

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

01/2017

Data sheet H72111

Subject to change

Ordering information/type code

					XXX . XX	XX	XXX	XX	XXXX	XXXX	XX	XX	
Custom build code	Controller, increased vibration resistance				471 .	23							
	Controller, high vibration resistance ¹⁾				471 .	26							
	Temperature switch with locking, high vibration resistance ²⁾				472 .	12							
Range	Range [°C]	Sensor max. [°C]											
	+20 ... 110	115				23							
	+20 ... 150	165				31							
	+40 ... 300	330				53							
Sensor	Range [°C]	Sensor diameter [mm]											
	+20 ... 110	Ø7				322							
	+20 ... 150	Ø9				332							
	+20 ... 150	Ø12				342							
	+40 ... 300	Ø7				122							
	+40 ... 300	Ø9				132							
	+40 ... 300	Ø12				142							
Fixing	Version B (remote sensing version)							27					
	Version K (direct mounting version)							14					
Protection tube	Suitable for sensor	Protection tube diameter [mm]	Protection tube length [mm]	Electrical connection									
	322	10/8	min. 150	K, Stainless steel			1411						
	332	12/10	min. 110	K, Stainless steel			1412						
	342	15/13	min. 65	K, Stainless steel			1414						
	322	10/8	min. 150	K, Brass nickel plated			1416						
	332	12/10	min. 110	K, Brass nickel plated			1417						
	342	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											
Protection tube length	Length G, see data sheet H72114/H72163										XXXX		
Accessories	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	
Capillary tube length	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												

¹⁾ Without ship approval GL

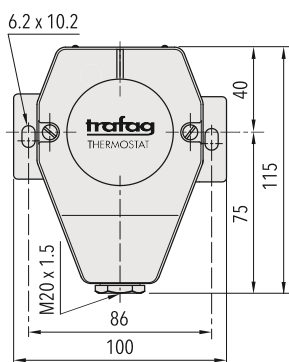
²⁾ Without ship approval LRS

Standard products (extra short lead time)

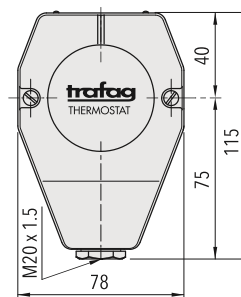
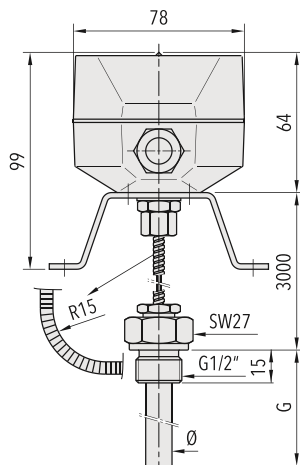
Product No.	Type Code	Temperature range [°C]	Protection tube diameter [mm]	Protection tube length [mm]	Switching differential [°C]	Sensor max. [°C]
ISN11011	471 2323 332 27 8317 0110 90	+20 ... +110	12	110	4.5 (fixed)	115
ISN11015	471 2323 322 27 8316 0150 90	+20 ... +110	10	150	4.5 (fixed)	115
ISN11065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

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

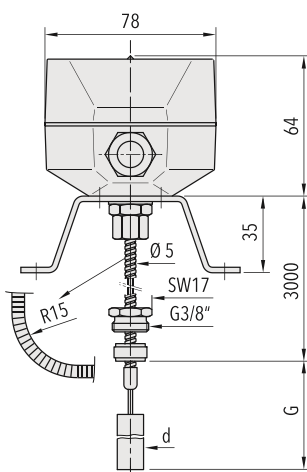
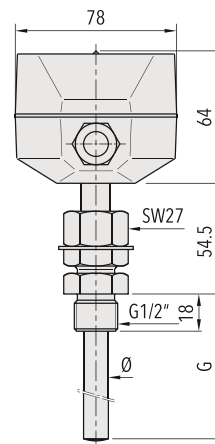
Dimensions



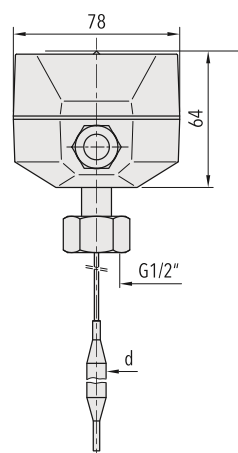
47X.XXXX.XXX.27.831X.XX



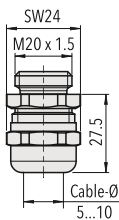
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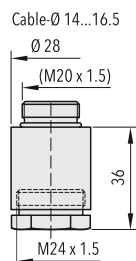
Version B / without protection tube



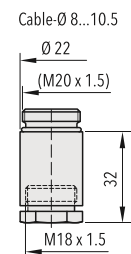
Version K / without protection tube



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

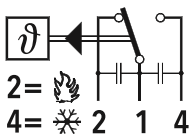
Switching differential typ.

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)

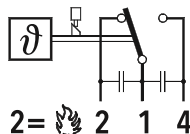
Electrical data switch

		Rating Resistive Load (Inductive Load)	
Type	Features	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	www.trafag.com/H72111
Instructions	www.trafag.com/H73111
Flyer	www.trafag.com/H70950