

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	-10°C ... +80°C to +40°C ... +300°C	Repeatability	± 0.5 % FS typ.
Output signal	Floating change-over contact	Approval / conformity	Marine EU RO MR Type Approval

06/2024

Data sheet H72111p

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]								
	-10 ... 80	85		95						
	+20 ... 110	115		23						
	+20 ... 150	165		31						
	+20 ... 230	250		24						
	+40 ... 300	330		53						
Sensor	See table "Ordering-no. for sensors"				XXX					
Fixing	Version B (remote sensing version)									27
	Version K (direct mounting version) ¹⁾									14
	Grubscrew locked with spacer (cooling element) (for direct mounting version)									18
Protection tube	See data sheet www.trafag.com/H72163							XXXX		
Protection tube length ²⁾	Length G see data sheet www.trafag.com/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)									
Screwed cable gland M24x1.5 (DIN 89280)										27
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⁾ Media max. 150°C in continuous operation

²⁾ No protection tube or

Protection tube length ≤ 150 mm: High vibration strain, class B

Protection tube length > 150 mm: General vibration strain, class A

Ordering no. for sensors

Range	Sensor-Ø	Sensor material	
		Stainless steel	Copper
95, 23	7.0 mm	321	322
	9.0 mm	331 ¹⁾	332
	12.0 mm	341 ¹⁾	342
31	7.0 mm	121	122
	9.0 mm	131 ¹⁾	132
	12.0 mm	141 ¹⁾	142
24, 53	7.0 mm	021	022
	9.0 mm	031 ¹⁾	032
	12.0 mm	041 ¹⁾	042

¹⁾ Do not use for new designs. Will be phased out in 2024.

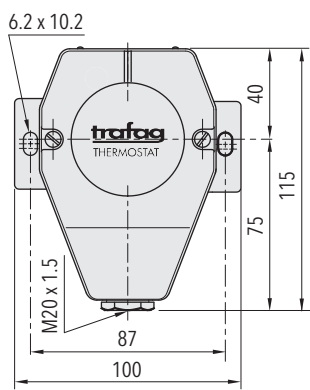
Standard products (extra short lead time)

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

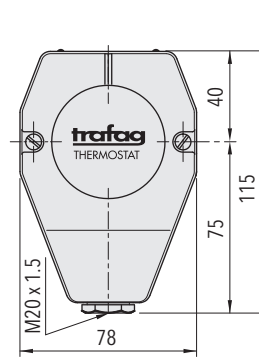
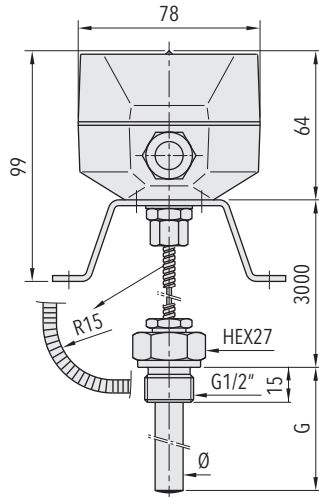
Specifications		
Accuracy	Repeatability	± 0.5 % FS typ.
	Stability typ.	± 1 % FS typ.
	Scale accuracy typ.	± 2 % FS typ.
	Switching differential	See table
	Switching point	Temperature compensated with bimetal switch lever
Environmental conditions	Ambient temperature	Range +45°C ... +250°C: -30°C ... +70°C Range > + 250°C: -10°C ... +70°C
	Storage temperature	-40°C ... +85°C
	Protection	IP65
	Humidity	IEC 60068-2-30 (damp heat, cyclic, 100 % RH @ +55°C)
	Vibration ¹⁾	Class B: 2 ... 25 Hz ± 1.6 mm, 25 ... 100 Hz 4 g Class A: 2 ... 13.2 Hz ± 1 mm, 13.2 ... 100 Hz 0.7 g
	Shock	50 g / 11 ms
Mechanical data	Sensor housing	See ordering information
	Filling	Liquid
	Protection tube	See ordering information
	Housing	AlSi9Cu3, coated
	Screwed cable gland	Brass nickel-plated
	Installation	any position
	Weight	~ 950 g
Microswitch	Rating	See table
	Resistance of insulation	> 10 MΩ @500 VDC
	Dielectric strength	2 kV terminal ground
	Life time (mechanical)	Microswitch 12/23/26: 0.3 Mio. cycles
Electrical connection	Cable gland	M20x1.5 Cable-Ø 4...10 mm
	Terminal screw	3 x 1 ... 2.5 mm ²

¹⁾ See protection tube length in the ordering information

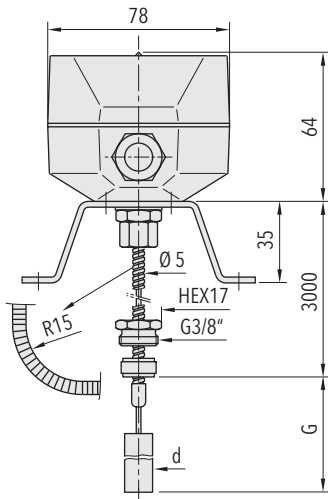
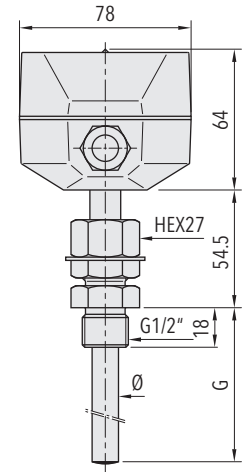
Dimensions



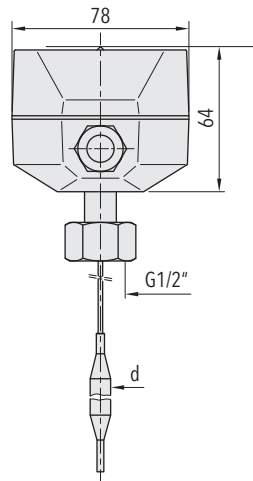
47X.XXXX.XXX.27.831X.XX



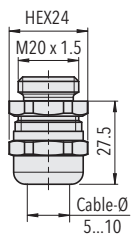
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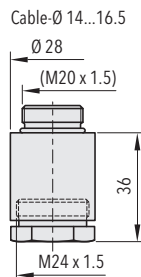
Version B / without protection tube



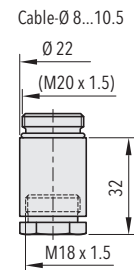
Version K / without protection tube



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

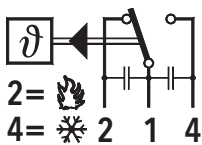
Switching differential typ.

Measuring range	[°C]	-10 ... +80	+20 ... +110	+20 ... +150	+20 ... +230	+40 ... +300
Sensor max.	[°C]	85	115	165	250	330
Microswitch 23: Switching differential not adjustable	[°C]	4.5	4.5	5	6	8
Microswitch 26: Switching differential not adjustable	[°C]	7.5	7.5	8	10	14
Microswitch 12: Switching differential (limiter)	[°C]	(7.5)	(7.5)	(8)	(10)	(14)

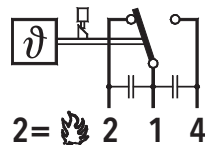
Electrical data switch

Type	Features	Rating	
		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
Instructions

www.trafag.com/H72111
www.trafag.com/H73111