

JUMO

More than **sensors + automation**



Safety technology/equipment

Our reliable electronic and electro-mechanical products
as per DIN EN 14597



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Dear Readers,

Safety and reliability are crucial for devices such as thermostats, temperature monitors and temperature limiters. At JUMO, rigorous development and testing of our electronic and electro-mechanical products ensures they thoroughly satisfy the requirements of DIN EN 14597. For over 30 years we have been conducting these tests in our own dedicated laboratories, and supplying the resulting quality product to every continent.

We have always placed particular emphasis on close co-operation with the various inspection authorities and test bodies, ongoing improvement of our extensive range of products and, of course, our own calibration service. This is the only way to ensure continuous innovation.

This catalog provides an overview of our products and systems certified according to DIN EN 14597. We are especially proud of our newly developed safety temperature limiters and monitors that feature 1oo2D structure, polarization protection and numerous international approvals. Our thermostats meet established quality standards, are tailored to your specific requirements, and have been performing dependably in the field for decades.

Contents



Our approvals 4

Our electronic products 6

Accessories for our electronic products 12

Our electro-mechanical products 14





If you want safety and reliability
then we have the right products for

Our approvals.



We think big at JUMO. Our global presence requires the expertise to meet the demands of international markets. With our subsidiaries across the globe and the countless thermostats in use in almost every country in the world we are familiar with many regional requirements and regulations. Our thermostats meet numerous standards and have a large range of approvals for many industries, countries and applications.

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Our modern and well equipped laboratories, including our own DKD calibration facility, provide a solid foundation. JUMO products undergo numerous inspections and stress tests and we work very closely with various external certification and standardization offices. The results speak for themselves: JUMO's products meet the standards [DIN EN 61508](#), [DIN EN ISO 13849-1](#) and [DIN EN 14597](#) and accordingly the [Machinery Directive 2006/42/EC](#).



By making reliability the norm, we are going beyond current practices and breaking new ground.

Our innovative electronic temperature monitors and limiters of the safetyM-series.

Our electronic temperature limiters and monitors, safety temperature limiters and safety temperature monitors of the safetyM series unite exceptional reliability with maximum flexibility, precision and state-of-the-art technology.

How do we do it?

We have decades of experience and the motivation to unite state-of-the-art technologies with outstanding reliability. This ambition drives the development and production of our modern safety solutions. We combine useful and extensive features with user-friendly operation, and high performance digital technology with robust function. Thanks to

comprehensive certifications, we are setting quality standards in precision, flexibility and reliability that are recognized worldwide.

The facts speak for themselves: some of our products boast redundant features and a high-level user interface for absolute reliability. They are easy to operate and equipped with a large number of useful and practical additional functions, and clear displays. And they feature particularly convenient configuration and parameterization via our external setup program.



The quality also lives up to our tradition. High-quality components guarantee maximum safety and durability – and reflect the values that have made our “Made in Germany” quality standard so successful in numerous industries and applications for decades.





Always one step ahead:
Our electronic products





JUMO safetyM STB/STW as per DIN EN 14597 type 701150

Use of the compact and freely configurable STB/STW ensures that hazards which could cause injuries, harm the environment or cause destruction of factories and products are reliably detected and averted at an early stage. The primary task of safety temperature limiters is to reliably monitor thermal processes and switch the systems to an operationally safe status in the event of malfunctions.



Analog inputs

RTD temperature probes:

Pt 100 DIN EN 60751, Pt 1000 DIN EN 60751

Thermocouples:

Fe-CuNi "L" DIN 43710, Fe-CuNi "J" DIN EN 60584, Cu-CuNi "U" DIN 43710, Cu-CuNi "T" DIN EN 60584, NiCr-Ni "K" DIN EN 60584, NiCrSi-NiSi "N" DIN EN 60584, Pt10Rh-Pt "S" DIN EN 60584, Pt13Rh-Pt "R" DIN EN 60584, Pt30Rh-Pt6Rh "B" DIN EN 60584, W3Re-W25Re "D"

Direct current:

4...20 mA

Analog inputs: can be freely configured

Analog output

Current:

4...20 mA
0...20 mA

Spannung:

2...10 V
0...10 V

Analog output: can be used as actual value output for main measured value, measured value 1, measured value 2, differential value

Binary input

Anschluss: 1 potenzialfreier Kontakt –für Entriegelung, Tastaturverriegelung, Ebenenverriegelung

Relay outputs

Relay output KV - can be used as pre-alarm

Relay output alarm - limit value alarm checked with view to safety

Voltage supply

AC/DC 20...30V, 48...63 Hz,
AC 110...240V +10%/–15%, 48...63 Hz



JUMO safetyM TB/TW

DIN EN 14 597 – Type 701160

The JUMO safetyM TB/TW is a freely programmable temperature limitation device for DIN rail installation with a design width of 22.5mm. The measuring input is freely programmable for RTD temperature probes and thermocouples as well as current and voltage signals. TB/TWs are used for monitoring thermal processes in the system for a set limit value. A PC setup program is available as an accessory, which can be used to set and save the probe type, measuring range, output behavior and lock-out functions.



