

# NAVISTAT

Swiss based Trafag is a leading international supplier of high quality sensors and monitoring instruments for the measurement of pressure and temperature.



## Applications

- Shipbuilding
- Engine manufacturing
- Railways

## Features

- Compact design
- Rugged housing
- High repeatability
- Protection IP65
- Any mounting position possible

Technical Data			
Designation of application	Thermostat for shipbuilding	Switching differential	Not adjustable
Measuring range	+20°C ... +110°C to +40°C ... +300°C	Repeatability	± 0.5 % FS typ.
Output signal	Floating change-over contact	Approval / conformity	ABS, BV, CCS, DNV, GL, KRS, LRS, RINA, RMRS EN60730-1/ EN60730-2-9: Typ 2.B.H

07/2018

Data sheet H72111m

Subject to change

## Ordering information/type code

		XXX . XX	XX	XXX	XX	XXXX	XXXX	XX	XX
<b>Custom build code</b>	Controller, increased vibration resistance	471 . 23							
	Controller, high vibration resistance <sup>1)</sup>	471 . 26							
	Temperature switch with locking, high vibration resistance <sup>2)</sup>	472 . 12							
<b>Range</b>	<b>Range [°C]</b>	<b>Sensor max. [°C]</b>							
	+20 ... 110	115							23
	+20 ... 150	165							31
	+40 ... 300	330							53
<b>Sensor</b>	<b>Range [°C]</b>	<b>Sensor diameter [mm]</b>							
	+20 ... 110	Ø7							322
	+40 ... 300	Ø7							122
	+20 ... 150 / +40 ... 300	Ø9							132
	+20 ... 150 / +40 ... 300	Ø12							142
<b>Fixing</b>	Version B (remote sensing version)								27
	Version K (direct mounting version)								14
<b>Protection tube</b>	<b>Suitable for sensor</b>	<b>Protection tube diameter [mm]</b>	<b>Protection tube length [mm]</b>	<b>Electrical connection</b>					
	322	10/8	min. 150	K, Stainless steel					1411
	132 <sup>3)</sup>	12/10	min. 110	K, Stainless steel					1412
	142 <sup>3)</sup>	15/13	min. 65	K, Stainless steel					1414
	322	10/8	min. 150	K, Brass nickel plated					1416
	132 <sup>3)</sup>	12/10	min. 110	K, Brass nickel plated					1417
	142 <sup>3)</sup>	15/13	min. 65	K, Brass nickel plated					1419
	322	10/8	min. 150	B, Brass nickel plated					8316
	122		min. 110						
	332	12/10	min. 110	B, Brass nickel plated					8317
	132		min. 90						
	342	15/13	min. 65	B, Brass nickel plated					8319
	142		min. 65						
	322	10/8	min. 150	B, Stainless steel					8411
	122		min. 110						
332	12/10	min. 110	B, Stainless steel					8412	
132		min. 90							
342	15/13	min. 65	B, Stainless steel					8414	
142		min. 65							
<b>Protection tube length</b>	Length G, see data sheet H72114/H72163								XXXX
<b>Accessories</b>	Switchpoint fixed and sealed upon customer's request								88
	Switchpoint preset upon customer's request, no guarantee on switching accuracy								83
	Switchpoint adjustment please indicate when ordering:								
	- Switchpoint [°C]								
	- Increasing or decreasing								
	Screwed cable gland M20x1.5 (EN 50262)								07
	Screwed cable gland M24x1.5 (DIN 89280)								27
	Screwed cable gland M18x1.5 (DIN 89280)								40
Capillary tube protection: Flexible metal tube, brass nickel plated								90	
<b>Capillary tube length</b>	Capillary tube length up to 5000 mm (no specification required for direct mounting on protection tube) L = XXXX								
	Standard length: L = 3000 mm with flexible metal tube								

<sup>1)</sup> Without ship approval GL

<sup>2)</sup> Without ship approval LRS

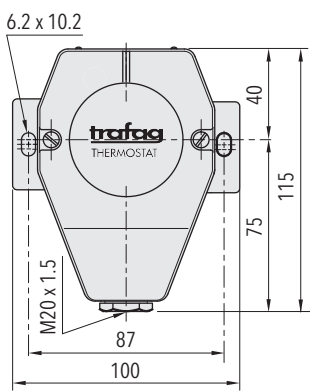
<sup>3)</sup> Only for range +20°C ... 150°C (Ordering no. 31)

