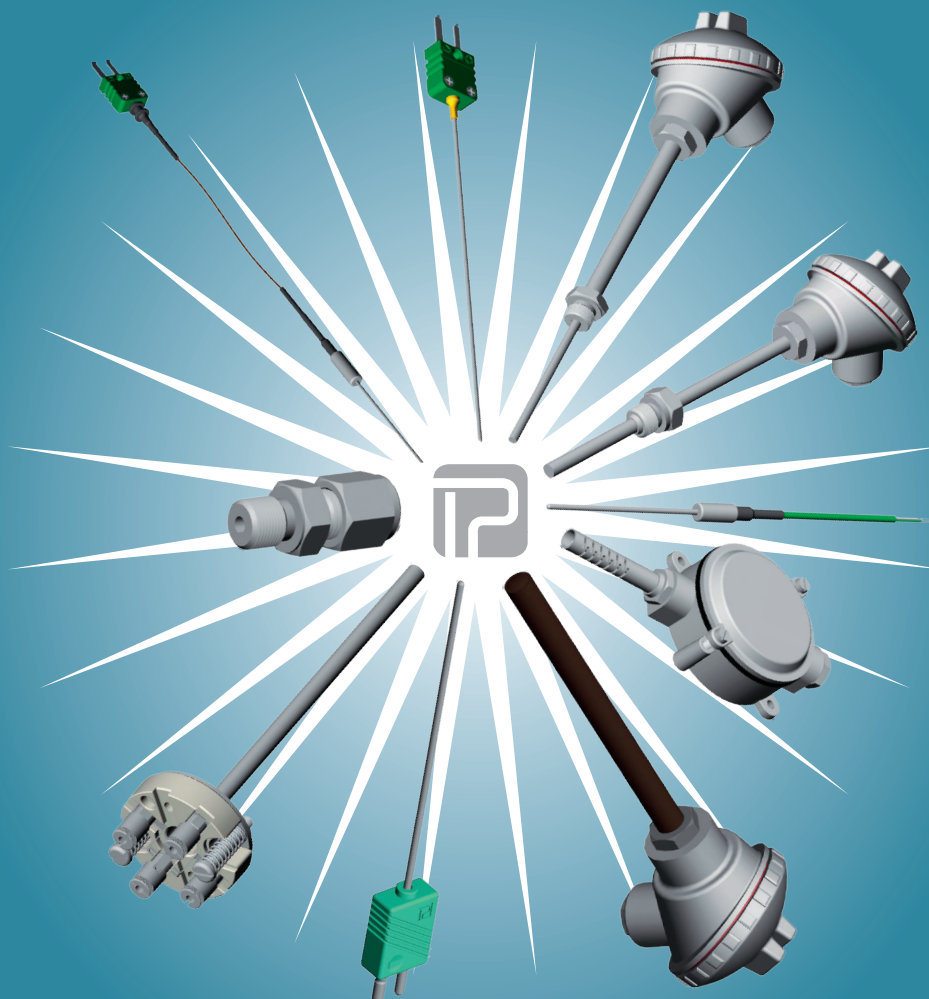


Temperature sensors in stock

Pt100 • Thermocouples • Cables • Connectors • Process connections

ABOUT PENTRONIC

- Pentronic is Skandinavia's leading manufacturer and supplier of industrial temperature sensors and equipment for measuring temperature to industry, R&D and education.
- Large product palette in stock and flexible manufacturing capacity.
- More than 50 years of experience designing customised temperature sensors.
- Supplier to world leading OEM:s within food, packaging, medical technology, process and steel industries and also engine development and power generation.
- An in-house accredited laboratory for third party calibration and measuring temperature (ISO/IEC 17025).



This brochure presents a selection of Pentronic's sensors in stock.

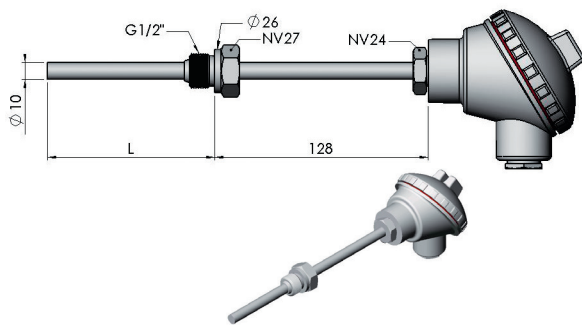
If you can't find what you are looking for in this selection, please contact us. We have a lot of sensor models, and if you have special requirements we are able to suggest suitable solutions. We also have supplementary components for the temperature sensors.

- Transmitters
- Cables, connectors and panels
- Clamping details like compression fittings, flanges and thermowells
- Calibration services and equipment
- Training courses in calibration and measuring temperature

See www.pentronic.se or call our switchboard +46 490 258500

PT100 SENSORS

Process sensor “DIN form B”, long neck



Construction

Housing with replaceable spring loaded insert diameter 6 mm with single, 4-wire configured, Pt100 resistor. Protection tube of housing and insert probe in acid proof stainless steel. Maximum probe temperature 600 °C. Alternatively the housing could be provided with insert of thermocouple type K, Inconel 600 sheathed. This is the better choice at higher temperatures or physical harsh environment.

Certificate

Pt100 resistors class A according to IEC60751 are used for this sensor model. Thermocouples according to IEC 60584-2 class 1. Certificate (EN 10204-3.1) with test results at 0 °C for Pt100 and at 100 °C for thermocouples can be downloaded from www.pentronic.se > *Test certificates*

Third party approval

ÅF: K 0201230 concerning permissible pressure and temperature of outer protection tube. Read more: www.pentronic.se > *Temperature sensors > Pt100-sensors > Process sensors*

► Items

Probe length L, mm	Insert length, mm	Termin- ation *	Order code complete sensor	
			Pt100	TC type K
100	255	Flying leads	7931000-121	-
100	255	Transmitter	7931000-148	-
100	255	Terminal block	7931000-147	-
160	315	Flying leads	7931000-122	8109300-133
160	315	Transmitter	7931000-153	8109300-132
160	315	Terminal block	7931000-152	8109300-134
250	405	Flying leads	7931000-123	8109300-135
250	405	Transmitter	7931000-158	8109300-136
250	405	Terminal block	7931000-157	8109300-137
400	555	Flying leads	7931000-163	8109300-138
400	555	Transmitter	7931000-164	8109300-139
400	555	Terminal block	7931000-162	8109300-140

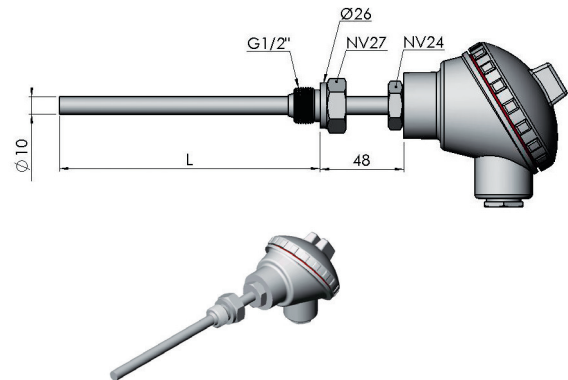
* see page 4.

Transmitters to be specified separately.

Suitable accessories

- Extension cable. See page 8.

Process sensor “DIN form B”, short neck



Construction

Housing with replaceable spring loaded insert diameter 6 mm with single, 4-wire configured, Pt100 resistor. Protection tube of housing and insert probe in acid proof stainless steel. Maximum probe temperature 600 °C.

