



JUMO GmbH & Co. KG
 Delivery address: Mackenrodtstraße 14,
 36039 Fulda, Germany
 Postal address: 36035 Fulda, Germany
 Phone: +49 661 6003-0
 Fax: +49 661 6003-607
 e-mail: mail@jumo.net
 Internet: www.jumo.net

JUMO Instrument Co. Ltd.
 JUMO House
 Temple Bank, Riverway
 Harlow, Essex CM 20 2TT, UK
 Phone: +44 1279 635533
 Fax: +44 1279 635262
 e-mail: sales@jumo.co.uk
 Internet: www.jumo.co.uk

JUMO Process Control, Inc.
 8 Technology Boulevard
 Canastota, NY 13032, USA
 Phone: 315-697-JUMO
 1-800-554-JUMO
 Fax: 315-697-5867
 e-mail: info@jumo.us
 Internet: www.jumo.us



Types and approvals

Type	Switching action	Test certificate	Test	DIN Reg. No.
ATH-Ex-2	TW	PTB 03 ATEX 1167	 Pressure Equipment Directive 97/23/EC (ATH-Ex-20 only)	TW 76602
ATH-Ex-20	STW			

Technical data

Control ranges and probe table

Control range °C	Switching point accuracy in upper third of scale *		Maximum capillary length mm	Maximum probe temp. to DIN 3440 °C	STW opens at probe temp. below (°C):	Probe length L for d = 6 mm	
	TW	STW				TW	STW
-20 to + 50	+ 0 °C - 3 °C	+ 0 °C - 3.5 °C	5000	+ 60	-30	153	132
0 to + 50	+ 0 °C - 2 °C	+ 0 °C - 2.5 °C		+ 60	-10	202	172
0 to +100	+ 0 °C - 4 °C	+ 0 °C - 5 °C		+115	-10	117	102
+40 to +120	+ 0 °C - 3 °C	+ 0 °C - 4 °C		+140	-10	135	117
+50 to +200	+ 0 °C - 6 °C	+ 0 °C - 8 °C		+230	-10	107	94
+80 to +250	+ 0 °C - 7 °C	+ 0 °C - 8.5 °C		+300	-20	90	78
+50 to +300	+ 0 °C - 10 °C	+ 0 °C - 12.5 °C	+345	-30	67	60	
+20 to +400	+ 0 °C - 15 °C	+ 0 °C - 19 °C	1000	+460	-30	- - -	202
+20 to +500	+ 0 °C - 19 °C	+ 0 °C - 24 °C	2000	+550	-30	237	149

* The switching point accuracy can be shifted to a different part of the scale, to special order.

Capillary and temperature probe

Type	End of scale	Capillary 1.5mm dia.	Temperature probe	Notes
ATH-Ex-..	up to 200 °C	copper (Cu) Mat. Ref. 2.0090 electrotinned	copper (Cu) Mat. Ref. 2.0090 braze electrotinned	-
	up to 300 °C	copper (Cu) Mat. Ref. 2.0090 electrotinned	stainless steel (CrNi) Mat. Ref. 1.4571 braze	-
	up to 500 °C	stainless steel (CrNi) Mat. Ref. 1.4571	stainless steel (CrNi) Mat. Ref. 1.4571 welded	-
	up to 300 °C	stainless steel (CrNi) Mat. Ref. 1.4571	stainless steel (CrNi) Mat. Ref. 1.4571 welded	at extra cost
Capillary length	1000 mm is standard, max. 5000 mm			
Min. bending radius of capillary	5 mm			

Electrical data

Switching device	microswitch in flameproof enclosure with changeover contact
Contact rating	5 A, 230 V AC +10%, p.f. ≥ 0.9
Electrical connection	screw terminals in housing, suitable for conductor cross-section up to 2.5 mm ²

JUMO GmbH & Co. KG
 Delivery address: Mackenrodtstraße 14,
 36039 Fulda, Germany
 Postal address: 36035 Fulda, Germany
 Phone: +49 661 6003-0
 Fax: +49 661 6003-607
 e-mail: mail@jumo.net
 Internet: www.jumo.net

JUMO Instrument Co. Ltd.
 JUMO House
 Temple Bank, Riverway
 Harlow, Essex CM 20 2TT, UK
 Phone: +44 1279 635533
 Fax: +44 1279 635262
 e-mail: sales@jumo.co.uk
 Internet: www.jumo.co.uk

JUMO Process Control, Inc.
 8 Technology Boulevard
 Canastota, NY 13032, USA
 Phone: 315-697-JUMO
 1-800-554-JUMO
 Fax: 315-697-5867
 e-mail: info@jumo.us
 Internet: www.jumo.us



