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Data Sheet 90.7023

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Humidity and temperature transducers for industrial applications

- measurement within the entire range from 0 to 100% RH
- temperature-resistant up to 180°C (depending on probe type)
- withstands pressures up to 100bar (depending on probe type)
- rugged metal housing, IP65 protection
- outstanding accuracy and stability
- graphical trend display and measurement history of the past year
- retraceability to NIST
- options: calculation and output of dew point, absolute humidity, mixing ratio, wet bulb temperature, enthalpy and water vapor pressure



These transducers are the first choice for demanding industrial humidity measurements

These humidity and temperature transducers are designed to meet demanding industrial applications, where stable measurements and a large variety of adaptation options are essential.

Humidity sensor

The instrument series is based on 30 years of experience in industrial humidity measurement. The sensor measures accurately and reliably, as well as being resistant to contaminants and many chemicals.

Cleaning the sensor helps with impurities

In environments with a high concentration of chemicals and cleaning agents, sensor cleaning helps achieve lasting accuracy between calibrations. During the cleaning procedure, the sensor is briefly heated up to such an extent as to cause the foreign molecules deposited on it to vaporize. If measurements seem to drift, sensor cleaning can be called up manually at any time or activated automatically at freely programmable time intervals.

Graphical trend and development display

The transducers can optionally be supplied with a large numerical/graphical display on which the process development can be monitored easily and traced back for up to a year.

Data acquisition and transmission to a PC

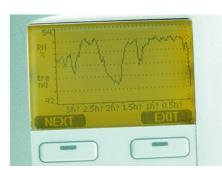
The recorded measurement data can be visualized on the display or transferred to a PC using a Windows[®] program.

Easy integration

Extensive mounting accessories as well as the most diverse connection options to d.c. or a.c. voltage sources ensure that the transducers can be integrated without any problems.

Various outputs

The instrument series comes with up to three analog outputs. An electrical isolation between supply voltage and analog outputs can also be implemented. RS232/RS485 interfaces and relay outputs are available for digital communication.



The display can be used to trace measurement trends back for up to a year.

Flexible calibration

The instruments are factory-calibrated at six humidity points. If required, fast 1-point calibration can easily be carried out on site using an optional measuring device (available on request). In addition, JUMO sensor checks are provided for a more accurate 2-point calibration. Alternatively, our customer service is at your disposal for multi-point calibration and adjustment. We recommend that this should be carried out at least once a year.

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Data Sheet 90.7023

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Technical data

Measured variables

Relative humidity

Measuring range: 0 – 100 % RH

Accuracy with regard to works standards, including non-linearity,

hysteresis and repeatability

at 20°C: ±1 % RH (0 – 90 % RH);

±1.7 % RH (90 - 100% RH)

at -20 to +40°C: $\pm (1.0 + 0.8\% \text{ of measurement}) \% \text{ RH}$ at -40 to -20°C, 40 to 180°C: $\pm (1.5 + 1.5\% \text{ of measurement}) \% \text{ RH}$

Uncertainty of factory calibration 1 (20 °C) for 0 – 40 % RH: ± 0.6 % RH for 40 – 97 % RH: ± 1.0 % RH

Sensors

for general applications:
 with heated probe:
 HUMICAP[®] 180RC
 HUMICAP[®] 180RC

Response time ($t_{0.9}$) at 20 °C in stationary air:

with grid filter: 8 sec
with st. steel mesh filter: 20 sec
with sintered filter: 40 sec

Temperature

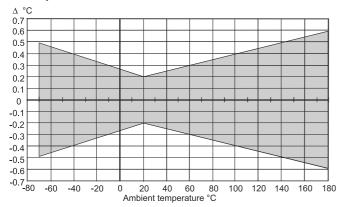
Measuring range for type:

- 907023/331: -40 to +60 °C - 907023/333: -40 to +80 °C/+120 °C

- 907023/334, 907023/335,

907023/337, 907023/338: -70 to +180°C
Temperature sensor: Pt100 to EN 60 751

Accuracy at 20°C: ±0.2°C



Accuracy over the entire range

Derived variables (option)

dew point temperature (Td), mixing ratio (x), absolute humidity (a), wet bulb temperature (Tw), enthalpy (h), water vapor pressure (pw)

Operating conditions

Operating temperature range at

probes: as measuring ranges
 electronics: -40 to +60 °C
 with LC display: 0 to 60 °C

Operating pressure range for

- 907023/334: 0 - 10MPa (0 - 100bar) - 907023/338: 0 - 4MPa (0 - 40bar)

- 907023/333, 907023/335,

907023/337: vapor-tight

EMC: as per EN 61 326-1:1997 + Annex 1:1998 + Annex 2:2001

Inputs/outputs

E-mail:

Operating voltage range: 10 – 35V DC, 24V AC - with optional supply module: 100 – 240V AC 50/60Hz

Current drawn (20°C, U_b = 24V DC)

- when used with

RS232C: ≤25mA

output 2x 0 – 1V /

0 - 5V / 0 - 10V: $\leq 25 \text{ mA}$ output 2x 0 - 20 mA: $\leq 60 \text{ mA}$

with display and background

lighting: 20mA during sensor cleaning: 110mA max.

- with probe heating

(907023/337): 120mA

Analog outputs (2 are standard, 3rd is optional)

- current output: 0 - 20mA, 4 - 20mA

- voltage output: 0 - 1V, 0 - 5V, 0 - 10V

Accuracy of the analog outputs

at 20°C: ±0.05% of full scale

Temperature drift of the

analog outputs: ±0.005% of full scale

External loads

- burden for current outputs: $<500\Omega$ - voltage output 0 – 1V: $>2k\Omega$

voltage output

0-5V/0-10V: $>10k\Omega$ Maximum core cross-section: 0.5mm^2

Serial interface: RS232C, RS485 (option)

Relay outputs (option): 0.5A, 250V AC

Digital display: LCD with background lighting,

graphical trend display of all

variables

Menu languages: English, German, French,

Spanish, Japanese, Swedish,

Finnish

General data

Connection options

- cable gland: M 20x1.5 for 8 -11 mm dia. cable

conduit fitting (option): M 20x1.5 / NPT 1/2"

connector: M 12, 8-pole, type RKC8/9.M12
5m connecting cable: M 12, 8-pole, type RKT8-282/5M

Probe cable diameter

- 907023/333: 6.0mm - all other probes: 5.5mm

Housing material: G-AlSi 10 Mg (DIN 1725)

Enclosure protection: IP65

Weight: 1 to 2 kg, depending on the version

Alteration of individual specifications is possible.

Defined as ±2 standard deviation limits.

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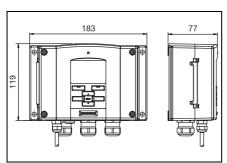
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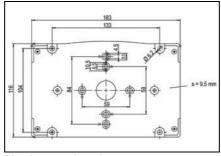


Data Sheet 90.7023

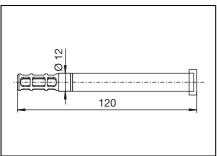
Dimensions



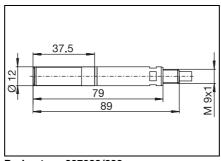
Housing, type 907023/330



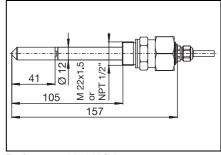
Plastic mounting plate or drilling template



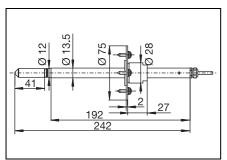
Probe, type 907023/331



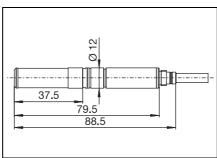
Probe, type 907023/333



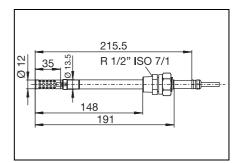
Probe, type 907023/334



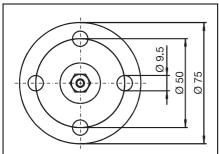
Probe, type 907023/335 (mounting flange is optional)



Probe, type 907023/337



Probe, type 907023/338



Mounting flange (for probe types 907023/333, 907023/337, 907023/335 and additional T probe)

All dimensions in mm.