## Standard products (extra short lead time)

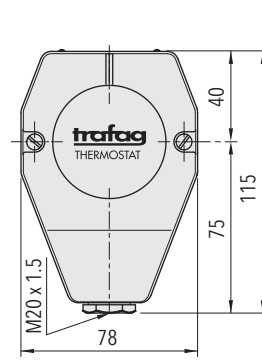
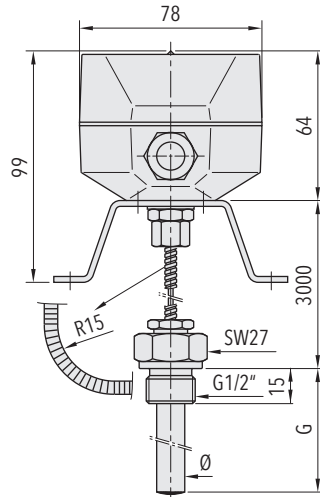
Product No.	Type Code	Temperature range [°C]	Protection tube diameter [mm]	Protection tube length [mm]	Switching differential [°C]	Sensor max. [°C]
ISN11011	471 2323 332 27 8317 0110 90	+20 ... +110	12	110	4.5 (fixed)	115
ISN11015	471 2323 322 27 8316 0150 90	+20 ... +110	10	150	4.5 (fixed)	115
ISN11065	471 2323 342 27 8319 0065 90	+20 ... +110	15	65	4.5 (fixed)	115
ISN15011	471 2331 132 27 8317 0110 90	+20 ... +150	12	110	5 (fixed)	165
ISN15015	471 2331 122 27 8316 0150 90	+20 ... +150	10	150	5 (fixed)	165
ISN15065	471 2331 142 27 8319 0065 90	+20 ... +150	15	65	5 (fixed)	165
ISNT11011	471 2323 332 14 1417 0110	+20 ... +110	12	110	4.5 (fixed)	115
ISNT11015	471 2323 322 14 1416 0150	+20 ... +110	10	150	4.5 (fixed)	115
ISNT11065	471 2323 342 14 1419 0065	+20 ... +110	15	65	4.5 (fixed)	115
ISNT15011	471 2331 132 14 1417 0110	+20 ... +150	12	110	5 (fixed)	165
ISNT15015	471 2331 122 14 1416 0150	+20 ... +150	10	150	5 (fixed)	165
ISNT15065	471 2331 142 14 1419 0065	+20 ... +150	15	65	5 (fixed)	165

Specifications		
<b>Accuracy</b>	Repeatability	± 0.5 % FS typ.
	Stability typ.	± 1 % FS typ.
	Scale accuracy typ.	± 2 % FS typ.
	Switching differential	see table
	Switching point	Temperatur compensated with bimetal switch lever
<b>Environmental Conditions</b>	Ambient temperature	Range ≤ +45°C: -30 ... +50°C Range +45 ... +250°C: -30 ... +70°C Range > +250°C: -10 ... +70°C
	Storage temperature	-40°C ... +85°C
	Protection	IP65
	Humidity	Max. 95% relative
	Vibration	5...25 Hz: ±1.6 mm 25...100 Hz: 4g
	Shock	50g/ 11ms
<b>Mechanical Data</b>	Housing	Copper (Cu)
	Filling	Liquid
	Protection tube	See ordering information
	Housing	AlSi9Cu3, coated
	Screwed cable gland	Brass nickel plated
	Installation	Any position
	Weight	~ 950 g
<b>Microswitch</b>	Rating	see table
	Resistance of insulation	> 10 MΩ
	Dielectric strength	2 kV terminal ground
	Life time (mechanical)	Microswitch 12/23/26: 0.3 Mio. cycles
<b>Electrical connection</b>	Cable gland	M20x1.5 Cable-Ø 4...10 mm
	Terminal screw	3 x 1...2.5 mm <sup>2</sup>

