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ATEX Multipoint temperature sensors



Resistance probes for silos may be anchored to the structure or to a concrete screed, as preferred.

Connection housings in aluminium or stainless steel with protection class IP 6x allow the replacement of the measuring insert when the silo is full.

Connection of the measuring cable to the IP 6x housing according to EN 60079-31.

Pt100 or Pt1000 resistive elements according to EN 60751, NTC and PTC resistors or digital sensor offer highprecision and repeatability of measurements.

Replaceable measurement cable

- Outer sheath: diameter 5,4 mm
- Multiconductors
- Colour identification of conductors
- C2 cable NFC 32070

Upper anchorage

- Using a U bolt and support plate for silos with metal structures
- Probe head with a system for blocking the support cable
- Using a support plate with aluminium or stainless steel case with the probe head and its blocking system

Lower anchorage

- Foot of probe, mechanical fuse holding hole, diameter 11 mm

Technical data

Support cable

- PEHD conduit with surface resistance < 100 000 Ohm/cm
According to EN 60079-0 section 7.4.3
- stainless steel external protection conduit

Indoor installation

- AG4,5 terminal head

Outdoor installation

- stainless steel 1.4306 terminal head
- Version 4 with mounting plate, stainless steel 1.4435
- Version 5
- Stainless steel fasteners

Number of measuring point

- Resistive sensor: 1 to 18
- Digital sensor: 1 to 30





Specifications

Explosion Group III - Categories 1 to 3 - Dust
Zone 20, 21 and/or 22
Protection rating: Da, Db, Dc

According to :
EN 60079-0 (2018) EN 60079-11 (2012) EN 60079-39 (2009)

Protection by enclosure "t" - Intrinsic safety protection mode 'i'

Measuring insert

Standardised metal resistor in platinum, Pt100, Pt500, Pt1000 Ohm etc. according to EN 60751 or measuring insert with negative or positive temperature coefficient, NTC, PTC..

Tolerance classes of resistance probes according to IEC 60751

Tolerance class for thermometers			
Class	Validated temperature range		Tolerance
	Wire-wound resistor	Platinum film resistor	
AA	- 50 to + 250 °C	0 to + 150 °C	$\pm [0,1 + 0,0017 * (T^\circ)]$
A	- 100 to + 450 °C	- 30 to + 300 °C	$\pm [0,15 + 0,002 * (T^\circ)]$
B	- 196 to + 600 °C	- 50 to + 600 °C	$\pm [0,3 + 0,005 * (T^\circ)]$

Digital sensor DS18B20

The use of digital sensors eliminates the influence of cable length on the measurement process.
They transmit the measured value via a communication protocol, which greatly simplifies the wiring
3 wires maximum, whatever the number of sensors.

It contains 3 terminals:

- a + terminal (3 to 5 Volts)
- a - terminal (GND)
- a communication bus terminal