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Data Sheet 90.7023

Page 4/18

Humidity and temperature transducers for wall mounting Type 907023/331

- for temperatures ranging from -40 to +60°C
- outstanding accuracy and stability
- graphical trend display and measurement history of the past year
- corrosion-resistant housing, IP65 rating
- retraceability to NIST
- applications include: clean rooms, pharmaceutical processes, greenhouses, swimming baths, museums and archives



This transducer for wall mounting is highly suitable for monitoring humidity in rooms

This humidity and temperature transducer for wall mounting is especially suitable for the monitoring and control of HVAC installations. Compared with conventional wall-mounted probes for air-conditioning, this transducers offers

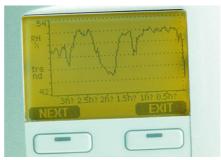
- better performance data,
- higher resistance to chemicals,
- state-of-the-art digital display functions,
- extensive range of supply options,
- more signal outputs,
- more humidity measurement variables,

Graphical trend and development display

The transducers can optionally be supplied with a large numerical/graphical display on which the process development can be monitored easily and traced back for up to a year.

The measurement history is particularly important for rooms that require stable climatic conditions, such as archives.

Maximum and minimum values of the past year can be graphically displayed in a simple manner.



The display can be used to trace measurement trends back for up to a year.

Outputs and supply options for all needs

The output options include up to three analog outputs, RS232 and RS485 interfaces as well as alarm relays.

The possible supply voltage ranges from 10 to 35V DC. A wide-range power supply module ensures that the transducers can be connected to all supply voltages used around the globe.

The supply/signal cable can be passed through an opening in the housing base, which enables practical mounting, particularly in clean rooms.

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Data Sheet 90.7023

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Order details: Humidity and temperature transducers for wall mounting, type 907023/331

_	907	023/331	(1)	Basic type Humidity and temperature transducer for wall mounting				
	007		(2)	Version for wall mounting				
×		A 0	(3)	probe placed directly on housing Additional temperature probe not for type 907023/331				
^			(4)	Parameters				
x		A B		RH + T RH+T+Td+Tdf+a+x+Tw+ppm+pw+pws+h+dT				
x		0	(5)	Display no display				
x		1	(6)	graphics LCD with background lighting Supply				
x x		0		10 – 35 V DC, 24 V AC electrical isolation for outputs 10 – 35 V DC, 24 V AC				
x x		2		universal AC supply (100 – 240V AC)				
X X		4 5		universal AC supply (100 – 240V AC) and US connecting cable universal AC supply (100 – 240V AC) and EUR connecting cable universal AC supply (100 – 240V AC) and UK connecting cable universal AC supply (100 – 240V AC) and UK connecting cable	e			
х		6	(7)	universal AC supply (100 – 240 V AC) and AUS connecting cable	e			
x x		1 2		analog output channel (Ch1+Ch2+Ch3) 4 – 20 mA analog output channel (Ch1+Ch2+Ch3) 0 – 20 mA				
X		3		analog output channel (Ch1+Ch2+Ch3) 0 – 1V analog output channel (Ch1+Ch2+Ch3) 0 – 5V				
x	Ch1 Ch2	5 21 Ch3		analog output channel (Ch1+Ch2+Ch3) 0 – 10V Analog output signals for Ch1, Ch2 and Ch3				
x x	В В	A B		no third analog output (choose A if not required) RH (0 – 100 % RH)				
x x	CI C	C		T (see (9) output range temp.)				
x x	E E	E		Td (-20 to +100°C)				
X X	G G	G H		Tw (0 to 100°C) (+32 to +212°F) x (0 - 500g/kg d.a.) (0 - 3500gr/lb)				
X X	J K	K		h (-40 to +1500 kJ/kg) (-9.5 to +652.6 Btu/lb) ppm (0 – 5000) (0 – 5000)				
×	L L	I M		pw (0 – 1000hPa) (0 – 14.5psi) pws (0 – 1000hPa) (0 – 14.5psi)				
X	N N	X X			Ch2: Option Ch3:			
x		A	(9)	Analog output range for temperature no temperature output (choose A if not required)				
X X X		B F K		-40 to +60°C (-40 to +140°F) -20 to +60°C (-4 to +140°F) 0 to 60°C (32 to 140°F)				
x		X		Specifics:				
x		1 2	(10)	Output unit metric non-metric				
X			(11)	Option for module slot 1	Option for module slot 2			
X X X		0 0 1 1 2 3		relay output	no module relay output third analog output (required if Ch3 (8) is selected)			
			(12)	Cable bushings	trilla dilalog output (required il Orio (b) is selected)			
X X		A B C		cable gland M 20x1.5 conduit fitting NPT 1/2" 8-pole connector with 5m cable				
x		Ď		8-pole mating connector equipped with screw terminals				
x		0		Transducer mounting standard mounting wall-mounting plate				
X X X		2		waii-mounting plate pole installation kit pole installation kit with rain shield				
x		4	(14)	DIN rail kit				
x x		A		general application (standard) sensor with cleaning function	HUMICAP [®] 180R HUMICAP [®] 180RC			
x			(15)	Sensor protection / filter PPS plastic grid with stainless steel mesh				
X X		A B C		PPS plastic grid with staffless steel flesh sintered stainless steel filter				
		A	(16)	Probe installation kit no installation kit				
X			(17)	Operating instructions: language				
X		1 2 3		English German French				
X			(18)	Calibration	22 (22)			
X	X 3A1 calibration to ISO 9001 standard (calibration report is available on request)							
Ord	ler code	(1)) 	(2) (3) (4) (5) (6) (7) (8)	(9) (10) (11) (12) (13) (14) (15) (16) (17) (18)			
Ord	ler example	907023	3/331	A - 0 - A - 1 - 0 - 1 - BCA -	B - 1 - 0 0 - A - 0 - A - A - A - 2 - 3 A 1			

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Data Sheet 90.7023

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Humidity and temperature transducers for ducts and locations where space is tight, Type 907023/333

- for temperatures ranging from -40 to +80°C/+120°C
- cable probe for remote measurement, for demanding HVAC applications
- outstanding accuracy and stability
- short response times thanks to low thermal mass
- graphical trend display and measurement history of the past year
- corrosion-resistant housing, IP65 rating
- retraceable to NIST
- applications include: clean rooms, pharmaceutical processes, greenhouses and climatic chambers



Transducer with a small cable probe for ducts and locations where space is tight

This humidity and temperature transducer is a universal measuring device for applications that require a small, thin cable probe.

Flexible installation

A duct installation kit (consisting of aluminium flange, screw fitting and support rod) is available for installing the probe in tubes, ducts or through walls.

The probe cable is flexible and comes in lengths of 2m, 5m and 10m.

The user can choose between two range options, for ambient temperatures up to 80°C or up to 120°C.



Duct installation kit

For outside installations, the optional radiation shield protects the probe from sun and rain. It can be mounted on a pole, a beam, or directly on a wall.