Certificate

Pt100 resistors class A according to IEC60751 are used for this sensor model. Certificate (EN 10204-3.1) with test results at 0 °C can be downloaded from www.pentronic.se > *Test certificates*

Third party approval

ÅF: K 0201230 concerning permissible pressure and temperature of outer protection tube. Read more: www.pentronic.se > *Temperature sensors > Pt100-sensors > Process sensors*

► Items

Probe length L, mm	Insert length, mm	Termin- ation *	Order code complete sensor
100	175	Flying leads	7932000-139
100	175	Transmitter	7932000-140
100	175	Terminal block	7932000-138
160	235	Flying leads	7932000-145
160	235	Transmitter	7932000-146
160	235	Terminal block	7932000-144
250	325	Flying leads	7932000-151
250	325	Transmitter	7932000-152
250	325	Terminal block	7932000-150
400	475	Flying leads	7932000-157
400	475	Transmitter	7932000-158
400	475	Terminal block	7932000-156

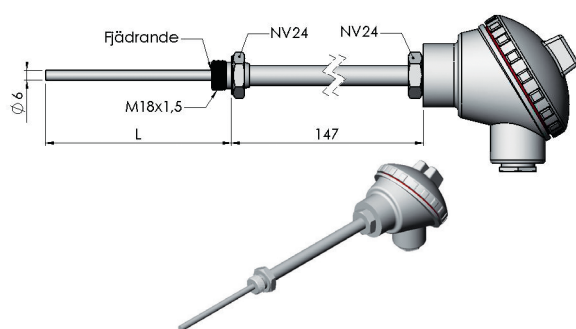
* see page 4.

Transmitters to be specified separately.

Suitable accessories

- Extension cable. See page 8.

Process sensor "DIN form D" to be mounted in thermowell



Construction

Housing with replaceable spring loaded insert diameter 6 mm with single, 4-wire configured, Pt100 resistor. Neck and insert probe in acid proof stainless steel. Maximum probe temperature 600 °C. Alternatively the housing could be provided with insert of thermocouple type K, Inconel 600 sheathed. This is the better choice at higher temperatures or physical harsh environment. Read more: www.pentronic.se > *Temperature sensors > Pt100-sensors > Process sensors*

Certificate

Pt100 resistors class A according to IEC60751 are used for this sensor model. Thermocouples according to IEC 60584-2 class 1. Certificate (EN 10204-3.1) with test results at 0 °C for Pt100 and at 100 °C for thermocouples can be downloaded from www.pentronic.se > *Test certificates*

► Items

Type	Length, L, mm	Insert-length, mm	Termination *	Order code complete sensor	
				Pt100	TC type K
D1	140	315	Long wires	7941000-146	8108300-117
D1	140	315	Transmitter	7941000-147	8108300-118
D1	140	315	Terminal block	7941000-145	8108300-111
D2/D4	200	375	Long wires	7941000-113	8108300-115
D2/D4	200	375	Transmitter	7941000-149	8108300-116
D2/D4	200	375	Terminal block	7941000-148	8108300-101
D5	260	435	Long wires	7941000-151	8108300-120
D5	260	435	Transmitter	7941000-152	8108300-121
D5	260	435	Terminal block	7941000-150	8108300-119

* see page 4.

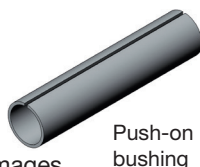
Transmitters to be specified separately.

Thermowell and weld-in boss.

See the following product.

Extension cable. See page 8.

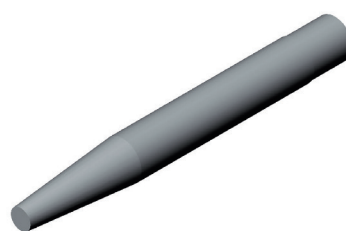
Push-on bushing for the tip of insert to eliminate air gaps and reduce vibration damages.



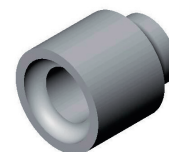
Push-on bushing

Order code: 9050011-001.

Thermowell and weld-in mounting boss "DIN form D"



Modell 9055020



Modell 9055040

Construction

Machined thermowell and weld-in mounting boss. Dimensions see pdf data sheet according to reference below.

Certificate

Material certificate as per EN 10204-3.1 is attached to thermowell and weld-in boss.

Third party approval

ÅF: K 0201258 concerning permissible pressure and temperature on outer protection tube. Read more: www.pentronic.se > *Process connections > Protection tubes and thermowells*

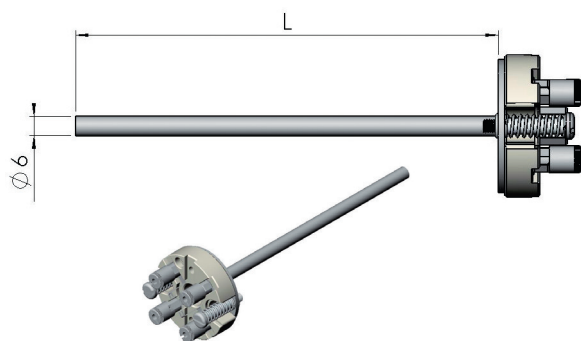
► Items, Thermowell

DIN 43763 form D	Material	Order code
D1	EN1.4404 (SS316L)	9055020-001
D2	EN1.4404 (SS316L)	9055020-002
D4	EN1.4404 (SS316L)	9055020-004
D5	EN1.4404 (SS316L)	9055020-005
D1	EN1.7335	9055020-031
D2	EN1.7335	9055020-032
D4	EN1.7335	9055020-034
D5	EN1.7335	9055020-035
D1	EN1.0460	9055020-071
D2	EN1.0460	9055020-072
D4	EN1.0460	9055020-074
D5	EN1.0460	9055020-075

► Items, Weld-in boss

DIN 43763 form D	Material	Order code
D1, D2	EN1.4404 (SS316L)	9055040-001
D4, D5	EN1.4404 (SS316L)	9055040-004
D1, D2	EN1.7335	9055040-031
D4, D5	EN1.7335	9055040-034
D1, D2	EN1.0460	9055040-071
D4, D5	EN1.0460	9055040-074

Spring loaded insert for “DIN forms B and D”



Construction

Single 4-wire configured Pt100 resistor built into acid proof sheathed cable (maximum 600 °C) diameter 6 mm. Alternatively spring loaded insert provided with thermocouple type K, Inconel 600 sheathed, is preferred at higher temperatures or physical harsh environment.

Read more: www.pentronic.se > Temperature sensors > Pt100-sensors > Process sensors

Alternative terminations

Flying leads

Long leads which allow you to free choice of mounting a transmitter or a terminal block after purchase.

Transmitter

Mounted transmitter which has to be specified separately.

Terminal block

Mounted terminal block.



Certificate

Pt100 resistors class A according to IEC60751 are used for this sensor model. Thermocouples according to IEC 60584-2 class 1. Certificate (EN 10204-3.1) with test results at 0 °C for Pt100 and at 100 °C for thermocouples can be downloaded from www.pentronic.se > Test certificates.