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Protection mode : Intrinsic safety protection mode 'i' protection by enclosure "t" (Dust)	
Data sheet	903530 Pt 100 Ohm, Pt 1000 Ohm, NTC, Digital sensor DS18B20
Type	Multipoint temperature sensor
Position	903530/1 Version 1 - basic temperature probe 903530/2 Version 2 - temperature probe for fastening on structure 903530/3 Version 3 - Temperature probe or fastening on concrete Indoor installation 903530/4 Version 4 - Temperature probe for fastening on concrete outdoor installation 903530/5 Version 5 - Structure with bracket + certified housing Indoor installation 903530/6 Version 6 - Structure with bracket + certified housing Outdoor installation
Protection mode	11 Resistive sensor Ex ia IIIC T ₂₀₀ 100°C Da – DEKRA 20ATEX0014 X 12 Digital sensor : Ex ia IIIC T ₂₀₀ 100°C Da – DEKRA 20ATEX0014 X 13 Resistive sensor : Ex ta IIIC T85°C Da – LCIE 00 ATEX 6015 X
Atmosphere	Dust - Zone 20
Measuring insert	Interchangeable
Connecting cable	PVC, ambient temperature: -5 to +80 °C (+100/+105 °C) Extra code : additional protection by metallic sheath (example : Stainless flexible sheath, simple fastening)
External protection tube (conduit)	PEHD : - diameter d= 17 mm - cable frame 24-wire galvanized - internal sheath : PEHD - Inox 304 : - diameter d= 15 mm - stainless steel 1.4436, 75-wire reinforcement - internal sheath : PVDF
Dimensions	Lenght L : from 0 to 60 000 mm Lenght Lc : from 100 to 100 000 mm
Terminal head	Aluminium AG4,5 for executions 1, 2, 3 and 5 Stainless steel AISI 304L for executions 4 and 6
Foot of the probe	Stainless steel AISI 304L with an upper guide section d= 11 mm
Realised tensile test	- Head mounting : PEHD sheath maximum value bevor break 18,6 KN - Crimped foot of probe : maximum value bevor break 21,3 KN - Reinforced foot of probe maximum value bevor break 23,7 KN
Constant of mounting sleeve	- 12 °C/W for Pt 1000 Ohm - 10 °C/W for Pt 100 Ohm
Connecting housing associated with the protectionmode	For executions 5 and 6 : Certified II 2 D - according to EN 60079-31/EN 60079-0
Electrical values	DEKRA 20ATEX0014 X - Resistive sensor : U _i :25V DC ; I _i :50mA ; P _i :250mW ; C _i =0nF ; L _i =0mH - Digital sensor : U _i :5,5V DC ; I _i :550mA ; P _i :5650mW ; C _i =200pF ; L _i =1µH LCIE 00 ATEX 6015 X Un ≤ 28 V ; In ≤ 2mA

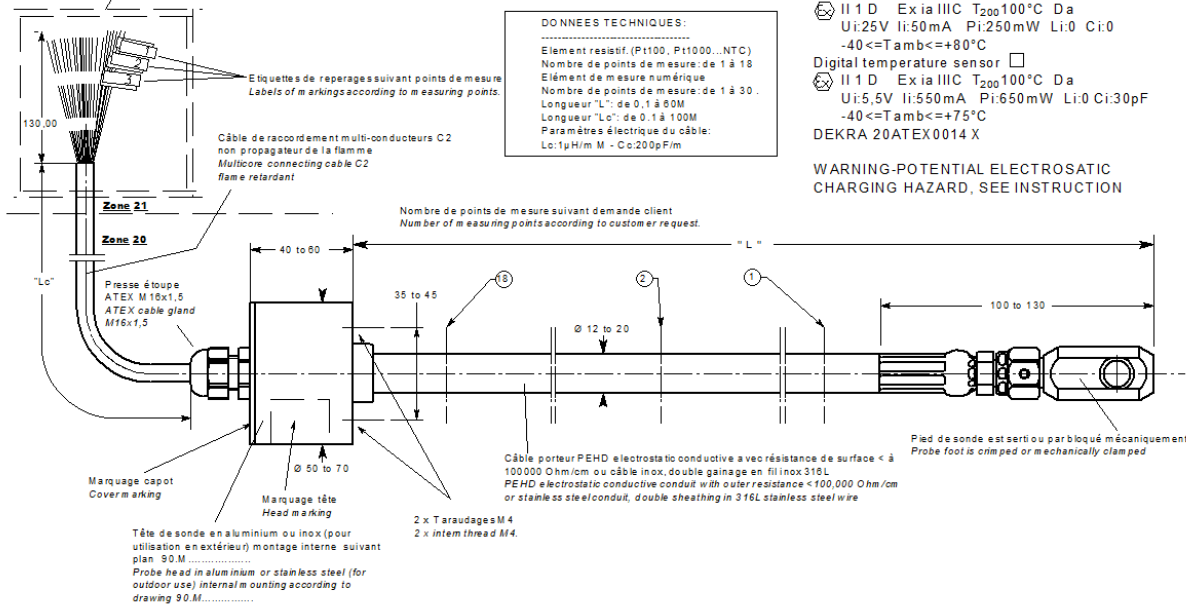


Version 1 : basic type



EXECUTION 1 (903530/1..)