For moderate humidity and temperature

The transducers are mainly used for the control and monitoring of HVAC systems, for example in clean rooms, pharmaceutical process and greenhouses.

However, in environments with a predominantly high humidity, we recommend type 907023/337 with a heated, vapor-tight stainless steel probe.

Graphical trend and development display

The transducers can optionally be supplied with a large numerical/graphical display on which the process development can be monitored easily and traced back for up to a year.

The measurement history is particularly important for rooms that require stable climatic conditions, such as clean rooms. Maximum and minimum values of the past year can be graphically displayed in a simple manner.



The display can be used to trace measurement trends back for up to a year.

Outputs and supply options for all needs

The output options include up to three analog outputs, RS232 and RS485 interfaces as well as alarm relays.

The possible supply voltage ranges from 10 to 35 V DC. A wide-range power supply module ensures that the transducers can be connected to all supply voltages used around the globe.

The supply/signal cable can be passed through an opening in the housing base, which enables practical mounting, particularly in clean rooms.

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Data Sheet 90.7023

Order details: Humidity and temperature transducers for ducts and locations where space is tight, type 907023/333

	90702	23/333	(1)	Basic type Humidity and temperature transducer for ducts and lor	cations where space is tight
	00102	20/000	(2)	Sensor cable / cable length	oddiono whore space to dgitt
		E F	\ - '	2m cable, 80°C	
		G		5m cable, 80°C 10m cable, 80°C	
		4 5		2m cable, 120°C 5m cable, 120°C	
		6		10m cable, 120°C	
			(3)	Additional temperature probe	
		0	(4)	not for type 907023/333	
		Α	(4)	Parameters RH + T	
		В		RH+T+Td+Tdf+a+x+Tw+ppm+pw+pws+h+dT	
		0	(5)	Display no display	
		1		graphics LCD with background lighting	
		0	(6)	Supply 10 – 35V DC, 24V AC	
		1		electrical isolation for outputs 10 – 35V DC, 24V AC	
		2		10 – 35 V DV, 24 V AC electrical isolation for outputs 10 – 35 V DC, 24 V AC universal AC supply (100 – 240 V AC) universal AC supply (100 – 240 V AC) and US connecti universal AC supply (100 – 240 V AC) and EUR connect universal AC supply (100 – 240 V AC) and US connecti universal AC supply (100 – 240 V AC) and US connecti universal AC supply (100 – 240 V AC) and AUS connecti	ng cable
		4		universal AC supply (100 – 240V AC) and EUR connec	ting cable
		5 6		universal AC supply (100 – 240V AC) and UK connection universal AC supply (100 – 240V AC) and AUS connections.	ng cable ting cable
		U	(7)	Signal output (and serial RS232 interface or (ontion	nally) communication module)
		1	/	Signal output (and serial RS232 interface or (option analog output channel (Ch1+Ch2+Ch3) 4 – 20mA analog output channel (Ch1+Ch2+Ch3) 0 – 20mA analog output channel (Ch1+Ch2+Ch3) 0 – 1V analog output channel (Ch1+Ch2+Ch3) 0 – 5V analog output channel (Ch1+Ch2+Ch3) 0 – 10V	2,
		2		analog output channel (Ch1+Ch2+Ch3) 0 - 20mA analog output channel (Ch1+Ch2+Ch3) 0 - 1V	
		4		analog output channel (Ch1+Ch2+Ch3) 0 - 5V	
Ch1 I	Ch2 I	5 Ch3	(8)	analog output channel (Ch1+Ch2+Ch3) 0 – 10V Analog output signals for Ch1, Ch2 and Ch3	
		Α	(0)	no third analog output (choose A if not required)	
В	B C	В		RH (0 — 100% ŔH) T (see (9) output rang	e temp)
D	D	Ď		Td (-20 to +100°C) (-4 to +212°F)	o tomp.j
BCDEFGHJKLMZX	E F	C D E F		$Tdf(-20 \text{ to } +100 ^{\circ}C)$ (-4 to +212 °F)	
Ğ	G	G		Tw (0 to 100°C) (+32 to +212°F)	
H	H	H		x (0 – 500g/kg d.a.) (0 – 3500gr/lb) h (-40 to +1500kJ/kg) (-9.5 to +652.6Btu/	IA)
K	J K	J K		ppm (0 – 5000) (0 – 5000)	io)
L	L	L		pw (0 – 1000 hPa) (0 – 14.5 psi)	
N	M N	M N		pws (0 – 1000hPa) (0 – 14.5 psi) dT (-10 to +50 °C) (14 to +122 °F)	
Х	Х	Х		Define special scaling Ch1:	Ch2: Option Ch3:
		Α	(9)	Analog output range for temperature no temperature output (choose A if not required)	
		B		-40 to +60°C (-40 to +140°F)	
		B C D		-40 to +80°C (-40 to +176°F)	
		F		-40 to +60°C (-40 to +140°F) -40 to +80°C (-40 to +176°F) -40 to +120°C (-40 to +248°F) -20 to +60°C (-4 to +140°F)	
		Ġ		-20 to +80°C (-4 to +176°F) -20 to +120°C (-4 to +248°F)	
		K		0 to 60°C (32 to 140°F)	
		M X		0 to 120°C (32 to 248°F) Specifics:	
		^	(10)	Output unit	
		1	()	metric	
		2	(44)	non-metric	Ontion for modulo clot 2
		0 0	(11)	Option for module slot 1 no module	Option for module slot 2 no module
		1 1 2 3		relay output	relay output
		∠ 3	(12)	RS485 serial interface (electrically isolated) Cable bushings	third analog output (required if Ch3 (8) is selected)
		Α	(12)	cable gland M 20x1.5	
		B C		conduit fitting NPT 1/2" 8-pole connector with 5m cable	
		Ď		8-pole mating connector equipped with screw termina	als
		_	(13)	Transducer mounting	
		0 1		standard mounting wall-mounting plate	
		2		pole installation kit	
		3 4		pole installation kit with rain shield DIN rail kit	
		+	(14)	Humidity sensor type	
		A		general application (standard)	HUMICAP [®] 180R HUMICAP [®] 180RC
		С	<i>(4</i> = `	sensor with cleaning function	HUMICAP 180RC
		Α	(15)	Sensor protection / filter PPS plastic grid with stainless steel mesh	
		В		PPS plastic grid	
		С	(16)	sintered stainless steel filter	
		Α	(16)	Probe installation kit no installation kit	
		С		duct installation kit	
		D	(17)	cable gland AGRO	
		1	(17)	Operating instructions: language English	
		2		German	
		3	(12)	French Calibration	
		3A1	(18)	calibration to ISO 9001 standard (calibration report is a	available on request)
v 00d-	_	(1)		(2) (3) (4) (5) (6) (7)	(8) (9) (10) (11) (12) (13) (14) (15) (16
er code	Ļ	007000	/000	<u></u>	
der example	(907023	/333 -	E - 0 - A - 1 - 0 - 1 -	BCA - G - 1 - 0 0 - A - 0 - A - A - A

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Data Sheet 90.7023

Page 8/18

Humidity and temperature transducers for high-pressure and vacuum applications, Type 907023/334

- for temperatures ranging from -70 to +180°C
- for measurements within the pressure range from 0 – 100bar
- with a fitting element in ISO or NPT version
- outstanding accuracy and stability
- graphical trend display and measurement history of the past year
- **■** corrosion-resistant housing, IP65 rating
- retraceable to NIST
- applications include: high-pressure lines or vacuum chambers



Transducer for high-pressure lines or vacuum chambers

This humidity and temperature transducer is designed for humidity measurements in high-pressure lines or vacuum chambers. The measurement probe is constructed in such a way as to ensure gas-tight mounting.

