

# LABORSTAT

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



## Applications

- Machine tools

## Features

- Without housing
- Short response time
- Electrical connection on terminal screw

05/2024

Data sheet H72122r

## Technical Data

Designation of application	Remote sensing thermostat, skeleton type	Switching differential	Adjustable / not adjustable
Measuring range	-30°C ... +40°C to +70°C ... +350°C	Repeatability	± 0.5 % FS typ.
Output signal	Floating change-over contact	Approval / conformity	EN60730-1/ EN60730-2-9: Typ 2.B.H

Subject to change

## Ordering information/type code

		XXX	XX	XX	XXX	XX	XXXXXXXXXX	XX	XX
<b>Custom build code</b>	Front panel mounting, screw terminal	736							
	Screw terminal	754							
<b>Microswitch</b>	Small switching differential, not adjustable		10						
	Average switching differential, not adjustable		11						
	With gold plated contacts, switching differential not adjustable		21						
	Adjustable large switching differential		24						
	Adjustable standard switching differential		25						
<b>Range</b>	<b>Range</b> [°C]	<b>Sensor max.</b> [°C]		<b>Range</b> [°C]	<b>Sensor max.</b> [°C]				
	-30 ... +40	45	01	+20 ... +110	115	23			
	-10 ... +80	85	95	+20 ... +150	165	31			
	0 ... +35	70	09	+20 ... +230	250	24			
	+5 ... +95	105	20	+40 ... +300	330	53			
	+10 ... +45 <sup>4)</sup>	85	11	+70 ... +350	380	54			
<b>Sensor<sup>1)</sup></b>	See table "Ordering-no. for sensors"						XXX		
<b>Fixing<sup>2)</sup></b>	Nut M10 (for remote sensing version) <sup>4)</sup>						10		
	Angle bracket (for remote sensing version) <sup>4)</sup>						17		
	Bracket (for remote sensing version) <sup>4)</sup>						27		
	Grubscrew locked, lateral (direct mounting version) <sup>4) 5)</sup>						12		
	Cap nut (for direct mounting version) <sup>4) 5)</sup>						14		
	Grubscrew locked with spacer (cooling element) (for direct mounting version) <sup>4)</sup>						18		
	Standard directly mounted on protection tube, only for type 736						00		
<b>Protection tube</b>	See data sheet <a href="http://www.trafag.com/H72114">www.trafag.com/H72114</a> and <a href="http://www.trafag.com/H72163">www.trafag.com/H72163</a>						XXXX.XXXX		
<b>Accessories</b>	Switchpoint locking <sup>4)</sup>	15		Capacitors over Pin 1-2 / 1-3		23			
	Switchpoint fixed and sealed upon customer's request <sup>4)</sup>	88		Railway version IEC 61373, category 2		28			
	Switchpoint preset upon customer's request, no guarantee on switching accuracy <sup>4)</sup>	83		Capillary tube protection: Flexible metal tube, brass nickel-plated		90			
	Switchpoint adjustment please indicate when ordering: - Switchpoint [°C]			Capillary tube protection: Flexible metal tube 1.4301 (AISI 304)		91			
	- Increasing or decreasing			Capillary tube protection: PVC tube		92			
<b>Capillary tube length</b>	Capillary tube length up to 5000 mm (no specification required for direct mounting on protection tube) L=XXXX <sup>3)</sup>								

<sup>1)</sup> See data sheet [www.trafag.com/H72114](http://www.trafag.com/H72114) and [www.trafag.com/H72163](http://www.trafag.com/H72163)

<sup>2)</sup> See data sheet [www.trafag.com/H72106](http://www.trafag.com/H72106)

<sup>3)</sup> Overlengths upon request

<sup>4)</sup> Only for type 754

<sup>5)</sup> Media max. 150°C in continuous operation

<sup>6)</sup> Do not use for new designs. Will be phased out in 2024.

