

JUMO GmbH & Co. KG

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JUMO Process Control, Inc.

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JUMO dicoTEMP 800

Dial thermometer with microswitch

Description

Dial thermometers with microswitches are universal temperature controllers with an actual value display for temperature measurement, control, and monitoring.

The temperature-dependent volume change in a measuring system filled with liquid, or the temperature-dependent pressure change in a measuring system filled with gas, is converted to a rotational movement of the actual value indicator by a bourdon tube; no transmission gear is required. The microswitch is actuated by the rotational movement of the indicator shaft via a tap system.

Series 608530 dial thermometers with microswitches are RoHS-compliant and cadmium-free.

Special features

- Low mounting depth
- Class 1.5
- Display ranges from -50 to +500 °C
- Temperature controller with actual value display with panel mount, stainless steel case
- 1 microswitch
- Case size Ø 80 mm



Type 608530/2180

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Technical data

General Information

Housing and front panel	Stainless steel 1.4301
Protection type	DIN EN 60529
Front	IP54
Rear	IP00
Front pane	Acrylic glass (PMMA)
Chassis	Die-cast
Scale	White, with black lettering
Display	DIN EN 13190 Class 1.5
Bend protecting spring	For capillary devices on the housing and temperature probe
Switching capacity	Max. 5 A, 230 V, optional max. 10 A, 230 V
Setpoint value adjustment	By setpoint adjuster in the front pane
Limit value temperatures	
Transport, storage, operation	-30 to +70 °C
Weight	~ 350 g
Rated position (NL)	Any

Electrical safety

Requirements	DIN EN 61010-1 The device must be equipped with an electrical circuit that meets the requirements for "Limited-energy circuits".
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Electrical data

Electrical connection	
Connection elements	
Device	Screw terminals
Connecting cable	
Conductor cross-section	$\leq 2.5 \text{ mm}^2$
Pollution degree	2
Overvoltage category	II

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Measuring range and accuracy

Display range (AB)	Display range in °C	Measuring range in °C	Tolerance in K (±)
818	0 to 120	20 to 100	3
834	0 to 250	30 to 220	5
926	50 to 250	70 to 230	4
927	50 to 300	80 to 270	5

	Liquid fill	Gas fill
Measuring system	Display range (AB) ≤ 350 °C	Display range (AB) ≥ 400 °C
Time constant $t_{0.632}$	~ 12 s, measured in water, with a probe Ø of 6 mm made of copper	~ 4 s, measured in oil, with a probe Ø of 10 mm made of stainless steel
Ambient temperature influence effect	In % of display range (relative to the deviation from the reference value 23 °C)	
On housing	0.15 % of display range per K ambient temperature change	0.05 % of display range per K ambient temperature change
On capillary (per m)	0.03 % of display range per K ambient temperature change	No influence
	At higher ambient temperature: higher temperature display, lower switching point	

Electrical contact	Standard	Optional
Contact type	Single-pole microswitch with mechanically actuated changeover contact	
Switching capacity	AC 230 V, +10 %, cos φ = 1 (0.6) 5(1.5) A	10(3) A
Switching contact	Must be fused accordingly	
Switching differential	~ 1.5 % of display range	1.5 to 3 % of display range
Switching point accuracy	±0.5 % of the display range referring to the switch-off point with rising temperature	
Switching reliability	To ensure the maximum possible switching reliability, we recommend a minimum voltage of 24 V and a minimum current of 100 mA.	