Information about transmitters see: www.pentronic.se > Instrumentation > Transmitters

► Items

L, mm	Termination	Suits model	Pt100	Order code	TC type K
175	Flying leads	7932, L=100	7264200-129	-	-
175	Transmitter	7932, L=100	7264200-149	-	-
175	Terminal block	7932, L=100	7264200-148	-	-
235	Flying leads	7932, L=160	7264200-130	-	-
235	Transmitter	7932, L=160	7264200-151	-	-
235	Terminal block	7932, L=160	7264200-150	-	-
255	Flying leads	7931, L=100	7264200-126	-	-
255	Transmitter	7931, L=100	7264200-153	-	-
255	Terminal block	7931, L=100	7264200-152	-	-
315	Flying leads	7931, L=160; D1	7264200-127	8104001-217	-
315	Transmitter	7931, L=160; D1	7264200-154	8104001-218	-
315	Terminal block	7931, L=160; D1	7264200-114	8104001-143	-
325	Flying leads	7932, L=250	7264200-131	-	-
325	Transmitter	7932, L=250	7264200-156	-	-
325	Terminal block	7932, L=250	7264200-155	-	-
375	Flying leads	D2, D4	7264200-122	8104001-146	-
375	Transmitter	D2, D4	7264200-175	8104001-223	-
375	Terminal block	D2, D4	7264200-165	8104001-107	-
405	Flying leads	7931, L=250	7264200-128	8104001-219	-
405	Transmitter	7931, L=250	7264200-163	8104001-220	-
405	Terminal block	7931, L=250	7264200-115	8104001-139	-
435	Flying leads	D5	7264200-173	8104001-224	-
435	Transmitter	D5	7264200-176	8104001-225	-
435	Terminal block	D5	7264200-169	8104001-173	-
475	Flying leads	7932, L=400	7264200-160	-	-
475	Transmitter	7932, L=400	7264200-162	-	-
475	Terminal block	7932, L=400	7264200-161	-	-
555	Flying leads	7931, L=400	7264200-136	8104001-221	-
555	Transmitter	7931, L=400	7264200-159	8104001-222	-
555	Terminal block	7931, L=400	7264200-158	8104001-200	-

Transmitters to be specified separately.

Pt100 for surface temperature



Construction

Single, 4-wire configured Pt100 mounted in a brass body 5 x 5 x 40 mm. Fastening hole diameter 4 mm. The Pt100 resistor used is class A of IEC60751. Maximum 150 °C. 3000 mm FEP-insulated cable with flying lead termination. Maximum temperature for the cable is 200 °C.

Read more: www.pentronic.se > *Temperature sensors* > *Pt100-sensors* > *Surface sensors*

Items

Order code 7907001-001

Pt100 in M6 screw



Construction

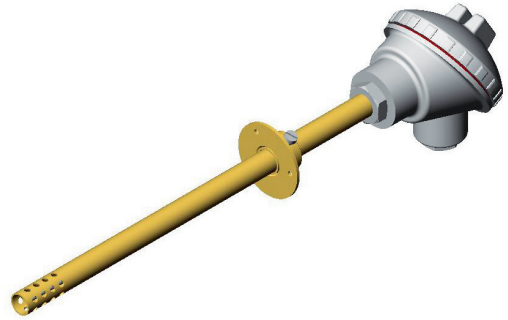
Single, 4-wire configured Pt100 resistor bored into a M6 x 20 screw where the thread connects to the process. The Pt100 resistor used is class A of IEC60751. Termination with 4-wire FEP-insulated cable with flying leads. Cable length 3000 mm. Maximum screw temperature is 150 °C and maximum cable temperature is 200 °C.

Read more: www.pentronic.se > *Temperature sensors* > *Pt100-sensors* > *With cable*

Items

Order code 7950001-002

Pt100 for air ducts



Construction

Single, 4-wire configured Pt100 built into insert which in turn is surrounded by an outer protection tube diameter 15 x 300 mm. Insert length variable by movable mounting bracket. Maximum probe temperature 250 °C. Termination in head on terminal block. Read more: www.pentronic.se > *Temperature sensors* > *Pt100-sensors* > *Air temperature*

Certifikat

Pt100 resistors class A according to IEC60751 are used for this sensor model. Certificate (EN 10204-3.1) with test results at 0 °C can be downloaded from www.pentronic.se > *Test certificates*

Items

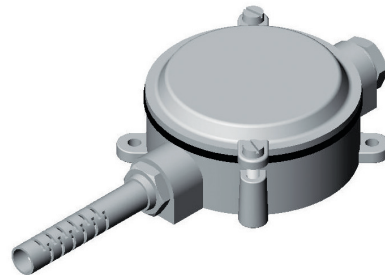
Order code	7910001-001	Terminal block
	7910001-002	Flying leads
	7910001-003	Transmitter

Transmitters to be specified separately.

Suitable accessories

Extension cable. See page 8.

Pt100 for outdoor air temperature



Construction

Single, 4-wire configured Pt100 class A mounted in a standard wall terminal box. Screened by an open tube diameter 12 x 70 mm which is perforated. Maximum probe temperature 200 °C. Read more: www.pentronic.se > *Temperature sensors* > *Pt100-sensors* > *Air temperature*

Items

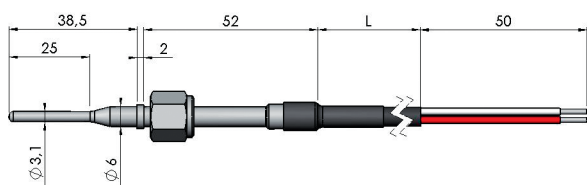
Order code	7910005-001	Terminal block
	7910005-011	Transmitter

Transmitters to be specified separately.

Suitable accessories

Extension cable. See page 8.

Pt100 for measuring in tubes



Construction

Pt100 resistor built into machined, acid proof thermowell to be used in hygienic applications, e.g. in food industry. Maximum probe temperature 200 °C. 3- alternatively 4-wire signal output with flying leads or terminal block. Process connection through special weld-in mounting boss alternatively by thermowell. Read more: www.pentronic.se > Temperature sensors > Pt100-sensors > Hygienic

Certifikat

1. With weld-in boss this sensor model is certified by the EHEDG. See Pentronic's homepage.
2. Pt100 resistors class A according to IEC60751 are used for this sensor model. Certificate (EN 10204-3.1) with test results at 0 °C can be downloaded from www.pentronic.se > Test certificates

► Items

Product	Cable length, L, m	Order code
3-wire Pt100	10	7913101-001
3-wire Pt100	20	7913101-002
4-wire Pt100	10	7914101-001
4-wire Pt100	20	7914101-002

Process connections to be used with sensor models 7914 and 7960

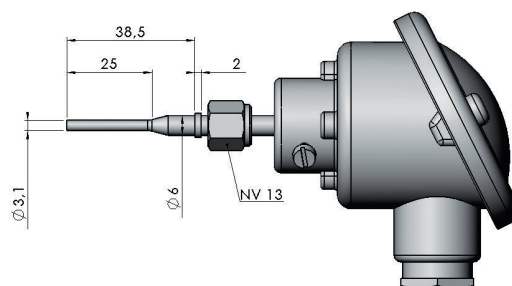
Weld-in boss to be used in tubes with different radii, R. With no sensor available the boss can be plugged up by a dummy spigot.



► Accessories in stock for models 7914 and 7960

Accessory	Flange thickness	Boss radius, R, mm	Order code
Weld-in boss	1,25	R = flat	9025001-000
Weld-in boss	1,25	R = 14 mm	9025001-014
Weld-in boss	1,25	R = 19 mm	9025001-019
Weld-in boss	1,5	R = flat	9025001-100
Weld-in boss	1,5	R = 19 mm	9025001-119
Weld-in boss	2,0	R = flat	9025001-200
Weld-in boss	2,0	R = 19 mm	9025001-219
Dummy spigot			9025010-000
Thermowell, tip diam. Ø5 x 20 mm			9026010-001

Pt100 to be used in tubes



Construction

Similar to model 7914 but provided with 4-wire signal output on terminal block in head. Process connection by weld-in thermowell alternatively by weld-in boss. Suitable for applications with hygienic requirements. Maximum temperature 200 °C. Read more: www.pentronic.se > Temperature sensors > Pt100-sensors > Hygienic

Certifikat

1. With weld-in boss this sensor model is certified by the EHEDG. See Pentronic's homepage.
2. Pt100 resistors class A according to IEC60751 are used for this sensor model. Certificate (EN 10204-3.1) with test results at 0 °C can be downloaded from www.pentronic.se > Test certificates

► Items

Termination *	Order code
Flying leads	7960001-003
Transmitter	7960001-002
Terminal block	7960001-001

* See page 4. Transmitters to be specified separately.