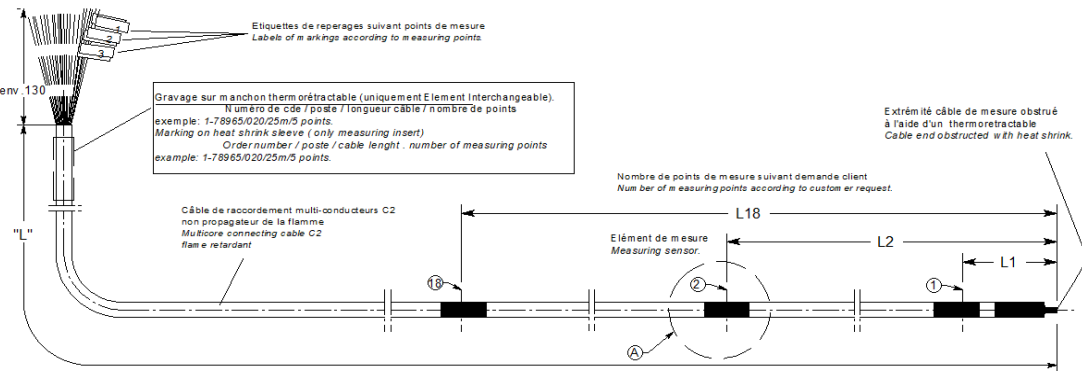
Pour un raccordement en zone dangereuse, l'utilisation d'un boîtier d'un niveau de protection "tb" IP 6X est impératif.
 For connection in hazardous area, to be use imperatively a terminal box with protection level "tb" IP 6X.



DONNEES TECHNIQUES:

Element resistif (Pt100, Pt1000...NTC)
 Nombre de points de mesure: de 1 à 18
 Elément de mesure numérique
 Nombre de points de mesure: de 1 à 30
 Longueur "L": de 0,1 à 60M
 Longueur "Lc": de 0,1 à 100M
 Paramètres électrique du câble:
 Lc: 1µH/m M - Cc: 200pF/m

Resistive measuring insert



DONNEES TECHNIQUES:

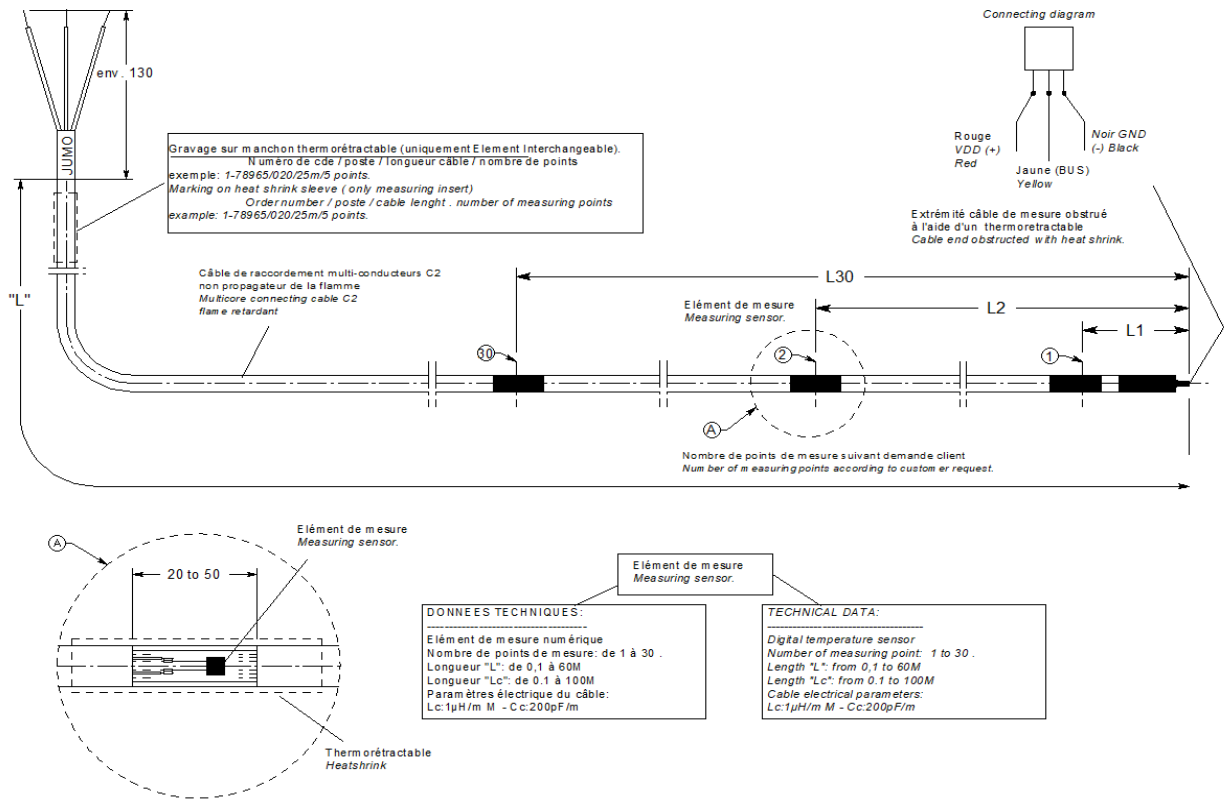
Element resistif (Pt100, Pt1000...NTC)
 Nombre de points de mesure: de 1 à 18
 Longueur "L": de 0,1 à 60M
 Paramètres électrique du câble:
 Lc: 1µH/m M - Cc: 200pF/m