Analog inputs

RTD temperature probes:

Pt 100 DIN EN 60751,
KTY11-6 PTC,
Pt 1000 DIN

Connection type::

2-wire, 3-wire circuit

Measuring rate:

210 ms

Special features:

2 x Pt 100 for differential measurement
Display can also be programmed in °F

Analog inputs: can be freely configured

Thermocouples:

Fe-CuNi "L" DIN 43710, Fe-CuNi "J" DIN EN60584,
Cu-CuNi "U" DIN 43710, Cu-CuNi "T" DIN
EN60584, NiCr-Ni "K" DIN EN60584, NiCrSi-NiSi
"N" DIN EN60584, Pt10Rh-Pt "S" DIN EN60584,
Pt13Rh-Pt "R" DIN EN60584, Pt30Rh-Pt6Rh "B"
DIN EN60584, W3Re-W25Re "D"

Measuring rate:

210 ms

Direct current:

0 to 20 mA, voltage drop < 2 V,
4 to 20 mA, voltage drop < 2 V
0 to 10 V, input resistance > 100 kΩ,
2 to 10 V, input resistance > 100 kΩ

Scaling

can be freely programmed within the limits

Measuring rate:

210 ms

Binary input

Connection:

1 potential-free contact

Function:

Unlocking, key inhibit,
level inhibit can be configured

Binary outputs

Limit value relay:

100000 operations at a contact rating of
3.15 A/250 V 50 Hz ohmscher Last

Contact protection switching:

safety fuse 3.15AT, installed in the N/O contact
branch integrated in the device

Binary output:

24V DC/20 mA logic signal, short-circuit proof,
can be used as pre-alarm

Voltage supply

AC/DC 20 ... 30 V, 48 ... 63 Hz
AC 110 ... 240 V +10% /-15%

JUMO safetyM TB/TW 08 DIN EN 14 597 – Typ 701170



The JUMO safetyM TB/TW 08 is a freely programmable temperature limitation device for front panel mounting in 48x96 mm. The measuring input is freely programmable for RTD temperature probes and thermocouples as well as current and voltage signals. TB/TWs are used to monitor thermal processes in the system for a set limit value. If this value is exceeded, the installed relay (with fuse cut-out) switches the system to an operationally safe status, the green OK LED extinguishes and the red K1 LED is lit.

Analog inputs

RTD temperature probes:

Pt 100 DIN EN 60751,
KTY11-6 PTC,
Pt 1000 DIN EN 60751

Connection type:

2-wire, 3-wire circuit

Measuring rate:

210 ms

Special features:

2 x Pt 100 for differential measurement
Display can also be programmed in °F
Analog inputs: can be freely configured

Thermocouples:

Fe-CuNi "L" DIN 43710, Fe-CuNi "J" DIN EN60584,
Cu-CuNi "U" DIN 43710, Cu-CuNi "T" DIN
EN60584, NiCr-Ni "K" DIN EN60584, NiCrSi-NiSi
"N" DIN EN60584, Pt10Rh-Pt "S" DIN EN60584,
Pt13Rh-Pt "R" DIN EN60584, Pt30Rh-Pt6Rh "B"
DIN EN60584, W3Re-W25Re "D"

Measuring rate:

210 ms,
420ms with double thermocouples (C112=1)

Direct current:

0 to 20 mA, voltage drop < 2 V,
4 to 20 mA, voltage drop < 2 V
0 ... 10 V, input resistance > 100 kΩ,
2 ... 10 V, input resistance > 100 kΩ

Scaling:

can be freely programmed within the limits

Measuring rate:

210 ms

Analog input

Current:

4...20 mA
0...20 mA

Voltage:

2...10 V
0...10 V

Analog output: can be used as actual value output for main measured value, measured value 1, measured value 2, differential value

Binary input

Connection:

1 potential-free contact

Function: :

Unlocking, key inhibit,
level inhibit can be configured

Relay outputs

Relay output KV - can be used as pre-alarm

Relay output alarm - limit value alarm checked with view to safety

Voltage supply

AC/DC 20...30 V, 48...63 Hz,

AC 110...240 V +10 % / -15 %, 48...63 Hz



Accessories for our electronic products



Our certified thermocouples and RTD temperature probes

Thermocouples and RTD temperature probes are predominantly used for measuring temperatures in liquids and gasses. Form B connection heads are suitable for ambient temperatures up to 100 °C. Sheaths made of various materials protect the measuring insert against chemical influences and mechanical damage. The selection of a suitable sheath material depends on the conditions on site.