Suitable accessories

Extension cable. See page 8.

4-wire configuration the normal way of configuration

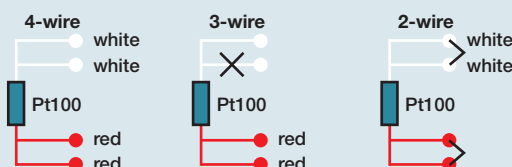
All Pentronic's Pt100 sensors of this book are provided with 4-wire signal output, if nothing else is stated.

What if I can't use 4 wires?

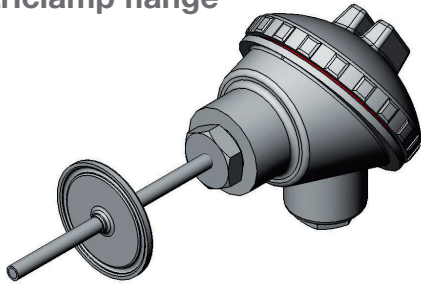
Pt100s in stock are normally made for 4-wire input instrumentation. You can easily suit to 3 or 2-wire terminals by reading the following advice.

3-wires: Exclude an arbitrary lead or terminal screw. NB, do not connect the excluded wire to the remaining one on the same side of the Pt100 resistor.

2-wires: Connect the wires of each side of the resistor in parallel. This way you minimise the lead resistances which are included in the readings.



Pt100 with triclamp flange



Construction

Pt100 sensor to be used for measuring in tubes or tanks in food or pharmaceutical industries. Process connection by triclamp flange in two different diametres. 4-wire termination. Maximum probe temperature 200 °C. Read more: www.pentronic.se > *Temperature sensors* > *Pt100-sensors* > *Hygienic*

Certificate

Pt100 resistors class A according to IEC60751 are used for this sensor model. Certificate (EN 10204-3.1b) with test results at 0 °C can be downloaded from www.pentronic.se > *Test certificates* Certificate confirming the material of the parts in contact with the process as well as performed electro polishing (Ra 05) is delivered with the product.

► Items

Flange diameter Ø F, mm	Termination *	Order code complete sensor
25,4	Flying leads	7874001-022
25,4	Transmitter	7874001-023
25,4	Terminal block	7874001-018
50,5	Flying leads	7874001-020
50,5	Transmitter	7874001-019
50,5	Terminal block	7874001-012

Spring loaded insert as spare part	Termination *	Order code
For both types	Flying leads	7264001-294

* See page 4. Transmitters to be specified separately.

Option

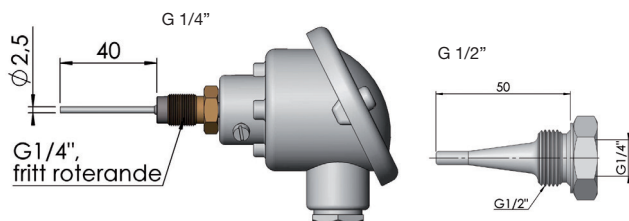
Upon request versions fulfilling the requirements of 3-A Sanatory Standards 74-03 can be supplied.



Suitable accessories

Extension cable. See page 8.

Pt100 ø2.5 mm, process thread, accessory thermowell



Pt100 mounted into protection tube. Probe ø2.5 x 40 mm. To be used on small diameter tubes or where short response time is required. 4-wire termination. Maximum probe temperature 250 °C. Read more: www.pentronic.se > *Temperature sensors* > *Pt100-sensors* > *Process sensors*

Pt100 resistors class A according to IEC60751 are used for this sensor model. Certificate (EN 10204-3.1) with test results at 0 °C can be downloaded from www.pentronic.se > *Test certificates*

► Items

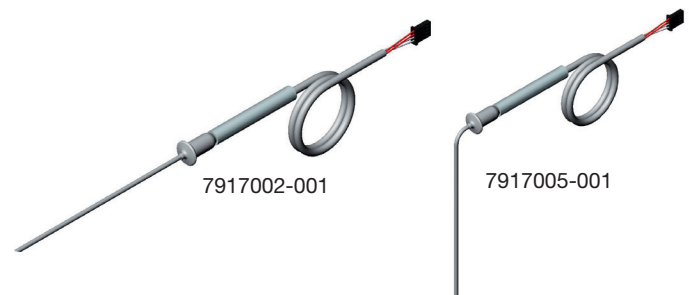
Product	Termination *	Order code
Pt100 sensor	Flying leads	7911001-002
	Transmitter	7911001-003
	Terminal block	7911001-001
Thermowell		9062010-001

* See page 4. Transmitters to be specified separately.

Suitable accessories

- Extension cable. See page 8.
- Thermowell. See www.pentronic.se > *Process connections* > *Protection tubes and thermowells*

Pt100 load sensors for steam autoclaves



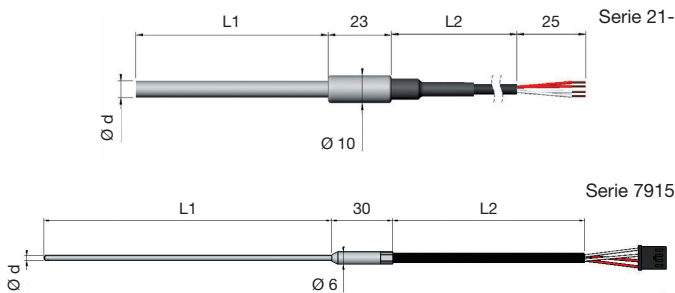
Pt100 resistor mounted into protection tube with cannula shaped tip. Probe dimensions ø3.0 x 150 mm. Straight or angled shape, both with 4-wire output. Sealed construction makes the sensor including cable suitable for measurements inside the steam autoclave. Maximum probe and cable temperature: 180 °C. Read more: www.pentronic.se > *Temperature sensors* > *Pt100-sensors* > *With cable*

Pt100 resistors class A according to IEC60751 are used for this sensor model. Certificate (EN 10204-3.1b) with test results at 0 °C can be downloaded from www.pentronic.se > *Test certificates*

► Items

Order code	Protection tube	Resistor
7917001-001	Angled	Single
7917002-001	Straight	Single
7917005-001	Angled	Double

Pt100 in protection tube with transition fitting and cable



Construction

Pt100 resistor built into protection tube or metal sheathed cable. Termination by 4-wire cable. Read more:

www.pentronic.se > Temperature sensors > Pt100-sensors > With cable

Maximum temperature

See table. Transition fitting maximum 100 °C.

Certificate

Pt100 resistors class A according to IEC60751 are used for this sensor model. Certificate (EN 10204-3.1) with test results at 0 °C can be downloaded from www.pentronic.se > Test certificates

► Items

Order code	Ø d mm	L1 * mm	Probe Max. temp, °C	Cable L2 mm
21-4250250	2,5	250 R	250	3000
21-4300100	3,0	100 R	250	3000
21-4300250	3,0	250 R	250	3000
21-4300400	3,0	400 R	250	3000
21-4400150	4,0	150 R	250	3000
21-4400250	4,0	250 R	250	3000
21-4400400	4,0	400 R	250	3000
21-4950100	4,5	100 R	600	3000
21-4950250	4,5	250 R	600	3000
21-4950500	4,5	500 R	600	3000
21-4980100	6,0	100 R	600	3000
21-4980250	6,0	250 R	600	3000
21-4980500	6,0	500 R	600	3000
7915001-002	2,5	120 V	140	5000
7915002-002	2,5	140 R	140	5000
7915010-002	3,0	120 V	140	8000
7915011-002	3,0	140 R	140	8000

The sensors belong to article series 7404 xxx-xxx and 7915 xxx-xxx respectively.

* R = Straight probe and V = Angled probe.