TECHNICAL DATA:

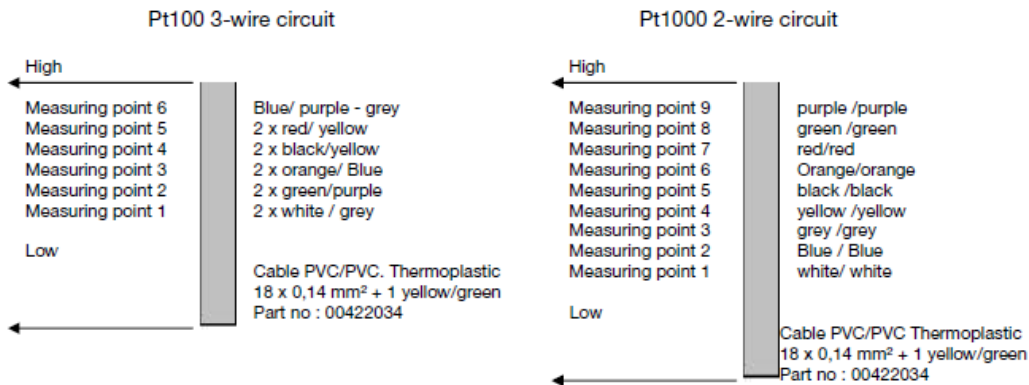
Resistif sensor (Pt100, Pt1000...NTC)
 Number of measuring point: 1 to 18
 Length "L": from 0.1 to 60M
 Length "Lc": from 0.1 to 100M
 Cable electrical parameters:
 Lc: 1µH/m M - Cc: 200pF/m