Operating data

Switching differential in % of control /limit range	Ranges with end of scale $\leq 350^{\circ}\text{C}$			Ranges with end of scale $> 350^{\circ}\text{C}$		
	Switching action	Nominal value	Possible measured value	Switching action	Nominal value	Possible measured value
	TW	3	3-5	TW	5	5-9
	STW	5	5-7	STW	6	6-11
Ambient temperature error referred to control /limit range	A deviation of the ambient temperature at the housing from the calibrated ambient temperature 22°C will result in a displacement of the switching point: higher ambient temperature = lower switching point lower ambient temperature = higher switching point surface-mounting thermostats with end of scale					
	$< 200^{\circ}\text{C}$		$\geq 200^{\circ}\text{C} \leq 350^{\circ}\text{C}$		$> 350^{\circ}\text{C} \leq 500^{\circ}\text{C}$	
	TW	STW (STB)	TW	STW (STB)	TW	STW (STB)
	on thermostat head $\%/^{\circ}\text{C}$					
	0.08	0.17	0.06	0.13	0.14	0.12
	on capillary $\%/^{\circ}\text{C}$ per meter					
	0.047	0.054	0.09	0.11	0.04	0.03
Permissible storage temperature	-50 to $+50^{\circ}\text{C}$					
Permissible ambient temperature in operation		Capillary		Thermostat head		with end of scale
	max.	$+50^{\circ}\text{C}$		$+50^{\circ}\text{C}$		
	min.	-40°C		-20°C		$< 200^{\circ}\text{C}$
		-20°C		-20°C		$\geq 200^{\circ}\text{C} \leq 350^{\circ}\text{C}$
	-40°C		-20°C		$> 350^{\circ}\text{C} \leq 500^{\circ}\text{C}$	
Nom. position (NL)	to DIN 16257, NL 0 – NL 90 (other NL on request)					

Housing

Material	black polyester housing, glass-fiber reinforced, with lead-sealable screws
Limit setting	limit adjustable at setpoint spindle, after removal of housing cover
Protection	EN 60 529-IP65
Cable entry	Ex cable gland M 20 x 1.5, for cable diameters 6 – 12 mm
Weight	approx. 0.6 kg
Thermostat mounting	by 4 screws, after removal of housing cover

Process connection*

Series ATH-Ex-... with capillary	plain cylindrical probe A (standard)
	pocket U (on request)
	screw-in pocket with screw-in spigot G 1/2 Form A to DIN 3852/2 and clamping clip with fixing screw for securing the probe
Material Pocket U	up to $+150^{\circ}\text{C}$: CuZn is standard above $+150^{\circ}\text{C}$: St is standard (CrNi on request)
Fitting length S	standard lengths: 100, 120, 150, 200 or 300 mm (other lengths on request)
Immersion tube dia.	D = 8 mm

*for other process connections and pockets, see Data Sheet 60.6710 (US, UO, Q and V only).

Note

Physical and toxicological properties of the expansion media that may escape in the event of a measuring system fracture.

Control range with end of scale	Dangerous reactions	Fire/explosion hazard		Water contamination	Toxicological data		
		Ignition temp. $^{\circ}\text{C}$	Explosion limit $\%v/v$		irritant	danger to health	toxic
$< +200^{\circ}\text{C}$	no	+ 355	0,6 – 8	yes	yes	¹⁾	no
$\geq 200^{\circ}\text{C} \leq 350^{\circ}\text{C}$	no	+ 490	- -	yes	yes	¹⁾	no
$> 350^{\circ}\text{C} \leq 500^{\circ}\text{C}$	no	no	no	no	no	no	no

¹⁾ At present there is no statement from the health authorities concerning any danger to health over short periods and at low concentration, e.g. after a fracture of the measuring system.

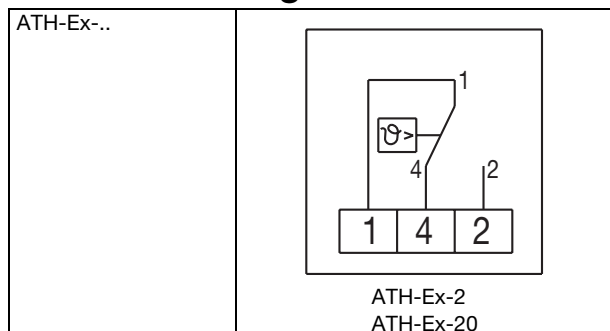
JUMO GmbH & Co. KG
 Delivery address: Mackenrodtstraße 14,
 36039 Fulda, Germany
 Postal address: 36035 Fulda, Germany
 Phone: +49 661 6003-0
 Fax: +49 661 6003-607
 e-mail: mail@jumo.net
 Internet: www.jumo.net

JUMO Instrument Co. Ltd.
 JUMO House
 Temple Bank, Riverway
 Harlow, Essex CM 20 2TT, UK
 Phone: +44 1279 635533
 Fax: +44 1279 635262
 e-mail: sales@jumo.co.uk
 Internet: www.jumo.co.uk