Pt100 for sub water use



Construction

Pt100 resistor, IEC 60751 class A 4-wire, protected by vulcanized rubber which makes the sensor suited for submersible use. Protection class IP68. Probe dimensions including rubber sheath: Diam. 5 x 20 mm without and diam. 6 x 50 mm with stainless protection tube. Maximum temperature probe and cable: 105 °C. Read more:

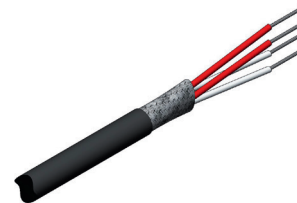
www.pentronic.se > Temperature sensors > Pt100-sensors > With cable

► Items

Order code	Construction	Cable length
21-20101	Without protection tube	15 metres
21-20103	With protection tube	15 metres
21-20105	Without protection tube	25 metres

ACCESSORIES FOR Pt100 SENSORS

Cables



Construction

The picture shows an example of PVC-insulated conductors which are screened by braided tinned copper wire. Outer PVC sheath. Read more: www.pentronic.se > Cables and connectors > Extension cable (RTD)

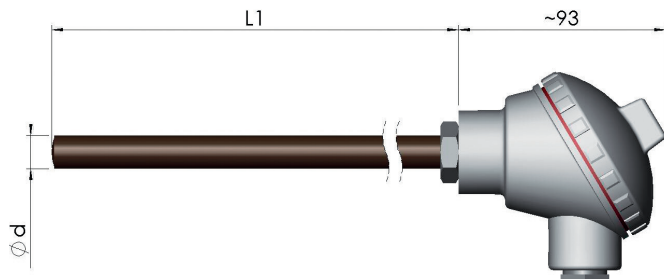
► Items

Order code	Conductors	Conductor Area (mm²)	Max. Temp.	Insulation material
12-00020	4	0,055	70 °C	PVC
12-00120	4	0,22	80 °C	PVC
12-00125	3	0,5	80 °C	PVC
12-00100	6	0,5	80 °C	PVC
12-00115	8	0,22	90 °C	PVC
12-00320	4	0,25	180 °C	SI/FEP
12-00310 *	4	0,25	180 °C	SI/FEP
12-00400	4	0,25	200 °C	FEP
12-00410	4	0,055	200 °C	FEP

* Corresponds to article 12-00320 but is provided with screen.

THERMOCOUPLE SENSORS

Thermocouples for high process temperatures



Construction

Outer protection tube of Kanthal alternatively 353 MA material. Replaceable spring loaded insert in Inconel 600. Maximum temperature 1200 °C. Spring loaded inserts see items 8104001-xxx for type K alternatively type N. Read more: www.pentronic.se > Temperature sensors > Thermocouples > Process sensors

Certificate

All thermocouples fulfil IEC 60584-2 class 1. Certificate (EN 10204-3.1) with test results at 100 °C can be downloaded from www.pentronic.se > Test certificates

Suitable accessories

- Cables and connectors. See page 13-14
- Process connections. See page 14-15.

► Items

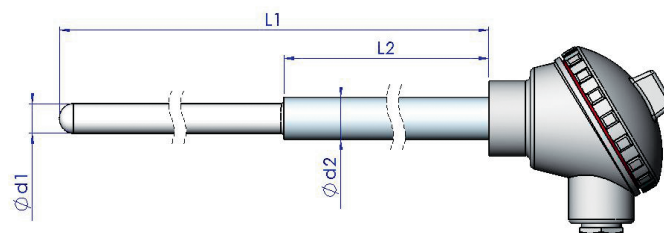
Order code insert type K	L1 mm	Ød mm	Material pro- tection tube	Termination *
8109001-180	500	15,0	Kanthal	Flying leads
8109001-228	500	15,0	Kanthal	Transmitter
8109001-229	500	15,0	Kanthal	Terminal block
8109001-225	700	21,3	353 MA	Flying leads
8109001-226	700	21,3	353 MA	Transmitter
8109001-227	700	21,3	353 MA	Terminal block
8109001-230	1000	22,0	Kanthal	Flying leads
8109001-231	1000	22,0	Kanthal	Transmitter
8109001-246	1000	22,0	Kanthal	Terminal block
8109001-232	1300	21,3	353 MA	Flying leads
8109001-233	1300	21,3	353 MA	Transmitter
8109001-212	1300	21,3	353 MA	Terminal block

Type N * Explanations: see page 4. Transmitters to be specified separately.

8109001-237	500	15,0	Kanthal	Flying leads
8109001-238	500	15,0	Kanthal	Transmitter
8109001-239	500	15,0	Kanthal	Terminal block
8109001-234	700	21,3	353 MA	Flying leads
8109001-235	700	21,3	353 MA	Transmitter
8109001-236	700	21,3	353 MA	Terminal block
8109001-240	1000	22,0	Kanthal	Flying leads
8109001-241	1000	22,0	Kanthal	Transmitter
8109001-242	1000	22,0	Kanthal	Terminal block
8109001-243	1300	21,3	353 MA	Flying leads
8109001-244	1300	21,3	353 MA	Transmitter
8109001-245	1300	21,3	353 MA	Terminal block

* Explanations: see page 4. Transmitters to be specified separately.

Thermocouple type S in ceramic tube



Construction

Housing consisting of high purity (C799) ceramic protection tube with steel neck and signal termination in terminal head. Replaceable insert also in high purity (C799) ceramic with thermocouple wires of type S. Read more:

www.pentronic.se > Temperature sensors > Thermocouples > Process sensors

► Items

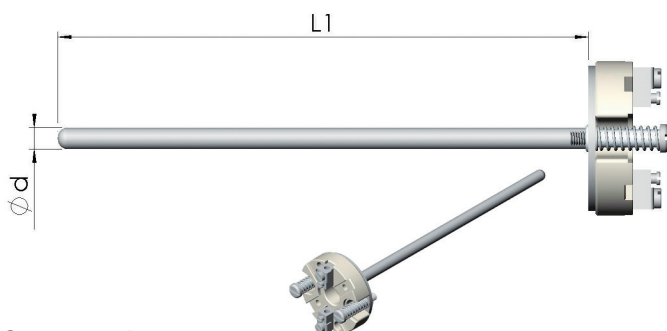
Length, L1 mm	Length, L2 mm	Ø d1 / Ø d2	Termination *	Order code complete sensor
500	200	10 / 15	Flying leads	8110001-228
			Transmitter	8110001-229
			Terminal block	8110001-263
500	150	15 / 21,3	Flying leads	8110001-243
			Transmitter	8110001-244
			Terminal block	8110001-242
700	300	15 / 21,3	Flying leads	8110001-184
			Transmitter	8110001-234
			Terminal block	8110001-193
800	400	15 / 21,3	Flying leads	8110001-197
			Transmitter	8110001-226
			Terminal block	8110001-162
900	400	15 / 21,3	Flying leads	8110001-232
			Transmitter	8110001-223
			Terminal block	8110001-198
1400	800	15 / 21,3	Flying leads	8110001-233
			Transmitter	8110001-236
			Terminal block	8110001-255

* Explanations: see page 4. Transmitters to be specified separately.

Suitable accessories

- Cables and connectors. See page 13-14.
- Process connections. See page 14-15.

Spring loaded thermocouple insert



Construction

Spring loaded insert. For thermocouple types K and N the insert probe consists of metal sheathed Inconel 600 cable, while type S-wires has to be protected by a high purity 2-hole ceramic rod. See table. Read more: www.pentronic.se > *Temperature sensors > Thermocouples > Process sensors*

Maximum temperature

Types K and N 1200 °C and type S 1500 °C. Note that parts of the outer protection housing can be more limited in temperature.