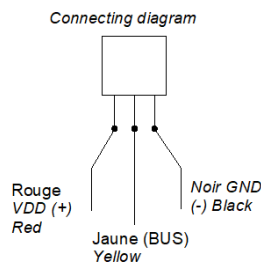
Digital sensor measuring insert



Connecting diagram

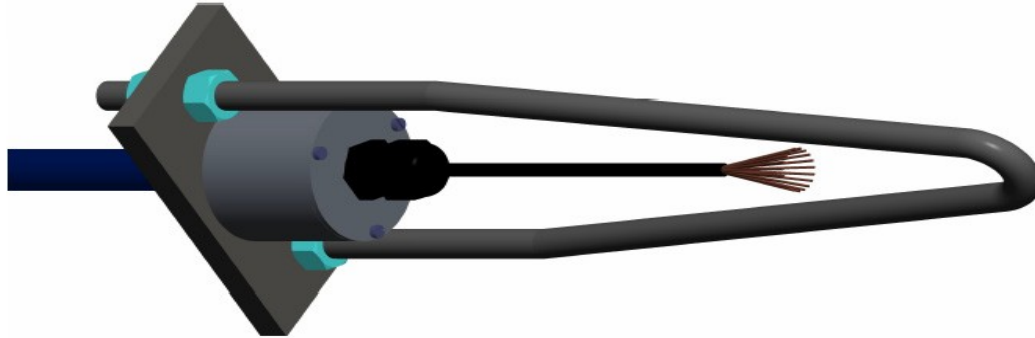


Digital sensor



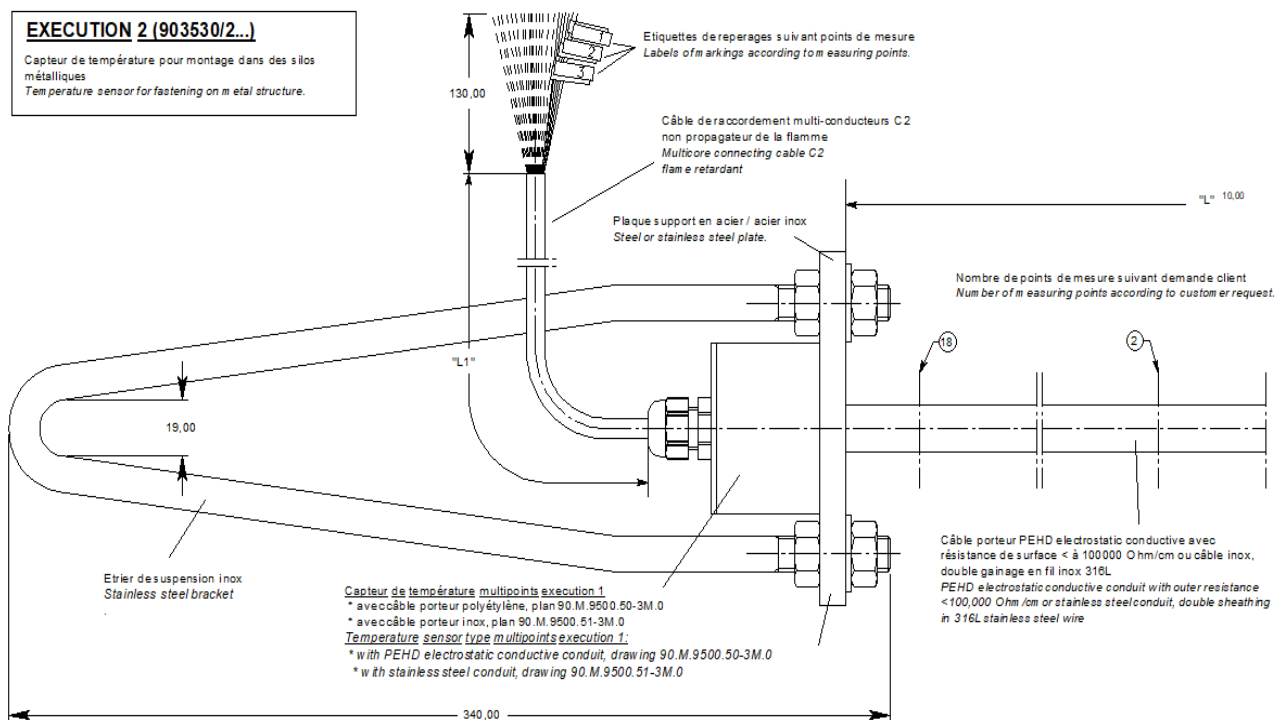


Version 2: version for metal silo



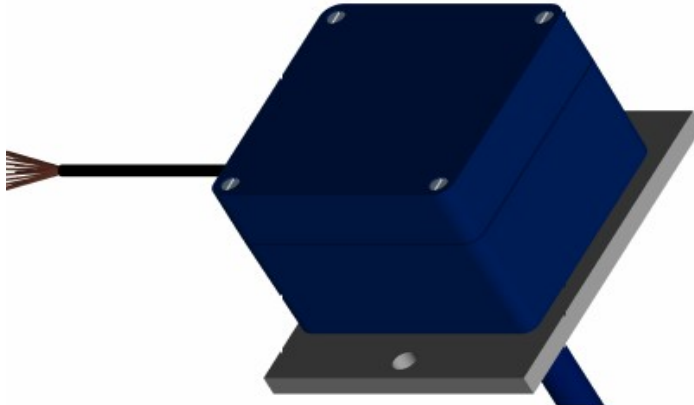
EXECUTION 2 (903530/2...)

