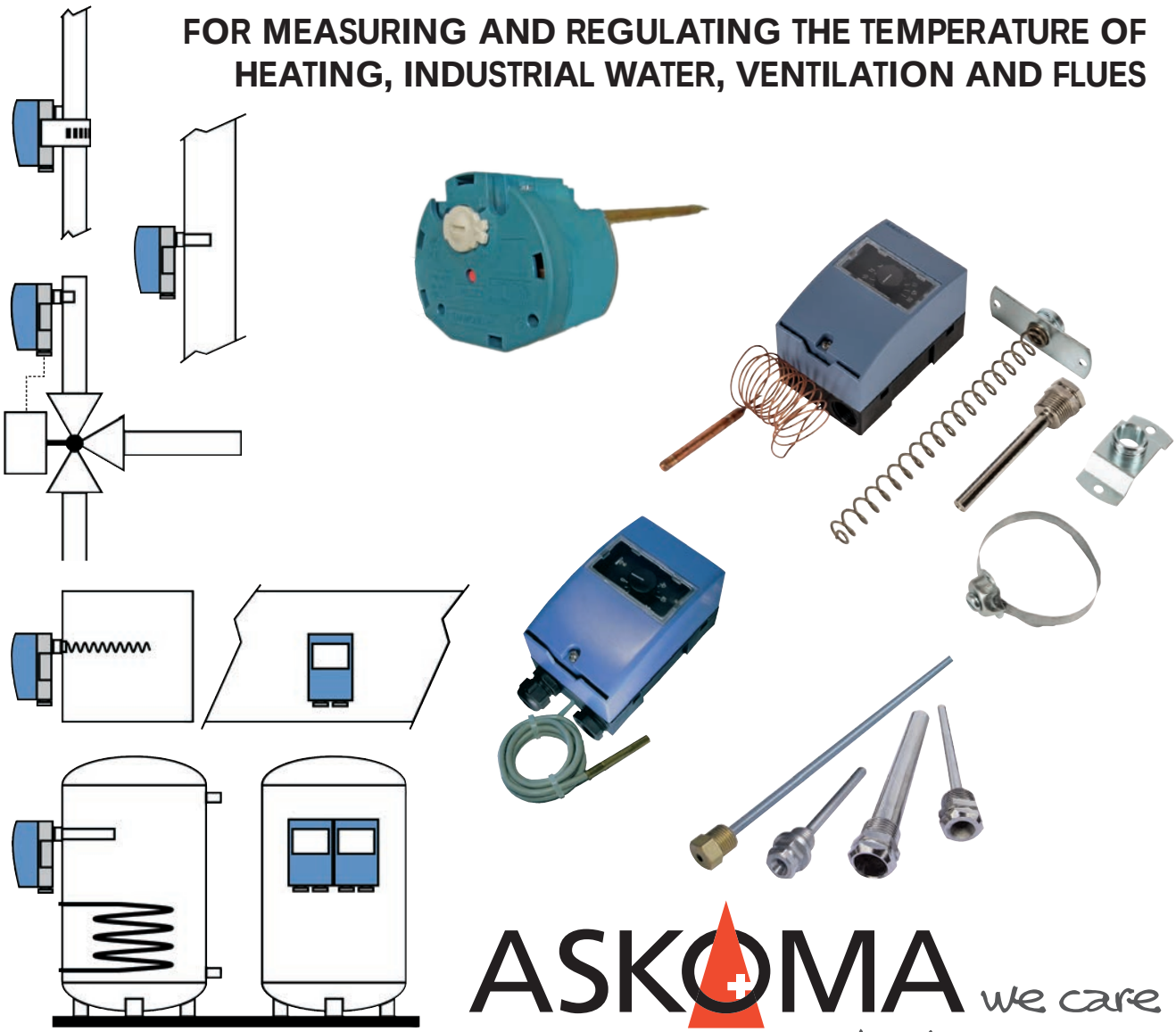
THERMOSTATS & ACCESSORIES
ASKOSTAT, ASKOTRONIC
ASKOSTAT-ROD, ASKOTUBE

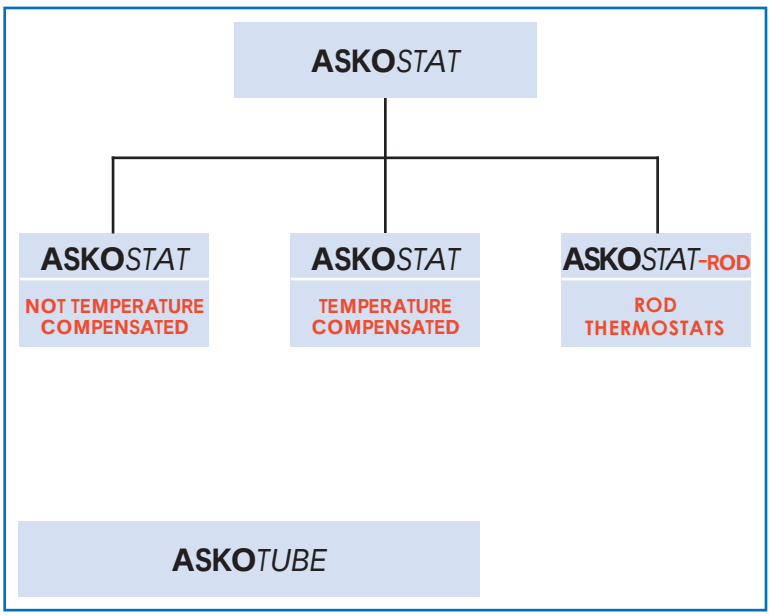
FOR MEASURING AND REGULATING THE TEMPERATURE OF HEATING, INDUSTRIAL WATER, VENTILATION AND FLUES

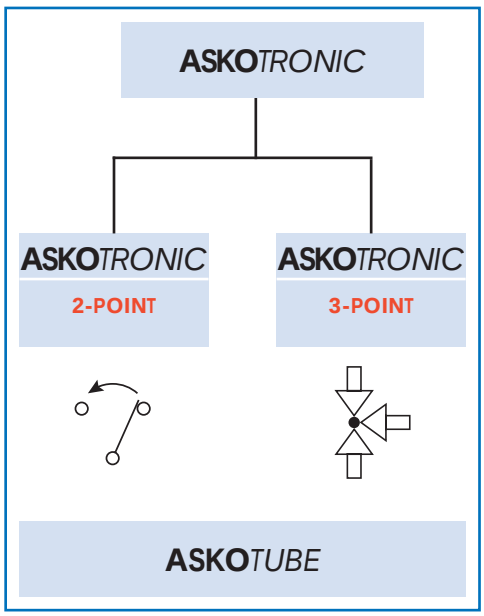


ASKOMA we care about energy

ASKOMA AG
Industriestrasse 1 • 4922 Bützberg, Switzerland
P +41 62 958 70 80 • F +41 62 958 70 81
info@askoma.com • www.askoma.com

PRODUCT FAMILY





TERMINOLOGY

Reset limit thermostat (TB)
- Temperature freely adjustable (internal adjustment)
- Manual reset
- Not intrinsically safe

control thermostat (TR) | Limit monitor (TW)
- Temperature freely adjustable (internal adjustment)
- Not intrinsically safe

Safety limit thermostat (STB)
- Fixed switch-off temperature
- Manual reset
- intrinsically safe

Safety limit monitor (STW)
- Temperature freely adjustable (internal adjustment)
- intrinsically safe

Frost protection controller (FW)
- Temperature freely adjustable (internal adjustment)
- Minimum switch-off temperature above 0 °C
- Not intrinsically safe

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not temperature compensated

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Currently valid versions of datasheets can be found on our website

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temperature compensated

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Immersion tubes		Features	Page
ASKO*TUBE*		• Brass / stainless steel V4A • Pressure Nominal PN10, PN16 and PN40 • R½", G½" with flange	6.0 – 6.3

Currently valid versions of datasheets can be found on our website

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INDEX ASKO*TRONIC*
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Immersion tubes		Features	Page
ASKO*TUBE*		• Brass / stainless steel V4A • Pressure Nominal PN10, PN16 and PN40 • R½", G½" with flange	6.0 – 6.3

Currently valid versions of datasheets can be found on our website

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ASKOMA AG • Industriestrasse 1 • CH-4922 Bützberg • T +41 62 958 70 80 • F +41 62 958 70 81 • info@askoma.com • www.askoma.com

NOTES

ASKOSTAT

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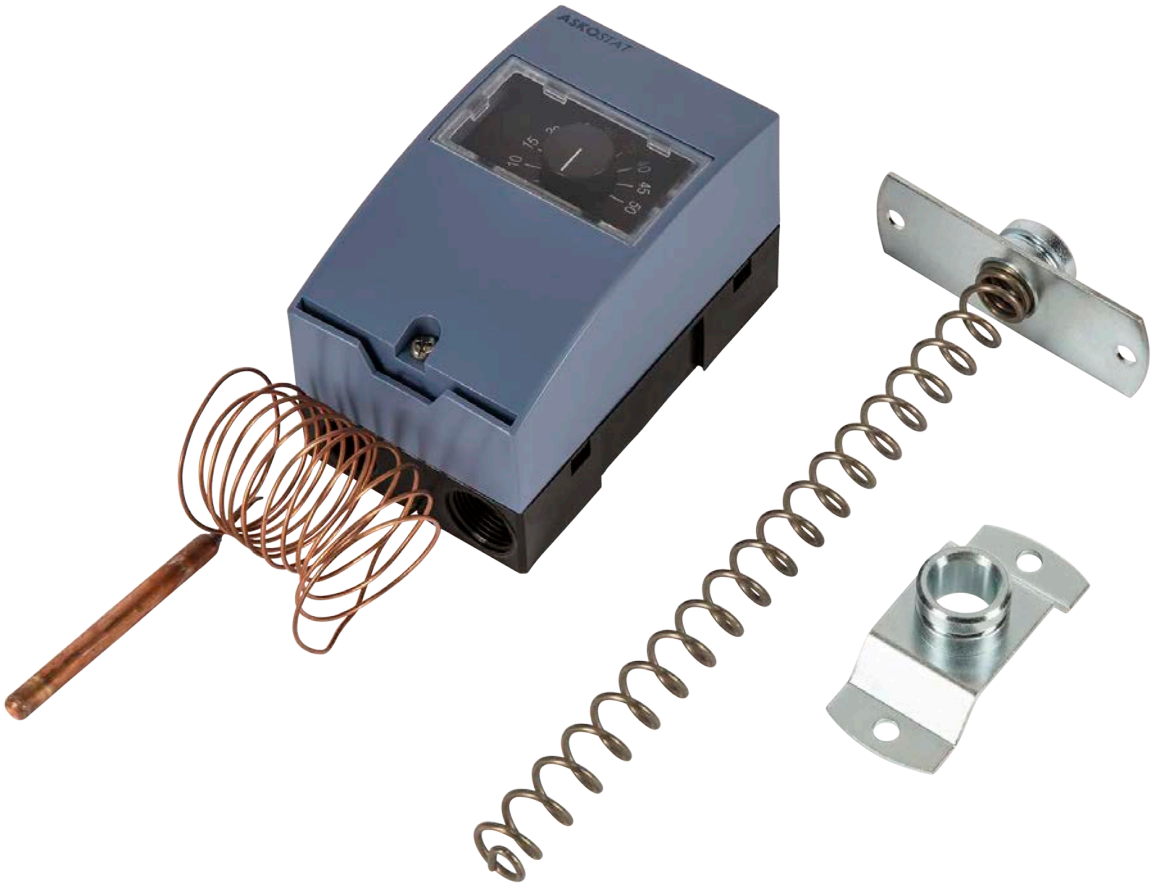
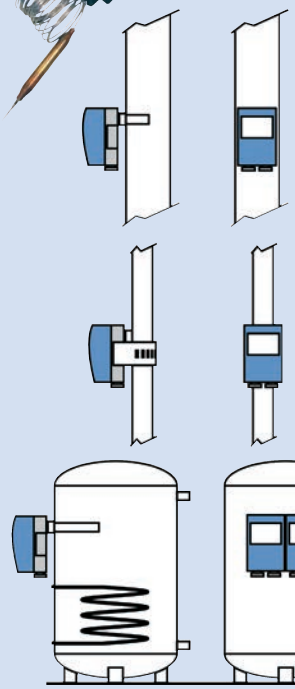
ELECTRO-MECHANICAL HOUSING THERMOSTAT

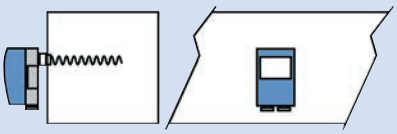


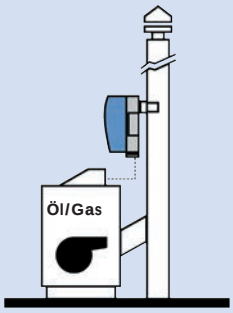
ASKOMA we care about energy

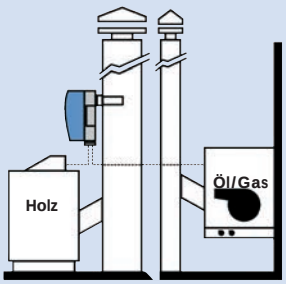
ELECTRO-MECHANICAL HOUSING THERMOSTAT IP54

- Control thermostats
- Reset limit thermostat
- Safety limit monitor (DG-RL approval)
- Safety limit thermostats (DG-RL approval)









APPLICATION EXAMPLES HEATING / INDUSTRIAL WATER

Pocket mounting thermostat **RAK712 | RAK713 | RAK715**

Control or monitoring of heating and industrial water

- Types as control / monitoring / limit thermostats
- Range from -10° to +230°C
- Directly mounted on pocket

Pipe mounting thermosta **RAM713 | RAM743**

Control or monitoring of inlet temperatures in heating systems

- Types as control / monitoring / limit thermostats
- Range from -10° to +230°C
- Directly mounted on pipe ($^1/_2$“ to 3“)

Dual control thermostat **RAZ712 | RAZ713**

Control or monitoring of heating and industrial water

- Types as control / monitoring / limit thermostats
- All combinations possible

APPLICATION EXAMPLES VENTILATION

Air duct mounting thermostat **RAK722 | RAK732**

Control or monitoring of temperatures in ventilation systems

- Types as control / monitoring / limit thermostats
- Range from -10° to +230°C
- Direct mounting to wall or spiral support

APPLICATION EXAMPLES FLUE GAS DUCT

Flue gas temperature control **RAK774.4**

Temperature monitoring for flue gas ducts

- Range for PP, PVDF and V4A stainless steel ducts +80° to +200°C
- Direct, air-tight mounting on flue gas duct

High-temperature flue gas control **RAK782.4**

Automatic changeover from wood to second heat generator

- Range from +40° to +160 °C
- Sensing element withstands up to +750°C
- Direct mounting on flue gas duct

ADVANTAGES ASKOSTAT not temperature compensated

- Multifunctional application options
  - Contact-thermostat
  - Use with immersion tube
  - Use in ventilation pipe
  - Mounted on wall
- Temperature setting inside
- Housing IP54

Easy to install

(1) Second cable inlet
(2) Mounted on a pipe with a strap
(3) Mounted on a wall with a wall bracket
(4) Mounted directly on an immersion tube
(5) Mounted on an air duct with a spiral support

Technical design

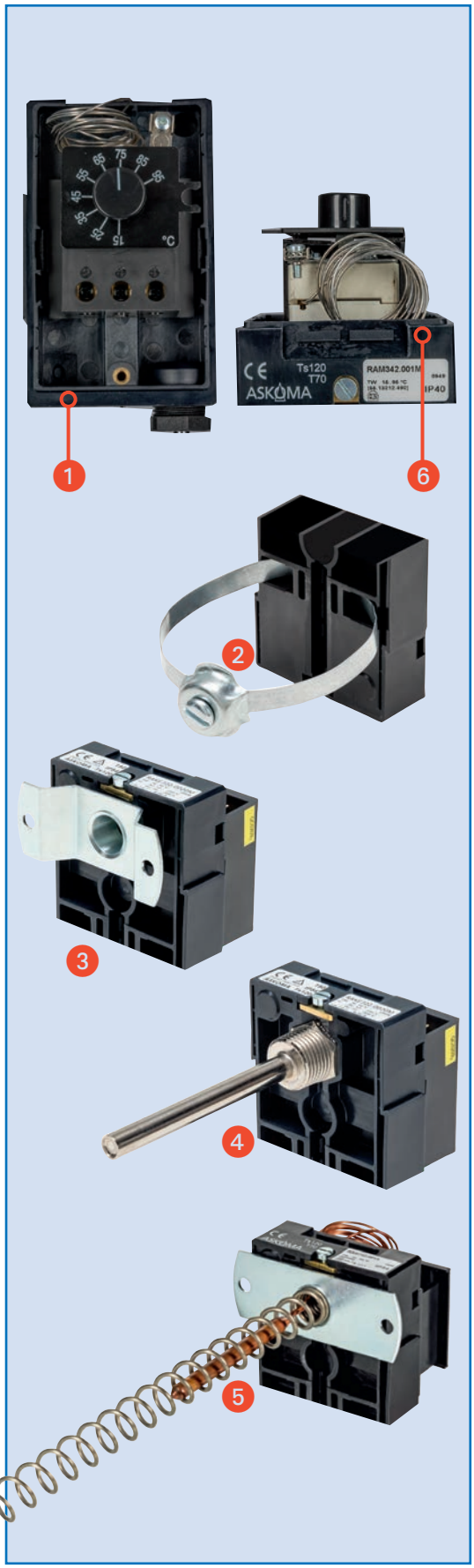
(6) Heat-resistant polycarbonate housing

Technical advantages (on customer request)

- Pre-wired with connection cable
- Additional terminals, for example for connection of a pump
- Different colour options for housing (OEM)

Approvals

- EN 14597
- EN 55014-2
- EN 60730-1
- EN 60730-2-9



Technical alterations reserved

Not temperature compensated

Electro-mechanical temperature control

RAK712…

- **in protective housing, for mounting on an immersion tube**
- **Immersion tube in delivery included**

Registered under DM/066 622

Electro-mechanical temperature control acc. EN 14597

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on an immersion tube.

Features

- If nominal value is reached, the limiter switches
- With compensation of ambient temperature at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation: Type 2 B, EN 14597

Type summary

Type	*Ordern-no.*	*Range [°C]*	*Immer-sion length*
RAK712.0000M	011-4000.10	-10...50	100mm
RAK712.0001M	011-4001.10	-10...50	150mm
RAK712.0002M	011-4002.10	-10...50	200mm
RAK712.0003M	011-4003.10	-10...50	280mm
RAK712.0010M	011-4006.10	15…95	100mm
RAK712.0011M	011-4007.10	15…95	150mm
RAK712.0012M	011-4008.10	15…95	200mm
RAK712.0013M	011-4009.10	15…95	280mm
RAK712.0030M	011-4019.10	50...130	100mm
RAK712.0031M	011-4020.10	50...130	150mm
RAK712.0032M	011-4021.10	50...130	200mm
RAK712.0033M	011-4022.10	50...130	280mm
RAK712.0050M	011-4032.10	80...160	100mm
RAK712.0051M	011-4033.10	80...160	150mm
RAK712.0052M	011-4034.10	80...160	200mm
RAK712.0053M	011-4035.10	80...160	280mm
RAK712.0060M	011-4038.10	110...190	100mm
RAK712.0061M	011-4039.10	110...190	150mm
RAK712.0062M	011-4040.10	110...190	200mm
RAK712.0063M	011-4041.10	110...190	280mm

Type	*Order-no.*	*Range [°C]*	*Immer-sion length*
RAK712.0070M	011-4044.10	150...230	100mm
RAK712.0071M	011-4045.10	150...230	150mm
RAK712.0072M	011-4046.10	150...230	200mm
RAK712.0073M	011-4047.10	150...230	280mm
RAK712.0090M	011-4050.10	40...120	100mm
RAK712.0091M	011-4051.10	40...120	150mm
RAK712.0092M	011-4052.10	40...120	200mm
RAK712.0093M	011-4053.10	40...120	280mm
RAK712.0120M	011-4057.10	40...90	100mm
RAK712.0121M	011-4058.10	40...90	150mm
RAK712.0122M	011-4059.10	40...90	200mm
RAK712.0123M	011-4060.10	40...90	280mm
RAK712.0130M	011-4064.10	5...30	100mm
RAK712.0131M	011-4065.10	5...30	150mm
RAK712.0132M	011-4066.10	5...30	200mm
RAK712.0133M	011-4067.10	5...30	280mm
RAK712.0140M	011-4080.10	5...65	100mm
RAK712.0141M	011-4081.10	5...65	150mm
RAK712.0142M	011-4082.10	5...65	200mm
RAK712.0143M	011-4083.10	5...65	280mm

Technical data

Switching system	Switching capacity acc. VDE 0631	
	- Nominal voltage range	40...250 V~
	- Nominal current range I (I_M)	0.5…16(2.6) A
	Service live at nominal load	min. 100'000 operation
	Protection class	I acc. VDE 0631
	Protection mode of housing	IP66 acc. EN 60529

Application range	Adjustable cut-off temperature ϑ_{off}	see “Type summary”
	Thermal switching differential	approx. 4.0 K ± 2.0 K
	Ambient temperature on housing	max. 70 °C (T70)
	Max. sensing element temperature	180 °C
	Ambient temperature for storage and transport	-25...+75 °C
Calibration	Calibration tolerance	± 4 K
	Calibrated for ambient temperature on switching head and capillary	23 ± 2 °C (Tu23 acc. EN 14597)
	Time factor in water / in oil	<45 s / <60 s
Specification	Switching head support (basic insulation)	ceramic
	Capillary	stainless steel
	Sensing element	copper
	Diaphragm	stainless steel
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Immersion length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	screw terminals
	Earth connection	screw terminals
	Cable bushing	M20
	Weight without packaging and immersion tube	approx. 255 gr.

