Data sheet



Temperature transmitter

MBT 5113

Two-stroke exhaust gas temperature sensor

Description

Heavy-duty sensors used for measuring exhaust gas from diesel engines, turbines and compressors within stationary and marine applications.

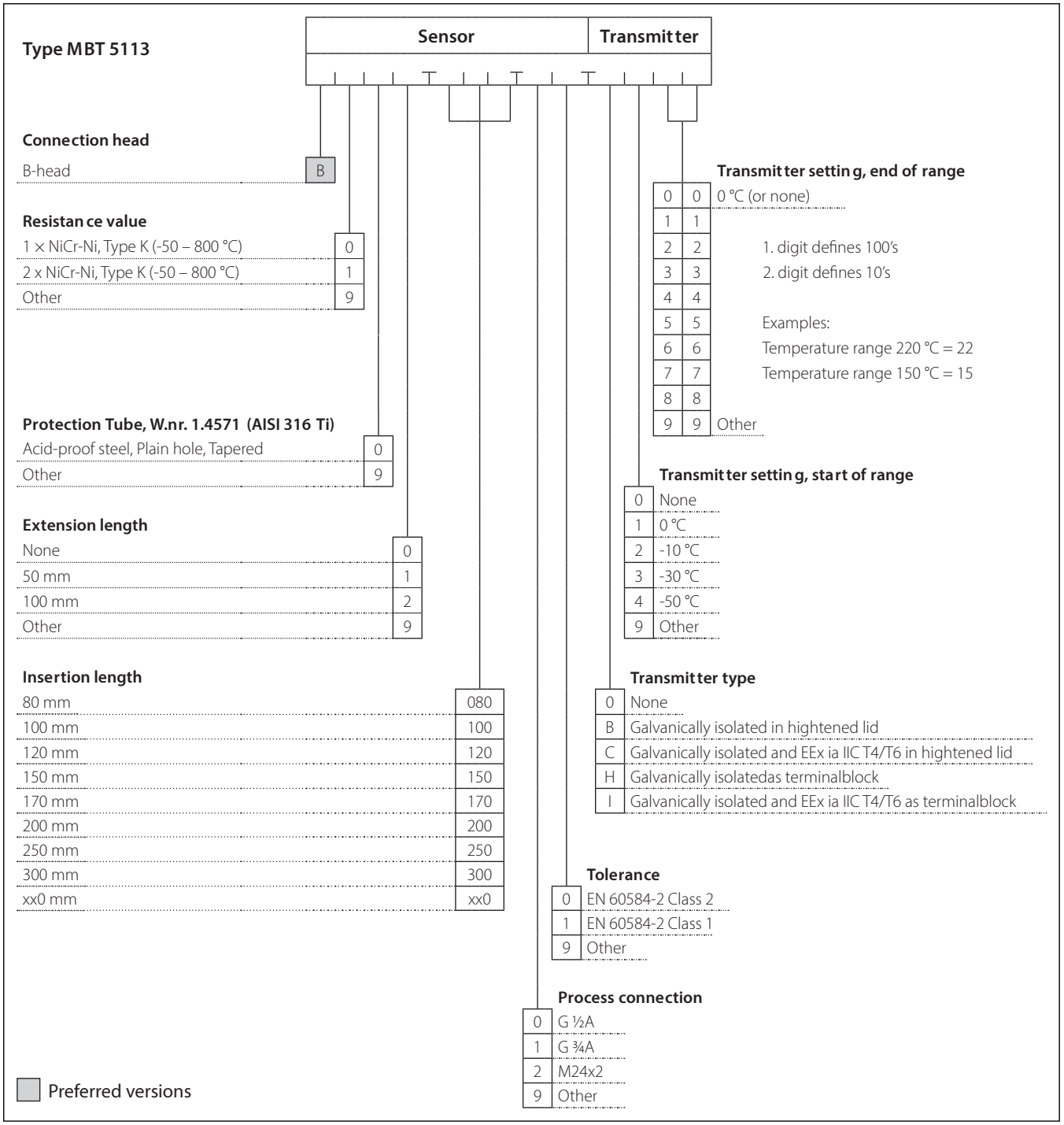
MBT 5113 – based on thermocouple technology for media temperatures up to 800 °C.