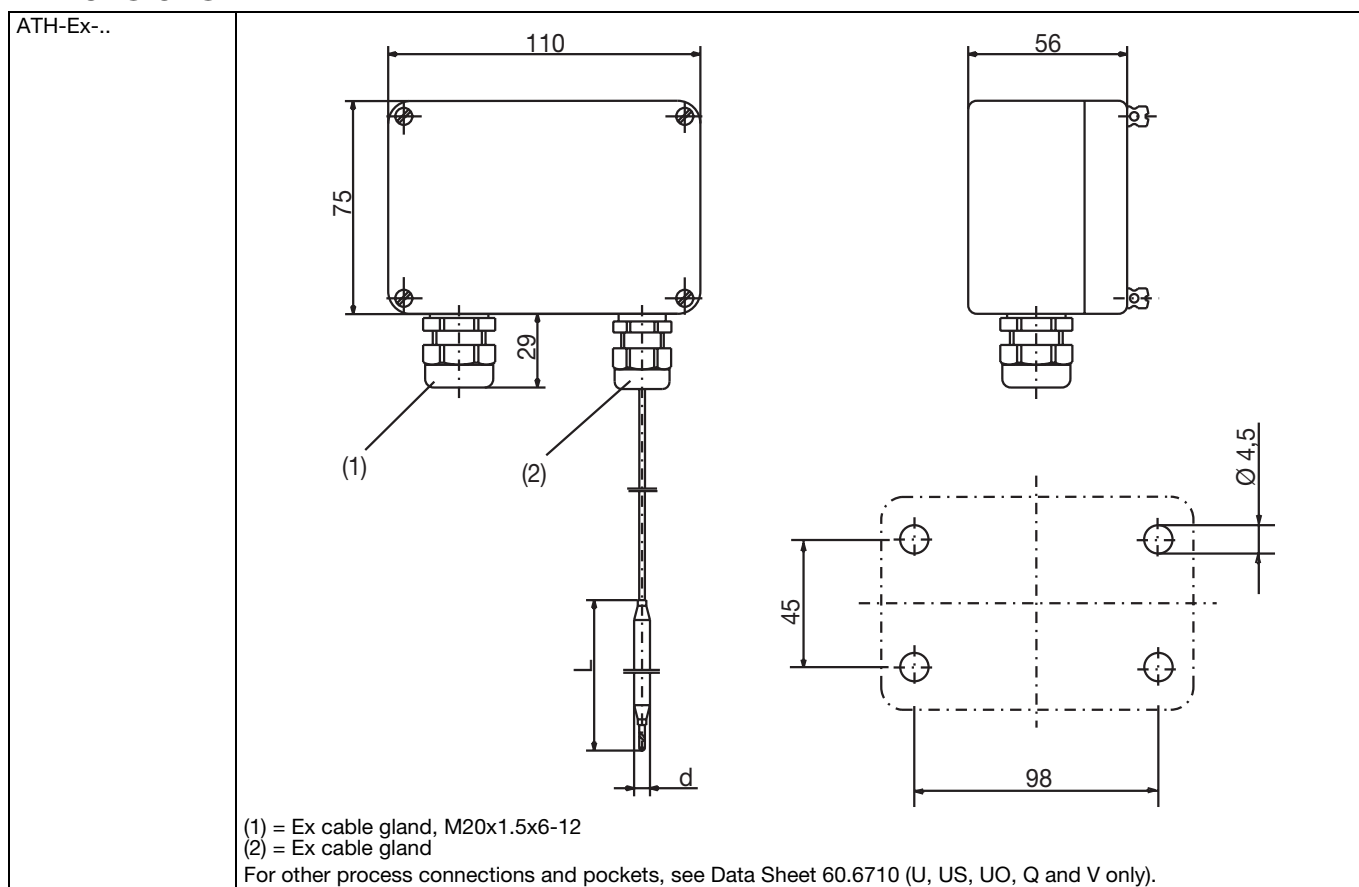
JUMO Process Control, Inc.
 8 Technology Boulevard
 Canastota, NY 13032, USA
 Phone: 315-697-JUMO
 1-800-554-JUMO
 Fax: 315-697-5867
 e-mail: info@jumo.us
 Internet: www.jumo.us



Connection diagram



Dimensions



Stock items

(delivery 3 working days after receipt of order)

Sales No.	Type	Control range °C	Material of measuring system	Capillary mm	Probe dia. x length mm
60/60001242	ATH-Ex-2	-20+ 50	CrNi	2000	6 x 153
60/60001243	ATH-Ex-2	0+ 50	CrNi	2000	6 x 202
60/60001244	ATH-Ex-2	+40+120	CrNi	2000	6 x 135
60/60001246	ATH-Ex-2	+50+300	CrNi	2000	6 x 67
60/60001247	ATH-Ex-20	+40+120	CrNi	2000	6 x 117
60/60001248	ATH-Ex-20	+50+300	CrNi	2000	6 x 60