## Ordering no. for sensors

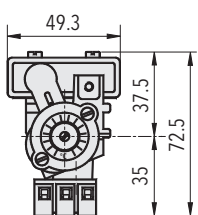
Range	Sensor-Ø	Sensor material		
		Stainless steel	Copper	Copper nickel plated
01, 09, 11	4.7 mm		412 <sup>1)</sup>	413 <sup>1)</sup>
	7.0 mm	421	422	423 <sup>1)</sup>
	9.0 mm		432	433 <sup>1)</sup>
95, 20, 23	4.7 mm	311 <sup>1)</sup>	312 <sup>1)</sup>	313 <sup>1)</sup>
	7.0 mm	321	322	323 <sup>1)</sup>
	9.0 mm	331 <sup>1)</sup>	332	333 <sup>1)</sup>
31	4.7 mm	111 <sup>1)</sup>	112 <sup>1)</sup>	113 <sup>1)</sup>
	7.0 mm	121	122	123 <sup>1)</sup>
	9.0 mm	131 <sup>1)</sup>	132	133 <sup>1)</sup>
24, 53, 54	4.7 mm	011 <sup>1)</sup>	012 <sup>1)</sup>	013 <sup>1)</sup>
	7.0 mm	021	022	023 <sup>1)</sup>
	9.0 mm	031 <sup>1)</sup>	032	033 <sup>1)</sup>

<sup>1)</sup> Do not use for new designs. Will be phased out in 2024.

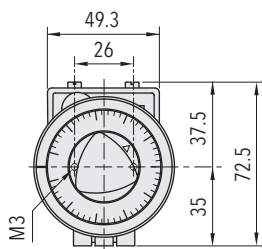
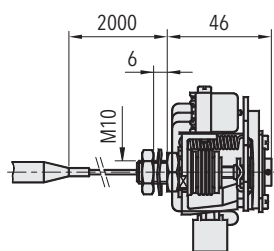
## Standard products (extra short lead time)

Product No.	Type Code	Sensor material	Temperature range [°C]	Switching differential [°C]	Sensor max. [°C]
L35	754 2509 422 10	Copper	0 ... +35	0.7 ... 10 (adjustable)	60
L40	754 2501 422 10	Copper	-30 ... +40	0.7 ... 10 (adjustable)	45
L95	754 2520 322 10	Copper	+5 ... +95	2 ... 12 (adjustable)	105
L150	754 2531 122 10	Copper	+20 ... +150	2.5 ... 16 (adjustable)	165
L230S	754 2524 021 10	1.4435 (AISI316L)	+20 ... +230	3 ... 32 (adjustable)	250
L350S	754 2554 021 10	1.4435 (AISI316L)	+70 ... +350	4 ... 40 (adjustable)	380

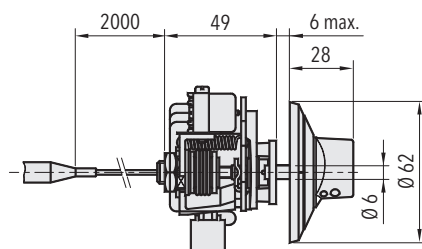
## Dimensions



754.XXXX.XXX.XX...



736.XXXX.XXX.XX...



