

LABORSTAT

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



Applications

- Machine tools

Features

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

09/2014

Data sheet H72122k

Technical Data

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

Subject to change

Ordering information/type code

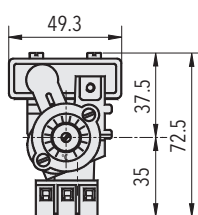
		XXX	XX	XX	XXX	XX	XXXXXXXXXX	XX	XX
Custom build code	Front panel mounting, screw terminal	736							
	Screw terminal	754							
Microswitch	Small switching differential, not adjustable		10						
	Average switching differential, not adjustable		11						
	With gold plated contacts, not adjustable		21						
	Adjustable large switching differential		24						
	Adjustable standard switching differential		25						
Range	Range [°C]	Sensor max. [°C]		Range [°C]	Sensor max. [°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	85	11	+70 ... +350	380	54			
	Sensor¹⁾	Range	Sensor diameter [mm]	Sensor material	Range	Sensor diameter [mm]	Sensor material		
	01, 09, 11	Ø7	Stainless steel	24, 53, 54	Ø4.7	Copper	112		
	95, 20, 23, 31	Ø4.7	Stainless steel	24, 53, 54	Ø7	Copper	122		
	95, 20, 23, 31	Ø7	Stainless steel	24, 53, 54	Ø9	Copper	132		
	95, 20, 23, 31	Ø9	Stainless steel	01, 09, 11	Ø4.7	Copper nickel plated	413		
	24, 53, 54	Ø4.7	Stainless steel	01, 09, 11	Ø7	Copper nickel plated	423		
	24, 53, 54	Ø7	Stainless steel	01, 09, 11	Ø9	Copper nickel plated	433		
	24, 53, 54	Ø9	Stainless steel	95, 20, 23, 31	Ø4.7	Copper nickel plated	313		
	01, 09, 11	Ø4.7	Copper	95, 20, 23, 31	Ø7	Copper nickel plated	323		
	01, 09, 11	Ø7	Copper	95, 20, 23, 31	Ø9	Copper nickel plated	333		
	01, 09, 11	Ø9	Copper	24, 53, 54	Ø4.7	Copper nickel plated	113		
	95, 20, 23, 31	Ø4.7	Copper	24, 53, 54	Ø7	Copper nickel plated	123		
	95, 20, 23, 31	Ø7	Copper	24, 53, 54	Ø9	Copper nickel plated	133		
	95, 20, 23, 31	Ø9	Copper						
Fixing²⁾	Nut M10 (for remote sensing version) ⁴⁾								10
	Console (for remote sensing version) ⁴⁾								17
	Bracket (for remote sensing version) ⁴⁾								27
	Grubscrew locked, lateral (direct mounting version) ⁴⁾								12
	Captive nut (for direct mounting version) ⁴⁾								14
	Grubscrew locked with thermal distance piece (for direct mounting version) ⁴⁾								18
	Standard directly mounted on protection tube, only for type 736								00
Protection tube	See data sheet H72114/H72163							XXXX.XXXX	
Accessories	Set blocking (only for type 754)	15		Capillary tube protection: Flexible metal tube, brass nickel plated					90
	Condensators over Pin 1-2 / 1-3	23		Capillary tube protection: Flexible metal tube 1.4541/V2A					91
	Railway version (UIC 616)	28		Capillary tube protection: PVC tube					92
Capillary tube length	Capillary tube length up to 5000 mm (no specification required for direct mounting on protection tube) L=XXXX ³⁾								

¹⁾ See data sheet H72114/H72163²⁾ See data sheet H72106³⁾ Overlengths upon request⁴⁾ Only for type 754

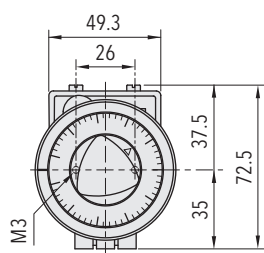
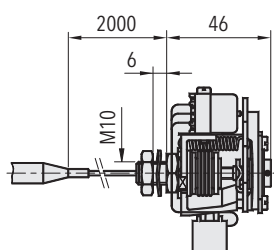
Standard products (extra short lead time)