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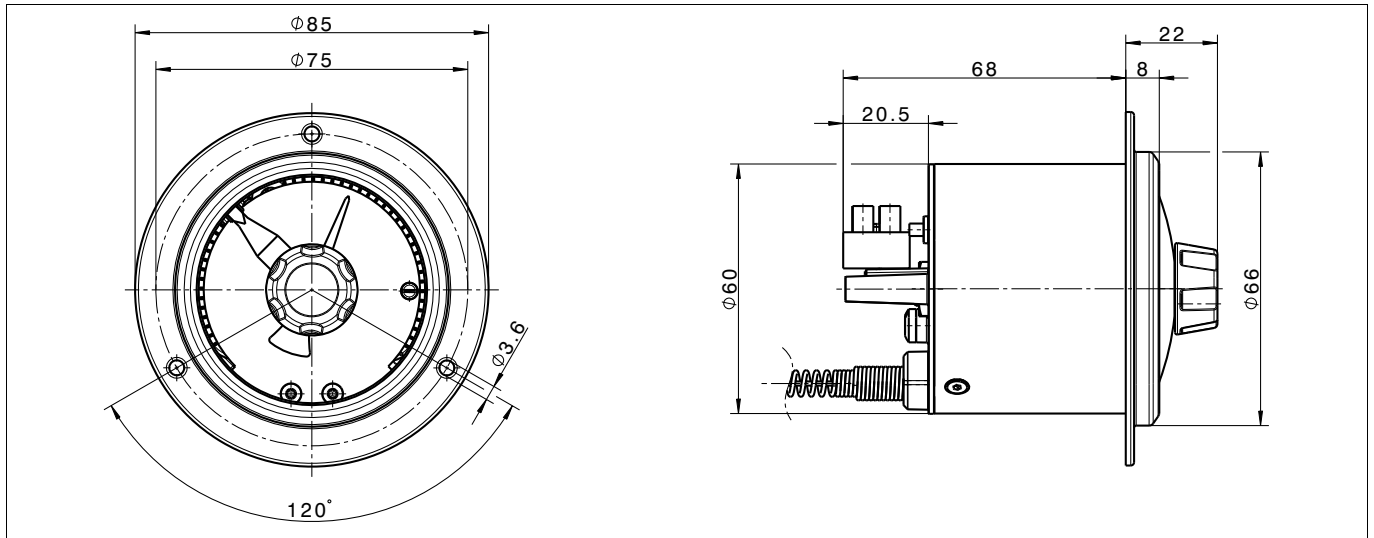
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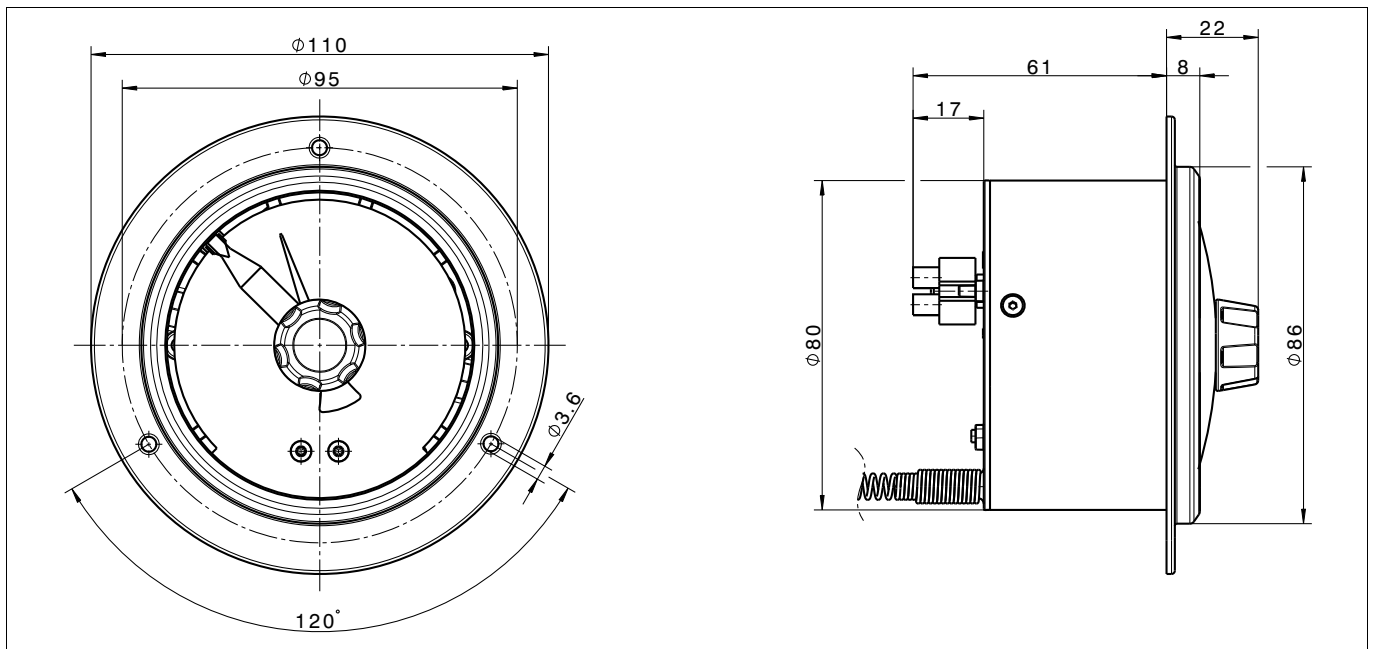
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**Dimensions**