Capteur de température pour montage dans des silos métalliques
 Temperature sensor for fastening on metal structure.





Version 3 and 4 : for concrete/metal silo - indoor or outdoor installation



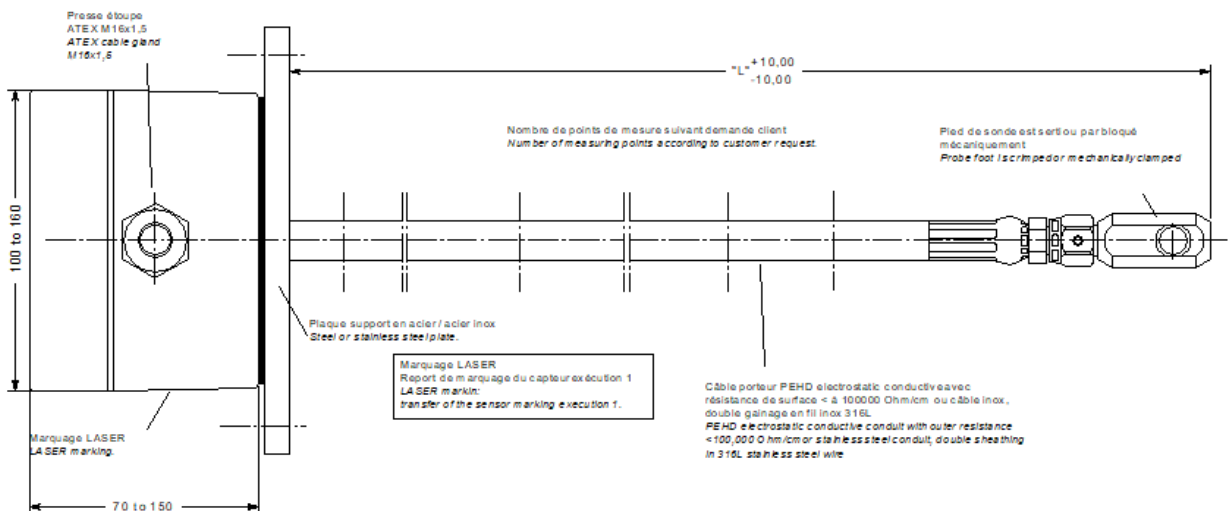
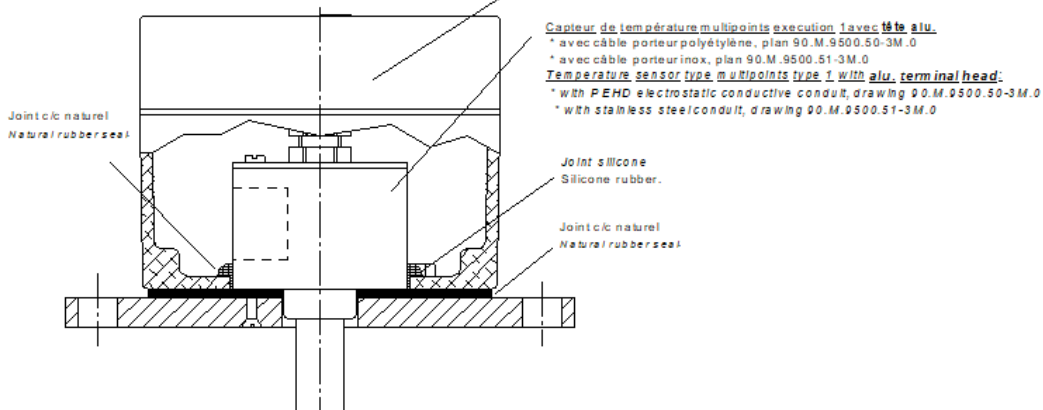
Version 3 : terminal head aluminium

Version 4 : terminal head stainless steel

EXECUTION 3 (903530/3..)

