal overload protected

Applications

Pulse-snubber



P Pulse-snubber

The pulse-snubber protects the sensor element in the event of cavitation, liquid hammer and pressure peaks, which may occur in liquid filled systems with changes in flow velocity, e.g. fast closing of a valve or pump starts and stops.

The problem may occur on the inlet and outlet side, even at rather low operating pressures. The media viscosity has only little effect on the response time.

Even at viscosities up to 100 cSt, the response time will not exceed 4 ms.

MEP 2200 and MEP 2250

AI562735512791en-010201

MEP 2600 and MEP 2650

Note: Non-standard build-up combinations may be selected. However, minimum order quantities may apply. Please contact your local Danfoss office for further information or request on other versions.

Product details

General data

Performance (EN 60770)

Type	MEP 2200 and MEP 2250	MEP 2600 and MEP 2650
	Dual output (Switch and Analogue - output)	Switch output (Switch - output)
Switch Hysteresis	~ 1% FS ⁽¹⁾	1 – 8% FS
Switch Time delay	1 ms	8 – 512 mS
Accuracy (incl. non-linearity, hysteresis and repeatability)	2% FS	2% FS (1 – 5% Hysteresis) 3% FS (6 – 8% Hysteresis)
Thermal accuracy	< ± 0.15% FS / 10K	< ± 0.15% FS / 10K

⁽¹⁾ For detailed information please contact Danfoss.

Overload and burst pressure – without pulse-snubber

Features	Values													
Nominal pressure [bar]	10	16	25	40	60	100	160	250	400	500	600	1000 ⁽²⁾	1600 ⁽²⁾	2200 ⁽²⁾
Overload pressure	30	48	80	80	140	200	320	500	800	1400	1400	2000	2500	3000
Burst pressure	400	640	800	800	1400	2000	1600	2500	4000	> 4000	> 4000	> 4000	> 4000	> 4000

⁽²⁾ Only available with M12 × 11.5 P high pressure port, type FC06. Please contact Danfoss.

Overload and burst pressure – with integrated pulse-snubber

Features	Values										
Nominal pressure [bar]	10	16	25	40	60	100	160	250	400	500	600
Overload pressure	30	48	120	120	210	300	480	750	1200	2100	2100
Burst pressure	400	640	800	800	1400	2000	1600	2500	4000	> 4000	> 4000

Electrical specifications

Type	MEP 2200 and MEP 2250	MEP 2600 and MEP 2650
	Dual output (Switch and Analogue - output)	Switch output (Switch - output)
Max. load ⁽³⁾	500 mA	500 mA
Electrical connector types	See Electrical connections	See Electrical connections
Max. inrush load	1.6 A	600 mA
Supply voltage	8 – 32 V	
Over/reverse voltage	± 36 V	± 33 V

⁽³⁾ For inductive load limits, please contact Danfoss.

Secondary output reference for MEP 2200 and 2250

Nom. output signal (Short-circuit protected)	NPN and PNP		NPN
	0 – 5, 1 – 5, 1 – 6 V	0 – 10 V	10 – 90% ratiometric
Supply voltage [UB], polarity protected	8 – 32 V	12 – 32 V	–
Supply – current consumption	4.5 mA	4.5 mA	4.5 mA
Output impedance	≤ 90 Ω	≤ 90 Ω	≤ 90 Ω
Load [R _L] (connected to 0 V)	RL ≥ 10 kΩ	RL ≥ 10 kΩ	RL ≥ 5 kΩ
Load [R _L] (connected to + V)	Not possible	Not possible	RL ≥ 5 kΩ

Technical data

Features		Values
Media temperature range		- 40 – 125 °C
Ambient temperature range		-40 – 125 °C
Compensated temperature range		- 40 – 125 °C
Transport temperature range		-55 – 150 °C
EMC – Emission		EN 61326-2-3: 2013
EMC Directive		2014/30/EU
EMC – Immunity RF field	100 V/m, 26 Mhz – 1 GHz	EN 61326-2-3 Cable < 30 m
	3 V/m, 1.4 GHz – 2.7 GHz	
Electrical performance comply with		ISO 7637 pulse 1 – 4 V (MEP 26XX)
		ISO 7637-2 / ISO 16750 (MEP 22XX) (pulse 5b <45 V)
Vibration stability	20 g, 10 – 2000 Hz, sinus	EN 60068-2-6
Shock resistance	100 g	EN 60068-2-27
Enclosure (depending on electrical connection)		see Ordering

Mechanical conditions

Materials	
Wetted parts	17 – 4 PH
Enclosure	AISI 304 or plastic
Pressure connection	17 – 4 PH
Electrical connection	See Electrical connections

Configuration codes

MEP 2200 and MEP 2250

Code no.	Switch state change – NC and NO	NPN and PNP connection
Code 1	Switch state high low bar Set point Hysteresis 1% FS Normally open (NO)⁽¹⁾	NPN – dual output NPN / Switch to ground + Supply Load Pressure signal (absolute and ratio metric mode) - Supply
Code 2	Switch state high low bar Set point Hysteresis 1% FS Normally open (NO)⁽²⁾	NPN – dual output NPN / Switch to ground + Supply Load Pressure signal (absolute and ratio metric mode) - Supply
Code 3	Switch state high low bar Set point Hysteresis 1% FS Normally open (NO)⁽¹⁾	PNP – dual output PNP / Switch to supply + Supply Load Pressure signal (absolute voltage) - Supply
Code 4	Switch state high low bar Set point Hysteresis 1% FS Normally open (NO)⁽²⁾	PNP – dual output PNP / Switch to supply + Supply Load Pressure signal (absolute voltage) - Supply

⁽¹⁾ **NO:**

At rising pressure ($P^0 - P^{Max}$) when reaching the set point the switch will connect the applied load (switch state change from low to high).