Type 608530/2060

Panel cut-out for case $\phi 60$ mm = $62^{+0.5/0}$ mm

Type 608530/2080

Panel cut-out for case $\phi 80$ mm = $82^{+0.5/0}$ mm

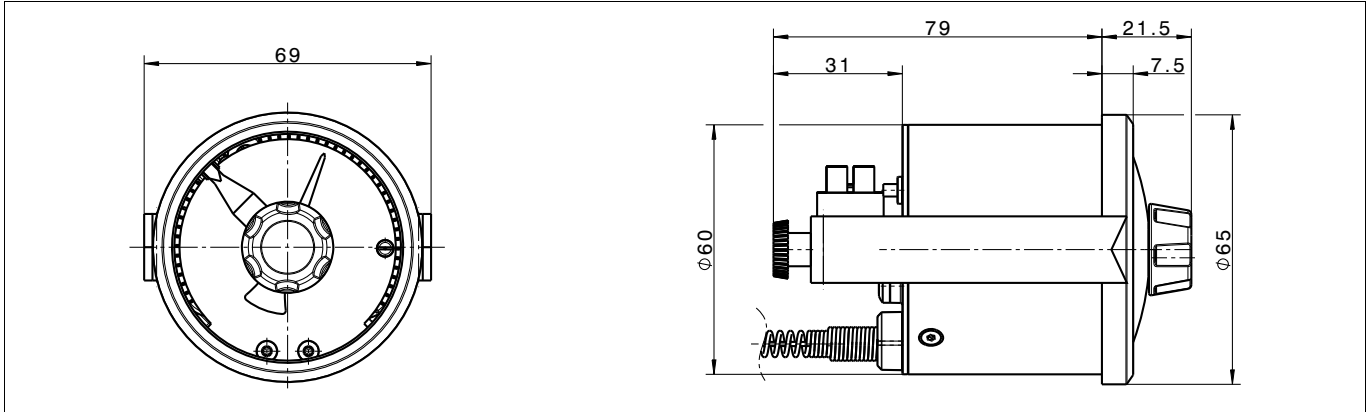
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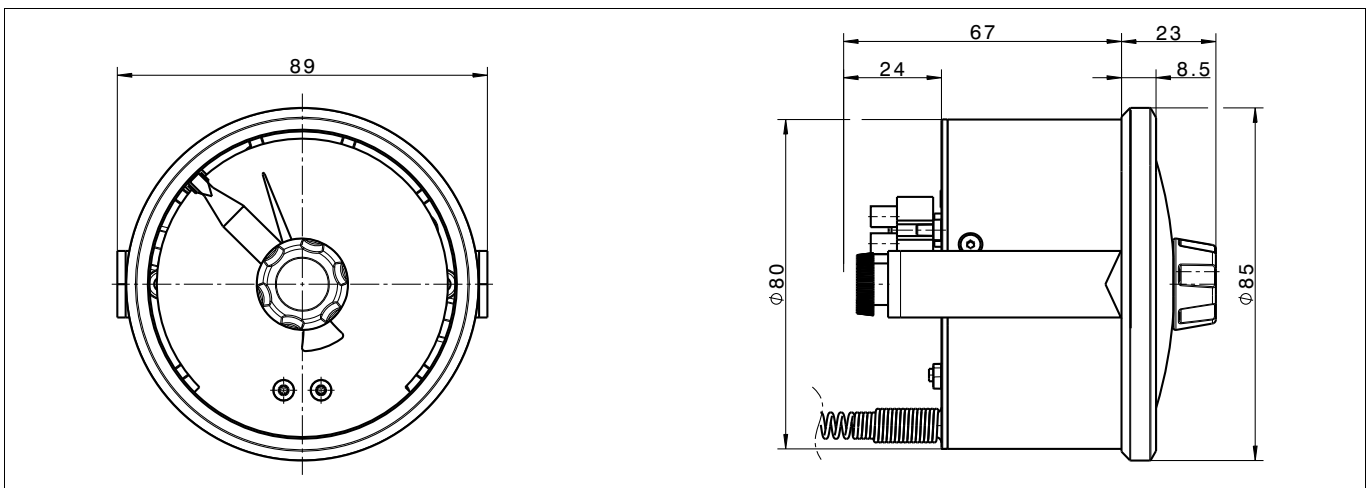