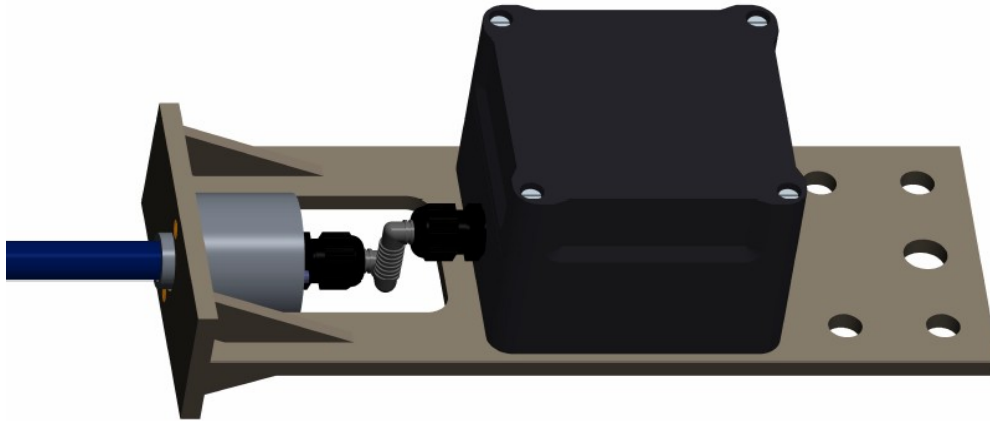
Capteur de température pour montage dans des silos béton / m métalliques - montage en intérieur
 Temperature sensor for fastening on concrete / metal silo
 indoor installation

Bollier de raccordement alu. IP65 mini
 Alu. Junction box IP 65 mini

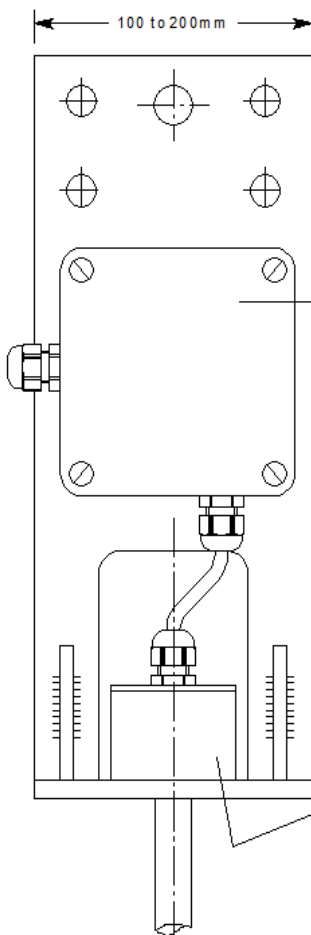




Version 3 and 4 : for concrete/metal silo - indoor or outdoor installation



Case according to
 EN 60079-0 and/or
 EN 60079-31



EXECUTION 5 (903530/5..)

Capteur de température pour montage dans des silos béton / métalliques - montage en intérieur
 Temperature sensor for fastening on concrete/metal silo indoor installation

