Operating instructions

for

Capacitive level transmitter

Model NMC

2 Wire (4 to 20mA)

1. Content

1. Content....2
2. Note....3
3. Instrument inspection....3
4. Description....3
5. Application....3
6. Current simulation....4
7. Installation....4
8. Electrical connection....5
9. Programming....6
9.1 Calibrating probe....6
9.2 Output Adjustment....7
9.3 Output simulate....8
9.4 Language....9
10. Technical Data....10
10.1 Process temperature range....11
10.2 Process pressure range....11
11. Safety Instructions (ATEX)....12
11.1 Validity....12
11.2 General considerations....12
11.3 Protection against ESD (electrostatic discharges)....12
11.4 Chemical resistance....12
12. Installation in classified zone (ATEX)....13
13. Label Description (ATEX)....13
14. Disposal....14
15. Declaration of conformity ATEX....15
16. UE Declaration of Conformity....16
17. UK Declaration of Conformity....17
18. ATEX Certified....18
19. Models....23
20. Order details.....24

Manufactured by: **Kobold Mesura S.L.U**
Avda Conflent Nº68 Nave 15, 08915 Badalona
Tel.: +34 93 460 38 83
Fax: +34 93 460 38 72
E-Mail: info.es@kobold.com
Internet: www.kobold.com
Edition: March 2024

2. Note

Please read these operating instructions before unpacking and putting the unit in operation. Follow the instructions precisely as described herein.
The instruction manuals on our website WWW.kobold.com are always for currently manufactured version of our products. Due to technical changes, the instruction manuals available online may not always correspond to the product version you have purchased. If you need an instruction manual that correspond to the purchased product version, you can request it from us free of charge by email (info.de@kobold.com) in PDF format, specifying the relevant invoice number and serial number. If you wish, the operating instructions can also be sent to you by post in paper form against an applicable postage fee.

The devices are only to be used, maintained and serviced by persons familiar with these operating instructions and in accordance with local regulations applying to Health & Safety and prevention of accidents.

When used in machines, the measuring unit should be used only when the machines fulfil the EC-machine guidelines.

3. Instrument inspection

Instruments are inspected before shipping and sent out in perfect condition.

Scope of delivery

The standard delivery includes:

- Capacitive Level Transmitter NMC
- Cable gland M20
- Operating Instructions

4. Description

The NMC transmitter is a two-wire capacitance level transmitter for measuring continuous level in tanks containing liquids.

5. Application

The probe of the NMC and the wall of the tank, forms an electric capacitor. The dielectric of this capacitor when the tanks is empty, is the air.
When the liquid reaches the probe, the dielectric constant formed by the unit and tank, changes.
An electronic circuit sited in the connecting module of NMC, converts this capacity change in a variable current and proportional to the height of the liquid.

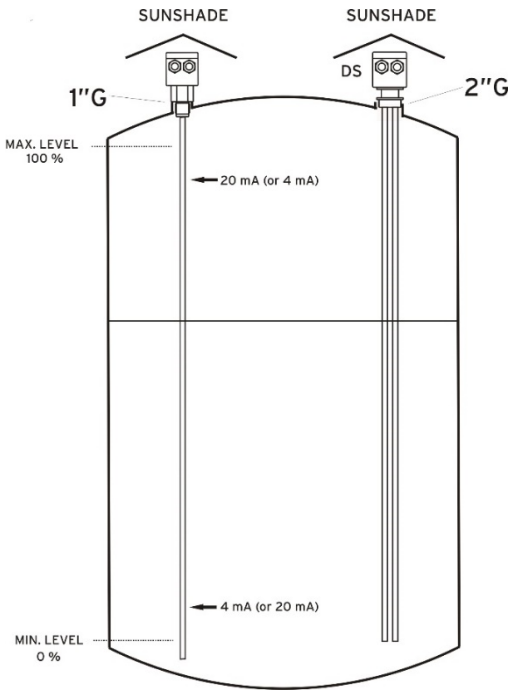
Due to each application is different, given that the kind and the measures of the tank and the products that it contains change, every unit must be adjusted to be adapted to each tank and product.
Using the menus of the NMC, this operation is very easy.
The circuit, controlled by microprocessor, stores all data and does the calculation. A display LCD guides us in the calibration process.
The output current signal is 4 to 20 mA. These values can be sited where we want in the probe.