Certificate

Type K and N fulfil IEC 60584-2 class 1. Certificate (EN 10204-3.1) with test results at 100 °C can be downloaded from www.pentronic.se > *Test certificates*

► Items, type K

Order code, insert	Insert length L1 mm	Termination *	Spare insert to complete sensor
8104001-217	315	Flying leads	8109300-133
8104001-218	315	Transmitter	8109300-132
8104001-143	315	Terminal block	8109300-134
8104001-146	375	Flying leads	8109300-115
8104001-223	375	Transmitter	8109300-116
8104001-107	375	Terminal block	8109300-101
8104001-219	405	Flying leads	8109300-135
8104001-220	405	Transmitter	8109300-136
8104001-139	405	Terminal block	8109300-137
8104001-224	435	Flying leads	8109300-120
8104001-225	435	Transmitter	8109300-121
8104001-173	435	Terminal block	8109300-119
8104001-232	527	Flying leads	8109001-180
8104001-233	527	Transmitter	8109001-228
8104001-210	527	Terminal block	8109001-229
8104001-221	555	Flying leads	8109300-138
8104001-222	555	Transmitter	8109300-139
8104001-200	555	Terminal block	8109300-140
8104001-229	727	Flying leads	8109001-225
8104001-230	727	Transmitter	8109001-226
8104001-231	727	Terminal block	8109001-227
8104001-234	1027	Flying leads	8109001-230
8104001-235	1027	Transmitter	8109001-231
8104001-128	1027	Terminal block	8109001-246
8104001-236	1327	Flying leads	8109001-232
8104001-237	1327	Transmitter	8109001-233
8104001-238	1327	Terminal block	8109001-212

Transmitters to be specified separately.

► Items, type N

Order code, insert	Insert length L1 mm	Termination *	Spare insert to complete sensor
8104001-242	527	Flying leads	8109001-237
8104001-243	527	Transmitter	8109001-238
8104001-212	527	Terminal block	8109001-239
8104001-239	727	Flying leads	8109001-234
8104001-240	727	Transmitter	8109001-235
8104001-241	727	Terminal block	8109001-236
8104001-244	1027	Flying leads	8109001-240
8104001-245	1027	Transmitter	8109001-241
8104001-246	1027	Terminal block	8109001-242
8104001-247	1327	Flying leads	8109001-243
8104001-248	1327	Transmitter	8109001-244
8104001-249	1327	Terminal block	8109001-245

* Explanations: See page 4. Transmitters to be specified separately.

► Items, type S

Order code, insert	Insert length L1 mm	Termination *	Spare insert to complete sensor
8104001-213	520	Flying leads	8110001-228
8104001-253	520	Transmitter	8110001-229
8104001-254	520	Terminal block	8110001-263
8104001-182	720	Flying leads	8110001-184
8104001-255	720	Transmitter	8110001-234
8104001-256	720	Terminal block	8110001-193
8104001-183	820	Flying leads	8110001-197
8104001-257	820	Transmitter	8110001-226
8104001-258	820	Terminal block	8110001-162
8104001-184	920	Flying leads	8110001-232
8104001-259	920	Transmitter	8110001-223
8104001-260	920	Terminal block	8110001-198
8104001-263	1420	Flying leads	8110001-233
8104001-261	1420	Transmitter	8110001-236
8104001-262	1420	Terminal block	8110001-255

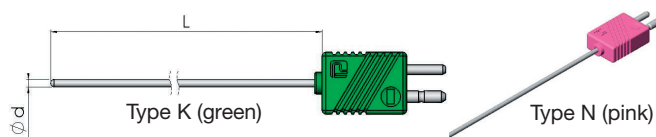
* Explanations: See page 4. Transmitters to be specified separately.

Temperature sensors approved for Russia

Pentronic has temperature sensors approved for the Russian market available. The approval is formally known as the "Pattern Approval Russia" alternatively the "Metrology Certificate". The Pattern Approval / Metrology Certificate allow us to market selected types of thermocouples and Pt100 sensors in Russia. This is very important for customers exporting to Russia. The approval includes all our manufactured thermocouples and Pt100 sensors. See the corresponding product pages. The misleading term GOST is now and then used in this context. GOST is the Russian word for "standard" and corresponds approximately to the European CE-marking which you declare yourself. Temperature sensors are subject to the higher level Pattern Approval / Metrology Certificate for which you have to implore.



Metal sheathed thermocouple with connector



Mineral insulated metal sheathed thermocouple type K and N for general use. Probe temperature up to 1200 °C depending on diameter and measuring environment. Please, contact Pentronic for more specific information. The connector is moulded and colour coded – green for type K and pink for type N. Read more: www.pentronic.se > *Temperature sensors > Thermocouples > With connector*

All thermocouples fulfil IEC 60584-2 class 1. Certificate (EN 10204-3.1b) with test results at 100 °C can be downloaded from www.pentronic.se > *Test certificates*

► Items, type K

Diameter, Ød, mm	Length, mm	Order code
1,5	100	20-22150100
1,5	250	20-22150250
1,5	500	20-22150500
1,5	1000	20-22151000
1,5	2000	20-22152000
1,5	5000	20-22155000
3	100	20-22300100
3	250	20-22300250
3	500	20-22300500
3	750	20-22300750
3	1000	20-22301000
3	1200	20-22301200
3	1350	20-22301350
3	2000	20-22302000
3	2400	20-22302400
3	3000	20-22303000
3	5000	20-22305000
4,5	1000	20-22451000
6	600	20-22600600
6	1000	20-22601000
6	1200	20-22601200

*The articles belong to the series 8102 xxx-xxx.

► Items, type N

1	1000	20-53101000
1,5	1000	20-52151000
1,5	5000	20-52155000
3	1000	20-52301000
3	2500	20-52302500
3	5000	20-52305000
4,5	1400	20-52451400
6	1000	20-52601000

*The articles belong to the series 8102 xxx-xxx.

Other probe dimensions can normally be delivered within two weeks.

Suitable accessories

- Cables and connectors. See page 13-14.
- Process connections. See page 14-15.

Thermocouple, wire sensor type K



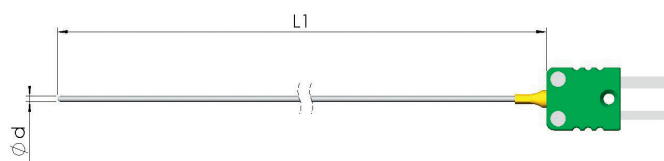
Construction

Thermocouple wire with welded measuring junction, which is exposed to the environment, which in turn means the probe will have very short response time. The wire insulation is available in different materials. The thermocouple is of type K according to IEC 60584, class 1. Read more: www.pentronic.se > *Temperature sensors > Thermocouples > Wire sensors*

► Items

Order code	Model	Insulation material	Max. Temp	L1 mm
11-00225	TF/TF-24-K	PTFE	250 °C	1000
11-00220	HF/D-30-KK	Polyimid	285 °C	1000
11-00320	HF/D-30-KK	Polyimid	285 °C	1500
11-00223	G/G-24-K	Glass fibre	350 °C	1000
11-00224	G/G-24-K	Glass fibre	350 °C	2000

*The articles all belong to the series 8103 xxx-xxx.



Construction

Mineral insulated metal sheathed thermocouple type K for general use. Probe temperature up to 1200 °C depending on diameter and measuring environment. Please, contact Pentronic for more specific information. The connector is moulded and colour coded – green for type K. Read more: www.pentronic.se > *Products > Temperature sensors > Thermocouples > With connector*

Certificate

All thermocouples fulfil IEC 60584-2 class 1. Certificate (EN 10204-3.1) with test results at 100 °C can be downloaded from www.pentronic.se > *Test certificates*

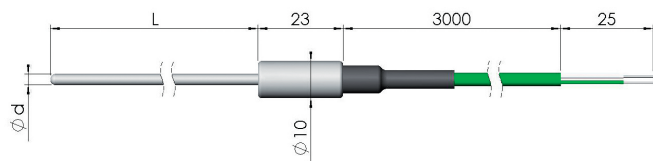
► Items, 8103 type K

Order code	L1 mm	Ød mm	Typ
20-23050250	250	0,5	K
20-23050500	500	0,5	K
20-23051000	1000	0,5	K
20-23080500	500	0,8	K
20-23100500	500	1,0	K
20-23101000	1000	1,0	K

*The articles all belong to the series 8103 xxx-xxx.