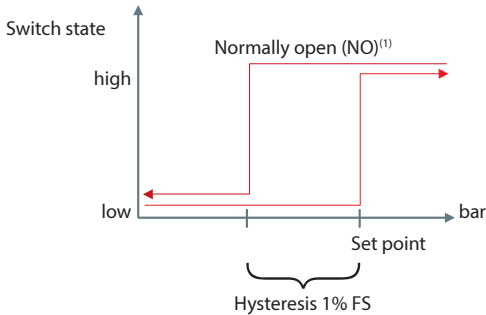
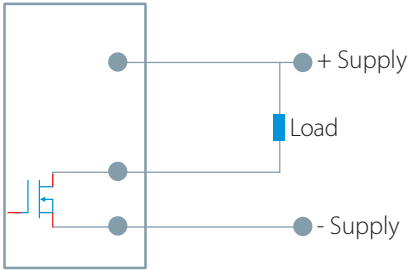
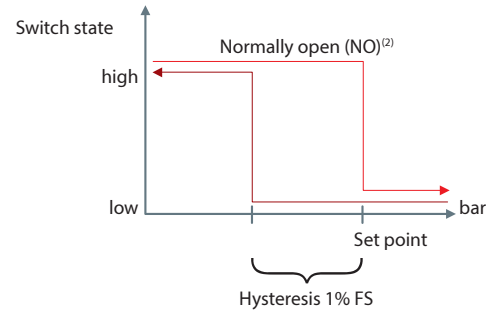
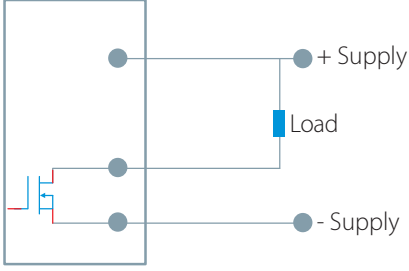
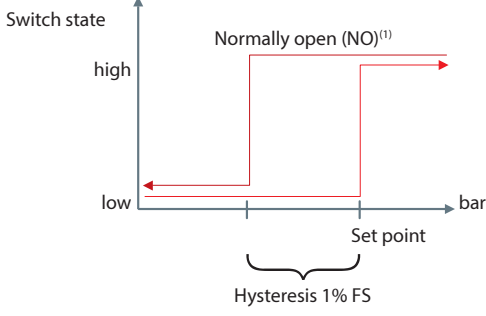
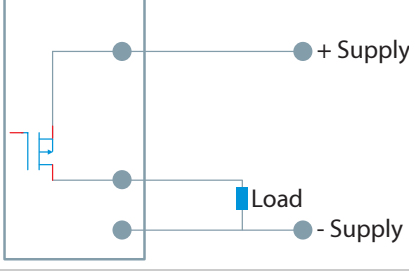
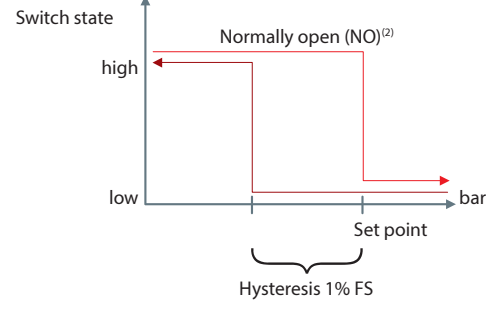
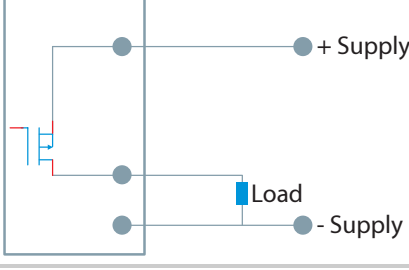
At falling pressure ($P^{Max} - P^0$) when reaching the set point + hysteresis the switch will disconnect the applied load (switch state change from high to low).

⁽²⁾ **NC:**

At rising pressure ($P^0 - P^{Max}$) when reaching the set point the switch will disconnect the applied load (switch state change from high to low).

At falling pressure ($P^{Max} - P^0$) when reaching the set point + hysteresis the switch will connect the applied load (switch state change from low to high).