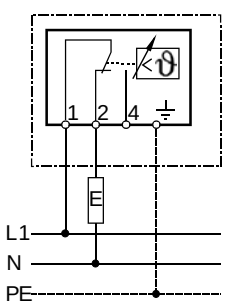
Fitting notes

See the mounting instructions inside the package.

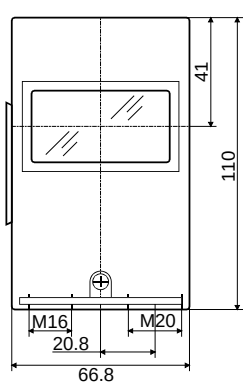
The immersion tube material depends on the installation (medium, tank material, etc.) and must be specified by the user.

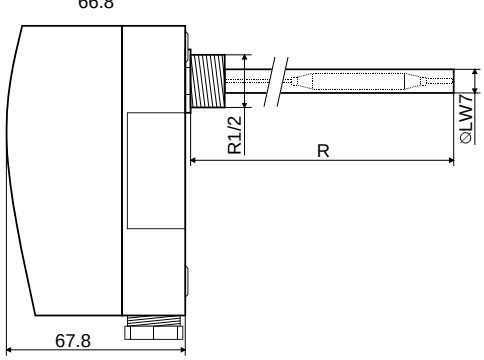
To comply with the time factor requirements acc. EN 14597 the immersion tubes must conform to drawing H 1 7111 3459 (see also data sheet „Immersion tubes 1130“)

Wiring diagram



Dimension drawing





Socle	005-1054
Cover	005-0551.3

ASKOMA

ASKOSTAT IP 54

1 186M

Not temperature compensated

Electro-mechanical safety temperature limiter

RAK713…

- **in protective housing, for mounting on an immersion tube**
- **Immersion tube in delivery included**

Version to EN 14597

and Pressure Equipment Directive 97/23/EC

CE 1250

Registered under DM/066 622

Electro-mechanical safety temperature limiter acc. EN 14597, fail-safe

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on an immersion tube.

Features

- Fail-safe, manual reset types, contact 11-12 will open in case of capillary failure
- Nominal value irreversibly adjustable from higher to lower temperature
- If nominal value is reached, the limiter switches and stays locked in this position
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 20 K
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation: Type 2 BDEFHKL, EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Immersion length*
RAK713.0020M	011-4811.10	95	100mm
RAK713.0021M	011-4812.10	95	150mm
RAK713.0022M	011-4813.10	95	200mm
RAK713.0023M	011-4814.10	95	280mm
RAK713.0024M	011-4815.10	95	450mm
RAK713.0025M	011-4816.10	95	600mm
RAK713.0110M	011-4829.10	100/95	100mm
RAK713.0111M	011-4830.10	100/95	150mm
RAK713.0112M	011-4831.10	100/95	200mm
RAK713.0113M	011-4832.10	100/95	280mm
RAK713.0114M	011-4833.10	100/95	450mm
RAK713.0115M	011-4834.10	100/95	600mm
RAK713.0030M	011-4817.10	110/.. /95	100mm
RAK713.0031M	011-4818.10	110/.. /95	150mm
RAK713.0032M	011-4819.10	110/.. /95	200mm
RAK713.0033M	011-4820.10	110/.. /95	280mm
RAK713.0034M	011-4821.10	110/.. /95	450mm
RAK713.0035M	011-4822.10	110/.. /95	600mm

Type	*Order-no.*	*Range [°C]*	*Immersion length*
RAK713.0150M	011-4835.10	120/.. /95	100mm
RAK713.0151M	011-4836.10	120/.. /95	150mm
RAK713.0152M	011-4837.10	120/.. /95	200mm
RAK713.0153M	011-4838.10	120/.. /95	280mm
RAK713.0154M	011-4839.10	120/.. /95	450mm
RAK713.0155M	011-4840.10	120/.. /95	600mm
RAK713.0040M	011-4823.10	130/.. /95	100mm
RAK713.0041M	011-4824.10	130/.. /95	150mm
RAK713.0042M	011-4825.10	130/.. /95	200mm
RAK713.0043M	011-4826.10	130/.. /95	280mm
RAK713.0044M	011-4827.10	130/.. /95	450mm
RAK713.0045M	011-4828.10	130/.. /95	600mm

Technical data

Switching system	Switching capacity acc. VDE 0631	
	- Nominal voltage range	40...250 V~
	- Nominal current range I (I_M)	0.5…10(6) A
	Service live at nominal load	min. 15‘000 operation
	Protection class	I acc. VDE 0631
	Protection mode of housing	IP66 acc. EN 60529

Application range	Adjustable cut-off temperature ϑ_{off}	see “Type summary”
	Ambient temperature on housing	max. 70 °C (T70)
	Max. sensing element temperature	160 °C
	Ambient temperature for storage and transport	-25...+75 °C
Calibration	Calibration tolerance	(0-9) K
	Calibrated for ambient temperature on switching head and capillary	37 ± 2 °C (Tu37 acc. EN 14597)
	Time factor in water / in oil	<45 s / <60 s
Specification	Switching head support (basic insulation)	ceramic
	Capillary	stainless steel
	Sensing element	copper
	Diaphragm	stainless steel
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Immersion length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	screw terminals
	Earth connection	screw terminals
	Cable bushing	M20
	Weight without packaging and immersion tube	approx. 255 gr.

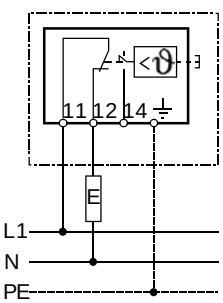
Fitting notes

See the mounting instructions inside the package.

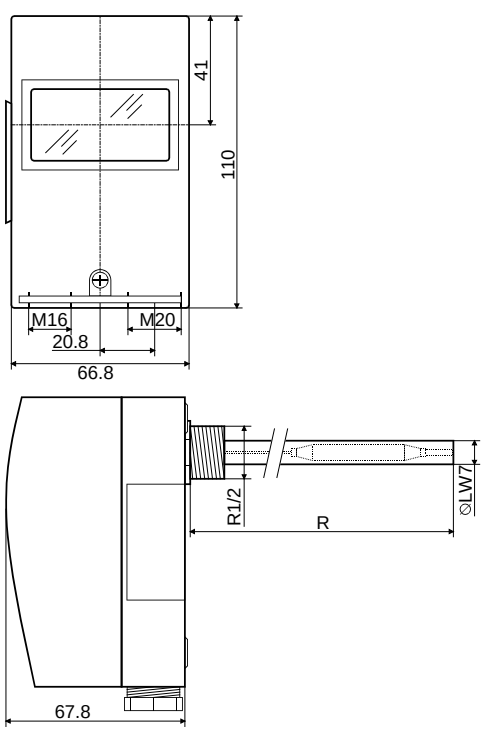
The immersion tube material depends on the installation (medium, tank material, etc.) and must be specified by the user.

To comply with the time factor requirements acc. EN 14597 the immersion tubes must conform to drawing H 1 7111 3459 (see also data sheet „Immersion tubes 1130“)

Wiring diagram



Dimension drawing



Socle	005-1054
Cover	005-0551.3

ASKOMA

ASKOSTAT IP 54

1 186.1M

Not temperature compensated

Safety temperature monitor RAK715…

- **in protective housing, for mounting on an immersion tube**
- **Immersion tube in delivery included**

Version to EN 14597

and Pressure Equipment Directive 97/23/EC

CE 1250

Registered under DM/066 622

Electro-mechanical safety temperature monitore acc. EN 14597, fail-safe

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The unit is mounted on a protective pocket.

Features

- Fail-safe, contact 11-12 will open in case of capillary failure
- Nominal value irreversibly adjustable from higher to lower temperature
- If nominal value is reached, the limiter switches
- Reset is carried out automatically after the sensing element is cooled off by approx. 10 K ± 7.5 K
- Single-pole micro switch with OFF-switch
- Time factor of sensing element acc. EN 14597
- Operation: Type 2 BDEFHKL, EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Immersion length*	*Max. sensing element temperature [°C]*
RAK715.0010M	011-4901.10	60/50/40/30/25	100mm	110
RAK715.0011M	011-4902.10	60/50/40/30/25	150mm	110
RAK715.0012M	011-4903.10	60/50/40/30/25	200mm	110
RAK715.0013M	011-4904.10	60/50/40/30/25	280mm	110
RAK715.0014M	011-4905.10	60/50/40/30/25	450mm	110
RAK715.0015M	011-4906.10	60/50/40/30/25	600mm	110
RAK715.0020M	011-4911.10	100/90/80/70/65	100mm	140
RAK715.0021M	011-4912.10	100/90/80/70/65	150mm	140
RAK715.0022M	011-4913.10	100/90/80/70/65	200mm	140
RAK715.0023M	011-4914.10	100/90/80/70/65	280mm	140
RAK715.0024M	011-4915.10	100/90/80/70/65	450mm	140
RAK715.0025M	011-4916.10	100/90/80/70/65	600mm	140
RAK715.0030M	011-4921.10	130/120/110/100/95	100mm	160
RAK715.0031M	011-4922.10	130/120/110/100/95	150mm	160
RAK715.0032M	011-4923.10	130/120/110/100/95	200mm	160
RAK715.0033M	011-4924.10	130/120/110/100/95	280mm	160
RAK715.0034M	011-4925.10	130/120/110/100/95	450mm	160
RAK715.0035M	011-4926.10	130/120/110/100/95	600mm	160

Technical data

Switching system	Switching capacity acc. VDE 0631	
	- Nominal voltage range	40...250 V~
	- Nominal current range I (I_M)	0.5…10(6) A
	Service live at nominal load	min. 15‘000 operation
	Protection class	I acc. VDE 0631
	Protection mode of housing	IP66 acc. EN 60529

Application range	Adjustable cut-off temperature ϑ_{off}	see “Type summary”
	Ambient temperature on housing	max. 70 °C (T70)
	Thermal switching differential	10.0 K ± 7.5 K
	Ambient temperature for storage and transport	-25...+75 °C
Calibration	Calibration tolerance	(0-10) K
	Calibrated for ambient temperature on switching head and capillary	37 ± 2 °C (Tu37 acc. EN 14597)
	Time factor in water / in oil	<45 s / <60 s
Specification	Switching head support (basic insulation)	ceramic
	Capillary	stainless steel
	Sensing element	copper
	Diaphragm	stainless steel
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Immersion length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	screw terminals
	Earth connection	screw terminals
	Cable bushing	M20
	Weight without packaging and immersion tube	approx. 255 gr.

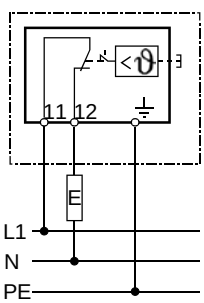
Fitting notes

See the mounting instructions inside the package.

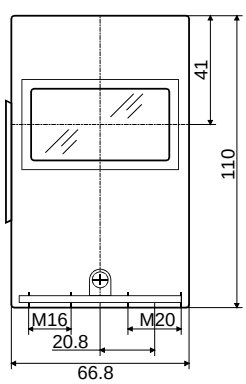
The immersion tube material depends on the installation (medium, tank material, etc.) and must be specified by the user.

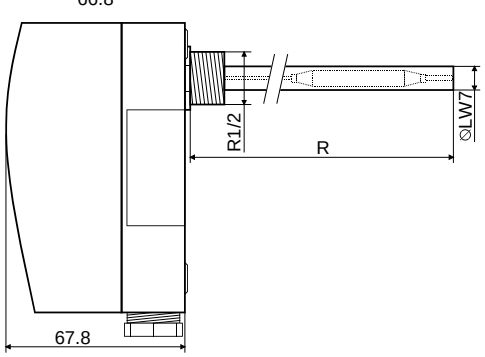
To comply with the time factor requirements acc. EN 14597 the immersion tubes must conform to drawing H 1 7111 3459 (see also data sheet „Immersion tubes 1130“)

Wiring diagram



Dimension drawing





Socle	005-1054
Cover	005-0551.3

ASKOMA

ASKOSTAT IP 54

1 187M

Not temperature compensated

Electro-mechanical temperature control / frost protection controller

RAK722…
RAK732…

In protective housing, with accessories for on-wall mounting

Registered under DM/066 622

Electro-mechanical temperature control acc. EN 14597
Electro-mechanical safety temperature limiter acc. EN 14597, fail-safe

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on a bracket for on-wall fixing.

Features

- Fail-safe, manual reset types, contact 11-12 will open in case of capillary failure (STL)
- Nominal value irreversibly adjustable from higher to lower temperature (STL)
- If nominal value is reached, the change-over switch is activated (TC-function), or the limiter switches and stays locked in this position (STL-function)
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 20 K (STL-function)
- With compensation of ambient temperature (TC) at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation STL Type 2 BDFHKL acc. EN 14597
- Operation TL Type 2 B acc. EN 14597

Type summary

Type		*Order-no.*	*Range [°C]*	*Immersion length*
RAK722.0001M		011-4302.10	-10...50	1600mm
RAK722.0015M		011-4303.10	15...95	800mm
RAK722.0021M		011-4304.10	40...120	1600mm
RAK722.0045M		011-4305.10	50...130	800mm
RAK722.0051M		011-4306.10	80...160	1600mm
RAK722.0061M		011-4307.10	110...190	1600mm
RAK722.0070M		011-4308.10	150...230	1000mm
RAK722.0127M		011-4309.10	40...90	2200mm
RAK722.0135M		011-4310.10	5...30	800mm
RAK722.0141M		011-4311.10	5...65	1600mm
RAK723.0046M	(STB)	011-4332.10	130/120/110/100/95	3200mm
RAK722.0/1974M*		011-4360.10	-10...50	1600mm
RAK732.0/1873M*		011-4403.10	5...30	800mm
RAK732.0/1878M*		011-4402.10	5...65	1600mm

* for mounting on ducts, see dimension drawing

Technical data

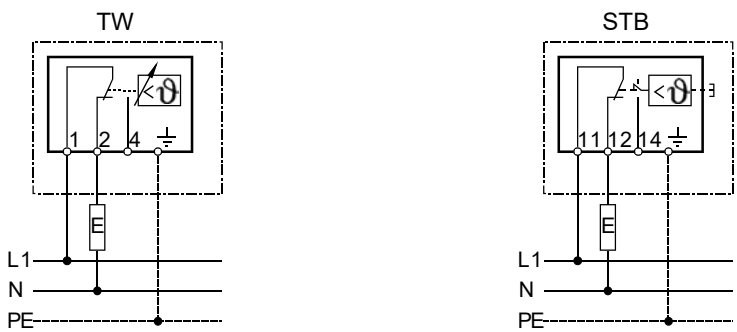
Switching system	Switching capacity acc. VDE 0631		
	- Nominal voltage range		40...250 V~
	- Nominal current range I (I_M)	(TC)	0.5…16(2.6) A
		(STL)	0.5…10(6.0) A
	Service live at nominal load	(TC)	min. 100'000 operation
	Service live at nominal load	(STL)	min. 15'000 operation
	Protection class		I acc. VDE 0631
	Protection mode of housing		IP66 acc. EN 60529

Application range	Adjustable cut-off temperature ϑ_{off}		see “Type summary”
	Thermal switching differential		approx. 4.0 K ±2.0 K
	Ambient temperature on housing		max. 70°C (T70)
	Max. sensing element temperature		120°C up to 280°C (dependent of Type)
	Ambient temperature for storage and transport		-25...+75°C
Calibration	Calibration tolerance	(TC)	± 4 K up to ± 8 K (dependent of Type)
	Calibration tolerance	(STL)	(0-9) K
	Calibrated for ambient temperature	(TC)	23 ± 2°C (Tu23 according to DIN EN 14597)
	on switching head and capillary	(STL)	37 ± 2°C (Tu37 according to DIN EN 14597)
	Time factor in water / in oil		< 45 s / < 60 s
Specification	Switching head support (basic insulation)		ceramic
	Capillary		stainless steel
	Sensing element		copper
	Diaphragm		stainless steel
	Housing socket		Polyamide reinforced (PA), temperature stability up to 120°C
	Housing cover		Polycarbonate (PC), temperature stability up to 120°C
	Electrical connection		screw terminals
	Earth connection		screw terminals
	Cable bushing		M20
	Weight without packaging and accessories		approx. 255 gr.

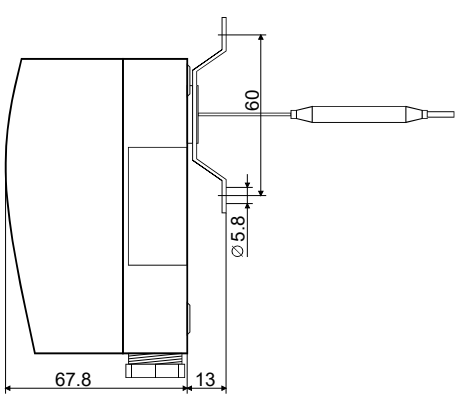
Fitting notes

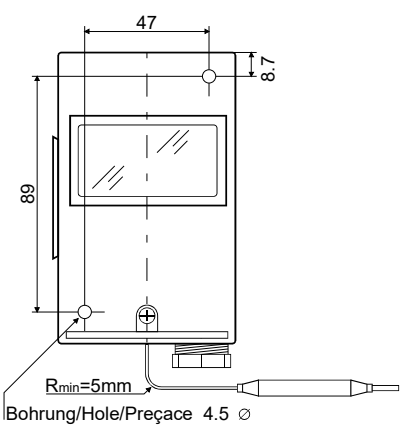
See the mounting instructions inside the package

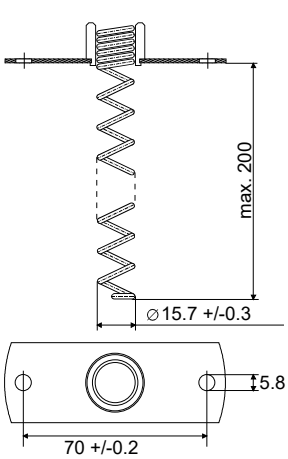
Wiring diagram



Dimension drawing







Socle	005-1054
Cover	005-0551.3
Protection spring	005-0591
Mounting bracket	005-0412

ASKOMA

ASKOSTAT IP 54

1 188M

Not temperature compensated

Electro-mechanical temperature control / safety temperature limiter

RAM742…
RAM743…

in protective housing, for mounting on pipes

2

Registered under DM/066 622

Electro-mechanical temperature control / safety temperature limiter

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on a pipe by means of a bracket.