Other dimensions can normally be supplied within two weeks.

Thermocouple Metal sheathed with cable



Construction

Metal sheathed cable probe transited to flexible FEP-insulated, screened extension cable in standard size junction (diam. 10 mm). Flying leads terminate the cable. Maximum probe temperature 1200 °C for both type K and N. Read more: www.pentronic.se > Temperature sensors > Thermocouples > With cable

Certificate

All thermocouples fulfil IEC 60584-2 class 1. Certificate (EN 10204-3.1) with test results at 100 °C can be downloaded from www.pentronic.se > Test certificates

► Items, type K

Order code	L1 mm	Ød mm	Type
20-25150250	250	1,5	K
20-25150500	500	1,5	K
20-25300100	100	3,0	K
20-25300250	250	3,0	K
20-25300500	500	3,0	K
20-25301000	1000	3,0	K

* The articles of both tables belong to the series 8105 xxx-xxx

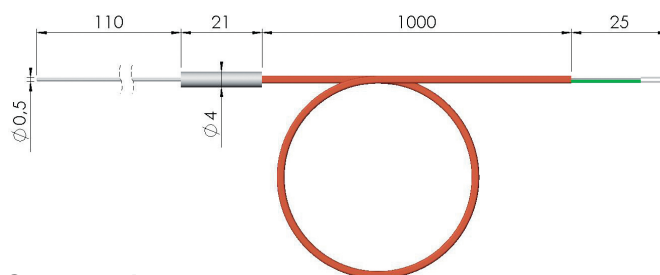
► Items, type N

Order code	L1 mm	Ød mm	Type
20-55151000	1000	1,5	N
20-55300500	500	3,0	N

* The articles of both tables belong to the series 8105 xxx-xxx

- Cables and connectors. See page 13-14.
- Process connections. See page 14-15.

Thermocouple Metal sheathed fine probe with cable



Construction

Very fine (diam. 0.5 mm) metal sheathed cable probe transited to flexible polyimide insulated, screened extension cable in sub miniature size junction (diam. 4 mm). Flying leads terminate the cable. Read more: www.pentronic.se > Temperature sensors > Thermocouples > With cable

Certificate

All thermocouples fulfil IEC 60584-2 class 1. Certificate (EN 10204-3.1) with test results at 100 °C can be downloaded from www.pentronic.se > Test certificates

► Items

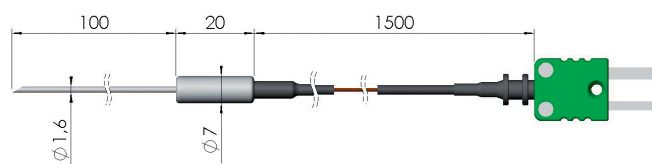
Order code: 8107001-181

* The articles of both tables belong to the series 6201 xxx-xxx.

Suitable accessories

- Cables and connectors. See page 13-14.
- Process connections. See page 14-15.

Thermocouple. Penetration probe



Construction

Thermocouple wire in protection tube with cannula formed probe tip. Polyimide insulated thermocouple wire terminated with miniature connector. Suitable for penetration measurements in e.g. food. Maximum probe temperature 260 °C. Thermocouple wire according to IEC 60584 class 1, type K. Read more: www.pentronic.se > Temperature sensors > Thermocouples > Handheld

Certificate

Certificate (EN 10204-3.1) with test results at 100 °C can be provided on request.

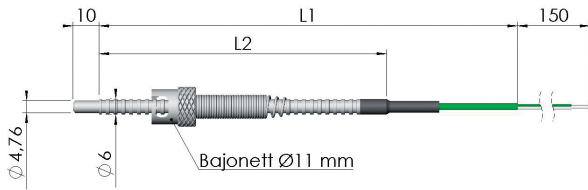
► Items

Order code: 11-00307

* The articles of both tables belong to the series 6305 xxx-xxx.

Suitable accessories

- Cables and connectors. See page 13-14.
- Process connections. See page 14-15.



Construction

Thermocouple wire in protection tube and stainless armoured hose. Spring loaded bayonet adaptor adjustable along the armoured hose. For alternative bayonet adaptor dimensions please contact Pentronic. Read more: www.pentronic.se > *Temperature sensors > Thermocouples > With cable*

Probe

Type J, class 2 (IEC60584-2)

Measuring junction: Grounded.

Protection tube: Stainless steel EN 1.4404

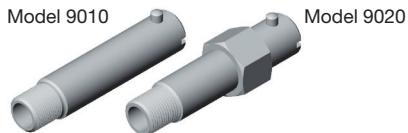
Maximum tip temperature: 500 °C.

Items

Order code	L1 mm	L2 mm
20-00715	1500	1500
20-00730	3000	3000

* The articles of both tables belong to the series 6203 xxx-xxx.

- Cables and connectors. See page 13-14.
- Adaptors, models 9010 and 9020, see table below.



Items

Adaptor length mm	Thread	Thread length mm	Order code Screw type	Order code Screw and hex type
22	3/8"-24UNF	10	9010022-000	
32	3/8"-24UNF	10	9010032-000	9020032-000
44	3/8"-24UNF	10	9010044-000	9020044-000
51	3/8"-24UNF	10	9010051-000	9020051-000
70	3/8"-24UNF	10	9010070-000	9020070-000
83	3/8"-24UNF	10	9010083-000	9020083-000

THERMOCOUPLE ACCESSORIES

Thermocouple wire



The picture shows a sample of wire type, P-24-K, colour coded according to IEC 60584-3. Wire for other thermocouple types as well as dimensions, see www.pentronic.se > *Cables and connectors > Thermocouple wire*

Items

Order code	Temperature °C	Model	Insulation
04-20010	105	P-24-KK	PVC
04-20035	150	N/N-KK	Nylon
04-20120	260	H/FD-30-KK	Polyimid
04-20170	260	K/K-24-KK	Polyimid
04-20140	260	TF/TF-24-KK	PTFE
04-20220	510	G/G-24-KK	Glass fibre
04-20250	700	QTW-20-KK	Glass fibre
04-20260	1200	CEFIR-20K	Ceramic fibre

Extension wire for thermocouples

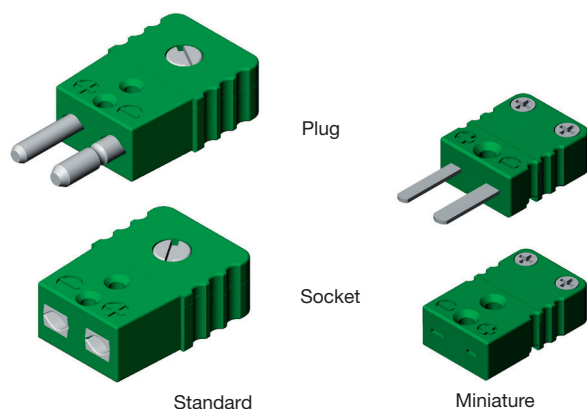


The picture shows a sample of wire type, P/PTW-20-KX, colour coded according to IEC 60584-3. Extension wires for other thermocouple types, multi pair cables as well as dimensions, see www.pentronic.se > *Cables and connectors > Extension cable (TC)*

Items

Order code	Temperature °C	Model	Insulation
04-21010	90	P/PTW-20F-KX	PVC
04-21020	90	P/PTW-24F-KX	PVC
04-21030	90	P/ALPTW-20-KX	PVC
04-21040	90	P/ALPTW-24F-KX	PVC
04-21050	90	P/CUPTW-24F-KX	PVC
04-21110	200	TEX/CUTEXTW-24F-KX	FEP
04-21130	260	HF/HFTWS-20F-KX	Polyimid

Thermocouple connectors



Models in stock, standard and miniature size.