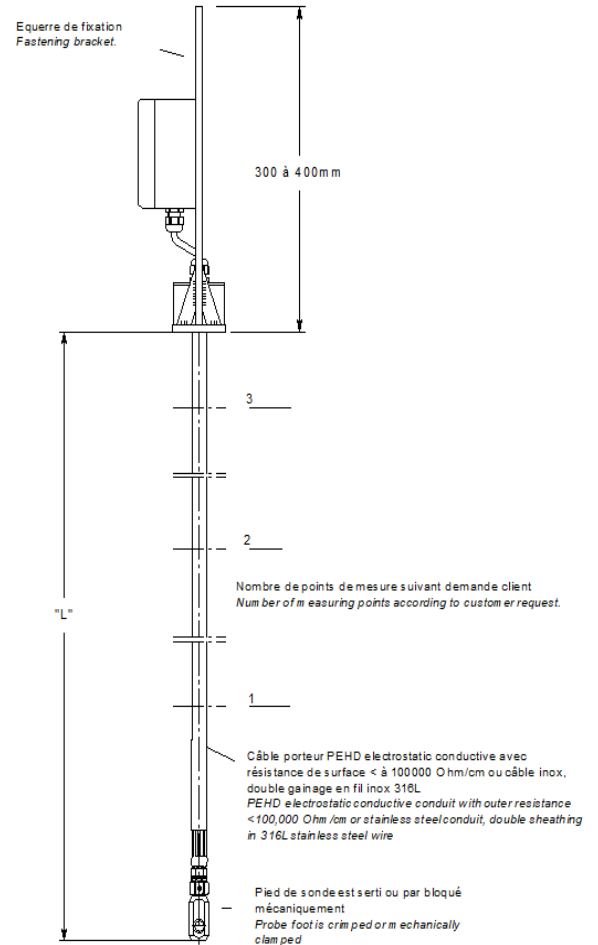
Boîtier de raccordement ATEX+ presse étoupe certifiés II 2 GD conforme aux normes NE 60079-0 et EN 60079-31
 ATEX junction box and cable gland II 2 GD certified according to EN60079-0 and EN60079-31.

Capteur de température multipoints execution 1 avec tête alu.

- * avec câble porteur polyéthylène, plan 90.M.9500.50-3M.0
- * avec câble porteur inox, plan 90.M.9500.51-3M.0

Temperature sensor type multipoints type 1 with alu. terminal head:

- * with PEHD electrostatic conductive conduit, drawing 90.M.9500.50-3M.0
- * with stainless steel conduit, drawing 90.M.9500.51-3M.0





Order details: Multipoint temperature sensors

(1) Basic type

903530/1	Version 1 Basic temperature probe
903530/2	Version 2 for metal silos
903530/3	Version 3 For concrete / metal silo indoor
903530/4	Version 4 For concrete / metal silo outdoor
903530/5	Version 5 For concrete / metal silo indoor
903530/6	Version 6 For concrete / metal silo outdoor

(2) Protection mode

11	Resistive Sensor Ex « ia »
12	Digital Sensor Ex « ia »
13	Resistive Sensor Ex « ta »

(3) Measuring insert

1001	Pt 100 class B, in 3 wire circuit
1003	Pt 100 class B, in 2 wire circuit
1006	Pt 1000 class B, in 3 wire circuit
1005	Pt 1000 class B, in 2 wire circuit
1560	Digital Sensor DS18B20

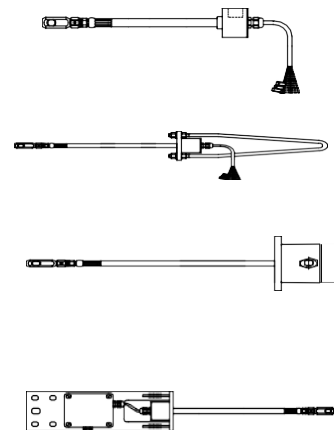
(4) Number of measurement points
Specify in plain text

Protection tube length in m
Specify in plain text

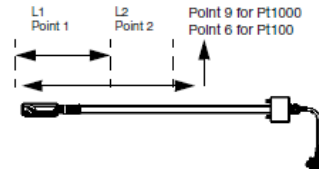
(4) Cable length in m
Specify in plain text

(5) Protection tube material

02	Protection tube, stainless steel ø 18
04	PEHD Electrostatic conductive conduit

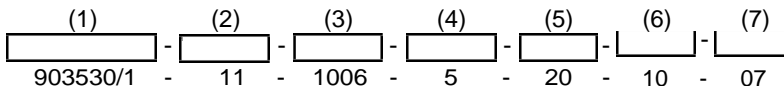


Foot of probe



Order code

Order example



Unless otherwise specified, the measuring points are distributed at an equal distance over the immersion depth with the probe foot as the zero.
 Otherwise, please specify the exact length between each measurement point and the foot of the probe (see below the value in metres of L1, L2 and so on up to L9)

For replaceable measurement inserts, please refer to technical data sheet 909740
 Example: 909740 / 99 - 635 - 1005 - 1 - 5,4 - 7000 / 100 (100: number of point + distribution to be specified)