Product No.	Type Code	Sensor material	Temperature range [°C]	Switching differential [°C]	Media temperature [°C]
L35	754 2509 422 10	Cu	0 ... +35	0.7 ... 10	max. 60
L40	754 2501 422 10	Cu	-30 ... +40	0.7 ... 10	max. 45
L95	754 2520 322 10	Cu	+5 ... +95	2 ... 12	max. 105
L150	754 2531 322 10	Cu	+20 ... +150	2.5 ... 16	max. 165
L230S	754 2524 121 10	1.4435/316L	+20 ... +230	3 ... 32	max. 250
L350S	754 2554 121 10	1.4435/316L	+70 ... +350	4 ... 40	max. 380

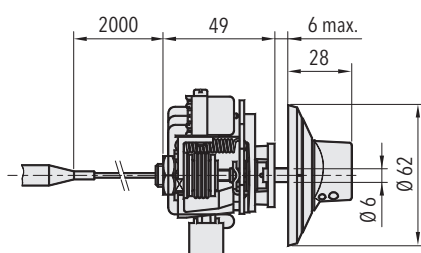
Dimensions



754.XXXX.XXX.XX...



736.XXXX.XXX.XX...



Specifications		
Accuracy	Repeatability	$\pm 0.5\%$ FS typ.
	Scale accuracy typ.	$\pm 2\%$ FS typ.
	Switching differential	See table
	Switching point	Temperature 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 $> +250^{\circ}\text{C}$: $-10\dots+70^{\circ}\text{C}$ (Important: Temperature at sensor may not exceed maximum sensortemperature)
	Storage temperature	Range $\leq +45^{\circ}\text{C}$: $-30\dots+50^{\circ}\text{C}$ Range $> +45^{\circ}\text{C}$: $-30\dots+85^{\circ}\text{C}$
	Protection	IP00
	Humidity	Max. 95% relative
Mechanical Data	Housing	See ordering information
	Filling	Liquid
	Installation	Any position
	Weight	754: $\sim 250\text{ g}$ 736: $\sim 300\text{ g}$
Microswitch	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
Electrical connection	Terminal screw	$3 \times 1\dots2.5\text{ mm}^2$

Additional information

Documents	Data sheet	www.trafag.com/H72122
	Instructions	www.trafag.com/H70211
	Flyer	www.trafag.com/H70967

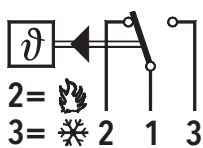
Switching differential typ.

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

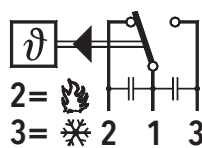
Electrical data switch

Type	Features	Rating Resistive Load (Inductive Load)	
		AC	DC
10	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
11	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
21	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
25	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
24	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

Modifications

Index	Date	Description
b	11/2003	redesigned data sheet
c	11/2004	Page 4: rating microswitch 11/25, 24
d	05/2005	Page 3: Operating temperature specifications have changed
e	07/2007	Page 2: Range 07/13/17/94 deleted, Accessories 12/13 (Condensator) deleted
f	12/2009	Page 2: Sensor „Copper chrome plated“ all types removed
	06/2010	Page 2,3,4: Big switching differential 06 removed Page 4: contact rating of microswitch 21 increased from 0.01A to 0.1A (24 AC & 24 DC) Page 4: Switch 21: advise „suitable for intrinsically safe control circuit“ removed because „simple apparatus“ devices are available
g	09/2010	Page 3: Operating temperature changed to ambient temperature, Ranges separated to: $\leq +45^{\circ}\text{C} = -30\dots+50^{\circ}\text{C}$ $+45\dots+250^{\circ}\text{C} = -30\dots+70^{\circ}\text{C}$ $>+250^{\circ}\text{C} = -10\dots+70^{\circ}\text{C}$
h	09/2011	Page 3: Dielectric strength changed to $U \leq 250\text{ V}: 1.45\text{ kV}/U \leq 500\text{ V}: 2\text{ kV}$
i	04/2012	Phase out: type 742 and type 760
k	09/2014	New layout Switch 11: DC 14 V 15(2.5)A corrected to DC 14 V 15(1.5)A