Thermocouples for devices and systems inspected/tested as per DIN EN 14 597 – type 901006

Special features:

- For heat transmission systems as per DIN 4754
- For temperatures up to 1500 °C
- As single or double thermocouples
- For water, oil or air
- For tested control and limitation devices

RTD temperature probes for devices and systems inspected/tested as per DIN EN 14 597 – type 902006

Special features:

- For heat transmission systems as per DIN 4754
- For temperatures up to 700 °C
- As single, double or triple RTD temperature probes
- For water, oil or air
- For tested control and limitation devices



Our proven electro-mechanical thermostats

Users of electro-mechanical thermostats require maximum reliability. What could be better than to rely on a company that has proven its capabilities for more than 50 years by supplying countless thermostats throughout the world?

The secret of this success?

Our pursuit of perfection ensures that the comprehensive expertise of our capable development department achieves the highest quality. Our thermostats only enter production when they have passed all laboratory tests and inspections, and withstood months of continuous stress testing. Our production puts reliability and quality first. That is why we

manufacture all relevant components ourselves and attach just as much importance to the quality of the components as to maximum manufacturing precision. We embrace the "Made in Germany" quality standard. It follows that we have state-of-art production facilities and significant vertical integration.

This strategy not only explains the quality of our thermostats, it also makes us particularly flexible. Short delivery/lead times and versions for virtually all areas of application are just as much a matter of course as individual solutions that are perfectly tailored to your requirements. This flexi-

Through decades of experience, we have developed an eye for perfection.

bility is complemented by our customer support and consultation service to assist you with your day-to-day work. Of course we also ensure that our devices are easy to install by using the Push-In® connection technology (patented by Weidmüller GmbH & Co. KG, Detmold). We offer a large number of product variations to ensure that our thermostats are suitable and reliable.





Tried and tested for decades:
Our electro-mechanical products



Our panel-mounting thermostats



1 Panel-mounting thermostats, type series ETH – type 602010

Special features:

- Safety temperature limiters STB, monitors STW (STB)
- max. probe temperature (rated value) 500 °C
- max. contact rating 230 V, 10 A



2 Panel-mounting thermostats, type series EM with 2, 3 or 4 1-pole snap switches – type 602021

Special features:

- Temperature controllers TR, monitors TW, limiters TB
- max. probe temperature (rated value) 500 °C
- max. contact rating 230 V, 16 A
- Production variables as per customer requirements



3 Panel-mounting thermostat, type series EM – type 602026

Special features:

- Safety temperature monitor STW (STB), limiter STB
- n max. probe temperature (rated value) 500 °C
- max. contact rating 230 V, 16 A



4 Panel-mounting thermostats JUMO heatTHERM – type 602031

Special features:

- Temperature controllers TR, monitors TW
- Safety temperature monitor STW (STB), limiter STB
- max. probe temperature (rated value) 350 °C
- max. contact rating 230 V, 16 A
- economic large-scale production





Our Surface-mounting thermostats

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5 Surface-mounting thermostat, type series ATH – type 603021

Special features:

- Single thermostat
- max. probe temperature (rated value) 500 °C
- max. contact rating 230 V, 10 A
- Protection rating IP 54



6 Surface-mounting thermostat, type series ATH – type 603026

Special features:

- Double thermostat
- max. probe temperature (rated value) 500 °C
- max. contact rating 230 V, 10 A
- Protection rating IP 54



7 Surface-mounting thermostat, type series ATH-SW – type 603035

Special features:

- Single or double thermostat
- max. probe temperature (rated value) 500 °C
- max. contact rating 230 V, 10 A
- Protection rating IP 65



Our Surface-mounting thermostats



⑧ JUMO heatTHERM-AT and heatTHERM-DR – type 603070

Special features:

- Single or double thermostat
- Room thermostat with spiral probe
- Flat surface/cylindrical surface or DIN rail mounting
- max. probe temperature (rated value) 350 °C
- Contact rating 230 V, 16 A
- Protection rating IP 40 or IP 54
- n DIN-tested flue gas temperature monitor



⑨ Hot air thermostats, type series WTHc – type 604514

Special features:

- Device combination consisting of 3 individual devices (TR, TW, STB)
- Device combination consisting of 3 individual devices
- max. probe temperature (rated value) 500 °C
- max. contact rating 230 V, 10 A
- Protection rating IP 40 or IP 54



⑩ Explosion protected surface-mounting thermostat, type series ATH-Ex – type 605041

Special features:

- Single thermostat
- max. probe temperature (rated value) 500 °C
- max. contact rating 230 V, 5 A
- Protection rating IP65





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