Type 608530/2160



Panel cut-out for case Ø 60 mm = 62^{+0.5/0} mm

Type 608530/2180



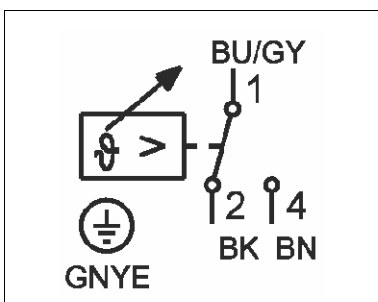
Panel cut-out for case Ø 80 mm = 82^{+0.5/0} mm

Connection elements

The connection elements in the data sheet provide information on product selection.

For the electrical connection, only use the installation instructions or the operating manual.

Terminal assignment



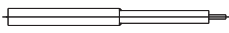
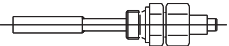
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Order details

	(1) Basic type	
608530	JUMO dicoTEMP 800 – Dial thermometer with microswitch	
	(2) Basic type extensions	
2060	Design type: 20, housing size: Ø 60 mm	
2080	Design type: 20, housing size: Ø 80 mm	
2160	Design type: 21, housing size: Ø 60 mm	
2180	Design type: 21, housing size: Ø 80 mm	
	(3) Display range	
818	0 to 120 °C	
834	0 to 250 °C	
926	50 to 250 °C	
927	50 to 300 °C	
	(4) Switching capacity	
11	AC/DC 24 V, 0.1 A	
26	AC 230 V, 5(1.5) A, cos = 1(0.6)	
27	AC 230 V, 10(3) A, cos = 1(0.6)	
	(5) Capillary type	
17	FL17 Stainless steel capillary, Ø ~ 1.5 mm	
21	FL21 Cu capillary, Ø ~ 1.0 mm	
22	FL22 Stainless steel capillary, Ø ~ 1 mm	
	(6) Capillary length	
1000	1000 mm	
2000	2000 mm	
	(7) Process connection	
750	TF01, temperature probe with stepped support tube	
848	TA25, displaceable threaded fitting on capillary	
	(8) Diameter	
6	6 mm	
8	8 mm	
	(9) Thread type of process connection	
000	None	
103	Screw connection G 3/8	
104	Screw connection G 1/2	
	(10) Material of probe and support tube	
26	CrNi 1.4571	
96	Cu (copper) probe/CuZn (brass) support tube	
	(11) Process connection material	
00	None	
26	CrNi 1.4571	
46	CuZn (brass)	
	(12) Insertion length	
0,0	Min. insertion length TF11	
50.0	50 mm	
100.0	100 mm	
	(13) Switching output	
20	SA20 with one micro switch	
	(14) Extra codes	
000	None	

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518	Limit stop for min. or max. setpoint value limitation default setting
520	Switching point default setting
522	Customized scale

Special versions upon request.

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)											
Order code	<input type="text"/>	/	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>
Order example	608530	/	2180	-	818	-	11	-	17	-	1000	-	750	-	000	-			
			(9)	(10)	(11)	(12)	(13)	(14)											
			<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	-	<input type="text"/>	/	<input type="text"/>	^a					
			26	-	26	-	6	-	100	-	20	/	520						

^a List extra codes in sequence and separate using commas.

Stock versions

Order code	Display range	Part no.
608530/2180-926-26-22-2000-848-120-26-26-6-0-20/000	50 to 250 °C	00669249