For correct measurement results, process pressures that deviate from the normal ambient air pressure can be entered in the transducer memory via a serial interface or the operator panel.

Humidity sensor

The instrument series is based on 30 years of experience in industrial humidity measurement

The humidity sensor enables precise and reliable measurements and is resistant to contamination and a large number of chemicals.

Graphical trend and development display

The instrument series can optionally be supplied with a large numerical/graphical display on which the process development can easily be monitored and traced back for up to a year.

The measurement data can be transferred to a PC for further processing, and for copying to other programs.



With the help of the display, the user is able to trace measurement trends back for up to a year.

Outputs and supply options for all needs

The output options include up to three analog outputs, RS232 and RS485 interfaces as well as alarm relays.

The possible supply voltage ranges from 10 to 35V DC. A wide-range power supply module ensures that the transducers can be connected to all supply voltages used around the globe.

The supply/signal cable can also be passed through an opening in the housing base.

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Data Sheet 90.7023

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Order details: Humidity and temperature transducers for high-pressure and vacuum applications, type 907023/334

	00700	2/201	(1)	Basic type	
	90702	3/334	(2)	Humidity and temperature transducer for high-pressure and vacuum applications Sensor cable / cable length	
		н	(2)	2m cable	
		J K		5m cable 10m cable	
		0	(3)	Additional temperature probe	
		U	(4)	not for type 907023/334 Parameters	
		A B	(-)	RH + T	
		В	(5)	RH+T+Td+Tdf+a+x+Tw+ppm+pw+pws+h+dT Display	
		0 1	,	no display graphics LCD with background lighting	
			(6)	Supply	
		0 1		10 - 35V DC, 24V AC electrical isolation for outputs 10 – 35V DC, 24V AC	
		2		universal AC supply (100 – 240 V AC)	
		3		universal AC supply (100 – 240V AC) and US connecting cable universal AC supply (100 – 240V AC) and EUR connecting cable universal AC supply (100 – 240V AC) and EUR connecting cable universal AC supply (100 – 240V AC) and US connecting cable universal AC supply (100 – 240V AC) and AUS connecting cable	
		5 6		universal AC supply (100 – 240V AC) and UK connecting cable universal AC supply (100 – 240V AC) and AUS connecting cable	
			(7)	Signal output (and serial RS232 interface or (optionally) communication module) analog output channel (Ch1+Ch2+Ch3) 4 – 20mA	
		1 2		analog output channel (Ch1+Ch2+Ch3) 4 – 20mA analog output channel (Ch1+Ch2+Ch3) 0 – 20mA	
		2 3 4		analog output channel (Ch1+Ch2+Ch3) 0 – 1V analog output channel (Ch1+Ch2+Ch3) 0 – 5V	
	.	5		analog output channel (Ch1+Ch2+Ch3) 0 – 10V	
Ch1	Ch2	Ch3 A	(8)	Analog output signals for Ch1, Ch2 and Ch3 no third analog output (choose A if not required)	
B C	В	B C D		RH (0 - 100% RH) T (see (9) output range temp.)	
D	B C D E F	Ď		Td (-20 to +100°C) (-4 to +212°F)	
E F	F	E F		Tdf (-20 to +100°C)	
G H	Ġ H	G H		Tw (0 to 100°C) (+32 to +212°F)	
J K	J K	J		h (-40 to +1500kJ/kg) (-9.5 to +652.6Btu/lb)	
L	L M	K L		ppm (0 – 5000) (0 – 5000) pw (0 – 1000hPa) (0 – 14.5psi)	
M N	M N	M N		pws (0 – 1000hPa) (0 – 14.5psi) dT (-10 to +50°C) (14 to +122°F)	
X	X	X	(C)	Define special scaling Ch1: Ch2: Option	on Ch3:
		Α	(9)	Analog output range for temperature no temperature output (choose A if not required)	
		B C D		-40 to +60°C (-40 to +140°F) -40 to +80°C (-40 to +176°F)	
		Ď		-40 to +120°C (-40 to +248°F)	
		E F		-40 to +180°C (-40 to +356°F) -20 to +60°C (-4 to +140°F)	
		G H		-20 to +80°C (-4 to +176°F) -20 to +120°C (-4 to +248°F)	
		J K		-20 to +180°C (-4 to +356°F) 0 to 60°C (32 to 140°F)	
		L		0 to 100°C (32 to 212°F)	
		M N		0 to 120°C (32 to 248°F) 0 to 180°C (32 to 356°F)	
		P		-60 to +60 °C (-76 to +140 °F) Specifics:	
		^	(10)	Output unit	
		1 2	. ,	metric non-metric	
			(11)	Option for module slot 1 Option for module slot 2	
		0 0	-	no module relay output relay output	
		2 3		RS485 serial interface (electrically isolated) third analog output (required if Ch	3 (8) is selected)
		Α	(12)	Cable bushings cable gland M 20x1.5	
		B		conduit fitting NPT 1/2" 8-pole connector with 5m cable	
		D		8-pole mating connector equipped with screw terminals	
		0	(13)	Transducer mounting standard mounting	
		1		wall-mounting plate	
		2 3		pole installation kit pole installation kit with rain shield	
		4	(4.4)	DIN rail kit	
		Α	(14)	Humidity sensor type general application (standard) HUMICAP® 180R sensor with cleaning function HUMICAP® 180RC	
		С	(15)	sensor with cleaning function HUMICAP® 180RC Sensor protection / filter	
		A	(13)	PPS plastic grid with stainless steel mesh	
		B C		PPS plastic grid sintered stainless steel filter	
		D	(40)	stainless steel grid	
		Е	(16)	Probe installation kit fitting element M 22x1.5	
		F	(47)	fitting element NPT 1/2"	
		1	(17)	Operating instructions: language English	
		2		German French	
			(18)	Calibration	
		3A1	-	calibration to ISO 9001 standard (calibration report is available on request)	
		(1)		(2) (3) (4) (5) (6) (7) (8) (9) (10) (11) (12)	(13) (14) (15) (16)
ode				·] - <u> </u>
kample	9	07023	/334 -	H - 0 - A - 1 - 0 - 1 - BCA - B - 1 - 00 - A	- 0 - A - A - E

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Data Sheet 90.7023

Page 10/18

Humidity and temperature transducers for high temperatures, Type 907023/335

- for temperatures ranging from -70 to +180°C
- long stainless steel probe
- mounting flange in stainless steel (option)
- variable mounting depth
- outstanding accuracy and stability
- graphical trend display and measurement history of the past year
- **■** corrosion-resistant housing, IP65 rating
- retraceable to NIST
- applications include: hot-air drying processes



Transducer with a rugged stainless steel probe – ideal for high flow velocities in drying processes

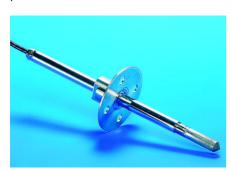
This humidity and temperature transducer is equipped with a long stainless steel probe that is especially designed for high-temperature applications.

Probe design for high flow velocity

The probe is designed to withstand high mechanical stress and high flow velocity. This transducer is therefore highly suitable for

measurements in pipes, for which smaller probes are not rugged enough.

Application example: hot-air drying processes.

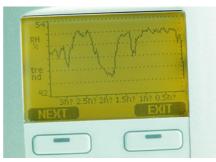


Thanks to the mounting flange in stainless steel, probes can be mounted at various depths.

Graphical trend and development display

The instrument series can optionally be supplied with a large numerical/graphical display on which the process development can easily be monitored and traced back for up to a year.

The measurement data can be transferred to a PC for further processing, and for copying to other programs.