Features

- Fail-safe, manual reset types, contact 11-12 will open in case of capillary failure (STL)
- Nominal value irreversibly adjustable from higher to lower temperature (STL)
- Nominal value of TW / TB variably adjustable, non fail-safe type
- If nominal value is reached, the change-over switch is activated (TW-function), or the limiter switches and stays locked in this position (STL-function)
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 20 K (STL / TB-function)
- With compensation of ambient temperature (TW) at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation type TW Type 2 B acc. EN 14597
- Operation type TB Type 2 B acc. EN 14597
- Operation type STL Type 2 BDFHKL acc. EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Function*
RAM742.000M	011-4451.10	-10…50	TW
RAM742.001M	011-4452.10	15…95	TW
RAM742.003M	011-4454.10	40…120	TW
RAM742.004M	011-4455.10	50…130	TW
RAM742.0/1982M	011-4472.10	5…65	TW
RAM743.404M	011-4482.10	130/120/110/100/95	STL
RAM743.0/3345M	011-4492.10	20…60	TB
RAM743.0/3346M	011-4493.10	50…130	TB

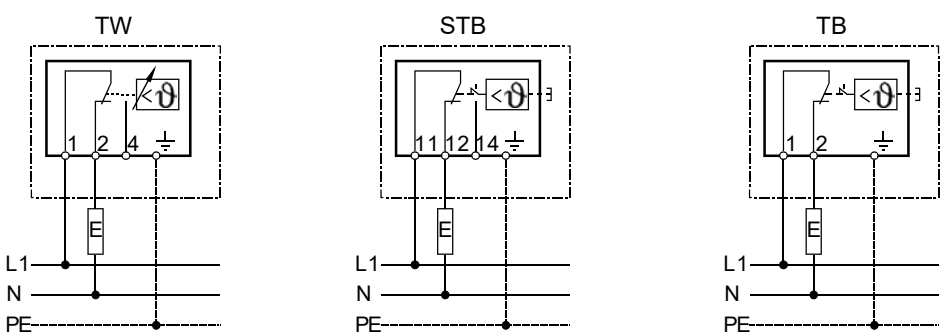
Technical data

Switching system	Switching capacity acc. VDE 0631		
	- Nominal voltage range		40...250 V~
	- Nominal current range I (I_M)	(TW / TB)	0.5…16(2.6) A
		(STL)	0.5…10(6.0) A
	Service live at nominal load	(TW)	min. 100‘000 operation
	Service live at nominal load	(TB)	min. 10‘000 operation
	Service live at nominal load	(STL)	min. 15'000 operation
	Protection class		I acc. VDE 0631
	Protection mode of housing		IP66 acc. EN 60529
Application range	Adjustable cut-off temperature ϑ_{off}		see “Type summary”
	Thermal switching differential		approx. 4.0 K ± 2.0 K
	Ambient temperature on housing		max. 70 °C (T70)
	Max. sensing element temperature	(TW / TB)	120…200 °C
	Max. sensing element temperature	(STL)	180 °C
	Ambient temperature for storage and transport		-25...+75 °C
Calibration	Calibration tolerance	(TW / TB)	± 4 K
	Calibration tolerance	(STL)	(0-9) K
	Calibrated for ambient temperature	(TW / TB)	23 ± 2 °C (Tu23 acc. EN 14597)
	on switching head and capillary	(STL)	37 ± 2 °C (Tu37 acc. EN 14597)
	Time factor in water / in oil		<45 s / <60 s
Specification	Switching head support (basic insulation)		ceramic
	Capillary		stainless steel
	Sensing element		copper
	Diaphragm		stainless steel
	Housing socket		Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover		Polycarbonate (PC), temperature stability up to 120 °C
	Electrical connection		screw terminals
	Earth connection		screw terminals
	Cable bushing		M20
	Weight without packaging and accesories		approx. 255 gr.

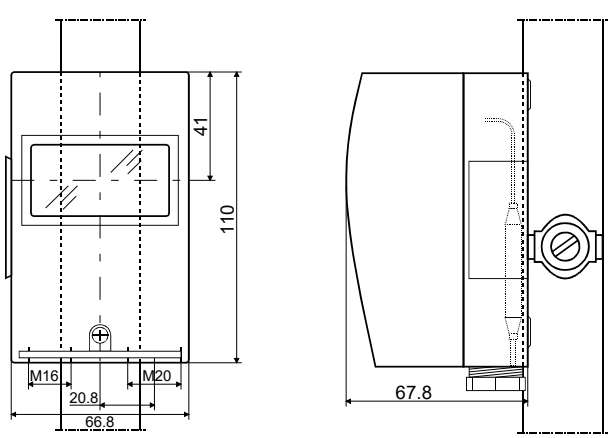
Fitting notes

See the mounting instructions inside the package.

Wiring diagram



Dimension drawing



Socket	005-1054
Cover	005-0551.3
Clamping band	005-0556

ASKOMA

ASKOSTAT
IP 54

1189M

Not temperature compensated

Electro-mechanical dual control thermostats

RAZ712…
RAZ713…

- **in protective housing, for mounting on an immersion tube**
- **Immersion tube in delivery included**

Registered under DM/066 622

Combination of two electro-mechanical temperature control/-reset limit thermostats (TW/TW) or a temperature controller and a fail-safe safety limit thermostat (TW/STL) acc. EN 14597

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on an immersion tube.

Features

- Fail-safe, manual reset types, contact 11-12 will open in case of capillary failure (STL)
- Nominal value irreversibly adjustable from higher to lower temperature (STL)
- If nominal value is reached, the change-over switch is activated (TW-function), or the limiter switches and stays locked in this position (STL-function)
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 20 K (STL-function)
- With compensation of ambient temperature (TW) at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation STL Type 2 BDFHKL acc. EN 14597
- Operation TW Type 2 B acc. EN 14597

Type summary

Type	*Order-no.*	*Thermostat A range [°C]*	*Thermostat B range [°C]*	*Immersion length*	*Function*
RAZ712.020M	011-4514.10	15…95	15…95	100mm	TW/TW
RAZ712.021M	011-4515.10	15…95	15…95	150mm	TW/TW
RAZ712.022M	011-4516.10	15…95	15…95	200mm	TW/TW
RAZ712.030M	011-4520.10	50…130	50…130	100mm	TW/TW
RAZ712.031M	011-4521.10	50…130	50…130	150mm	TW/TW
RAZ712.032M	011-4522.10	50…130	50…130	200mm	TW/TW
RAZ713.420M	011-4602.10	15…95	110/100/95	100mm	TW/STL
RAZ713.421M	011-4603.10	15…95	110/100/95	150mm	TW/STL
RAZ713.422M	011-4604.10	15…95	110/100/95	200mm	TW/STL
RAZ713.430M	011-4608.10	50…130	130/120/110/100/95	100mm	TW/STL
RAZ713.431M	011-4609.10	50…130	130/120/110/100/95	150mm	TW/STL
RAZ713.432M	011-4610.10	50…130	130/120/110/100/95	200mm	TW/STL
RAZ713.470M	011-4614.10	40…90	100/95	100mm	TW/STL
RAZ713.471M	011-4615.10	40…90	100/95	150mm	TW/STL
RAZ713.472M	011-4616.10	40…90	100/95	200mm	TW/STL
RAZ713.480M	011-4620.10	40…90	95	100mm	TW/STL
RAZ713.481M	011-4621.10	40…90	95	150mm	TW/STL
RAZ713.482M	011-4622.10	40…90	95	200mm	TW/STL

Technical data

Switching system	Switching capacity acc. VDE 0631		
	- Nominal voltage range		40...250 V~
	- Nominal current range I (I_M)	(TW)	0.5…16(2.6) A
		(STL)	0.5…10(6.0) A
	Service live at nominal load	(TW)	min. 100'000 operation
	Service live at nominal load	(STL)	min. 15'000 operation
	Protection class		I acc. VDE 0631
	Protection mode of housing		IP66 acc. EN 60529
Application range	Adjustable cut-off temperature ϑ_{off}		see “Type summary”
	Thermal switching differential		approx. 4.0 K ± 2.0 K
	Ambient temperature on housing		max. 70 °C (T70)
	Max. sensing element temperature		180 °C
	Ambient temperature for storage and transport		-25...+75 °C
Calibration	Calibration tolerance	(TW)	± 4 K
	Calibration tolerance	(STL)	(0-9) K
	Calibrated for ambient temperature	(TW)	23 ± 2 °C (Tu23 acc. EN 14597)
	on switching head and capillary	(STL)	37 ± 2 °C (Tu37 acc. EN 14597)
	Time factor in water / in oil		<45 s / <60 s
Specification	Switching head support (basic insulation)		ceramic
	Capillary		stainless steel
	Sensing element		copper
	Membrandose		stainless steel
	Housing socket		Polyamide reinforced (PA), temperature stability up to 120 °C
	Housingover		Polycarbonate (PC), temperature stability up to 120 °C
	Immersion length R of immersion tube		100, 150, 200, 280, 450 or 600 mm
	Electrical connection		screw terminals
	Earth connection		screw terminals
	Cable bushing		M20
	Weight without packaging and immersion tube		approx. 510 gr.

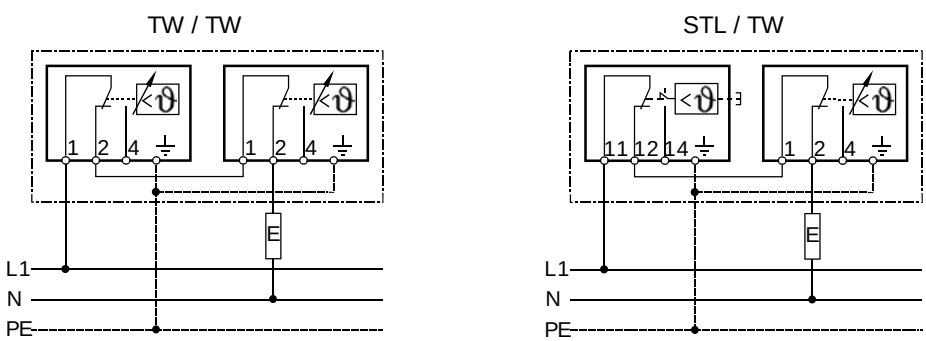
Fitting notes

See the mounting instructions inside the package.

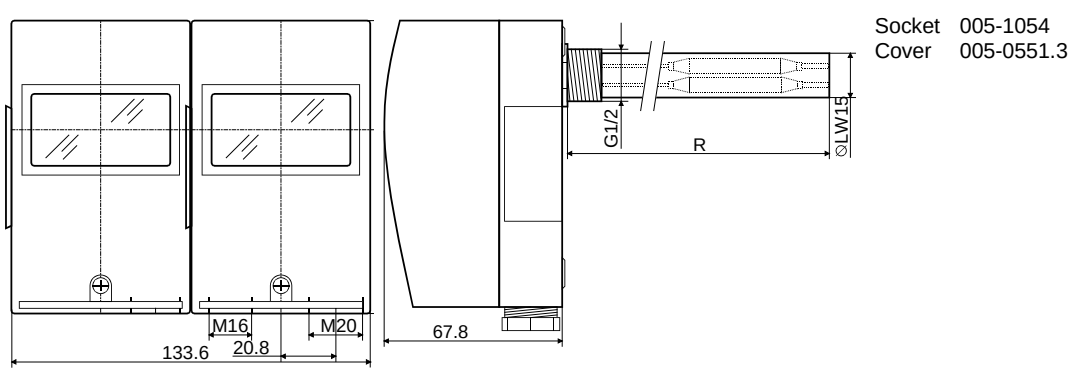
The immersion tube material depends on the installation (medium, tank material, etc.) and must be specified by the user.

To comply with the time factor requirements acc. EN 14597 the immersion tubes must conform to drawing H 1 7111 3459 (see also data sheet „Immersion tubes 1130“).

Wiring diagram



Dimension drawing



Not temperature compensated

Electro-mechanical temperature control for exhaust pipes

RAK782.4/…

- **in protective housing, for the change-over of sources of energy**
- **Immersion tube in delivery included**

Registered under DM/066 622

Electro-mechanical temperature control acc. EN 14597

Application

For the use in heat generator plants with multiple heat generators for the change over from solid fuel to oil- or gas boilers. The device is mounted on a immersion tube.

Features

- If nominal value is reached, the change-over switch is activated
- With compensation of ambient temperature at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation: Type 2 B, EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Immersion length*
RAK782.4/0051M	011-4440.10	40...160	150mm

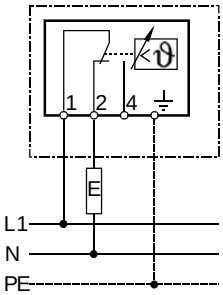
Technical data

Switching system	Switching capacity acc. VDE 0631	
	- Nominal voltage range	40...250 V~
	- Nominal current range I (I_M)	0.5…16(2.6) A
	Service live at nominal load	min. 100'000 operation
	Protection class	I acc. VDE 0631
	Protection mode of housing	IP66 acc. EN 60529
Application range	Adjustable cut-off temperature ϑ_{off}	40…160 °C
	Thermal switching differential	approx. 11 K ± 5.5 K
	Ambient temperature on housing	max. 70 °C (T70)
	Max. sensing element temperature	750 °C
	Ambient temperature for storage and transport	0...+75 °C
Calibration	Calibration tolerance	± 20 K
	Calibrated for ambient temperature on switching head and capillary	23 ± 2 °C (Tu23 acc. EN 14597)
	Time factor in water / in oil	<45 s / <60 s
Specification	Switching head support (basic insulation)	ceramic
	Capillary	stainless steel
	Sensing element	stainless steel
	Diaphragm	stainless steel
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Immersion length R of immersion tube	150 mm
	Electrical connection	screw terminals
	Earth connection	screw terminals
	Cable bushing	M20
	Weight without packaging and immersion tube	approx. 255 gr.

Fitting notes

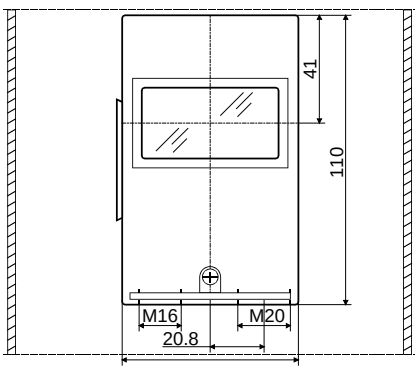
See the mounting instructions inside the package.

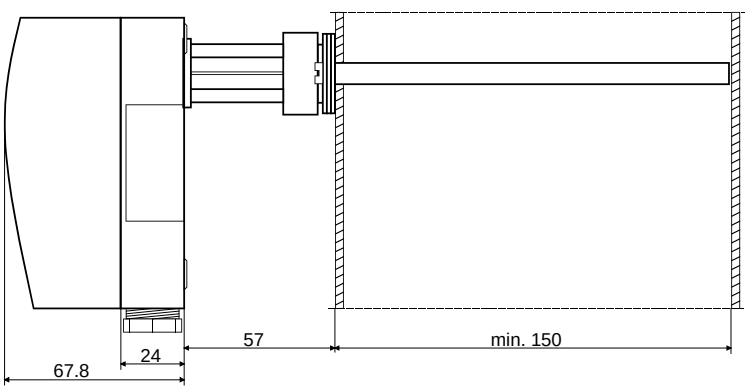
Wiring diagram



Dimensions/Mounting

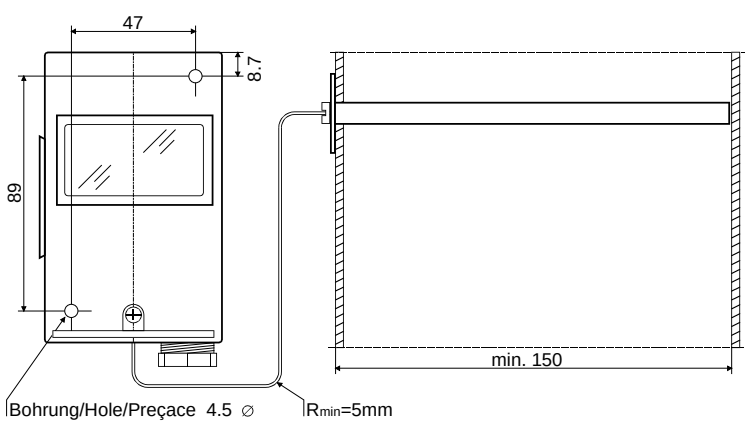
- on immersion tube with distance piece (standard execution)



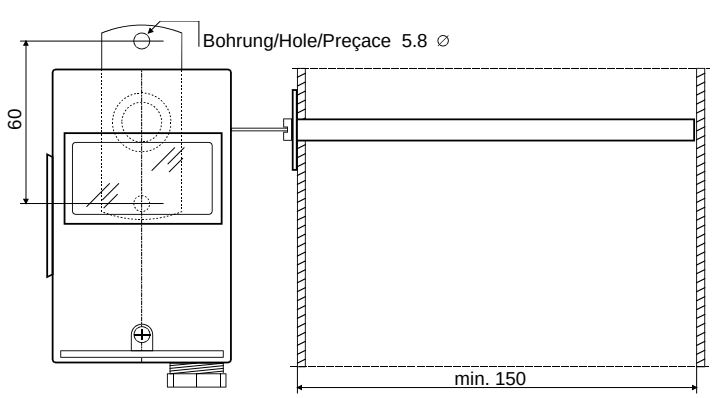


Socket	005-1054
Cover	005-0551.3
Bracket, bent	005-0412

- direct wall mounting



- on bracket (accessory)



ASKOMA

ASKOSTAT
IP 54

1 187.1M

Not temperature compensated

Electro-mechanical safety temperature limiter

RAK774.4/…

- **for flue gas ducts, in protective housing**
- **Immersion tube in delivery included**

Registered under DM/066 622

Electro-mechanical safety temperature limiter acc. EN 14597, fail-safe

Application

For use in fuel oil or gas-burning heat generators, for the supervision of flue gas ducts in installations with low flue temperatures.

Features

- Fail-safe, manual reset types, contact 11-12 will open in case of capillary failure
- Nominal value irreversibly adjustable from higher to lower temperature
- If nominal value is reached, the limiter switches and stays locked in this position
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 20 K
- Single-pole micro switch with change-over switch
- Corrosion-proofed sensing element with immersion tube for use in aggressive media, e.g. flue gas
- Time factor of sensing element acc. EN 14597
- Operation: Type 2 BDFHKL, acc. EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Max. sensing element temperature [°C]*	*Inner -∅ flue gas duct*
RAK774.4/3715M	011-4803.10	120/100/80	230	at least. 75mm
RAK774.4/3720M	011-4804.10	160/140/120	240	at least. 75mm
RAK774.4/3797M	011-4805.10	200/180/160	250	at least. 75mm

Technical data

Switching system	Switching capacity acc. VDE 0631	
	- Nominal voltage range	40...250 V~
	- Nominal current range I (I_M)	0.5…10(6) A
	Service live at nominal load	min. 15‘000 operation
	Protection class	I acc. VDE 0631
	Protection mode of housing	IP66 acc. EN 60529
Application range	Adjustable cut-off temperature ϑ_{off}	see “Type summary”
	Ambient temperature on housing	max. 70 °C (T70)
	Ambient temperature for storage and transport	-25...+75 °C
Calibration	Calibration tolerance	(0-12) K
	Calibrated for ambient temperature on switching head and capillary	23 ± 2 °C (Tu23 acc. EN 14597)
Specification	Switching head support (basic insulation)	ceramic
	Capillary	stainless steel
	Sensing element	copper
	Diaphragm	stainless steel
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C

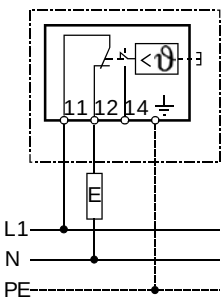
Immersion length R of immersion tube	75 mm
Electrical connection	screw terminals
Earth connection	screw terminals
Cable bushing	M20
Weight without packaging and immersion tube	approx. 255 gr.

