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

Data sheet H72111n 04/2021

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

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trafag sensors controls

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 [1]										**88**
	Switchpoint preset upon customer's request, no guarantee on switching accuracy [1]										**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] 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

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

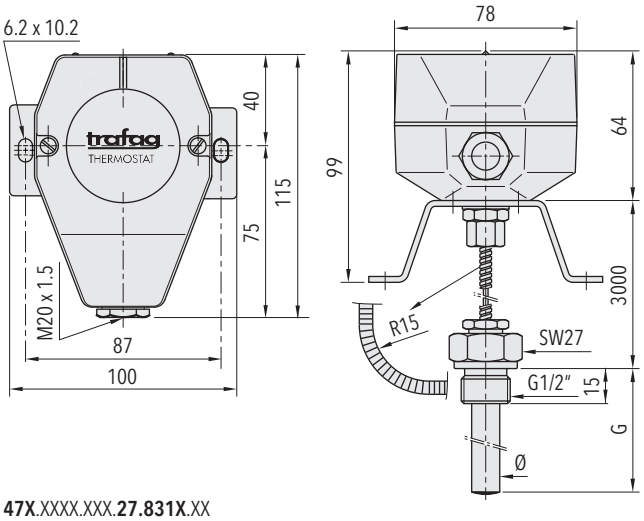
Standard products (extra short lead time)

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

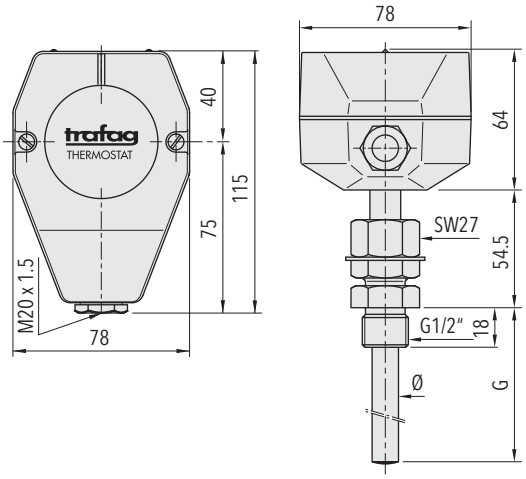
Specifications		
Accuracy	Repeatability	± 0.5 % FS typ.
	Stability typ.	± 1 % FS typ.
	Scale accuracy typ.	± 2 % FS typ.
	Switching differential	See table
	Switching point	Temperature compensated with bimetal switch lever
Environmental conditions	Ambient temperature	Range +45°C ... +250°C: -30°C ... +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 mm²

[1)] See protection tube length in the ordering information

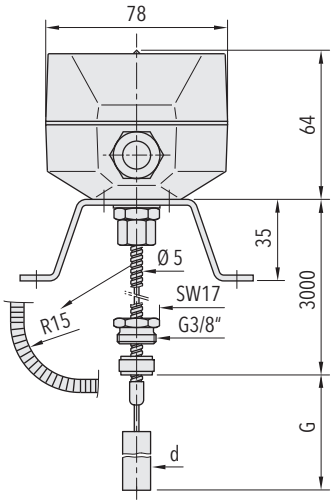
Dimensions



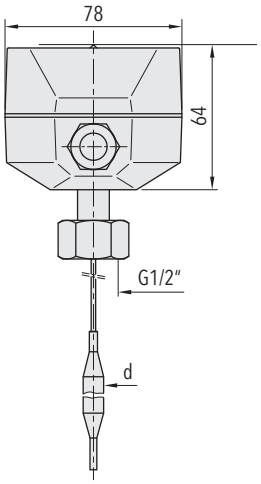
47X.XXXX.XXX.**27.831X**.XX



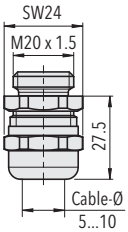
47X.XXXX.XXX.**14.141X**.XX



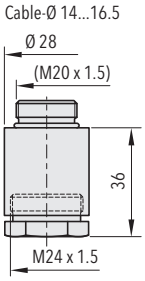
Version B / without protection tube



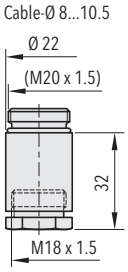
Version K / without protection tube



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

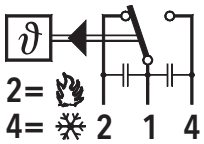
Switching differential typ.

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)

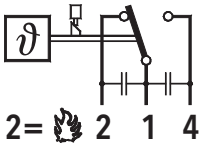
Electrical data switch

		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