With the help of the display, the user is able to trace measurement trends back for up to a year.

Outputs and supply options for all needs

The output options include up to three analog outputs, RS232 and RS485 interfaces as well as alarm relays.

The possible supply voltage ranges from 10 to 35V DC. A wide-range power supply module ensures that the transducers can be connected to all supply voltages used around the globe.

Humidity sensor

The humidity sensor enables precise and reliable measurements as well as being resistant to contaminants and many chemicals.

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Data Sheet 90.7023

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Order details: Humidity and temperature transducers for high temperatures, type 907023/335

	90702	23/335	(1)	Humidity and temperature transducer for high temperatures	
			(2)	Sensor cable / cable length	
		L M		2m cable 5m cable	
		N	(0)	10m cable	
		0	(3)	Additional temperature probe not for type 907023/335	
			(4)	Parameters	
		A B		RH + T RH+T+Td+Tdf+a+x+Tw+ppm+pw+pws+h+dT	
		0	(5)	Display	
		0 1		no display graphics LCD with background lighting	
		0	(6)	Supply	
		0 1		10 — 35V DC, 24V AC electrical isolation for outputs 10 – 35V DC, 24V AC universal AC supply (100 – 240V AC)	
		2		universal AC supply (100 – 240 V AC)	
		4 5		universal AC supply (100 – 240V AC) and US connecting cable universal AC supply (100 – 240V AC) and EUR connecting cab universal AC supply (100 – 240V AC) and UK connecting cable	le
		6		universal AC supply (100 – 240 V AC) and AUS connecting cab	le
		1	(7)	Signal output (and serial RS232 interface or (optionally) con analog output channel (Ch1+Ch2+Ch3) 4 - 20mA analog output channel (Ch1+Ch2+Ch3) 0 - 20mA analog output channel (Ch1+Ch2+Ch3) 0 - 1V analog output channel (Ch1+Ch2+Ch3) 0 - 5V analog output channel (Ch1+Ch2+Ch3) 0 - 10V	mmunication module)
		2		analog output channel (Ch1+Ch2+Ch3) 0 – 20mA	
		3 4		analog output channel (Ch1+Ch2+Ch3) 0 – 1V analog output channel (Ch1+Ch2+Ch3) 0 – 5V	
01.41	01.01	5	(0)	analog output channel (Ch1+Ch2+Ch3) 0 – 10V	
Ch1	Ch2	Ch3 A	(8)	Analog output signals for Ch1, Ch2 and Ch3 no third analog output (choose A if not required)	
B C D	B C	B C		RH (0 – 100 % RH) T (see (9) output range temp.)	
وَ	D	D		Td (-20 to +100°C) (-4 to +212°F)	
F	E F	E		Tdf (-20 to +100°C) (-4 to +212°F) a (0 – 600g/m³) (0 – 262gr/ft3)	
E F G H	G H	G H		Tw (0 to 100°C) (+32 to +212°F) x (0 - 500 g/kg d.a.) (0 - 3500 gr/lb)	
J K	J K	J K		h (-40 to +1500kJ/kg) (-9.5 to +652.6Btu/lb) ppm (0 - 5000) (0 - 5000)	
L M	L	L		pw (0 – 1000hPa) (0 – 14.5psi)	
N	M N	M N		pws (0 – 1000hPa) (0 – 14.5psi) dT (-10 to +50°C) (14 to +122°F)	
Х	Х	Х	(0)	Define special scaling Ch1:	Ch2: Option Ch3:
		Α	(9)	Analog output range for temperature no temperature output (choose A if not required)	
		В		-40 to +60°C (-40 to +140°F) -40 to +80°C (-40 to +176°F)	
		B C D E F		-40 to +120°C (-40 to +248°F)	
				-40 to +180°C (-40 to +356°F) -20 to +60°C (-4 to +140°F)	
		G H		-20 to +80°C (-4 to +176°F) -20 to +120°C (-4 to +248°F)	
		J		-20 to +180°C (-4 to +356°F)	
		K L		0 to 60°C (32 to 140°F) 0 to 100°C (32 to 212°F)	
		M N		0 to 120°C (32 to 248°F) 0 to 180°C (32 to 356°F)	
		P		-60 to +60 °C (-76 to +140 °F) Specifics:	
		^	(10)	Output unit	
		1 2	(,	metric	
		2	(11)	non-metric Option for module slot 1	Option for module slot 2
		0 0	. ,	no module relay output	no module relay output
		2 3		RS485 serial interface (electrically isolated)	third analog output (required if Ch3 (8) is selected)
		A	(12)	Cable bushings cable gland M 20x1.5	
		В		conduit fitting NPT 1/2"	
		C D		8-pole connector with 5 m cable 8-pole mating connector equipped with screw terminals	
		_	(13)	Transducer mounting	
		0		standard mounting wall-mounting plate	
		2		pole installation kit pole installation kit with rain shield	
		4		DIN rail kit	
		Α	(14)	Humidity sensor type general application (standard)	HUMICAP® 180R HUMICAP® 180RC
		Ċ			HUMICAP® 180RC
		Α	(15)	Sensor protection / filter PPS plastic grid with stainless steel mesh	
		B		PPS plastic grid sintered stainless steel filter	
		Ď		stainless steel grid	
		Α	(16)	Probe installation kit no installation kit	
l		Ğ		mounting flange	
		1	(17)	Operating instructions: language English	
		2		German	
		3	(18)	French Calibration	
		3A1	(10)	calibration to ISO 9001 standard (calibration report is available	on request)
		/41		(0) (2) (4) (5) (5) (7)	(0) (40) (44) (40) (40) (40) (47)
ler code	г	(1)	 1.	(2) (3) (4) (5) (6) (7) (8)	(9) (10) (11) (12) (13) (14) (15) (16
ier code Ier example	L	907023	/335	· L - 0 - A - 1 - 0 - 1 - BCA	- J - 1 - 0 0 - A - 0 - A - A - G

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Data Sheet 90.7023

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Humidity and temperature transducers with a vapor-tight probe, Type 907023/337A

- for temperatures ranging from -70 to +180°C
- for industrial and meteorological applications with moderate humidity
- small, vapor-tight stainless steel probe for remote measurement
- outstanding accuracy and stability
- graphical trend display and measurement history of the past year
- **■** corrosion-resistant housing, IP65 rating
- retraceable to NIST



Transducer for the most demanding process conditions, and for meteorological applications

This humidity and temperature transducer is designed for the most demanding applications.

The stainless steel probe is small and slim, which means that it can be easily installed in locations where space is tight.

Compared with type 907023/333, the probe for this transducer is vapor-tight and covers a much wider temperature range.

For moderate humidities

The transducer has been conceived for demanding measurement tasks, but with the atmospheric humidity still within the moderate range.

For high-humidity applications, however, we recommend type 907023/337B with a heated probe.

Numerous mounting options

Vapor-tight mounting in a duct or pipe can be implemented using Swagelok screw fittings. A duct installation kit and, in addition, a mounting kit for meteorological outdoor measurements are available as an option.



Duct installation kit

Graphical trend and development display

The instrument series can optionally be supplied with a large numerical/graphical display on which the process development can easily be monitored and traced back for up to a year.

The measurement data can be transferred to a PC for further processing, and for copying to other programs.



With the help of the display, the user is able to trace measurement trends back for up to a year.