Product range

Together with corresponding accessories, the standard execution can be used for several mounting forms / applications (must be ordered seperately)

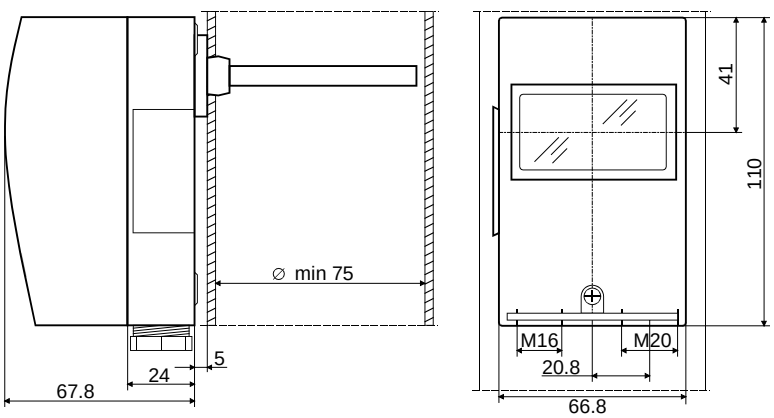
Accessories:	*Order-no.*
• Mounting bracket for mounting protective housing	005-0412
• Signal lamp compl. for optical warning of position/failure	005-0589

Wiring diagram

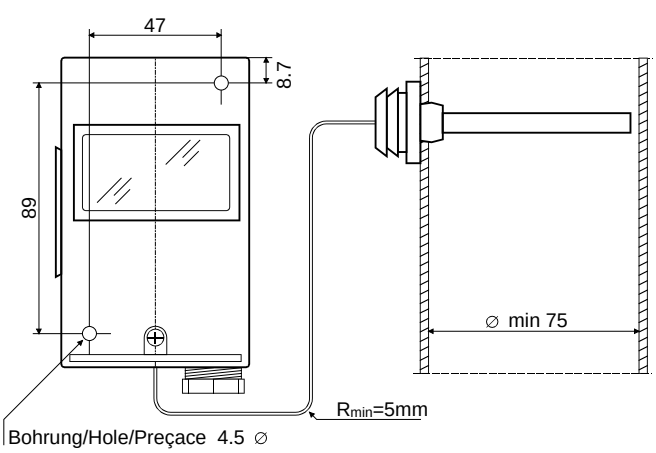


Dimension drawing / mounting method

- on sealing plug (Standard)

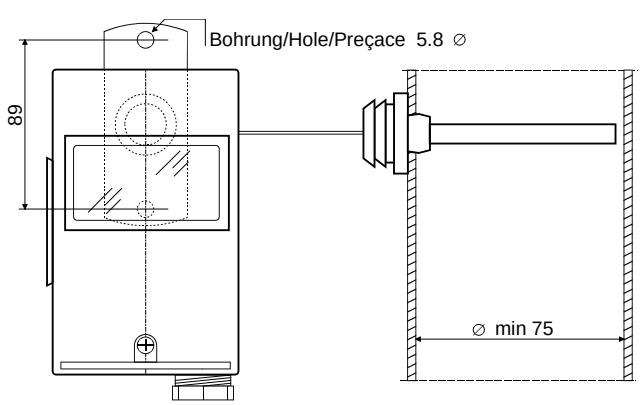


- direct on wall



Socle	005-1054
Cover	005-0551.3
Sealing plug	005-0559

- on mounting bracket



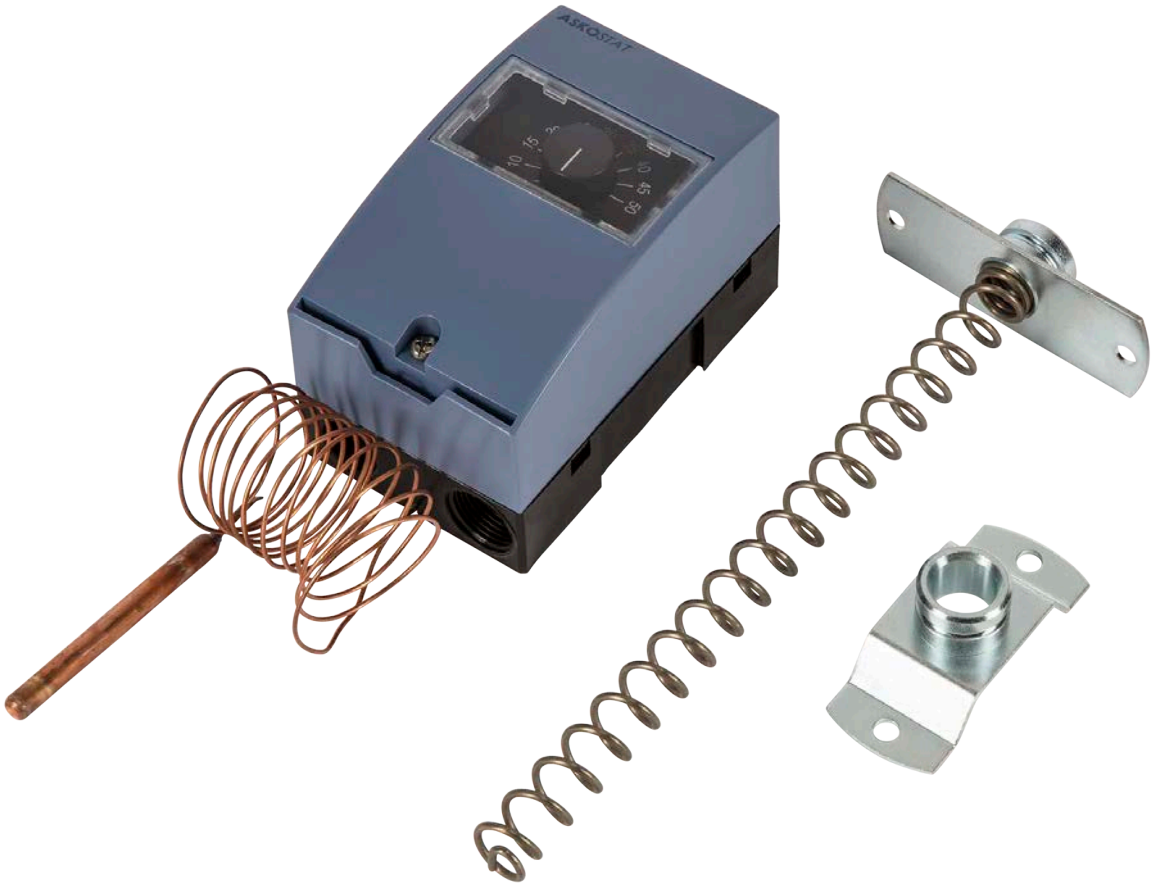
Mounting bracket	005-0412

NOTES

ASKOSTAT

temperature compensated

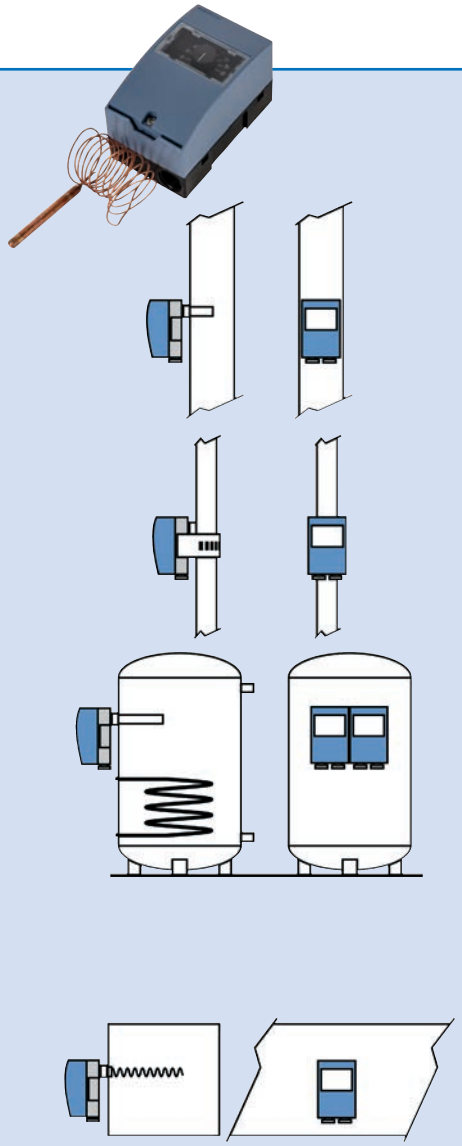
ELECTRO-MECHANICAL HOUSING THERMOSTAT



ASKOMA we care about energy

ELECTRO-MECHANICAL HOUSING THERMOSTAT IP66

- Control thermostats
- Safety limit thermostats (DG-RL approval)



APPLICATION EXAMPLES HEATING / INDUSTRIAL WATER

Pocket mounting thermostat **RAK712 | RAK713**

Control or monitoring of heating and industrial water

- Types as control / monitoring / limit thermostats
- Range from -5 to +130 °C
- Directly mounted on pocket

Pipe mounting thermostat **RAM742 | RAM743**

Control or monitoring of inlet temperatures in heating systems

- Types as control / monitoring / limit thermostats
- Range from -5 to +130 °C
- Directly mounted on pipe (1/2“ to 3“)

Dual control thermostat **RAZ712 | RAZ713**

Control or monitoring of heating and industrial water

- Types as control / monitoring / limit thermostats
- All combinations possible

APPLICATION EXAMPLES VENTILATION

Air duct mounting thermostat **RAK722 | RAK732**

Control or monitoring of temperatures in ventilation systems

- Types as control / monitoring / limit thermostats
- Range from -5 to +130 °C
- Direct mounting to wall or spiral support

ADVANTAGES ASKO*STAT* temperature compensated

- Multifunctional application options
  - Contact-thermostat
  - Use with immersion tube
  - Use in ventilation pipe
  - Mounted on wall
- Temperature setting inside
- Housing IP66

Easy to install

1. Generous space for connections
2. Second cable inlet
3. Mounted on a pipe with a strap
4. Mounted on a wall with a wall bracket
5. Mounted directly on an immersion tube
6. Mounted on an air duct with a spiral support

Technical design

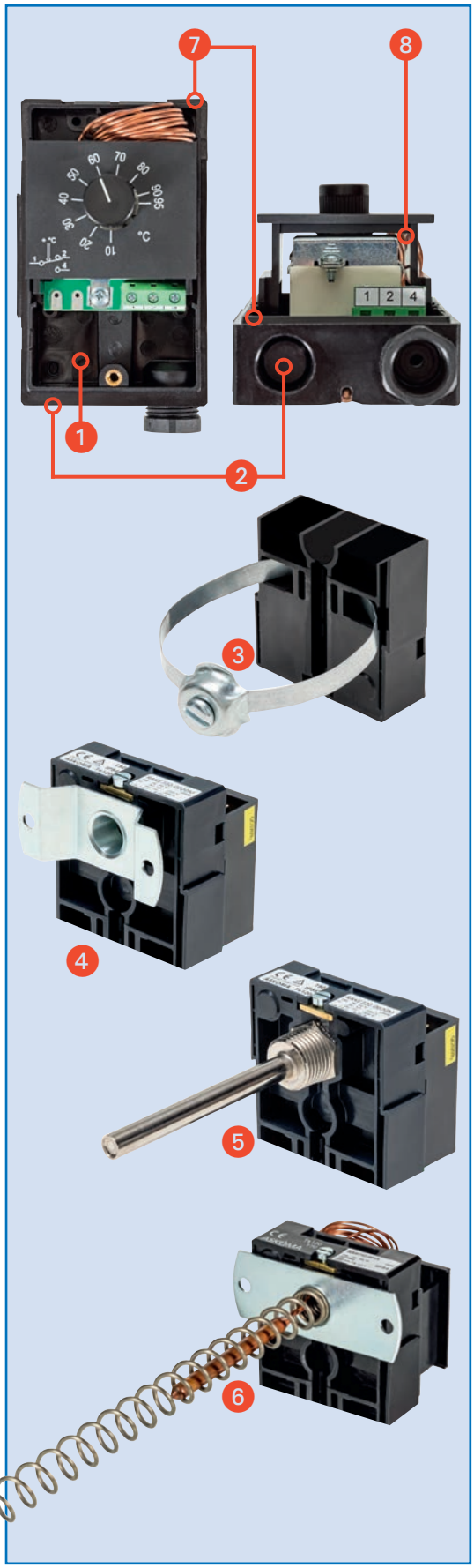
7. Heat-resistant polycarbonate housing
8. High-quality thermostat with switch contacts and small hysteresis, temperature-compensated

Technical advantages (on customer request)

- Pre-wired with connection cable
- Additional terminals, for example for connection of a pump
- Different colour options for housing (OEM)

Approvals

- EN 14597
- EN 55014-2
- EN 60730-1
- EN 60730-2-9



Temperature compensated

Electro-mechanical temperature control

RAK712…

- **in protective housing, for mounting on an immersion tube**
- **with head temperature compensation**
- **Immersion tube in delivery included**

Registered under DM/066 622

Electro-mechanical temperature control acc. EN 14597

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on an immersion tube.

Features

- If nominal value is reached, the limiter switches
- With compensation of ambient temperature at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation: Type 2 B, EN 14597

Type summary

Type	*Ordern-no.*	*Range [°C]*	*Immersion length*
RAK712.0000A	011-7000.10	-5...50	100mm
RAK712.0001A	011-7001.10	-5...50	150mm
RAK712.0002A	011-7002.10	-5...50	200mm
RAK712.0003A	011-7003.10	-5...50	280mm
RAK712.0004A	011-7004.10	-5...50	450mm
RAK712.0005A	011-7005.10	-5...50	600mm
RAK712.0010A	011-7006.10	10…95	100mm
RAK712.0011A	011-7007.10	10…95	150mm
RAK712.0012A	011-7008.10	10…95	200mm
RAK712.0013A	011-7009.10	10…95	280mm
RAK712.0014A	011-7010.10	10…95	450mm
RAK712.0015A	011-7011.10	10…95	600mm
RAK712.0030A	011-7019.10	40...130	100mm
RAK712.0031A	011-7020.10	40...130	150mm
RAK712.0032A	011-7021.10	40...130	200mm
RAK712.0033A	011-7022.10	40...130	280mm
RAK712.0034A	011-7023.10	40...130	450mm
RAK712.0035A	011-7024.10	40...130	600mm

Technical data

Switching system	Switching capacity acc. VDE 0631	
	- Nominal voltage range	24...250 V~
	- Nominal current range I	NC 0.5…10 A, NO 0.5…6 A
	Service live at nominal load	min. 100'000 operation
	Protection class	I acc. VDE 0631
	Protection mode of housing	IP 66 acc. EN 60529

Application range	Adjustable cut-off temperature ϑ_{off}	see “Type summary”
	Thermal switching differential	approx. 4.0 K ± 2.0 K
	Ambient temperature on housing	max. 70 °C (T70)
	Max. sensing element temperature	Temperature range +20 %
	Ambient temperature for storage and transport	-25...+75 °C
Calibration	Calibration tolerance	± 4 K
	Head temperature compensation	0.035 K/K
	Time factor in water / in oil	<45 s / <60 s
Specification	Switching head support (basic insulation)	ceramic
	Capillary	copper
	Sensing element	copper
	Diaphragm	stainless steel
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Immersion length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	screw terminals
	Earth connection	screw terminals
	Cable bushing	M20
	Weight without packaging and immersion tube	approx. 255 gr.

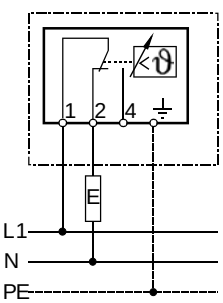
Fitting notes

See the mounting instructions inside the package.

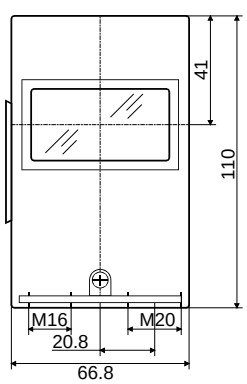
The immersion tube material depends on the installation (medium, tank material, etc.) and must be specified by the user.

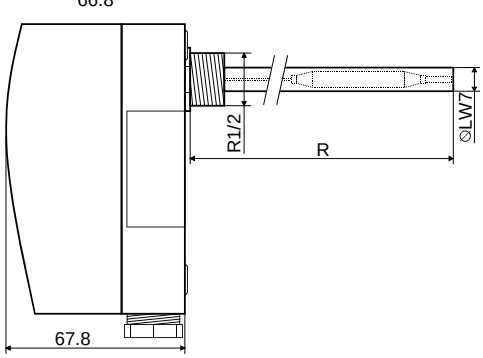
To comply with the time factor requirements acc. EN 14597 the immersion tubes must conform to drawing H 1 7111 3459 (see also data sheet „Immersion tubes 1130“)

Wiring diagram



Dimension drawing





Socle 005-1054
Cover 005-0551.3

Temperature compensated

Electro-mechanical safety temperature limiter

RAK713…

- **in protective housing, for mounting on an immersion tube**
- **with head temperature compensation**
- **Immersion tube in delivery included**

Version to EN 14597

CE PED 1250

and Pressure Equipment Directive 2014/68/EU

Registered under DM/066 622

Electro-mechanical safety temperature limiter acc. EN 14597, fail-safe

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on an immersion tube.

Features

- Fail-safe, manual reset types, contact 1-2 will open in case of capillary failure
- Nominal value adjustable from 90 °C…110 °C
- If nominal value is reached, the limiter switches and stays locked in this position
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 25 ± 5 K
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation: Type 2 BDEFHKL, EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Immersion length*
RAK713.0030A	011-7117.10	90…110	100mm
RAK713.0031A	011-7118.10	90…110	150mm
RAK713.0032A	011-7119.10	90…110	200mm
RAK713.0033A	011-7120.10	90…110	280mm
RAK713.0034A	011-7121.10	90…110	450mm
RAK713.0035A	011-7122.10	90…110	600mm

Technical data

Switching system	Switching capacity acc. VDE 0631	
	- Nominal voltage range	24...250 V~
	- Nominal current range I	NC 0.5…10 A, NO 0.5 A
	Service live at nominal load	min. 15‘000 operation
	Protection class	I acc. VDE 0631
	Protection mode of housing	IP 66 acc. EN 60529

Application range	Adjustable cut-off temperature ϑ_{off}	see “Type summary”
	Ambient temperature on housing	max. 70 °C (T70)
	Max. sensing element temperature	130 °C
	Ambient temperature for storage and transport	-25...+75 °C
Calibration	Calibration tolerance	(0-8) K
	Head temperature compensation	0.035 K/K
	Time factor in water / in oil	<45 s / <60 s
Specification	Switching head support (basic insulation)	ceramic
	Capillary	copper
	Sensing element	copper
	Diaphragm	stainless steel
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Immersion length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	screw terminals
	Earth connection	screw terminals
	Cable bushing	M20
	Weight without packaging and immersion tube	approx. 255 gr.

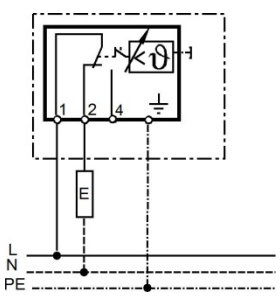
Fitting notes

See the mounting instructions inside the package.

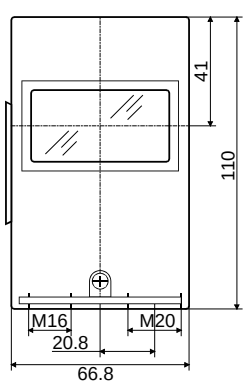
The immersion tube material depends on the installation (medium, tank material, etc.) and must be specified by the user.