MEP 2600 and MEP 2650

Code no.	Switch state change – NC and NO	NPN and PNP connection
Code 1		NPN – switch output NPN / Switch to ground 
Code 2		NPN – switch output NPN / Switch to ground 
Code 3		PNP – switch output PNP / Switch to supply 
Code 4		PNP – switch output PNP / Switch to supply 

⁽¹⁾ **NO:**

At rising pressure ($P^0 - P^{\text{Max}}$) when reaching the set point the switch will connect the applied load (switch state change from low to high).

At falling pressure ($P^{\text{Max}} - P^0$) when reaching the set point + hysteresis the switch will disconnect the applied load (switch state change from high to low).

⁽²⁾ **NC:**

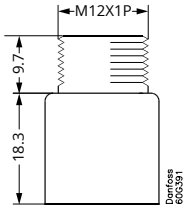
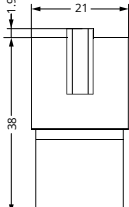
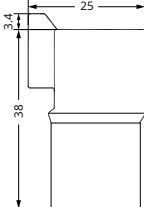
At rising pressure ($P^0 - P^{\text{Max}}$) when reaching the set point the switch will disconnect the applied load (switch state change from high to low).

At falling pressure ($P^{\text{Max}} - P^0$) when reaching the set point + hysteresis the switch will connect the applied load (switch state change from low to high).

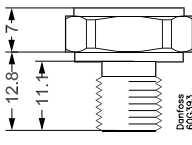
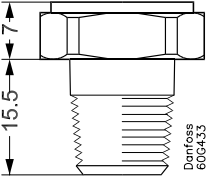
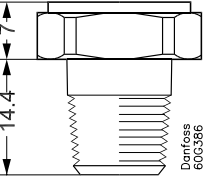
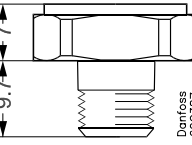
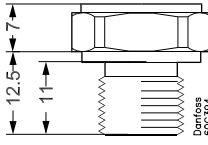


Dimensions

Dimensions / Combinations

Type code	C1	C3	C7
	M12 x 1 EN60947-5-2	Deutsch DT04-4P	Deutsch DT04-3P
Note: The diameter of all housings is 19 mm.			

Dimensions / Combinations with recommended torque

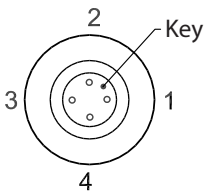
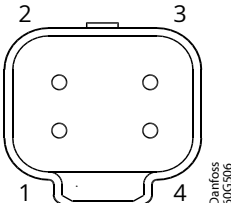
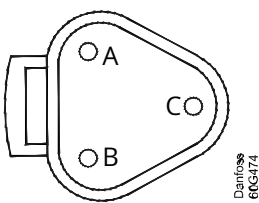
Type code	BD08	PT04	AC04/AF04	AC02/AF02	GB04
Recommended torque	18 – 20 Nm	2 – 3 turns after finger tightend	2 – 3 turns after finger tightend	2 – 3 turns after finger tightend	30 – 35 Nm
					
	7/16 – 20 UNF-2A	1/4 – 19 Pt	1/4 – 18 NPT / NPTF	1/8 – 27 NPT / NPTF	G 1/4 A DIN 3852-E

Note: HEX is 22 mm across flats.

Note: Dimensions are in mm, unless stated otherwise.



Connections
Electrical connections

Type code	C1	C3	C7
			
	M12x1 EN60947-5-2	Deutsch DT04-4P	Deutsch DT04-3P
Enclosure	IP67	IP67	IP67
Material	SS, PBT 30% GFR Gold (Au) plated	Glass filled PBT 30% GFR Gold (Au) plated	Glass filled PBT 30% GFR Tin (Sn) plated
Electrical connections, MEP 22XX	Pin 1: + supply Pin 2: pressure output Pin 3: ÷ supply Pin 4: switch output	Pin 1: ÷ supply Pin 2: + supply Pin 3: switch output Pin 4: pressure output	Pin A: + supply Pin B: ÷ supply Pin C: switch output
Electrical connections, MEP 26XX	Pin 1: + supply Pin 2: switch output Pin 3: ÷ supply Pin 4: N/A buried		Pin A: + supply Pin B: ÷ supply Pin C: switch 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	Certification body	Approval topic
Electrical Safety Certificate	UL E311982	UL - Underwriters Laboratories inc.	
Manufacturer's Declaration	Danfoss MD 063R1012.00	Danfoss	China RoHS
EU-UK Declaration	Danfoss EU-UK 063R1015.02	Danfoss	EMC
UA Declaration	Danfoss UA 2023-01-10 Regulators PL01 PL04	Danfoss	Pressure
Pressure Safety Certificate	LLC CDC EURO-TYSK UA.TR.089.1015.05-22	LLC CDC EURO TYSK - Ukraine	Pressure
Manufacturer's Declaration	Danfoss MD 063R1014.AB	Danfoss	MTBF
UA Declaration	Danfoss UA 2024-07-25 cooling sensors	Danfoss	LVD
EAC Declaration	EAC KZ 7100841.13.12.00005	EAC - Eurasian Customs Union	EMC
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.