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Data Sheet 90.7023

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Order details: Humidity and temperature transducers with a vapor-tight probe, type 907023/337A

_		1)	Basic type		
	907023/337A	-	Humidity and temperature transducer with a vapor-tight probe		
x	S	2)	Sensor cable / cable length 2m cable		
X X	T U		5m cable 10m cable		
^		3)	Additional temperature probe		
х	0		not for type 907023/337A		
×	A (4	4)	Parameters RH + T		
x	В		RH+T+Td+Tdf+a+x+Tw+ppm+pw+pws+h+dT		
x	0 (5	5)	Display no display		
x	1		graphics LCD with background lighting		
x	(6	6)	Supply 10 – 35 V DC, 24 V AC		
x x	1 2		10 – 35 V DC, 24 V AC electrical isolation for outputs 10 – 35 V DC, 24 V AC		
х	3		universal AC supply (100 – 240 V AC) universal AC supply (100 – 240 V AC) and US connecting cable		
X	4 5		electrical isolation for outputs 10 – 35V DJ, 24V AC universal AC supply (100 – 240V AC) universal AC supply (100 – 240V AC) and US connecting cable universal AC supply (100 – 240V AC) and EUR connecting cable universal AC supply (100 – 240V AC) and US connecting cable universal AC supply (100 – 240V AC) and US connecting cable universal AC supply (100 – 240V AC) and AUS connecting cable		
х	6				
x	(7 1	7)	Signal output (and serial RS232 interface or (optionally) commanalog output channel (Ch1+Ch2+Ch3) 4 – 20 mA	munication module)	
х	2 3		analog output channel (Ch1+Ch2+Ch3) 0 – 20mA		
X X	4		analog output channel (Ch1+Ch2+Ch3) 4 – 20mA analog output channel (Ch1+Ch2+Ch3) 0 – 20mA analog output channel (Ch1+Ch2+Ch3) 0 – 1V analog output channel (Ch1+Ch2+Ch3) 0 – 5V analog output channel (Ch1+Ch2+Ch3) 0 – 10V		
х	5 Ch1 Ch2 Ch3 (8	8)	analog output channel (Ch1+Ch2+Ch3) 0 – 10V Analog output signals for Ch1, Ch2 and Ch3		
х	Α `	O)	no third analog output (choose A if not required)		
X	B B C D E E F F		RH (0 – 100 % RH) T (see (9) output range temp.)		
X	D D D E E E		Td (-20 to +100°C) (-4 to +212°F) Tdf (-20 to +100°C) (-4 to +212°F)		
X X X X X	E E E		$a (0 - 600 g/m^3)$ $(0 - 262 gr/ft3)$		
X	G G G H H H		Tw (0 to 100°C) (+32 to +212°F) x (0 - 500g/kg d.a.) (0 - 3500gr/lb)		
×	J J J		h (-40 to +1500kJ/kg) (-9.5 to +652.6 Btu/lb) ppm (0 – 5000) (0 – 5000)		
Х	LI LI L		pw (0 – 1000hPa) (0 – 14.5psi)		
X	M M M N N N		pws (0 – 1000 hPa) (0 – 14.5 psi) dT (-10 to +50 °C) (14 to +122 °F)		
х	x x x	۵۱		Ch2: Option Ch3:	
х	A	9)	Analog output range for temperature no temperature output (choose A if not required)		
X	B C		-40 to +60°C (-40 to +140°F) -40 to +80°C (-40 to +176°F)		
x	D		-40 to +120°C (-40 to +248°F)		
X X X X X	E F		-20 to +60°C (-4 to +140°F)		
X	G H		-20 to +80°C (-4 to +176°F) -20 to +120°C (-4 to +248°F)		
X	j K		-20 to +180°C (-4 to +356°F) 0 to 60°C (32 to 140°F)		
х	L		0 to 100°C (32 to 212°F)		
X	M N		0 to 120°C (32 to 248°F) 0 to 180°C (32 to 356°F)		
X X	P X		-60 to +60 °C (-76 to +140 °F) Specifics:		
^		10)	Output unit		
X	1 2		metric non-metric		
^	(1	11)	Option for module slot 1 O	Option for module slot 2	
X	0 0 1 1			o module elay output	
x	2 3		RS485 serial interface (electrically isolated) th	nird analog output (required if Ch3 (8) is selected)	
x	(1 A	12)	Cable bushings cable gland M 20x1.5		
X	B C		conduit fitting NPT 1/2" 8-pole connector with 5m cable		
X	D		8-pole connector with 5m cable 8-pole mating connector equipped with screw terminals		
	(1	13)	Transducer mounting		
×	Ĭ		standard mounting wall-mounting plate		
×	2 3		pole installation kit pole installation kit with rain shield		
х	4	. 41	DIN rail kit		
x	A	14)	Humidity sensor type general application (standard) H	IUMICAP [®] 180R IUMICAP [®] 180RC	
х	С	· E'		IUMICAP® 180RC	
x	A	15)	Sensor protection / filter PPS plastic grid with stainless steel mesh		
x x	B C		PPS plastic grid sintered stainless steel filter		
x	D		stainless steel grid		
x	A (1	16)	Probe installation kit no installation kit		
x	С		duct installation kit		
×	D K		cable gland AGRO Swagelok NPT 1/2"		
х	L 11	17)	Swagelok ISO 3/8" Operating instructions: language		
х	1	17)	Operating instructions: language English		
X	2 3		German French		
	(1	18)	Calibration	A.	
х	3A1		calibration to ISO 9001 standard (calibration report is available or	n request)	
_	(1)		(2) (3) (4) (5) (6) (7) (8)	(9) (10) (11) (12) (13) (14) (15) (16) (1	7) (18)
	ler code ler example 907023/33	27^	- S - O - A - 1 - O - 1 - BCA -	B - 1 - 0 0 - A - 0 - A - A - A - 2	 2 - 3 A 1
Ora	ler example 907023/33	зιΑ	- 3 - 0 - A - 1 - 0 - 1 - BCA -	Б-1-00-А-0-А-А-А-2	3AI

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Data Sheet 90.7023

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Humidity and temperature transducers with a heated probe for high-humidity applications, Type 907023/337B

- for temperatures ranging from -70 to +180°C
- for industrial and meteorological applications with a high level of humidity
- excellent performance data in condensing atmospheres, thanks to the heated probe
- small, vapor-tight stainless steel probe for remote measurement
- outstanding accuracy and stability
- graphical trend display and measurement history of the past year
- **■** corrosion-resistant housing, IP65 rating
- retraceable to NIST



Transducer for the most demanding process conditions, and for meteorological applications (Picture: optionally with an additional temperature sensor)

This humidity and temperature transducer is available in two versions:

- with a heated probe: for dew point measurements in almost condensing atmospheres
- with a heated probe and an additional temperature sensor: for measuring relative humidity in almost condensing atmospheres

Correct humidity measurements with condensation

This unique, heated probe enables fast and reliable dew point measurements in environments in which humidity is near the saturation point. The heated sensor quickly returns to producing correct measurements, even with short-term condensation.

Since the probe temperature lies above the ambient temperature, the humidity level stays within the ambient humidity.

With accurate temperature measurement, the dew point of the environment can, however, be precisely calculated.

An additional temperature sensor is necessary for determining relative humidity. The ambient temperature measured in this way serves to calculate relative humidity and derived humidity variables.

Numerous mounting options

Vapor-tight mounting in a duct or pipe can be implemented using Swagelok screw fittings. A duct installation kit and, in addition, a mounting kit for meteorological outdoor measurements are available as an option.



Duct installation kit

Graphical trend and development display

The instrument series can optionally be supplied with a large numerical/graphical display on which the process development can easily be monitored and traced back for up to a year.

The measurement data can be transferred to a PC for further processing, and for copying to other programs.



With the help of the display, the user is able to trace measurement trends back for up to a year.