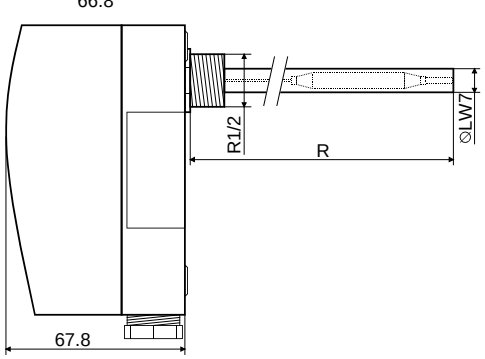
To comply with the time factor requirements acc. EN 14597 the immersion tubes must conform to drawing H 1 7111 3459 (see also data sheet „Immersion tubes 1130“)

Wiring diagram



Dimension drawing





Socle	005-1054
Cover	005-0551.3

ASKOMA

ASKOSTAT IP 66

1 187A

Temperature compensated

Electro-mechanical temperature control / frost protection controller

RAK722…
RAK732…

In protective housing, with accessories for on-wall mounting, with head temperature compensation

Registered under DM/066 622

Electro-mechanical temperature control acc. EN 14597
Electro-mechanical safety temperature limiter acc. EN 14597, fail-safe

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on a bracket for on-wall fixing.

Features

- Fail-safe, manual reset types, contact 1-2 will open in case of capillary failure (STL)
- Nominal value adjustable from 90 °C…110 °C (STL)
- If nominal value is reached, the change-over switch is activated (TC-function), or the limiter switches and stays locked in this position (STL-function)
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 25 ± 5 K (STL-function)
- With compensation of ambient temperature at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation STL Type 2 BDFHKL acc. EN 14597
- Operation TL Type 2 B acc. EN 14597

Type summary

Type		*Order-no.*	*Range [°C]*	*Immersion length*
RAK722.0001A		011-7202.10	-5...50	1500mm
RAK722.0015A		011-7203.10	10...95	1000mm
RAK722.0045A		011-7205.10	40...130	1000mm
RAK723.0046A	(STB)	011-7232.10	90…110	1000mm
RAK722.0/1974A*		011-7260.10	-5...50	1500mm

* for mounting on ducts, see dimension drawing

Technical data

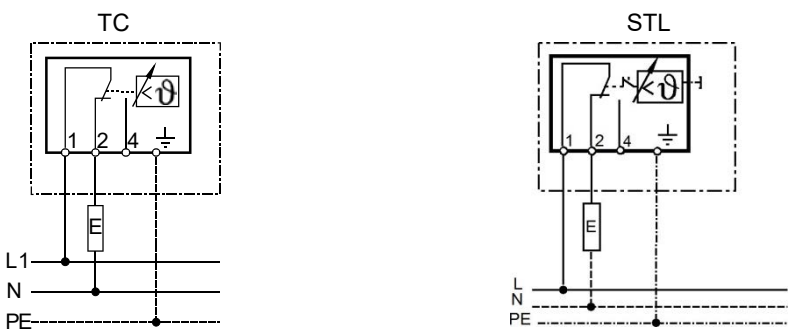
Switching system	Switching capacity acc. VDE 0631	
	- Nominal voltage range	24...250 V~
	- Nominal current range I (TC)	NC 0.5…10 A, NO 0.5…6 A
	(STL)	NC 0.5…10 A, NO 0.5 A
	Service live at nominal load (TC)	min. 100'000 operation
	(STL)	min. 15'000 operation
	Protection class	I acc. VDE 0631
	Protection mode of housing	IP 66 acc. EN 60529

Application range	Adjustable cut-off temperature ϑ_{off}		see “Type summary”
	Thermal switching differential		approx. 4.0 K ± 2.0 K
	Ambient temperature on housing		max. 70°C (T70)
	Max. sensing element temperature	(TC)	Temperature range +20 %
		(STL)	130 °C
	Ambient temperature for storage and transport		-25...+75°C
Calibration	Calibration tolerance	(TC)	± 4 K
		(STL)	(0-8) K
	Head temperature compensation		0.035 K/K
	Time factor in water / in oil		< 45 s / < 60 s
Specification	Switching head support (basic insulation)		ceramic
	Capillary		copper
	Sensing element		copper
	Diaphragm		stainless steel
	Housing socket		Polyamide reinforced (PA), temperature stability up to 120°C
	Housing cover		Polycarbonate (PC), temperature stability up to 120°C
	Electrical connection		screw terminals
	Earth connection		screw terminals
	Cable bushing		M20
	Weight without packaging and accessories		approx. 255 gr.

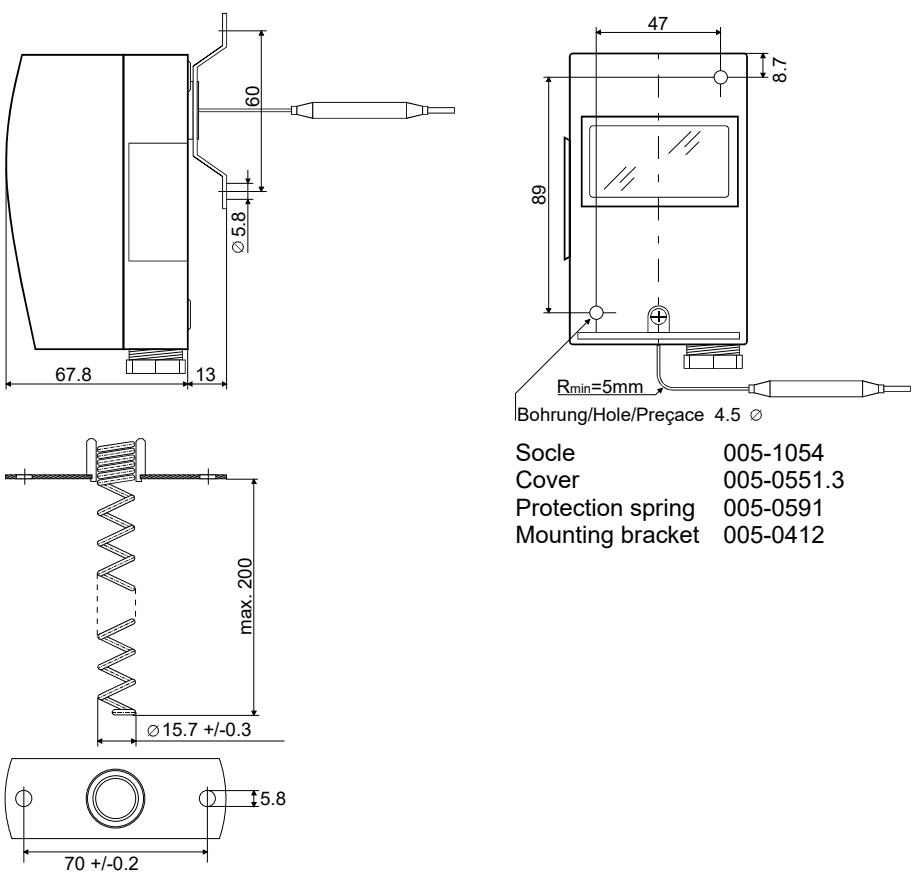
Fitting notes

See the mounting instructions inside the package

Wiring diagram



Dimension drawing



Socle	005-1054
Cover	005-0551.3
Protection spring	005-0591
Mounting bracket	005-0412

ASKOMA

ASKOSTAT IP 66

1 188A

Temperature compensated

Electro-mechanical temperature control / safety temperature limiter

RAM742…
RAM743…

in protective housing, for mounting on pipes, with head temperature compensation

Registered under DM/066 622

Electro-mechanical temperature control / safety temperature limiter

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on a pipe by means of a bracket.

Features

- Fail-safe, manual reset types, contact 1-2 will open in case of capillary failure (STL)
- Nominal value adjustable from 90 °C…110 °C (STL)
- Nominal value of TW variably adjustable, non fail-safe type
- If nominal value is reached, the change-over switch is activated (TW-function), or the limiter switches and stays locked in this position (STL-function)
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 25 ± 5 K
- With compensation of ambient temperature (TW) at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation type TW Type 2 B acc. EN 14597
- Operation type STL Type 2 BDFHKL acc. EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Function*
RAM742.000A	011-7351.10	-5…50	TW
RAM742.001A	011-7352.10	10…95	TW
RAM742.004A	011-7355.10	40…130	TW
RAM743.404A	011-7382.10	110/100/90	STL

Technical data

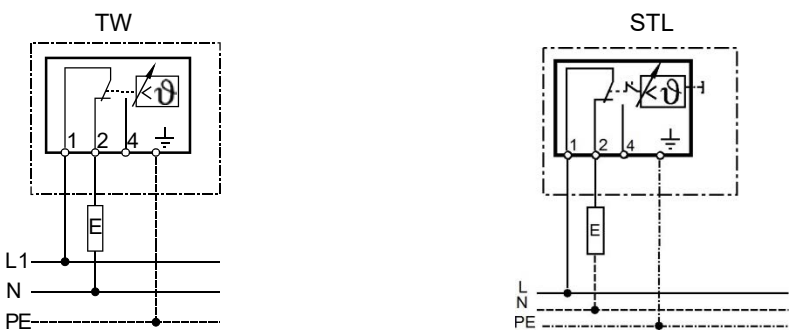
Switching system	Switching capacity acc. VDE 0631		
	- Nominal voltage range		24...250 V~
	- Nominal current range I	(TW)	NC 0.5…10 A, NO 0.5…6 A
		(STL)	NC 0.5…10 A, NO 0.5 A
	Service live at nominal load	(TW)	min. 100‘000 operation
		(STL)	min. 15'000 operation
	Protection class		I acc. VDE 0631
	Protection mode of housing		IP 66 acc. EN 60529

Application range	Adjustable cut-off temperature ϑ_{off}		see “Type summary”
	Thermal switching differential		approx. 4.0 K ± 2.0 K
	Ambient temperature on housing		max. 70 °C (T70)
	Max. sensing element temperature	(TW)	Temperature range +20 %
		(STL)	130 °C
	Ambient temperature for storage and transport		-25...+75 °C
Calibration	Calibration tolerance	(TW)	± 4 K
		(STL)	(0-8) K
	Head temperature compensation		0.035 K/K
	Time factor in water / in oil		<45 s / <60 s
Specification	Switching head support (basic insulation)		ceramic
	Capillary		copper
	Sensing element		copper
	Diaphragm		stainless steel
	Housing socket		Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover		Polycarbonate (PC), temperature stability up to 120 °C
	Electrical connection		screw terminals
	Earth connection		screw terminals
	Cable bushing		M20
	Weight without packaging and accesories		approx. 255 gr.

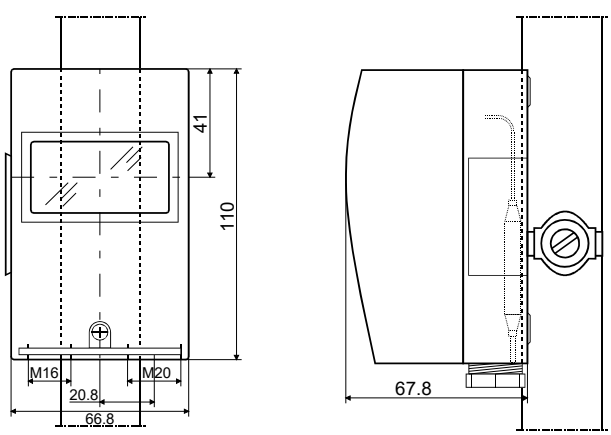
Fitting notes

See the mounting instructions inside the package.

Wiring diagram



Dimension drawing



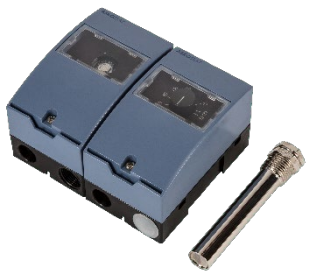
Socket	005-1054
Cover	005-0551.3
Clamping band	005-0556

Temperature compensated

Electro-mechanical dual control thermostats

RAZ712…
RAZ713…

- **in protective housing, for mounting on an immersion tube**
- **with head temperature compensation**
- **Immersion tube in delivery included**



Registered under DM/066 622

Combination of two electro-mechanical temperature control/-reset limit thermostats (TC/TC) or a temperature controller and a fail-safe safety limit thermostat (TC/STL) acc. EN 14597

Application

For the use in heat generator plants and other heating, ventilating and air conditioning applications. The device is mounted on an immersion tube.

Features

- Fail-safe, manual reset types, contact 1-2 will open in case of capillary failure (STL)
- Nominal value adjustable from 90 °C…110 °C (STL)
- If nominal value is reached, the change-over switch is activated (TC-function), or the limiter switches and stays locked in this position (STL-function)
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 25 ± 5 K (STL-function)
- With compensation of ambient temperature (TC) at switching head and capillary (KTK)
- Single-pole micro switch with change-over switch
- Time factor of sensing element acc. EN 14597
- Operation STL Type 2 BDFHKL acc. EN 14597
- Operation TC Type 2 B acc. EN 14597

Type summary

Type	*Order-no.*	*Thermostat A range [°C]*	*Thermostat B range [°C]*	*Immersion length*	*Function*
RAZ712.020A	011-7414.10	10…95	10…95	100mm	TC/TC
RAZ712.021A	011-7415.10	10…95	10…95	150mm	TC/TC
RAZ712.022A	011-7416.10	10…95	10…95	200mm	TC/TC
RAZ712.023A	011-7417.10	10…95	10…95	280mm	TC/TC
RAZ712.024A	011-7418.10	10…95	10…95	450mm	TC/TC
RAZ712.025A	011-7419.10	10…95	10…95	600mm	TC/TC
RAZ712.030A	011-7420.10	40…130	40…130	100mm	TC/TC
RAZ712.031A	011-7421.10	40…130	40…130	150mm	TC/TC
RAZ712.032A	011-7422.10	40…130	40…130	200mm	TC/TC
RAZ712.033A	011-7423.10	40…130	40…130	280mm	TC/TC
RAZ712.034A	011-7424.10	40…130	40…130	450mm	TC/TC
RAZ712.035A	011-7425.10	40…130	40…130	600mm	TC/TC
RAZ713.420A	011-7402.10	10…95	90…110	100mm	TC/STL
RAZ713.421A	011-7403.10	10…95	90…110	150mm	TC/STL
RAZ713.422A	011-7404.10	10…95	90…110	200mm	TC/STL
RAZ713.423A	011-7405.10	10…95	90…110	280mm	TC/STL
RAZ713.424A	011-7406.10	10…95	90…110	450mm	TC/STL
RAZ713.425A	011-7407.10	10…95	90…110	600mm	TC/STL

Technical data

Switching system	Switching capacity acc. VDE 0631		
	- Nominal voltage range		24...250 V~
	- Nominal current range I	(TC)	NC 0.5…10 A, NO 0.5…6 A
		(STL)	NC 0.5…10 A, NO 0.5 A
	Service live at nominal load	(TC)	min. 100'000 operation
		(STL)	min. 15'000 operation
	Protection class		I acc. VDE 0631
	Protection mode of housing		IP 66 acc. EN 60529
Application range	Adjustable cut-off temperature ϑ_{off}		see “Type summary”
	Thermal switching differential		approx. 4.0 K ± 2.0 K
	Ambient temperature on housing		max. 70 °C (T70)
	Max. sensing element temperature	(TC)	Temperature range +20 %
		(STL)	130 °C
	Ambient temperature for storage and transport		-25...+75 °C
Calibration	Calibration tolerance	(TC)	± 4 K
		(STL)	(0-8) K
	Head temperature compensation		0.035 K/K
	Time factor in water / in oil		<45 s / <60 s
Specification	Switching head support (basic insulation)		ceramic
	Capillary		copper
	Sensing element		copper
	Membrandose		stainless steel
	Housing socket		Polyamide reinforced (PA), temperature stability up to 120 °C
	Housingover		Polycarbonate (PC), temperature stability up to 120 °C
	Immersion length R of immersion tube		100, 150, 200, 280, 450 or 600 mm
	Electrical connection		screw terminals
	Earth connection		screw terminals
	Cable bushing		M20
	Weight without packaging and immersion tube		approx. 510 gr.

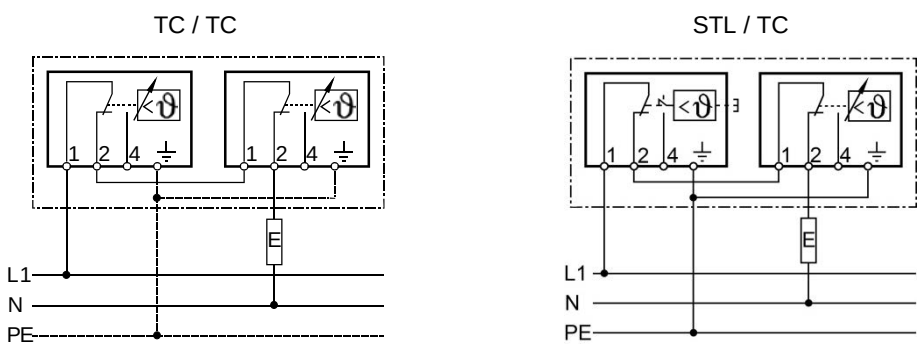
Fitting notes

See the mounting instructions inside the package.

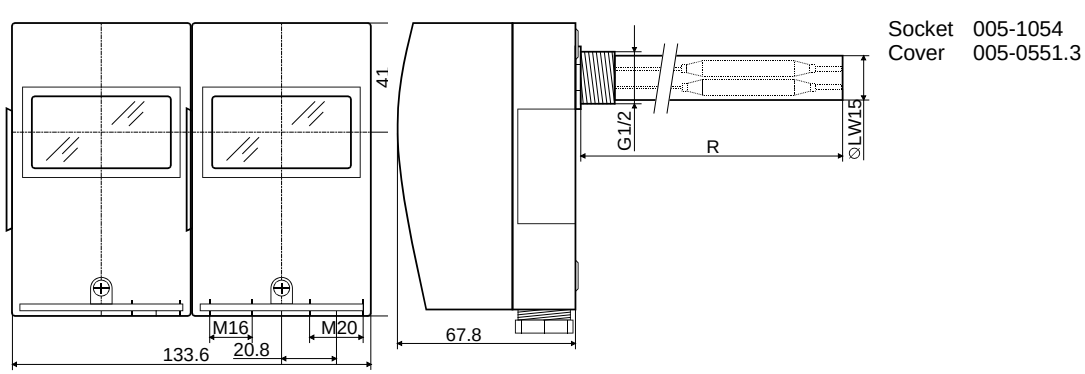
The immersion tube material depends on the installation (medium, tank material, etc.) and must be specified by the user.

To comply with the time factor requirements acc. EN 14597 the immersion tubes must conform to drawing H 1 7111 3459 (see also data sheet „Immersion tubes 1130“).