Specifications		
<b>Accuracy</b>	Repeatability	$\pm 0.5 \% \text{ FS typ.}$
	Scale accuracy typ.	$\pm 2 \% \text{ FS typ.}$
	Switching differential	See table
	Switching point	Temperature compensated with bimetal switch lever
<b>Environmental conditions</b>	Ambient temperature	Range $\leq +45^{\circ}\text{C}$ : $-30^{\circ}\text{C} \dots +50^{\circ}\text{C}$ Range $+45^{\circ}\text{C} \dots +250^{\circ}\text{C}$ : $-30^{\circ}\text{C} \dots +70^{\circ}\text{C}$ Range $> +250^{\circ}\text{C}$ : $-10^{\circ}\text{C} \dots +70^{\circ}\text{C}$ (Important: Temperature at sensor may not exceed maximum sensor temperature)
	Storage temperature	Range $\leq +45^{\circ}\text{C}$ : $-30^{\circ}\text{C} \dots +50^{\circ}\text{C}$ Range $> +45^{\circ}\text{C}$ : $-30^{\circ}\text{C} \dots +85^{\circ}\text{C}$
	Protection	IP00
	Humidity	Max. 95 % relative
<b>Mechanical data</b>	Sensor housing	See ordering information
	Filling	Liquid
	Installation	any position
	Weight	754: $\sim 250 \text{ g}$ 736: $\sim 300 \text{ g}$
<b>Microswitch</b>	Rating	See table
	Resistance of insulation	$> 2 \text{ M}\Omega$
	Dielectric strength	$U \leq 250\text{V}$ : 1.45 kV $U \leq 500\text{V}$ : 2 kV terminal ground
	Life time (mechanical)	Microswitch 10/11/25: 20 Mio. cycles Microswitch 21: 0.5 Mio. cycles Microswitch 24: 0.3 Mio. cycles
<b>Electrical connection</b>	Terminal screw	$3 \times 1 \dots 2.5 \text{ mm}^2$

## Additional information

<b>Documents</b>	Data sheet	<a href="http://www.trafag.com/H72122">www.trafag.com/H72122</a>
	Instructions	<a href="http://www.trafag.com/H70211">www.trafag.com/H70211</a>

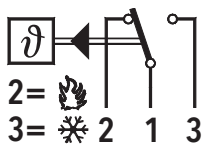
## Switching differential typ.

Measuring range	[°C]	-30 ... +40 0 ... +35 +10 ... +45	-10 ... +80 +5 ... +95 +20 ... +110	+20 ... +150	+20 ... +230	+40 ... +300 +70 ... +350
<b>Microswitch 10:</b> Switching differential not adjustable	[°C]	0.3	0.8	1	1.2	2
<b>Microswitch 11/21:</b> Switching differential not adjustable	[°C]	0.7	2	2.5	3	4
<b>Microswitch 24:</b> Switching differential adjustable	[°C]	4 ... 21	5.5 ... 26	7 ... 34	15 ... 65	18 ... 84
<b>Microswitch 25:</b> Switching differential adjustable	[°C]	0.7 ... 10	2 ... 12	2.5 ... 16	3 ... 32	4 ... 40

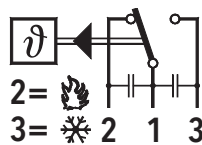
## Electrical data switch

Type	Features	Rating Resistive Load (Inductive Load)	
		AC	DC
<b>10</b>	Small switching differential, not adjustable	125 V, 10 (1.5) A 250 V, 10 (1.25) A	250 V, 0.2 (0.02) A 125 V, 0.4 (0.03) A 30 V, 2 (1) A 14 V, 15 (2.5) A
<b>11</b>	Average switching differential, not adjustable	125 V, 15 (1.5) A 250 V, 15 (1.25) A 500 V, 10 (0.75) A	250 V, 0.25 (0.03) A 125 V, 0.5 (0.05) A 30 V, 6 (1.5) A 14 V, 15 (1.5) A
<b>21</b>	Gold plated contacts, not adjustable	24 V, 0.1 (0.1) A 12 V, 1 (1) A 5 V, 2 (2) A	24 V, 0.1 (0.1) A 12 V, 1 (1) A 5 V, 2 (2) A
<b>25</b>	Adjustable standard switching differential	125 V, 15 (1.5) A 250 V, 15 (1.25) A 500 V, 10 (0.75) A	250 V, 0.25 (0.03) A 125 V, 0.5 (0.05) A 30 V, 6 (1.5) A 14 V, 15 (2.5) A
<b>24</b>	Adjustable 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



736/754



with accessory 23