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Data Sheet 90.7023

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Order details: Humidity and temperature transducers with a heated probe for high-humidity applications, type 907023/337B

_		(1)	Basic type	
,	907023/337B	(3)	Humidity and temperature transducer with a heated	d probe for high-humidity applications
x	S T	(2)	Dew point probe / cable length 2m cable 5m cable	
X X	ΰ		10m cable	
х	0	(3)	Additional temperature probe no additional temperature probe	
×	1 2		2m cable 5m cable	
x	3	(4)	10m cable Parameters	
x x	C D	(+)	Td+Tdf+x+pw RH+T+Td+Tdf+a+x+Tw+ppm+pw+pws+h+dT	(dew point probe only) (with additional T probe)
		(5)	Display	(with additional 1 probe)
x	0 1		no display graphics LCD with background lighting	
x	0	(6)	Supply 10 – 35V DC, 24V AC	
X X	1 2		electrical isolation for outputs 10 – 35V DC, 24V AC universal AC supply (100 – 240V AC)	
×	3 4		universal AC supply (100 – 240V AC) and US conneuniversal AC supply (100 – 240V AC) and EUR conuniversal AC supply (100 – 240V AC) and UK conneuniversal AC supply (100 – 240V AC) and UK conne	ecting cable necting cable
X X	5 6		universal AC supply (100 – 240 V AC) and UK conneuniversal AC supply (100 – 240 V AC) and AUS contents	ecting cable necting cable
	1	(7)	Signal output (and social DS232 interface or (ant	
x x	2 3		analog output channel (Ch1+Ch2+Ch3) 0 – 20mA	
X	4 5		analog output channel (Ch1+Ch2+Ch3) 4 - 20mA analog output channel (Ch1+Ch2+Ch3) 0 - 20mA analog output channel (Ch1+Ch2+Ch3) 0 - 10v analog output channel (Ch1+Ch2+Ch3) 0 - 5V analog output channel (Ch1+Ch2+Ch3) 0 - 10v	
	Ch1 Ch2 Ch3	(8)	Analog output signals for Ch1, Ch2 and Ch3	
X	B B B		no third analog output (choose A if not required) RH (0 – 100% RH)	
X	C C C		T (see (9) output ra Td (-20 to +100°C) (-4 to +212°F)	ange temp.)
X X X	E E E F F G G G		Tdf (-20 to +100°C)	
X	H H H		x (0 - 500g/kg d.a.) (0 - 3500gr/lb) h (-40 to +1500kJ/kg) (-9.5 to +652.6E	tiu/lb)
X	K K K		ppm (0 – 5000) (0 – 5000) pw (0 – 1000hPa) (0 – 14.5psi)	turis)
X	M M M		pws (0 – 1000hPa) (0 – 14.5psi) dT (-10 to +50°C) (14 to +122°F)	
x	X X X	(C)	Define special scaling Ch1:	Ch2: Option Ch3:
x	A	(9)	Analog output range for temperature no temperature output (choose A if not required)	
X	B C D		-40 to +60°C (-40 to +140°F) -40 to +80°C (-40 to +176°F) -40 to +120°C (-40 to +248°F)	
X	E F		-40 to +120 C (-40 to +356°F) -40 to +60°C (-4 to +140°F)	
X X X	Ġ H		-20 to +80 °C (-4 to +176 °F) -20 to +120 °C (-4 to +248 °F)	
×	j K		-20 to +180 °C (-4 to +356 °F) 0 to 60 °C (32 to 140 °F)	
×	Ĺ M		0 to 100°C (32 to 212°F) 0 to 120°C (32 to 248°F)	
X	N P		0 to 180 °C (32 to 356 °F) -60 to +60 °C (-76 to +140 °F)	
X	·X	(40)	Specifics:	
x	1	(10)	Output unit metric	
х	2	(11)	non-metric Option for module slot 1	Option for module slot 2
x x	0 0		no module relay output	no module relay output
х	2 3	(12)	RS485 serial interface (electrically isolated) Cable bushings	third analog output (required if Ch3 (8) is selected)
x x	A B C	. ,	cable gland M 20x1.5 conduit fitting NPT 1/2"	
X	C D		8-pole connector with 5m cable 8-pole mating connector equipped with screw term	inals
	0	(13)	Transducer mounting standard mounting	
X X X	1		wall-mounting plate pole installation kit	
X X	2 3 4		pole installation kit pole installation kit with rain shield DIN rail kit	
		(14)	Humidity sensor type	HIMICAD® 400DO
x	D E		combined sensor combined sensor with cleaning function	HUMICAP [®] 180RC HUMICAP [®] 180RC
x	А	(15)	Sensor protection / filter PPS plastic grid with stainless steel mesh	
x x	C D		sintered stainless steel filter stainless steel grid	
x	А	(16)	Probe installation kit no installation kit	
X X	C K		duct installation kit Swagelok NPT 1/2"	
X X X	L P		Swagelok ISO 3/8" duct installation kit (RH +T probes)	
X	Q R		Swagelok NPT 1/2" and Swagelok NPT 1/8" (RH + Swagelok ISO 3/8" and Swagelok ISO 1/8" (RH+T)	n)
	1	(17)	Operating instructions: language English	
X X X	2 3		German French	
		(18)	Calibration	
x	3A1		calibration to ISO 9001 standard (calibration report	is available on request)
Or	der example, see pa	age 1	3/18	

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Data Sheet 90.7023

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Humidity and temperature transducers for pressure lines and chambers, Type 907023/338

- for temperatures ranging from -70 to +180°C
- installation using a ball valve, for installation and removal under pressure
- variable probe installation depth through a sliding gland
- for measurements in the pressure range from 0 40bar
- outstanding accuracy and stability
- graphical trend display and measurement history of the past year
- **■** corrosion-resistant housing, IP65 rating
- two probe shaft lengths are available
- retraceable to NIST



Transducer for mounting in pressure lines and chambers, from which the probe can be removed without interrupting the operation

This humidity and temperature transducer is designed for processes subjected to pressures.

Installation and removal under pressure

The probe can be directly inserted into the process without interrupting the operation, and without having to vent or reduce the process pressure beforehand.

The probe head is inserted by means of a ball valve which is mounted in the pressure line or on the chamber wall.

The sliding cap nut is tightened by hand, so that the probe is initially in the minimum installation position. The ball valve is subsequently opened, which exposes the probe to the process pressure. Using a press tool, the probe is then pressed to the required installation depth and fixed with the cap nut.

The probe can be installed during operation under process pressures up to 10bar.

For correct measurement results, the prevailing process pressures can be entered in the transducer memory via a serial interface or the operator panel.

Graphical trend and development display

The transducers can optionally be supplied with a large numerical/graphical display on which the process development can be monitored easily and traced back for up to a year.

Maximum and minimum values of the past year can be graphically displayed in a simple



The display can be used to trace measurement trends back for up to a year.

Outputs and supply options for all needs

The output options include up to three analog outputs, RS232 and RS485 interfaces as well as alarm relays.

The possible supply voltage ranges from 10 to 35 V DC. A wide-range power supply module ensures that the transducers can be connected to all supply voltages used around the globe.