Wiring diagram



Dimension drawing



Socket 005-1054
Cover 005-0551.3

NOTES

ASKOTRONIC

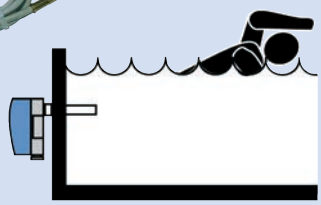
2-point output

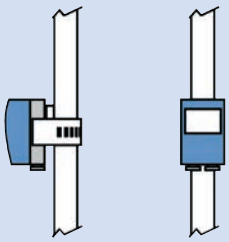
ELECTRONIC HOUSING THERMOSTAT

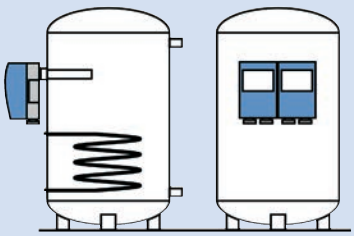
ASKOMA we care about energy

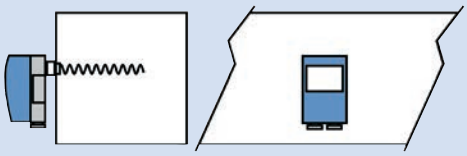
ELECTRONIC HOUSING THERMOSTAT IP66

- Two-point output









APPLICATION EXAMPLES HEATING / INDUSTRIAL WATER

Pocket mounting thermostat RAKE712

Precise temperature control; e.g. swimming pool
- Range from -20°C to +190°C
- Freely adjustable hysteresis range from 0.5 K to 15.5 K
- Direct mounting on pocket

Pipe mounting thermostat RAME742

Precise temperature control; e.g. inlet temperatures on heating systems
- Range from -20 °C to +190 °C
- Freely adjustable hysteresis range from 0.5 K to 15.5K
- Directly mounted on pipe (1/2“ to 3“)

Dual control thermostat RAZE712

Control or monitoring of heating and industrial water
- Types as control / monitoring / limit thermostats
- All combinations possible
- Range from -20°C to +190°C
- Freely adjustable hysteresis range from 0.5 K to 15.5 K
- Direct mounting on pocket

APPLICATION EXAMPLES VENTILATION

Air duct mounting thermostat RAKE722

Precise temperature control in ventilation systems
- Range from -20 °C to +190 °C
- Freely adjustable hysteresis range from 0.5 K to 15.5 K
- Direct mounting to wall or spiral support

ADVANTAGES ASKO*TRONIC* 2-point output

- Precise temperature-measurement and -control with PT-1000 sensor
- Temperature range -20 °C to +190 °C adjustable by rotary knob
- Hysteresis from 0.5 K to 15.5 K freely adjustable by DIP switch
- Nominal current range I (In) 0.1 ... 8 (4) A

Easy to install

(1) Mounted on a pipe with a strap
(2) Mounted on a wall with a wall bracket
(3) Mounted directly on an immersion tube
(4) Mounted on an air duct with a spiral support

Technical design

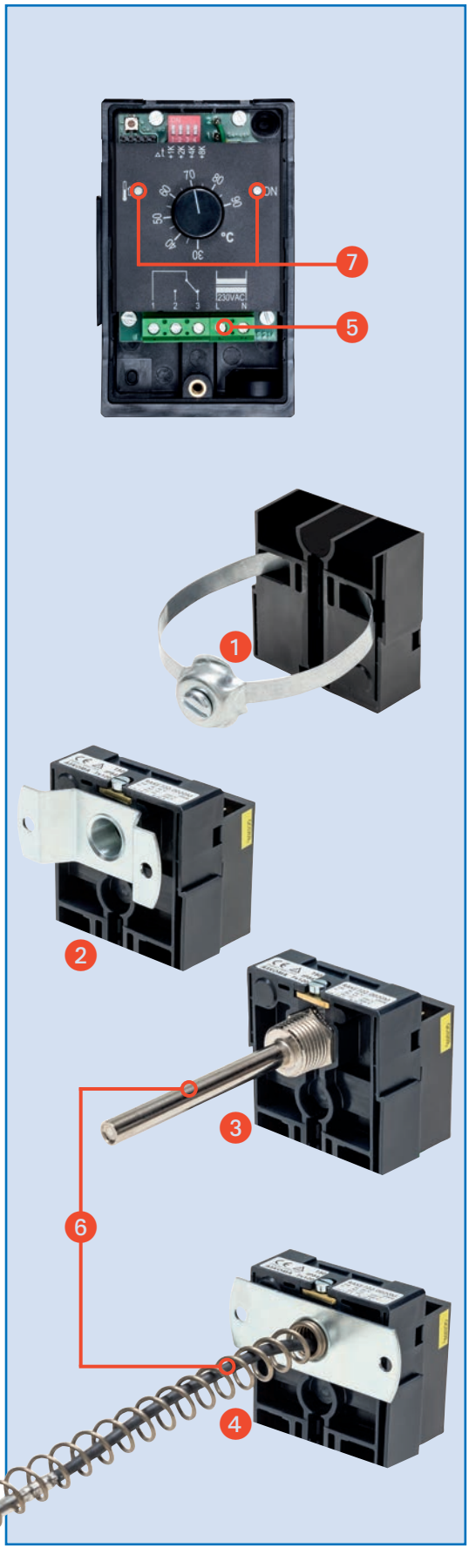
(5) High-quality terminals
(6) PT1000 sensor, max. cable length 15 m
(7) Operating status LED

Technical advantages (on customer request)

- Pre-wired with connection cable
- Sensor cable available in any length (aside from standard lengths)
- Different colour options for housing (OEM)

Approvals

- EN 60 730-1
- EN 60 730-2-9
- EN 60 529



2-point control

Electronic temperature control

RAKE712…

- **in protective housing, for mounting on an immersion tube**
- **Immersion tube in delivery included**

CE

Registered under DM/066 622

Electronic temperature control with adjustable thermal differential

Application

Replacement for electromechanical thermostats where tight tolerances and / or an adjustable thermal differential are required.

For applications in boilers and on heating, ventilation and air conditioning equipment.
The device is mounted on an immersion tube.

Features

- If nominal value is reached, the change-over switch is activated
- The nominal value is not sensitive to temperature changes on the housing (max. ± 1 K)
- Single-pole relays with change-over switch
- Time factor for the sensing element acc. EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Immersion length*
RAKE712.0000M	011-6001	-20...40	100mm
RAKE712.0001M	011-6002	-20...40	150mm
RAKE712.0002M	011-6003	-20...40	200mm
RAKE712.0003M	011-6004	-20...40	280mm
RAKE712.0004M	011-6005	-20...40	450mm
RAKE712.0005M	011-6006	-20...40	600mm
RAKE712.0020M	011-6021	30…90	100mm
RAKE712.0021M	011-6022	30…90	150mm
RAKE712.0022M	011-6023	30…90	200mm
RAKE712.0023M	011-6024	30…90	280mm
RAKE712.0024M	011-6025	30…90	450mm
RAKE712.0025M	011-6026	30…90	600mm

Type	*Order-no.*	*Range [°C]*	*Immersion length*
RAKE712.0040M	011-6041	80...140	100mm
RAKE712.0041M	011-6042	80...140	150mm
RAKE712.0042M	011-6043	80...140	200mm
RAKE712.0043M	011-6044	80...140	280mm
RAKE712.0044M	011-6045	80...140	450mm
RAKE712.0045M	011-6046	80...140	600mm
RAKE712.0060M	011-6061	130...190	100mm
RAKE712.0061M	011-6062	130...190	150mm
RAKE712.0062M	011-6063	130...190	200mm
RAKE712.0063M	011-6064	130...190	280mm
RAKE712.0064M	011-6065	130...190	450mm
RAKE712.0065M	011-6066	130...190	600mm

Technical data

Power supply	Voltage	230 V~ -15...+10 %, 50 Hz
	Power consumption	approx. 3 VA
Switching power	Nominal voltage range	12...250 V~ 10...300 V DC
	Nominal current range I (I_M)	0.1…8(4) A

Application range	Adjustable cut-off temperature ϑ_{off}	see „Type summary“
	Thermal switching differential	0.5 K to 15.5 K
	Base value	0.5 K
	- with DIP switch adjustable values from 1K to 15K	DIP1 = +1 K DIP2 = +2 K DIP3 = +4 K DIP4 = +8 K
	Ambient temperature on housing	0…50 °C (T50)
	Max. sensing element temperature	200 °C
	Ambient temperature for storage and transport	-25...+70 °C
Sensor	Sensor Type	Pt1000 class B (EN 60751)
	Measuring range	-20...+200 °C
Calibration	Calibration tolerance	± 1 K
	Time factor in water / in oil	<45 s / <60 s
Specification	Protection mode of housing	IP66 acc. EN 60529
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	Screw terminals
	Cable bushing	M20 and M16
	Weight without packaging and immersion tube	approx. 255 gr.

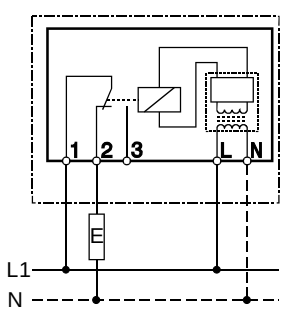
Fitting notes

See the mounting instructions inside the package.

The immersion tube material depends on the installation (medium, tank material etc.) and must be specified by the user.

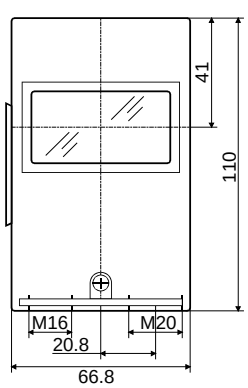
To comply with the time factor requirements acc. EN 14597 the immersion tubes must conform to drawing H 1 7111 3459 (see also data sheet "Immersion tube 1130").

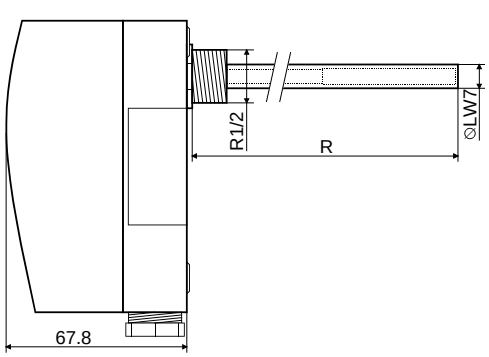
Wiring diagram/ status indicators



Supply status	1 LED yellow
Relays status contacts 1-2	1 LED red

Dimension drawing





Socket	005-1054
Cover	005-0551.3

2-point control

Electronic Temperature control

RAKE722…

in protective housing, with accessories for on-wall mounting

CE

Registered under DM/066 62

Electronic control thermostat with adjustable thermal differential

Application

Replacement for electromechanical thermostats where tight tolerances and/or an adjustable thermal differential are required.

For applications in boilers and on heating-, ventilation-and air conditioning equipment.
The device is mounted on a bracket for on-wall fixing.

Features

- If nominal value is reached, the change-over switch is activated.
- The nominal value is not sensitive to temperature changes on the housing (max. ± 1 K).
- Single-pole relays with change-over switch.
- Time factor for the sensing element acc. EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Cable length*
RAKE722.0000M*	011-6201	-20...40	0.8m
RAKE722.0001M*	011-6202	-20...40	1.5m
RAKE722.0002M*	011-6203	-20...40	3.0m
RAKE722.0003M*	011-6204	-20...40	5.0m
RAKE722.0004M*	011-6205	-20...40	10.0m
RAKE722.0005M*	011-6206	-20...40	15.0m
RAKE722.0020M*	011-6221	30...90	0.8m
RAKE722.0021M*	011-6222	30...90	1.5m
RAKE722.0022M*	011-6223	30...90	3.0m
RAKE722.0023M*	011-6224	30...90	5.0m
RAKE722.0024M*	011-6225	30...90	10.0m
RAKE722.0025M*	011-6226	30...90	15.0m

Type	*Order-No.*	*Range [°C]*	*Cable length*
RAKE722.0040M*	011-6241	80...140	0.8m
RAKE722.0041M*	011-6242	80...140	1.5m
RAKE722.0042M*	011-6243	80...140	3.0m
RAKE722.0043M*	011-6244	80...140	5.0m
RAKE722.0044M*	011-6245	80...140	10.0m
RAKE722.0045M*	011-6246	80...140	15.0m
RAKE722.0060M*	011-6261	130...190	0.8m
RAKE722.0061M*	011-6262	130...190	1.5m
RAKE722.0062M*	011-6263	130...190	3.0m
RAKE722.0063M*	011-6264	130...190	5.0m
RAKE722.0064M*	011-6265	130...190	10.0m
RAKE722.0065M*	011-6266	130...190	15.0m

* Sensor holder for duct fitting to be ordered separately, see dimension drawing.

Technical data

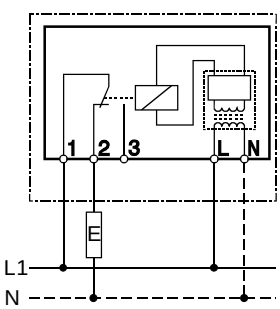
Power supply	Voltage	230 V~ -15...+10 %, 50 Hz
	Power consumption	approx. 3 VA
Switching power	Nominal voltage range	12...250 V~ 10...300 V DC
	Nominal current range I (I_M)	0.1…8(4) A

Application range	Adjustable cut-off temperature ϑ_{off}	see „Type summary“
	Thermal switching differential	0.5 K to 15.5 K
	Base value	0.5 K
	- with DIP switch adjustable values from 1 K to 15 K	DIP1 = +1 K DIP2 = +2 K DIP3 = +4 K DIP4 = +8 K
	Ambient temperature on housing	0…50 °C (T50)
	Max. sensing element temperature	200 °C
	Ambient temperature for storage and transport	-25...+70 °C
Sensor	Sensor Type	Pt1000 class B (EN 60751)
	Measuring range	-20...+200 °C
Calibration	Calibration tolerance	± 1 K
	Time factor in water / in oil	<45 s / <60 s
Specification	Protection mode of housing	IP66 acc. EN 60529
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Electrical connection	Screw terminals
	Cable bushing	M20 and M16
	Weight without packaging and accessories	approx. 255 gr.

Fitting notes

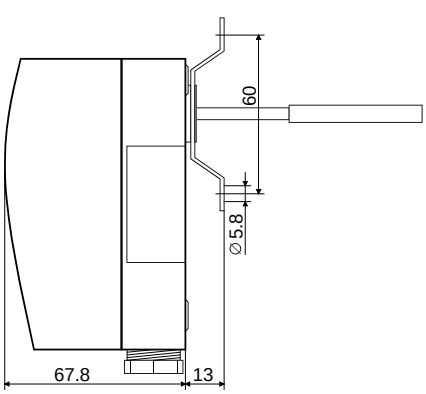
See the mounting instructions inside the packaging.

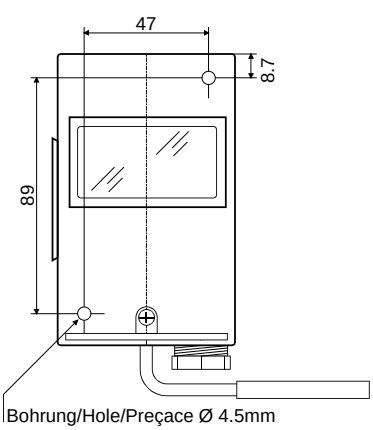
Wiring diagram/ status indicators

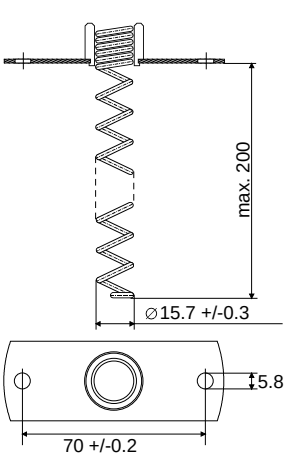


Supply status	1 LED yellow
Relays status contacts 1-2	1 LED red

Dimension drawing







Socket	005-1054
Cover	005-0551.3
Sensor holder	005-0591
Bracket	005-0412

2-point control

Electronic Temperature control

RAME742…

in protective housing, with accessories for mounting on pipes

CE

Registered under DM/066 622

Electronic temperature control with adjustable thermal differential

Application

Replacement for electromechanical thermostats where tight tolerances and/or an adjustable thermal differential are required.

For applications in boilers and on heating, ventilation and air conditioning equipment.
The device is mounted on pipes.

Features

- If nominal value is reached, the changeover switch is activated.
- The nominal value is not sensitive to temperature changes on the housing (max. ± 1 K).
- Single-pole relays with change-over switch.
- Time factor for the Sensing element acc. EN 14597

Type summary

Type	*Order-no.*	*Range [°C]*	*Function*
RAME742.000M	011-6301	-20…40	TW
RAME742.002M	011-6321	30…90	TW
RAME742.004M	011-6341	80…140	TW

Technical data

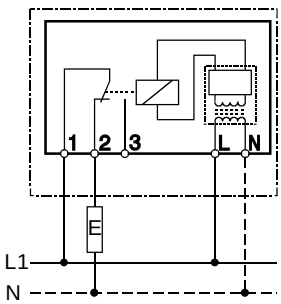
Power supply	Voltage	230 V~ -15...+10 %, 50 Hz
	Power consumption	approx. 3 VA
Switching power	Nominal voltage range	12...250 V~ 10...300 VDC
	Nominal current range I (I_M)	0.1…8(4) A
Application range	Adjustable cut-off temperature ϑ_{off}	see „Type summary“
	Thermal switching differential	0.5 K to 15.5 K
	Base value	0.5 K
	- with DIP switch adjustable values from 1 K to 15 K	DIP1 = +1 K DIP2 = +2 K DIP3 = +4 K DIP4 = +8 K
	Ambient temperature on housing	0…50 °C (T50)
	Max. sensing element temperature	200 °C
	Ambient temperature for storage and transport	-25...+70 °C

Sensor	Sensor Type	Pt1000 class B (EN 60751)
	Measuring range	-20...+200 °C
Calibration	Calibration tolerance	± 1 K
	Time factor in water / in oil	<45 s / <60 s
Specification	Protection mode of housing	IP66 acc. EN 60529
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Electrical connection	Screw terminals
	Cable bushing	M20 and M16
	Weight without packaging and accessories	approx. 255 gr.

Fitting notes

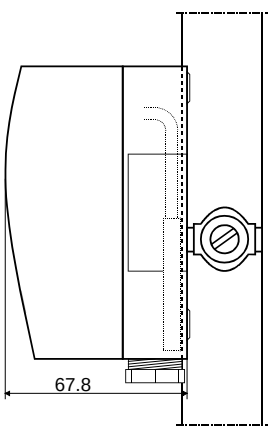
See the mounting instructions inside the packaging.

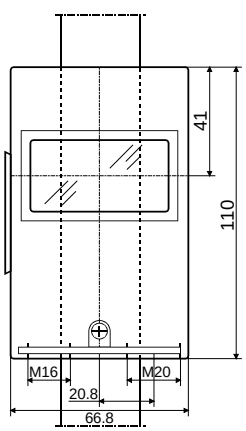
Wiring diagram/ status indicators



Supply status	1 LED yellow
Relays status contacts 1-2	1 LED red

Dimension drawing





Socket	005-1054
Cover	005-0551.3
Clamping band	005-0556

2-point control

Electronic double temperature control

RAZE712…

- **in protective housing, for mounting on an immersion tube**
- **Immersion tube in delivery included**

CE

Registered under DM/066 622

Combination of two electronic temperature control with adjustable thermal differential

Application

Replacement for electromechanical thermostats where tight tolerances and/or an adjustable thermal differential are required

For applications in boilers and on heating-, ventilation-and air conditioning equipment. The device is mounted on an immersion tube

Features

- If nominal value is reached, the change-over switch is activated
- The nominal value is not sensitive to temperature changes on the housing (max. ± 1 K)
- Single-pole relays with change-over switch
- Time factor for the immersion tube acc. EN 14597

Type summary

Type	*Order-no.*	*Thermostat A range [°C]*	*Thermostat B range [°C]*	*Immersion length*
RAZE712.000M	011-6401	-20…40	-20…40	100mm
RAZE712.001M	011-6402	-20…40	-20…40	150mm
RAZE712.002M	011-6403	-20…40	-20…40	200mm
RAZE712.003M	011-6404	-20…40	-20…40	280mm
RAZE712.020M	011-6421	30…90	30…90	100mm
RAZE712.021M	011-6422	30…90	30…90	150mm
RAZE712.022M	011-6423	30…90	30…90	200mm
RAZE712.023M	011-6424	30…90	30…90	280mm
RAZE712.040M	011-6441	80…140	80…140	100mm
RAZE712.041M	011-6442	80…140	80…140	150mm
RAZE712.042M	011-6443	80…140	80…140	200mm
RAZE712.043M	011-6444	80…140	80…140	280mm
RAZE712.060M	011-6461	130…190	130…190	100mm
RAZE712.061M	011-6462	130…190	130…190	150mm
RAZE712.062M	011-6463	130…190	130…190	200mm
RAZE712.063M	011-6464	130…190	130…190	280mm

Technical data

Power supply	Voltage	230 V~ -15...+10 %, 50 Hz
	Power consumption	approx. 3 VA

Switching power	Nominal voltage range	12...250 V~ 10...300 VDC
	Nominal current range I (I_M)	0.1…8(4) A
Application range	Adjustable cut-off temperature ϑ_{off}	see „Type summary“
	Thermal switching differential	0.5 K to 15.5 K
	Base value	0.5 K
	- with DIP switch adjustable values from 1 K to 15 K	DIP1 = +1 K DIP2 = +2 K DIP3 = +4 K DIP4 = +8 K
	Ambient temperature on housing	0…50 °C (T50)
	Max. sensing element temperature	200 °C
	Ambient temperature for storage and transport	-25...+70 °C
Sensor	Sensor type	Pt1000 class B (EN 60751)
	Measuring range	-20...+200 °C
Calibration	Calibration tolerance	± 1 K
	Time factor in water / in oil	<45 s / <60 s
Specification	Protection mode of housing	IP66 acc. EN 60529
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	Screw terminals
	Cable bushing	M20 and M16
	Weight without packaging and immersion tube	approx. 510 gr.