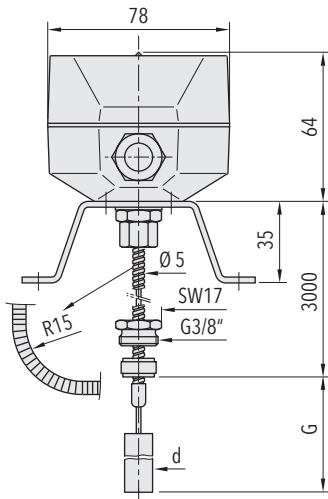
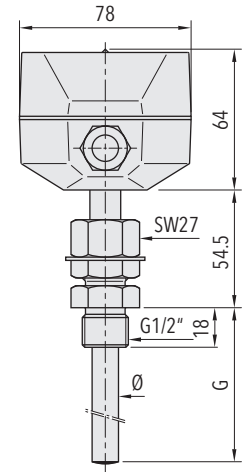
## Dimensions



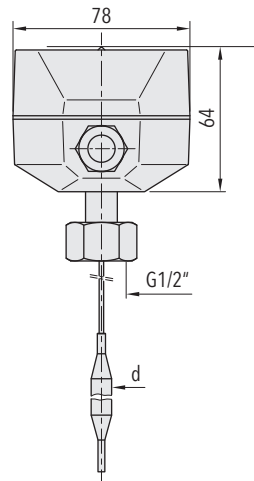
47X.XXXX.XXX.27.831X.XX



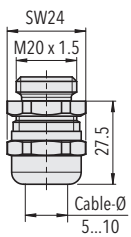
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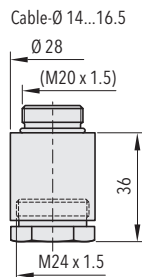
Version B / without protection tube



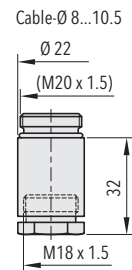
Version K / without protection tube



47X.XXXX.XXX.XX.XXXX.XXXX.07  
M 20x1.5



47X.XXXX.XXX.XX.XXXX.XXXX.27  
M 24x1.5



47X.XXXX.XXX.XX.XXXX.XXXX.40  
M 18x1.5

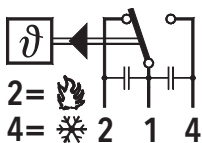
## Switching differential typ.

Range	[°C]	+20 ... +110	+20 ... +150	+40 ... +300
Sensor max.	[°C]	115	165	330
Switching differential micro switch 23 (fixed value, not adjustable)	[°C]	4.5	5	8
Switching differential micro switch 26 (fixed value, not adjustable)	[°C]	7.5	8	14
Switching differential micro switch 12 (limiter)	[°C]	(7.5)	(8)	(14)

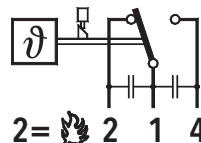
## Electrical data switch

Type	Features	Rating	
		Resistive Load (Inductive Load)	
		AC	DC
12	Temperature switch with locking	125 V 15 (1.5) A 250 V 15 (1.25) A 500 V 10 (0.75) A	250 V 0.3 (0.2) A 125 V 0.75 (0.4) A 30 V 15 (1.5) A 14 V 15 (1.5) A
23	Controller; average switching differential	125 V 15 (1.5) A 250 V 15 (1.25) A 500 V 10 (0.75) A	250 V 0.3 (0.05) A 125 V 0.6 (0.1) A 30 V 15 (1.5) A 14 V 15 (1.5) A
26	Controller; large switching differential	125 V 15 (1.5) A 250 V 15 (1.25) A 500 V 10 (0.75) A	250 V 0.3 (0.2) A 125 V 0.75 (0.4) A 30 V 15 (1.5) A 14 V 15 (1.5) A

## Electrical Connection



Switch 23/26



Switch 12/Limiter

## Additional information

### Documents

Data sheet	<a href="http://www.trafag.com/H72111">www.trafag.com/H72111</a>
Instructions	<a href="http://www.trafag.com/H73111">www.trafag.com/H73111</a>
Flyer	<a href="http://www.trafag.com/H70950">www.trafag.com/H70950</a>