Construction

Connector according to EN 50212:1996. Supplied with split rubber bush. Connector maximum temperature 200 °C. Housing: thermo plastic. Pins and sockets: thermocouple material.

Colour code: IEC 60584-3.

For other connector types and thermocouple types as well as dimensions, see: www.pentronic.se > *Cables and connectors* > *Thermocouple connectors*

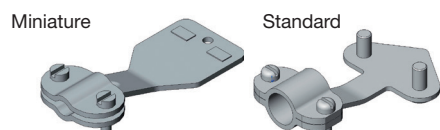
► Items, standard size

Type	Plug	Socket
K	03-21000	03-22000
N	03-51000	03-52000
J	03-11000	03-12000
T	03-31000	03-32000
S/R	03-41000	03-42000
B	03-61000	03-62000

► Items, miniature size

Type	Plug	Socket
K	03-23010	03-24010
N	03-53010	03-54010
J	03-13010	03-14010
T	03-33010	03-34010
S/R	03-43010	03-44010
B	03-63010	03-64010

Cable clamp



► Items

Order code	Suitable connector size	Cable diameter
03-00120	Standard	4.5...6 mm
03-00122	Miniature	2...4.5 mm

PROCESS CONNECTIONS FOR Pt100 AND THERMOCOUPLES

Mounting bracket



Max. temperature

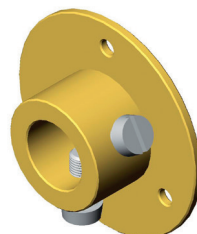
300 °C

For additional models and dimensions see www.pentronic.se > *Process connections* > *Brackets*

► Items

Order code	Model	Hole diameter mm
23-04030	Mounting bracket UZ 21-15	15
23-04040	Mounting bracket UZ 21-22	22

Mounting bracket



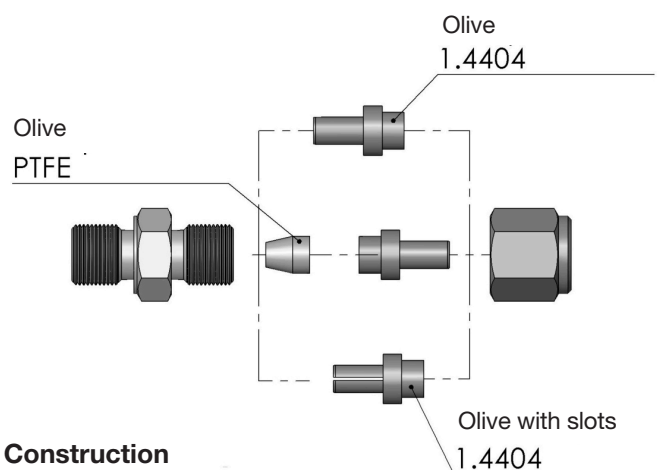
Bracket with two locking screws for mounting temperature sensor to thin plates as in air ducts. Chromated surface. For additional models and dimensions see www.pentronic.se > *Process connections* > *Brackets*

400 °C

► Items

Order code	Hole diameter mm
9050820-001	15,4

Compression fittings, G1/8" and G1/4"



Construction

Compression fitting with olives.

Max. temperature:

- Olive in stainless steel 1.4404 (316L): 600 °C
- Olive in PTFE: 200 °C.

Sealing ability: Complete olive in 1.4404 is tight. Complete olive in PTFE is tight at lower pressure difference. Slotted olive is not tight, it is only to be used as clamping device.

For additional models and dimensions see: www.pentronic.se > *Process connections > Compression fittings*

► Items, Compression fittings G1/8"

Order code	Suited for nom. Ø mm	Olive Material	Tight fitting	Moveable fitting
9041005-001	0,5	EN 1.4404	x	
9041005-002	0,5	PTFE	x	x
9041010-001	1,0	EN 1.4404	x	
9041010-002	1,0	PTFE	x	x
9041010-003	1,0	EN 1.4404		x
9041015-001	1,5	EN 1.4404	x	
9041015-002	1,5	PTFE	x	x
9041015-003	1,5	EN 1.4404		x
9041020-001	2,0	EN 1.4404	x	
9041020-002	2,0	PTFE	x	x
9041020-003	2,0	EN 1.4404		x
9041030-001	3,0	EN 1.4404	x	
9041030-002	3,0	PTFE	x	x
9041030-003	3,0	EN 1.4404		x
9041040-001	4,0	EN 1.4404	x	
9041040-002	4,0	PTFE	x	x
9041040-003	4,0	EN 1.4404		x
9041045-001	4,5	EN 1.4404	x	
9041045-002	4,5	PTFE	x	x
9041045-003	4,5	EN 1.4404		x
9041060-001	6,0	EN 1.4404	x	

For other threads please contact Pentronic.

► Items, Compression fittings G1/4"

Order code	Suited for nom. Ø mm	Olive Material	Tight fitting	Moveable fitting
9042005-001	0,5	EN 1.4404	x	
9042005-002	0,5	PTFE	x	x
9042010-001	1,0	EN 1.4404	x	
9042010-002	1,0	PTFE	x	x
9042010-003	1,0	EN 1.4404		x
9042015-001	1,5	EN 1.4404	x	
9042015-002	1,5	PTFE	x	x
9042015-003	1,5	EN 1.4404		x
9042020-001	2,0	EN 1.4404	x	
9042020-002	2,0	PTFE	x	x
9042020-003	2,0	EN 1.4404		x
9042030-001	3,0	EN 1.4404	x	
9042030-002	3,0	PTFE	x	x
9042030-003	3,0	EN 1.4404		x
9042040-001	4,0	EN 1.4404	x	
9042040-002	4,0	PTFE	x	x
9042040-003	4,0	EN 1.4404		x
9042045-001	4,5	EN 1.4404	x	
9042045-002	4,5	PTFE	x	x
9042045-003	4,5	EN 1.4404		x
9042060-001	6,0	EN 1.4404	x	
9042060-002	6,0	PTFE	x	x
9042060-003	6,0	EN 1.4404		x
9042080-001	8,0	EN 1.4404	x	
9042080-002	8,0	PTFE	x	x

For other threads please contact Pentronic.

Compression fittings, G1/2" and G1"



A graphite gasket tightens and locks.

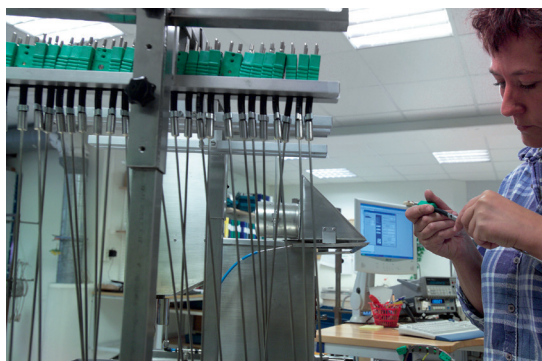
450 °C

Mechanical parts made of stainless steel EN 1.0715.

For additional models and dimensions see: www.pentronic.se > *Process connections > Compression fittings*

► Items

Order code	Model	Thread G	Suited for nom. Ø mm
23-04055	UG 2-15-G1/2" Graphite	G1/2"	15
23-04050	UG 2-22-G1" Graphite	G1"	22



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