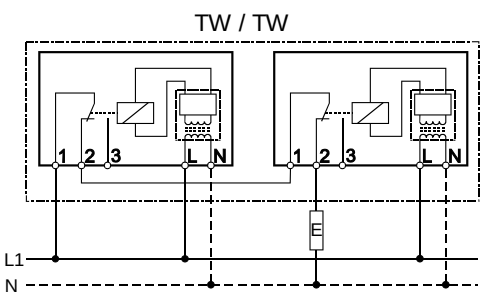
Fitting notes

See the mounting instructions inside the packaging.

The required immersion tube material depends on the installation (medium, tank material etc.) and must be specified by the user.

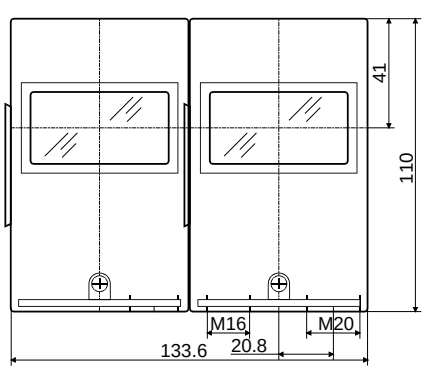
To comply with the time factor requirements acc. EN 14597, immersion tubes must be conform to drawing H 1 7111 3459 (see also data sheet "immersion tubes 1130").

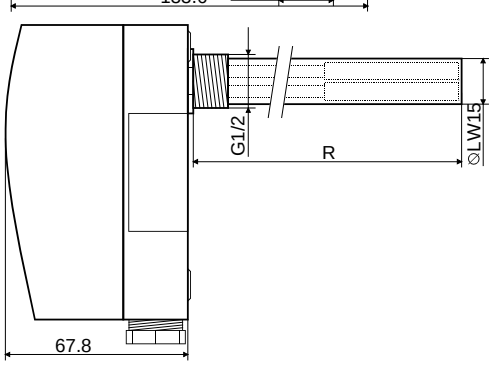
Wiring diagram/ status indicators



Supply status	1 yellow LED
Relays status contacts 1-2	1 red LED

Dimension drawing





Socket 005-1054
Cover 005-0551.3

NOTES

ASKOTRONIC

3-point output

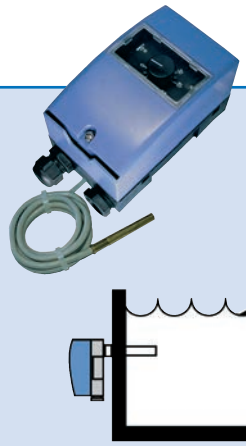
ELECTRONIC HOUSING THERMOSTAT

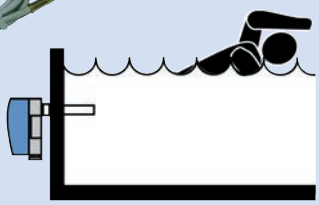
4.1

ASKOMA we care about energy

ELECTRONIC HOUSING THERMOSTAT IP66

- Three-point output



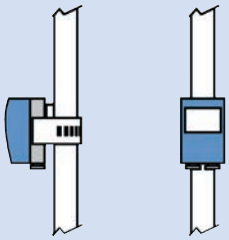


APPLICATION EXAMPLES HEATING / INDUSTRIAL WATER

Pocket mounting thermostat RAKE713

Precise temperature control; e.g. swimming pool

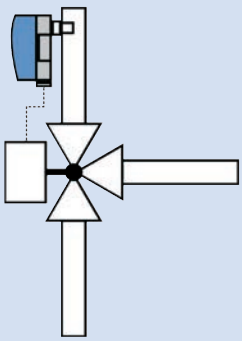
- Range from 0 °C to +120°C
- 2 mixing valve operating times programmable
- Adjustable proportional range
- Adjustable neutral zone
- Directly mounted on pocket



Pipe mounting thermostat RAME743

Precise temperature control; e.g. inlet temperatures on heating systems

- Range from 0 °C to +120°C
- 2 mixing valve operating times programmable
- Adjustable proportional range
- Adjustable neutral zone
- Directly mounted on pipe (1/2“ to 3“)

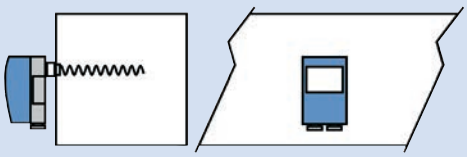


Mixing valve control RAME743

Control of 3-point valve; e.g. return flow temperature control in wood-fired heaters

- Range from 0 °C to +120°C
- 2 mixing valve operating times programmable
- Adjustable proportional range
- Adjustable neutral zone

APPLICATION EXAMPLES VENTILATION



Air duct mounting thermostat RAKE723

Precise temperature control in ventilation systems

- Range from 0 °C to +120°C
- 2 mixing valve operating times programmable
- Adjustable proportional range
- Adjustable neutral zone
- Direct mounting to wall or spiral support

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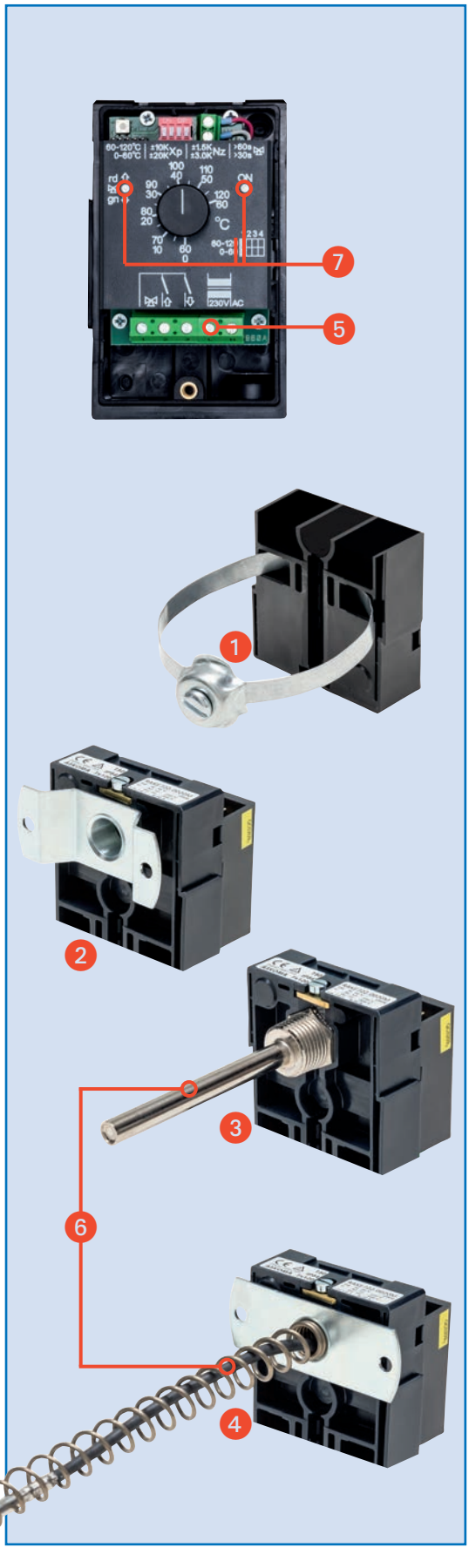
ADVANTAGES ASKO*TRONIC* 3-point output

- Precise temperature-measurement and -control with PT-1000 sensor
- Temperature range 0 °C to +60 °C / +60 °C to +120 °C adjustable by rotary knob
- Two mixing valve operating times adjustable by DIP switch
- Proportional range adjustable by DIP switch
- Neutral zone adjustable by DIP switch
- Nominal current range I (In) 0.1 ... 8 (4) A



Easy to install

1. Mounted on a pipe with a strap
2. Mounted on a wall with a wall bracket
3. Mounted directly on an immersion tube
4. Mounted on an air duct with a spiral support

Technical design

5. High-quality terminals
6. PT1000 sensor, max. cable length 15 m
7. Operating status LED

Technical advantages (on customer request)

- Pre-wired with connection cable
- Sensor cable available in any length (aside from standard lengths)
- Different colour options for housing (OEM)

Approvals

- EN 60 730-1
- EN 60 730-2-9
- EN 60 529

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3-point control

Electronic temperature control

RAKE713…
RAME743…

- **in protective housing, for mounting on immersion tubes or pipes**
- **Accessories in delivery included**

CE

Registered under DM/066 622

Electronic temperature control with 3-point output with adjustable proportional range, neutral zone and mixing valve operating time

Application

Electronic temperature control for applications in boilers and on heating, ventilation and air conditioning equipment. The device is mounted on an immersion tube or on pipes.

Features

- Status indication by LED for power supply and control status
- The nominal value is not sensitive to temperature changes on the housing (max. ± 1 K).
- Two, on the contact side reciprocally locked, relays
- Time factor for the sensing element acc. EN 14597

Type summary

Type	*Order-no.*	*Range , adjustable[°C]*	*Immersion length*
RAKE713.0110M	011-6501	0 ... 60°C / 60 ... 120°C	with immersion tube 100mm
RAKE713.0111M	011-6502	0 ... 60°C / 60 ... 120°C	with immersion tube 150mm
RAKE713.0112M	011-6503	0 ... 60°C / 60 ... 120°C	with immersion tube 200mm
RAKE713.0113M	011-6504	0 ... 60°C / 60 ... 120°C	with immersion tube 280mm
RAKE713.0114M	011-6505	0 ... 60°C / 60 ... 120°C	with immersion tube 450mm
RAKE713.0115M	011-6506	0 ... 60°C / 60 ... 120°C	with immersion tube 600mm
RAME743.011M	011-6510	0 ... 60°C / 60 ... 120°C	with clamping band

Technical data

Power supply	Voltage		230 V~ -15...+10 %, 50 Hz
	Power consumption		approx. 3 VA
	Low voltage part		Protection isolated
Switching power	Nominal voltage range		24...250 V~ 20...300 VDC
	Nominal current range I (I_M)		0.05…4(4) A cos φ ≥ 0,6
	Service life at nominal load		min. 100'000 operations
Settings	Setting range	set temperature	Double scale 0…60 °C / 60…120 °C
	DIP switch	set temperature	DIP1 Off: 0…60 °C / DIP1 On: 60...120 °C
		proportional range Xp	DIP2 Off: ± 20 K / DIP2 On: ± 10 K
		neutral zone Nz	DIP3 Off: ± 3 K / DIP3 On: ± 1.5 K
		mixing valve operating time	DIP4 Off: ≥ 30 s / DIP4 On: ≥ 60 s
Sensor	Sensor type		Pt1000 class B (EN 60751)
	Measuring range		-20...+140 °C

Calibration	Calibration tolerance	± 1 K
	Time factor in water / in oil	<45 s / <60 s
Ambient conditions	Ambient temperature on housing	0 … 50 °C (T50)
	Max. sensing element temperature	200 °C
	Ambient temperature for storage and transport	-20...+60 °C
Standards	CE-conformity	Guide line 89/336/EWG, 93/68/EWG
	EMC noise emission	EN 50081-1 / EN 55022B
	EMC noise immunity	EN 50082-2 / EN 60730
	Product standard	EN 60730-1/-2/-9
	Operation mode	Type 1C (EN 60730-1/-2/-9)
	Protection class	II acc. EN 60730
Specification	Protection mode of housing	IP66 acc. EN 60529
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	Screw terminals
	Cable bushing	M20 and M16
	Weight without packaging and immersion tube	approx. 255 gr.

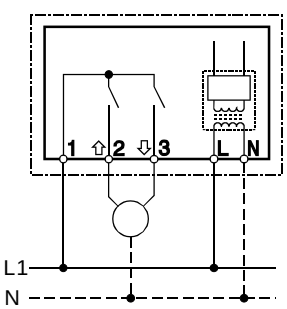
Fitting notes

See the mounting instructions inside the packaging.

The required immersion tube material depends on the installation (medium, tank material etc.) and must be specified by the user.

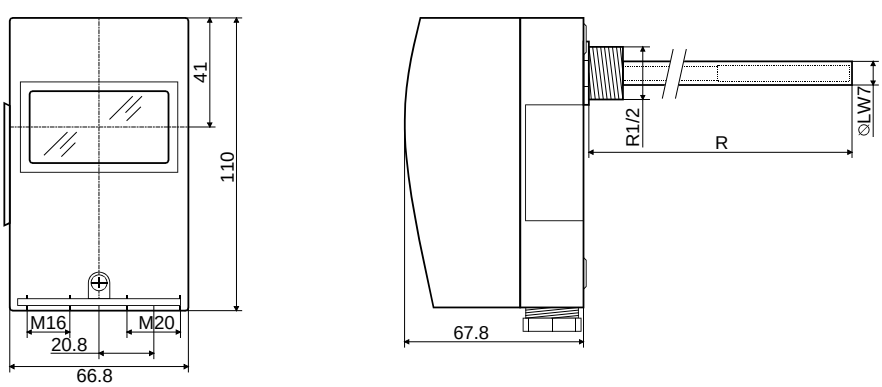
To comply with the time factor requirements acc. EN 14597, immersion tubes must be conform to drawing H 1 7111 3459 (see also data sheet "Immersion tubes 1130").

Wiring diagram / status indicators

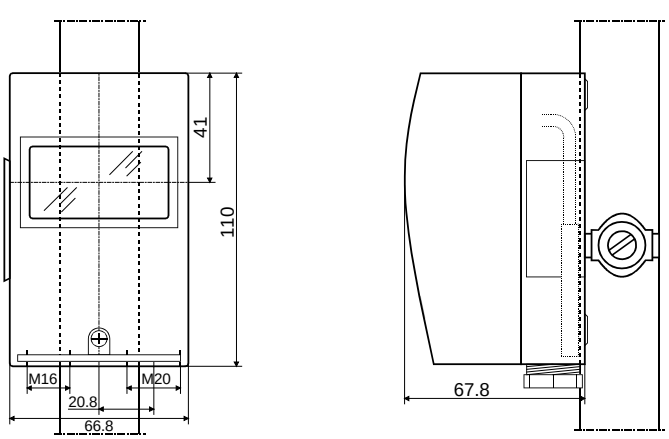


Supply status		yellow LED
Relays status double-LED	heating	red LED
	cooling	green LED

Dimension drawing RAKE



Dimension drawing RAME



Socket	005-1054
Cover	005-0551.3

3-point control

Electronic temperature control with 3-point output

RAKE723…

in protective housing, wit accessories for on-wall mounting

CE

Registered under DM/066 622

Electronic temperature control with 3-point output with adjustable proportional range, neutral zone and mixing valve operating time

Application

Electronic temperature control for applications in boilers and on heating, ventilation and air conditioning equipment. The device is mounted with a bracket.

Features

- Status indication by LED for power supply and control status
- The nominal value is not sensitive to temperature changes on the housing (max. ± 1 K)
- Two, on the contact side reciprocally locked, relays
- Time factor for the sensing element acc. EN 14597

Type summary

Type	*Order-no.*	*Range , adjustable [°C]*	*Immersion length*
RAKE723.0110M*	011-6521	0 ... 60°C / 60 ... 120°C	0.8m
RAKE723.0111M*	011-6522	0 ... 60°C / 60 ... 120°C	1.5m
RAKE723.0112M*	011-6523	0 ... 60°C / 60 ... 120°C	3.0m
RAKE723.0113M*	011-6524	0 ... 60°C / 60 ... 120°C	5.0m
RAKE723.0114M*	011-6525	0 ... 60°C / 60 ... 120°C	10.0m
RAKE723.0115M*	011-6526	0 ... 60°C / 60 ... 120°C	15.0m

* Sensor holder for duct fitting to be ordered separately, see dimensional drawing.

Technical data

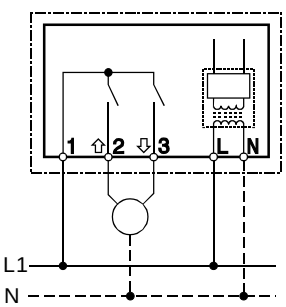
Power supply	Voltage		230 V~ -15...+10 %, 50 Hz
	Power consumption		approx. 3 VA
	Low voltage part		Protection isolated
Switching power	Nominal voltage range		24...250 V~ 20...300 VDC
	Nominal current range I (I_M)		0.05…4(4) A cos φ ≥ 0.6
	Service life at nominal load		min. 100'000 operations
Settings	Setting range	set temperature	Double scale 0…60 °C / 60…120 °C
	DIP-switch	set temperature	DIP1 Off: 0…60 °C / DIP1 On: 60...120 °C
		proportional range Xp	DIP2 Off: ± 20 K / DIP2 On: ± 10 K
		neutral zone Nz	DIP3 Off: ± 3 K / DIP3 On: ± 1.5 K
		mixing valve operating time	DIP4 Off: ≥ 30 s / DIP4 On: ≥ 60 s

Sensor	Sensor type	Pt1000 class B (EN 60751)
	Measuring range	-20...+140 °C
Calibration	Calibration tolerance	± 1 K
	Time factor in water / in oil	<45 s / <60 s
Ambient conditions	Ambient temperature on housing	0…50 °C (T50)
	Max. sensing element temperature	200 °C
	Ambient temperature for storage and transport	-20...+60 °C
Standards	CE-conformity	Guide line 89/336/EWG, 93/68/EWG
	EMC noise emission	EN 50081-1 / EN 55022B
	EMC noise immunity	EN 50082-2 / EN60730
	Product standard	EN 60730-1 /-2/-9
	Operation mode	Type 1C (EN 60730-1/-2/-9)
	Protection class	II acc. EN 60730
Specification	Protection mode of housing	IP66 acc. EN 60529
	Housing socket	Polyamide reinforced (PA), temperature stability up to 120 °C
	Housing cover	Polycarbonate (PC), temperature stability up to 120 °C
	Length R of immersion tube	100, 150, 200, 280, 450 or 600 mm
	Electrical connection	Screw terminals
	Cable bushing	M20 and M16
	Weight without packaging and immersion tube	approx. 255 gr.

Fitting notes

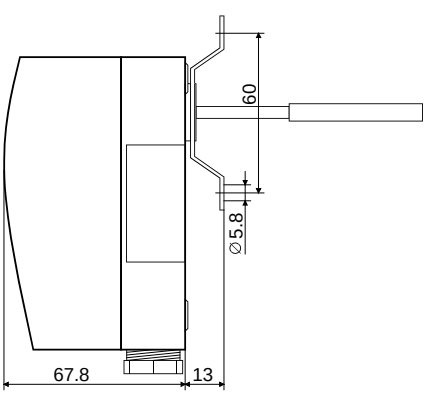
See the mounting instructions inside the packaging.

