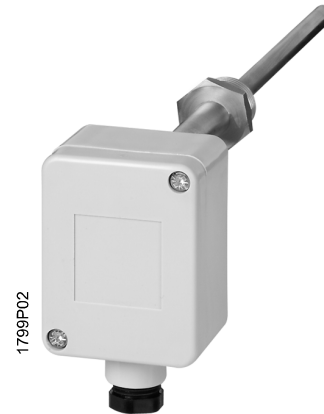




With connecting head type B
made of aluminium



With connecting head
made of plastic

Immersion temperature sensors

QAE100B...
QAE160B...
QAE170B...

Use

The sensors are used for acquiring the temperature of liquid or gaseous media (e.g. heating water) in heating, ventilation or air conditioning plants. They are designed for use in connection with automation equipment, display and logging devices.

Type summary

Measuring range	Immersion length	Type of measurement (output)	Sensing element	Connecting head	Weight	Type reference
-50...+200 °C	100 mm	passive	Pt100	Alum., type B	0.36 kg	QAE100B.1-200
-50...+200 °C	160 mm	passive	Pt100	Alum., type B	0.36 kg	QAE100B.2-200
-50...+130 °C	100 mm	passive	Pt100	Plastic	0.18 kg	QAE100B.1-130
-50...+130 °C	160 mm	passive	Pt100	Plastic	0.20 kg	QAE100B.2-130
-10...+120 °C	100 mm	active, DC 0...10 V	Pt1000	Plastic	0.19 kg	QAE160B.1-120
-10...+120 °C	160 mm	active, DC 0...10 V	Pt1000	Plastic	0.20 kg	QAE160B.2-120
-10...+120 °C	100 mm	active, 4...20 mA	Pt1000	Plastic	0.18 kg	QAE170B.1-120
-10...+120 °C	160 mm	active, 4...20 mA	Pt1000	Plastic	0.20 kg	QAE170B.2-120
0...200 °C	100 mm	active, 4...20 mA	Pt100	Alum., type B	0.35 kg	QAE170B.1-200
0...200 °C	160 mm	active, 4...20 mA	Pt100	Alum., type B	0.38 kg	QAE170B.2-200

Ordering

When ordering, please give name and type reference according to "Type summary",
e.g. immersion temperature sensor **QAE100B.2-200**

Mechanical design

The sensor consists of an exchangeable insert with the sensing element and a connecting head with the removable cover. Depending on the type of sensor, the connecting head is made of aluminium (degree of protection IP66) or plastic (degree of protection IP54).

Among other components, the connecting head accommodates the terminal block for the electrical connections. The insert consists of a 70 mm neck tube made of stainless steel and a G $\frac{1}{2}$ " threaded connector with the sensor tube. The sensing element is located at the end of the sensor tube. The tube is suited for operating pressures up to 40 bar.

Technical data

	QAE100...	QAE160...	QAE170...	
General sensor data	Type of sensor	refer to "Type summary"		
	Measuring range, immersion length and weight	refer to "Type summary"		
	Sensing element	Pt100 (class B)	refer to "Type summary"	
	Measuring tolerance	± 0.3 K at 0 °C	± 1 %	
	Type of measurement and output	passive	active DC 0...10 V	active 4...20 mA
	Power supply (terminal UB)		AC 24 V / DC 15...24 V ± 10 %	DC 15...24 V ± 10 %
	Power consumption		max. 12 mA	max. 20 mA
	Load/dummy load		min. 5 k Ω	<500 Ω
	Perm. Ambient temperature at the connecting head	-50...+90 °C	-50...+70 °C	
	Measuring medium	gaseous or liquid		
	Max. speed of flow	water 3 m/s, hot steam 25 m/s		
	Nominal pressure	PN 40		
	Degree of protection with connecting head, type B (alum.) connecting head (plastic)	IP66 as per EN 60 529 IP54 as per EN 60 529		
	Materials used and color	Connecting head, type B	aluminium; grey, RAL9006	
Connecting head (plastic)		polyamide, fibreglass-reinforced; grey, RAL7035		
Threaded connector		stainless steel 1.4305		
Neck tube		stainless steel 1.4305		
Sensor tube		stainless steel 1.4571, 8 mm dia.		
Connections		Mechanical	thread G $\frac{1}{2}$ ", SW24	
		Electrical	screw terminals, max. 2 x 1.5 mm ²	
Norms and standards		Product safety		
		Automatic electric controls for household and similar use	EN 60 730-1	

Electromagnetic compatibility

Immunity EN 60 730-1 (1996)

Emissions EN 55 011-B (1998)