Features & benefits

- Up to 800 °C media temperatures
- B-head for standard installations
- Changeable inserts
- Solid drilled protection tube for high resistance to shock and vibrations
- 1 or 2 x NiCr-Ni, type K

Ordering

Product code numbers



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

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

Features	Specifications
Measuring range	-50 – 800 °C
Sensing element	1 × NiCr-Ni, type K or 2 x NiCr-Ni, type K
Protection tube	ø24 / ø14, AISI 316 Ti

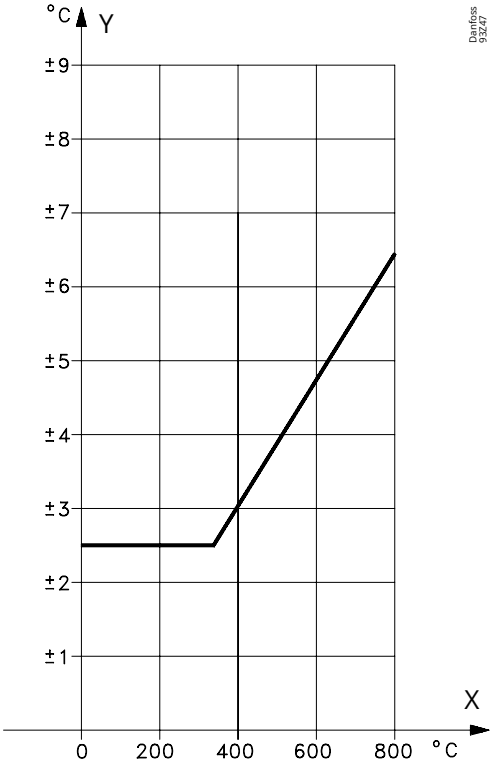
Response times

Protection tube	Indicative response times			
	Water 0.2 m/s		Air 1 m/s	
ø24 / ø14	$t_{0.5}$	$t_{0.9}$	$t_{0.5}$	$t_{0.9}$
	30 s	95 s	200 s	700 s

Mechanical and environmental specifications

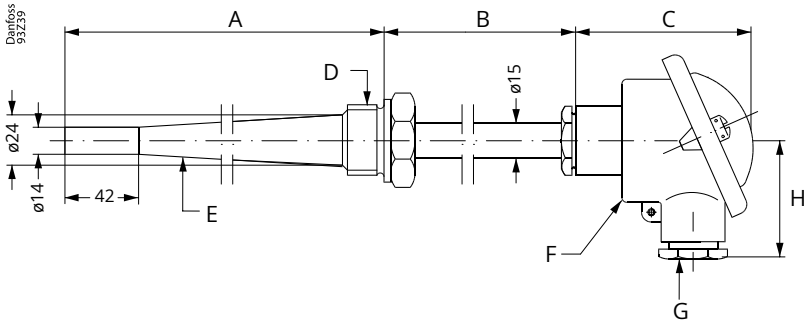
Features	Specifications	
Max. temperature	Ambient:	90 °C with 800 °C media temperature
		85 °C with transmitter
Vibration stability	Shock:	100 g/6 ms
	Vibrations:	4 g sine function, 2 – 100 Hz, measured according to IEC 60068-2-6
Enclosure	IP65 according to IEC 60529	
Cable entry	Pg 16	

Sensor tolerance EN 60584-2 class 2



X	Media temperature
Y	Max. deviation
Z	NiCr-Ni & Fe-CuNi

Dimensions



Note: Dimensions are in mm, unless stated otherwise.

A	Insertion length
B	Extension length
C	Approx. 75

D	Process connection
E	Protection tube
F	Connection head, type B

G	Pg 16
H	Approx. 50

Net weight

Insertion length [mm]	Process connection	
	G ½"	G ¾"
80	0.48	–
100	0.52	0.60
120	0.56	0.64
150	0.60	0.70
170	–	0.72
200	–	0.76
250	–	0.85
300	–	1.04

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
Manufacturer's Declaration	Danfoss MD 084R1021.00	Danfoss	China RoHS
Explosive Safety Certificate	UL 12CA69359	UL Demko - UL International DEMKO A - S	ATEX
Marine Certificate	NKK TA22486M	ClassNK - The Japanese Marine Association	Marine
EU-UK Declaration	Danfoss EU-UK 084R1019.04	Danfoss	EMC
Marine Certificate	KR DLN34014-AE007	KR - Korean Register of Shipping	Marine
Manufacturer's Declaration	Simple Apparatus	Danfoss	Simples apparatus
Export Control Declaration	Pressure & Temperature Sensors	Danfoss	
Marine Certificate	DNV Euro Mutual	DNV	Marine
EU Declaration	PL 04 Packaging	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

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 reginal 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.