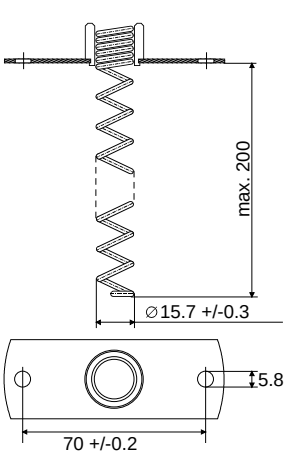
Wiring diagram / status indicators

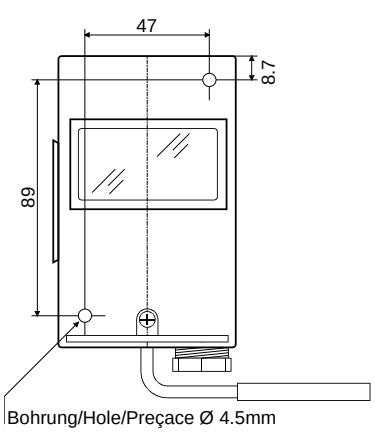


Supply status	yellow LED	
Relays status double - LED	heating	red LED
	cooling	green LED

Dimension drawing







Socket	005-1054
Cover	005-0551.3
Sensor holder	005-0591
Bracket	005-0412

ASKOSTAT-ROD

ROD THERMOSTAT

5.0

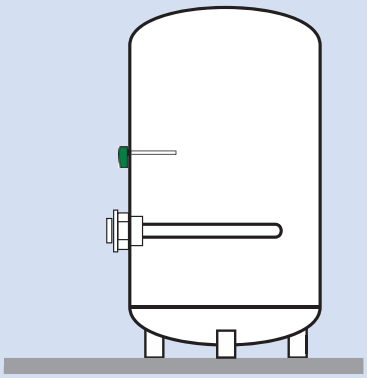
ASKOMA we care about energy

WATER HEATER

- Heating water storage
- Industrial water storage

APPLICATION EXAMPLES
WATER HEATER

Heating water storage



Industrial water storage

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Control thermostat / temperature limiter

Application

Suitable for the installation in hot water storage unit, warm water boilers, etc.

Features

Single-pole rod type thermostat with break contact and built in double pole temperature limiter, according to the following European Standard:
EN 60 730-1: 2000 + current modifications
EN 60 730-2-9: 2002 + current modifications
EN 60 335-1: 2002 + current modifications
EN 60 335-2-73: 2002 + current modifications (hot water storage unit / fixed immersion tubes)

TR:

- Single-pole micro switch with off-switch
- Operation mode TYPE 1 B (DIN EN 14597)

STB:

- If nominal value is reached the limiter switches off and stays locked in this position
- Reset is performed manually and is only possible after the sensing element is cooled off by approx. 20 K
- Double pole micro switch with off-switch
- Type 2 BDEFHKL (DIN EN 14597)

- Time factor of sensing element acc. EN 14597
- Environmental conditions for pollution: normal

Type summary

Order-no.	*Type*	*Sensing element length*	*Range [°C]*	*Cut-off temperature ϑ_{off}*	*Weight [gr.]*
005-2001	WTS165.085	165 mm	5…85	95°C	160
005-2002	WTS261.085	261 mm	35…85	95°C	200
005-2003	WTS442.085	442 mm	55…85	95°C	240

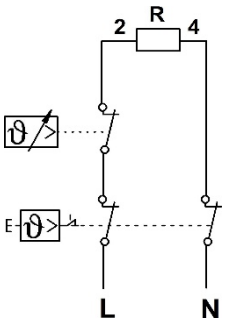
- **Suitable for horizontal and vertical installation**
- **Delivery without immersion tube**
- **Suitable for inner diameter 6.5 and 7 mm**

Technical Data

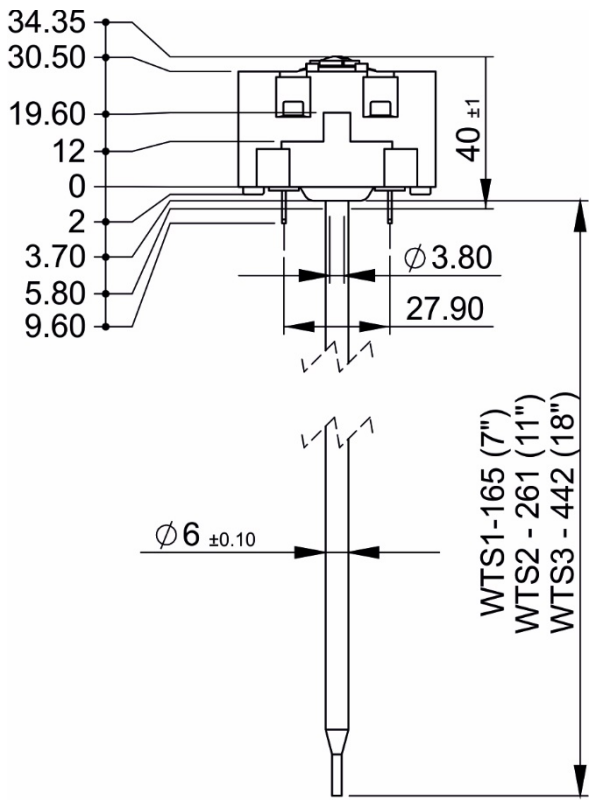
The following indications are valid for standard types of the WTS-series. Due to the function, other types show different data.

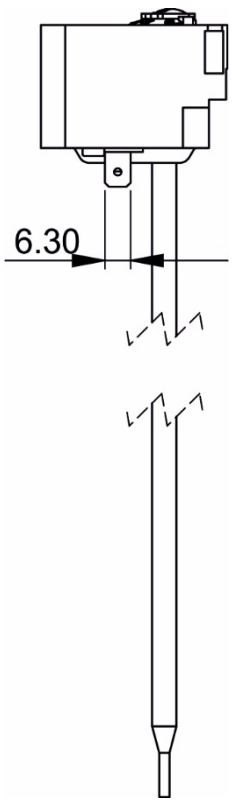
Switching system	Life time TR / STB	100’000 / 30 cycles of operation
	Electrical connections	Screw terminal M4
	Switching capacity at Ω load	230 VAC / 20 A
Application range	Thermal switching differential	6.0 ± 3.0 K
	Ambient temperature	T 105 °C
Calibration	Calibration tolerance	± 3.0 K

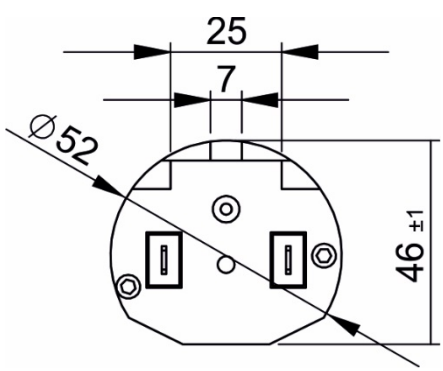
Wiring diagram

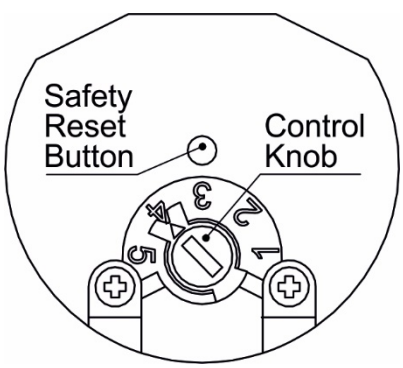


Dimension drawing









ASKOTUBE

IMMERSION TUBES

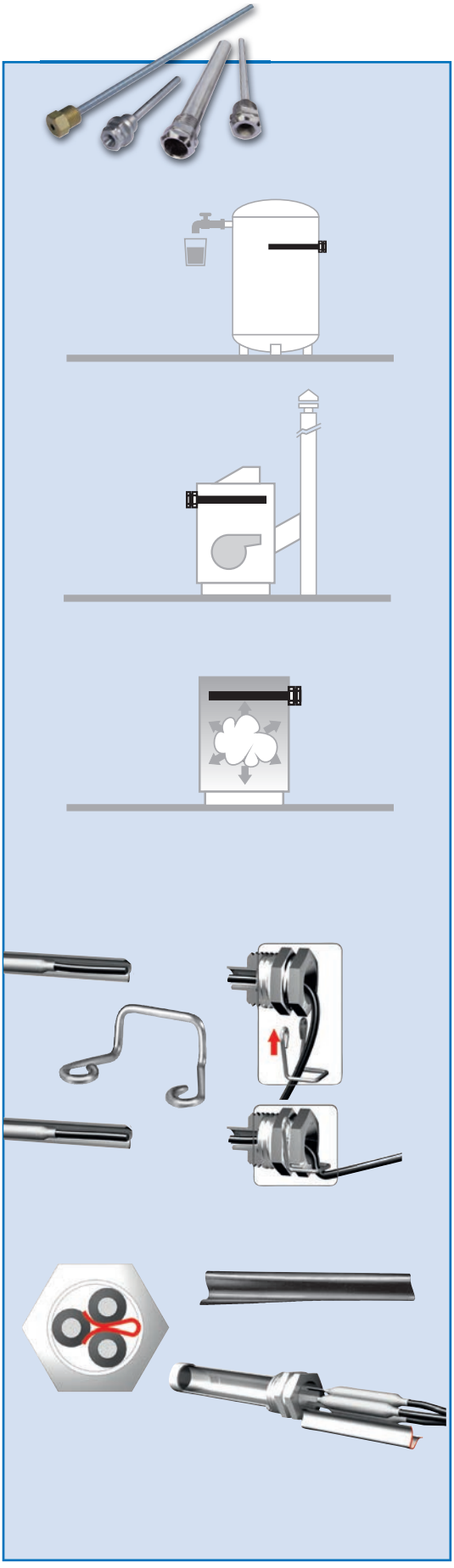
6.0

ASKOMA we care about energy

IMMERSION TUBES Ø 7 / 9 / 15 MM

- For heating water, industrial water and steam systems

APPLICATION EXAMPLES IMMERSION TUBES



Drinking water

Temperature measurement in drinking water containers

- Stainless steel
- Brass / plastic-coated

Heating water

Temperature measurement in heat generators

- Brass nickel-plated

Steam boiler

Temperature measurement in steam boiler systems

- Stainless steel, up to 40 bar nominal pressure

APPLICATION EXAMPLES ACCESSORIES

Capillary clamp for securing sensor

- Prevents sensor from accidental movement

Coupling spring

- For 2-3 sensors in a pocket (LW15)
- Improved accuracy thanks to optimised sensor coupling

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RAK, RAZ
TR, TW, STB
TR/TB, TW/TB

Immersion tubes

Application

RAK… units are fitted with immersion tubes of 7 mm inner diameter, RAZ types with immersion tubes of 15 mm inner diameter and coupling springs.
For the thermostats TR, TW, STB and STW, you need immersion tubes of 7 mm inner diameter.
For the thermostats TR / TB and TW / TB, you need immersion tubes of 15 mm inner diameter.

Features

- Brass immersion tubes are designed for temperatures up to max. 130 °C. Steel immersion tubes must be used for temperatures over 130 °C.
- The immersion tube material depends on the installation (medium, tank material, etc.) and must be specified by the user.
- Brass immersion tubes PN10 and stainless steel immersion tubes V4A PN16 have sealed threads. Steel immersion tubes V4A PN40 are equipped with a sealing flange for flat packing.

Type summary

Immersion tubes	*Immersion length R [mm]*	*Immersion tube material*		
		Ms, R½", PN10 Order-no.	*V4A, R½", PN16 Order-no.*	*V4A, G½", PN40 Order-no.*
7 mm inner diameter Compatible with ∅ 6.5 mm sensing elements	100	005-0601	005-0680	005-0640
	150	005-0602	005-0681	005-0641
	200	005-0603	005-0682	005-0642
	280	005-0604	005-0683	005-0643
	450	005-0605	005-0684	005-0644
	600	005-0606	005-0685	005-0645
2x7 mm inner diameter (double immersion tube)	100	005-0664	--	--
	150	005-0665	--	--
	200	005-0666	--	--
	280	005-0667	--	--
	450	005-0668	--	--
	600	005-0669	--	--
9 mm inner diameter Compatible with ∅ 8.5 mm sensing elements	100	005-0660	--	--
	160	005-0661	--	--
	250	005-0662	--	--
	400	005-0663	--	--
15 mm inner diameter Compatible with 2 to 3 sensing elements with ∅ 6.5 mm each	100	005-0607	005-0690	005-0650
	150	005-0608	005-0691	005-0651
	200	005-0609	005-0692	005-0652
	280	005-0610	005-0693	005-0653
	450	005-0611	005-0694	005-0654
	600	005-0612	005-0695	005-0655
Other dimensions or materials upon request		In-stock products		No in-stock products

Ms	Tube and washer: CuZn37, nipple: CuZn39Pb3, treatment: Cu/Ni 3 s
V4A	Material-no. tube and washer: 1.4571, nipple: 1.4435
PN10	Nominal pressure 10 bar, proof pressure 16 bar
PN16	Nominal pressure 16 bar, proof pressure 24 bar
PN40	Nominal pressure 40 bar, proof pressure 60 bar

Accessories

	Description:	*Order-no.*
	**Coupling spring** Coupling spring for use with 1 to 3 sensing elements to ensure firm contact with the wall of immersion tubes having 15 mm inner diameter	005-0402
	**Capillary clamp** Fitted on immersion tube to prevent the sensing element from being pulled out of the immersion tube	005-0403

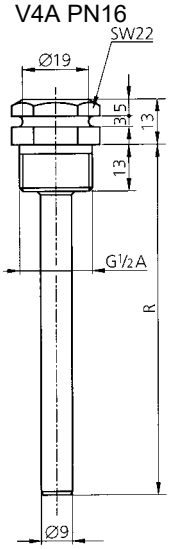
Fitting notes

- Coupling springs and capillary clamps are essential when installing sensing elements for temperature controls in immersion tubes with inner diameter 15 mm.
- The immersion tubes must not be filled with oil. It is not permissible to use thermally conductive paste (or similar) when installing the sensing element in immersion tube.
- To comply with time factor requirements acc. EN 14597, immerstion tubes must conform to drawing H 1 7111 3459.

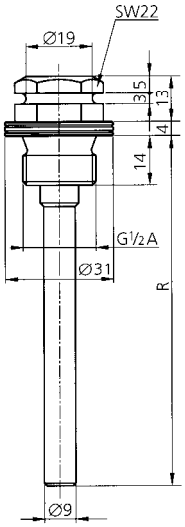
Dimension drawing

Immersion tube **inner Ø 7 mm / 2x7 mm**

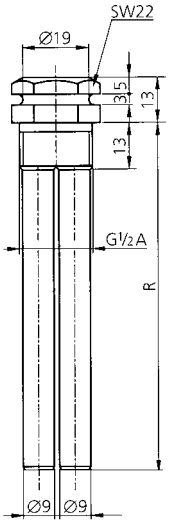
Ms PN10
V4A PN16



V4A PN40

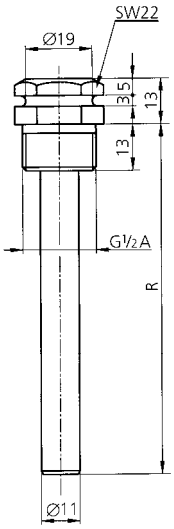


Ms PN10



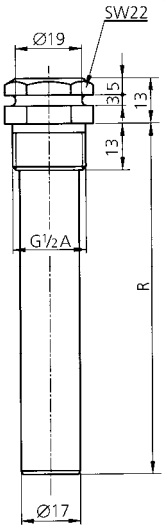
Immersion tube
inner Ø 9 mm

Ms PN10

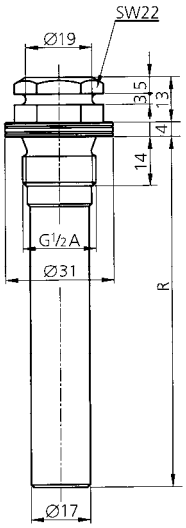


Immersion tube
inner Ø 15mm

Ms PN10
V4A PN16



V4A PN40

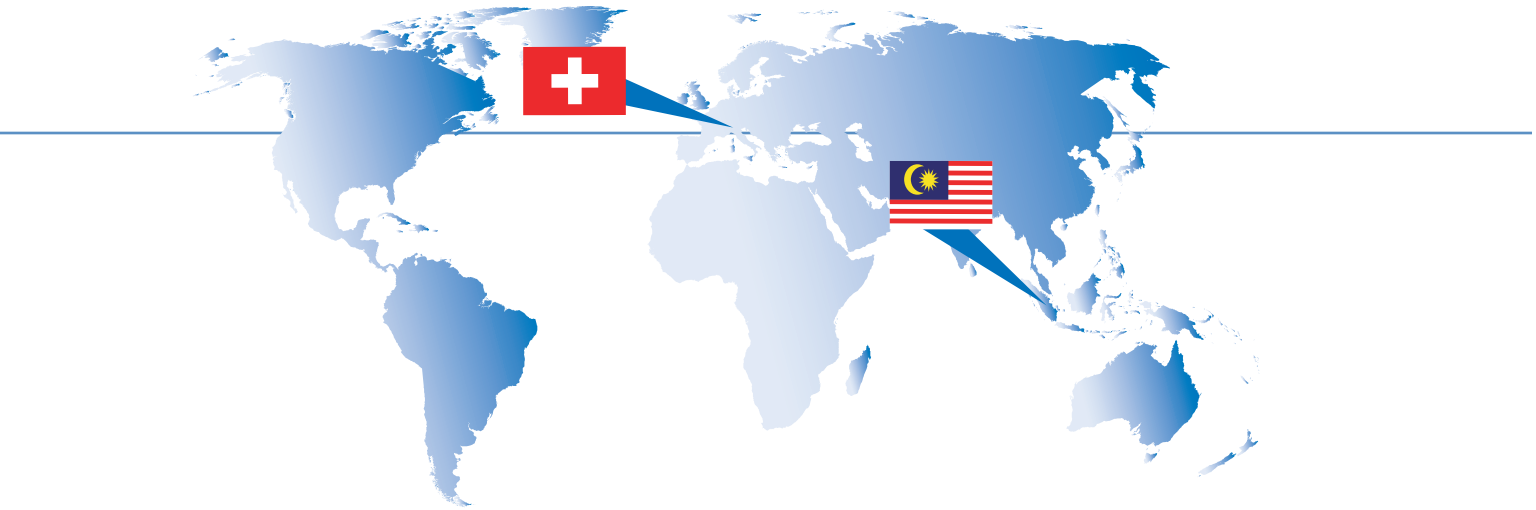


6.3

PRODUCT OVERVIEW

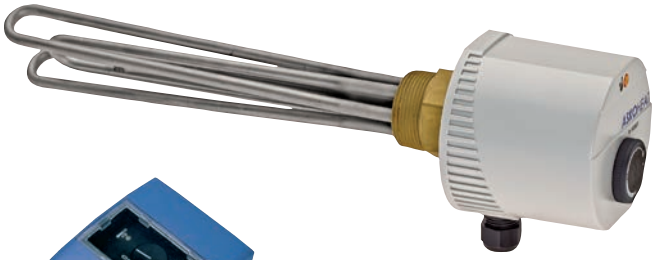
ASKOMA®

*ISO CERTIFIED PRODUCTIONLOCATIONS · **SWITZERLAND** · **MALAYSIA***



HEAT

ASKO*HEAT*

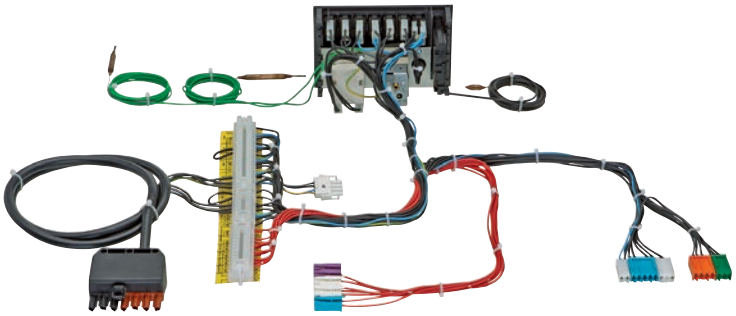


CONTROL

ASKO*STAT*

CUSTOMISE

ASKO*CONTROL*



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Switzerland

ASKOMA AG • Industriestrasse 1 • 4922 Bützberg, Switzerland
T +41 62 958 70 80 • F +41 62 958 70 81
info@askoma.com • www.askoma.com

Malaysia

ASKOMA Sdn Bhd • 3-B, Jalan Dewani 1/1
Taman Perindustrian Dewani • 81100 Johor Bahru • Malaysia
T +60 7 276 1717 • F +60 7 276 1733
info@askoma.com.my • www.askoma.com.my