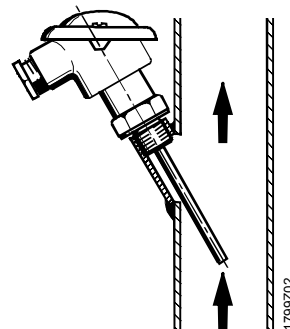
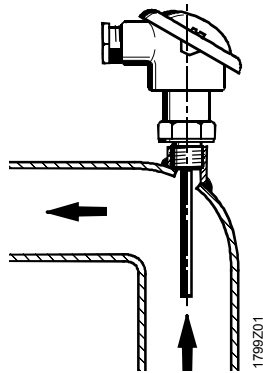
CE conformity

Electromagnetic compatibility 89/336/EEC

Low voltage directive 73/23/EEC

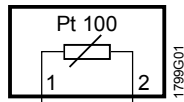
Mounting notes

If possible, mount the sensor in a pipe bend facing the direction of flow.
 Make sure that the medium is properly mixed where the sensor is located.
 Choose the mounting location so that the insert can be replaced.
 The unit is supplied together with mounting instructions.

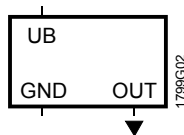


Connection diagrams

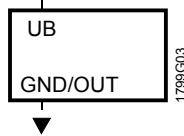
QAE100...



QAE160...



QAE170...

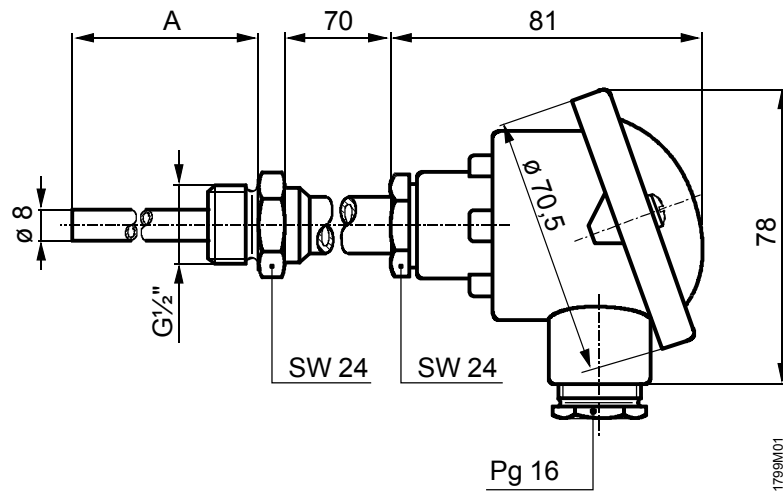


Resistance characteristic Pt100 (DIN IEC 751, class B)

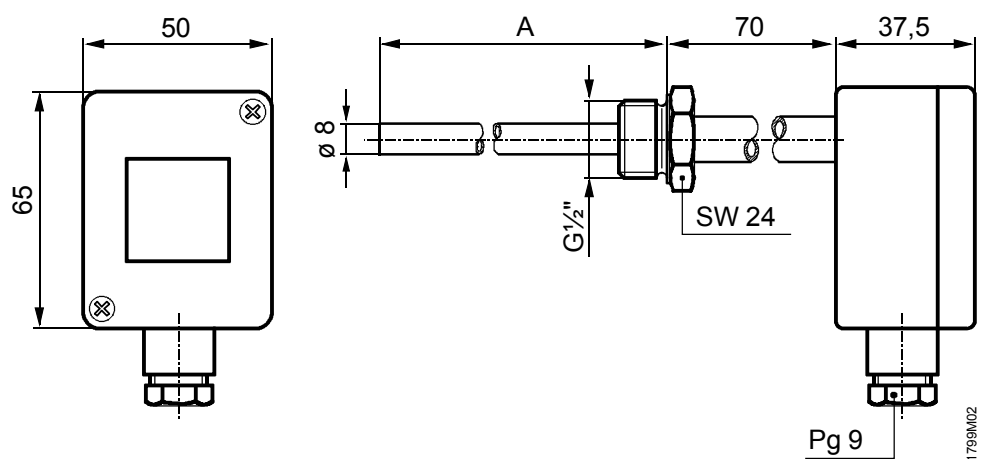
Temp. in °C	-50	-40	-30	-20	-10	0	+10	+20	+25	+30
Widerst. in Ω	80.31	84.27	88.22	92.16	96.09	100.00	103.90	107.79	109.74	111.67
Temp. in °C	+40	+50	+60	+70	+80	+90	+100	+110	+120	+130
Widerst. in Ω	115.54	119.40	123.24	127.07	130.89	134.70	138.50	142.29	146.06	149.82
Temp. in °C	+140	+150	+160	+170	+180	+190	+200	+210	+220	+230
Widerst. in Ω	153.58	157.31	161.00	164.71	168.40	172.08	175.76	179.42	183.06	186.69

Dimensions (All dimensions in mm)

QAE1... with
connecting head type B
made of aluminium



QAE1... with connecting
head made of plastic



A = immersion length