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Data Sheet 90.7023

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Order details: Humidity and temperature transducers for pressure lines and chambers, type 907023/338

Si	7023/338 V W X 1	(2)	Humidity and temperature transducer for pressure lines and cha Sensor cable / cable length 2m cable for 232mm probe 5m cable for 232mm probe	unders
	W X 1	\ - /	2m cable for 232mm probe	
	X 1			
			10m cable for 232mm probe	
			2m cable for 454mm probe 5m cable for 454mm probe	
	3		10m cable for 454mm probe	
	0	(3)	Additional temperature probe not for type 907023/338	
	U	(4)	Parameters	
	A B	(- /	RH + T	
	В	(5)	RH+T+Td+Tdf+a+x+Tw+ppm+pw+pws+h+dT Display	
	0	(3)	no display	
	1	(6)	graphics LCD with background lighting	
	0	(0)	Supply 10 – 35V DC, 24V AC	
	1 2		electrical isolation for outputs 10 – 35 V DC, 24 V AC universal AC supply (100 – 240 V AC)	
	2 3		universal AC supply (100 – 240V AC) universal AC supply (100 – 240V AC) universal AC supply (100 – 240V AC) and US connecting cable universal AC supply (100 – 240V AC) and EUR connecting cable universal AC supply (100 – 240V AC) and UK connecting cable universal AC supply (100 – 240V AC) and AUS connecting cable	
	4 5		universal AC supply (100 – 240 V AC) and EOA connecting cable	•
	6	(=)	universal AC supply (100 – 240 V AC) and AUS connecting cable	
	1	(7)	Signal output (and serial RS232 interface or (optionally) com analog output channel (Ch1+Ch2+Ch3) 4 - 20mA analog output channel (Ch1+Ch2+Ch3) 0 - 20mA analog output channel (Ch1+Ch2+Ch3) 0 - 1V analog output channel (Ch1+Ch2+Ch3) 0 - 5V analog output channel (Ch1+Ch2+Ch3) 0 - 10V	imunication module)
	2		analog output channel (Ch1+Ch2+Ch3) 0 – 20mA	
	4		analog output channel (Ch1+Ch2+Ch3) 0 - 1V analog output channel (Ch1+Ch2+Ch3) 0 - 5V	
0-1- 0-	5	(0)	analog output channel (Ch1+Ch2+Ch3) 0 – 10V	
Ch1 Ch	A	(8)	Analog output signals for Ch1, Ch2 and Ch3 no third analog output (choose A if not required)	
В	в в		RH (0 – 100% RH)	
Ĕ	D D		TH (00 to . 100°C)	
Ę	E E		Tdf $(-20 \text{ to } +100 ^{\circ}\text{C})$ $(-4 \text{ to } +212 ^{\circ}\text{F})$ a $(0-600 \text{g/m}^3)$ $(0-262 \text{gr/ft3})$	
B C D E F G H	G G		Tw (0 to 100°C) (+32 to +212°F)	
J	J J		Tdf (-20 to +100 °C)	
	K K		ppm (0 – 5000) (0 – 5000)	
M	M M			
N X	N N X		dT (-10 to +50°C) (14 to +122°F)	Ch2: Option Ch3:
^	^ ^	(9)	Analog output range for temperature	Option One
	A B	,	no temperature output (choose A if not required) -40 to +60°C (-40 to +140°F)	
	C		-40 to +80°C (-40 to +176°F)	
	D E F		-40 to +120°C (-40 to +248°F) -40 to +180°C (-40 to +356°F)	
	F		-20 to +60°C (-4 to +140°F)	
	G H		-20 to +80°C (-4 to +176°F) -20 to +120°C (-4 to +248°F)	
	J		-20 to +180°C (-4 to +356°F)	
	K L		0 to 60°C (32 to 140°F) 0 to 100°C (32 to 212°F)	
	M N		0 to 120°C (32 to 248°F) 0 to 180°C (32 to 356°F)	
	Р		-60 to +60°C (-76 to +140°F)	
	Х	(40)	Specifics:	
	1	(10)	Output unit metric	
	2		non-metric	
	01 0	(11)		Option for module slot 2 no module
	1 1 2 3		relay output re	elay output hird analog output (required if Ch3 (8) is selected)
	2 3	(12)	RS485 serial interface (electrically isolated) tl Cable bushings	nird analog output (required ii Ch3 (8) is selected)
	A	·,	cable gland M 20x1.5	
	B C		conduit fitting NPT 1/2" 8-pole connector with 5m cable	
	Ď		8-pole mating connector equipped with screw terminals	
	0	(13)	Transducer mounting standard mounting	
	1		wall-mounting plate	
	2		pole installation kit pole installation kit with rain shield	
	4		DIN rail kit	
	А	(14)	Humidity sensor type general application (standard)	HUMICAP® 180B
	Ĉ			HUMICAP [®] 180R HUMICAP [®] 180RC
		(15)	Sensor protection / filter	
	A B		PPS plastic grid with stainless steel mesh PPS plastic grid	
	C		sintered stainless steel filter stainless steel grid	
	D	(16)	Probe installation kit	
	M	,	ball valve installation kit (ISO 1/2")	
	N V		pressure connection NPT 1/2" pressure connection ISO 1/2"	
	-	(17)	Operating instructions: language	
	1 2		English German	
	2		French	
	0.44	(18)	Calibration	on request
	3A1		calibration to ISO 9001 standard (calibration report is available of	
	(1)	'	(2) (3) (4) (5) (6) (7) (8)	(9) (10) (11) (12) (13) (14) (15) (1
r code	1		-, ,-, ,-, ,-, ,-, ,-, ,-, ,-, ,-, ,-,	1 171 171 171 171 171 171 171

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Data Sheet 90.7023

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Order details: Accessories for humidity and temperature transducers for industrial applications

(1) Basic type

						(1)	Basic type
					907023/80		Software package
					907023/81		Installation kits
					907023/82		Screw fittings
					907023/90		Filter/sensor protection (12mm dia.)
					907023/91		Replacement humidity sensor
					907023/92		Replacement temperature sensor
					907023/93		Humidity sensor checks
x x x x x x x x x x x x x x x x x x x				24 89 89 89 89 89		(2)	Software package PC software and cable Installation kits wall mounting kit (plastic mounting plate) DIN rail mounting kit (including plastic mounting plate) pole installation kit (for pipes from 30 to 100mm) rain protection installation kit duct installation kit for type 907023/333 duct installation kit (RH probe) for type 907023/337 duct installation kit (T probe) for type 907023/337
x x x					900 901 902 903	(2)	mounting flange for type 907023/335 meteorological installation kit for type 907023/337 ball valve installation kit for type 907023/338 (0 — 40 bar) Screw fittings cable glands for types 907023/333 and 907023/337
	X X X				904 905 906 907		pressure-tight Swagelok screw fitting (RH probe) ISO 3/8" for type 907023/337 pressure-tight Swagelok screw fitting (T probe) ISO 1/8" for type 907023/337 pressure-tight Swagelok screw fitting (RH probe) NPT 1/2" for type 907023/337 pressure-tight Swagelok screw fitting (T probe) NPT 1/8" for type 907023/337
		x x x			890 891 892		Filter/sensor protection (12mm dia.) sintered stainless steel filter PPS plastic grid filter with stainless steel mesh PPS plastic grid filter
		,	(814	(2)	Replacement humidity sensor HUMICAP® 180R
			×		856	(2)	Replacement temperature sensor Pt 100 1/3 DIN Class B to DIN EN 60 751
				x x x	820 821 822		Humidity sensor checks 33% RH magnesium chloride 55% RH magnesium nitrate 76% RH sodium chloride
							(1) (2)

Order code Order example

Stock versions:

Accessories for humidity and temperature transducers for industrial applications

(1)		(2)	Sales No.
	-		
907023/90	=	890	90/00465143
907023/90	-	891	90/00465144
907023/90	-	892	90/00465145
907023/92	-	856	90/00412342
907023/93	-	820	90/00332758
907023/93	=	821	90/00332759
907023/93	=	822	90/00332760