6. Current simulation

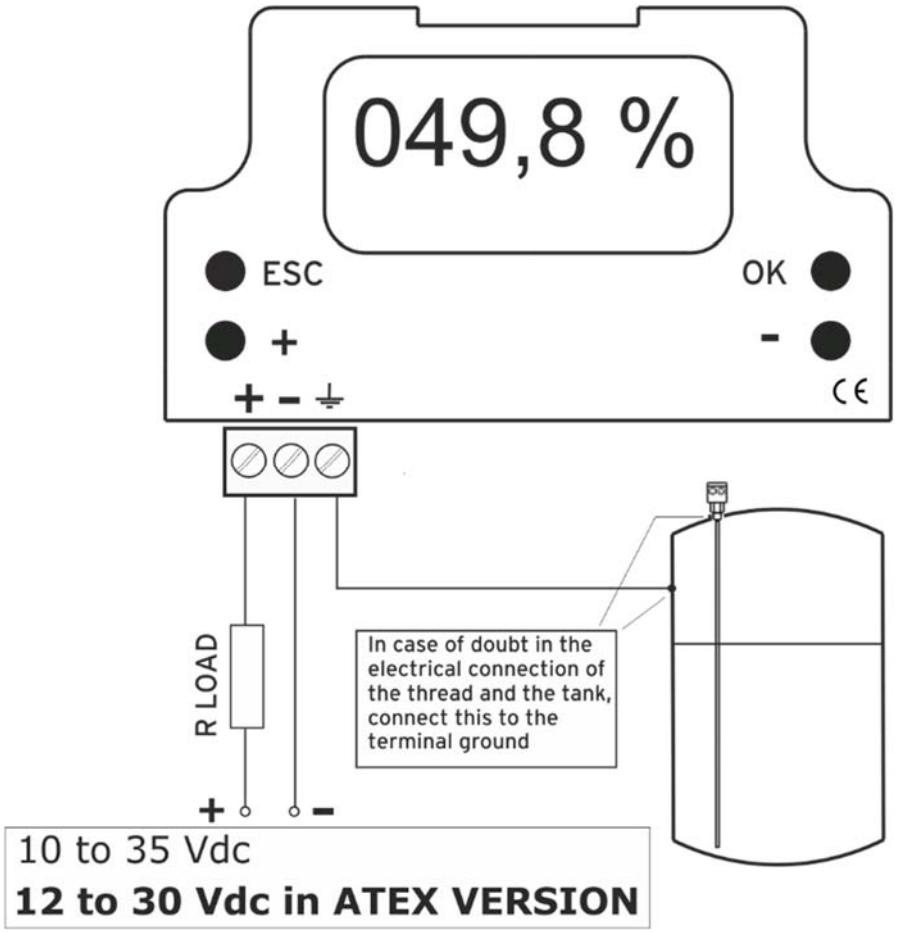
Using this option, the NMC generates in the supply loop, a 4 to 20 mA current, in steps of 1 mA. This function is very useful to make tests with independence of the level of the tank.

7. Installation

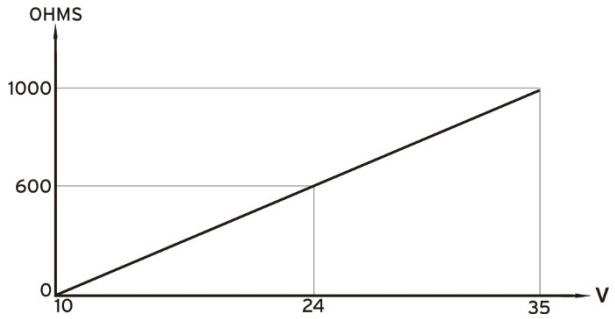
The NMC is installed using a G1” (G2” in DS version).
The probe must be installed avoiding a good contact between the probe and the tank’s wall.
Electronic of the NMC unit should be protected with shelter against development of too high temperature by direct sunshine.
Be ensured that the connection to the tank has been done properly. The NMC ’s thread should not be forced.
The electrical connection between the thread and the tank must be good.



8. Electrical connection

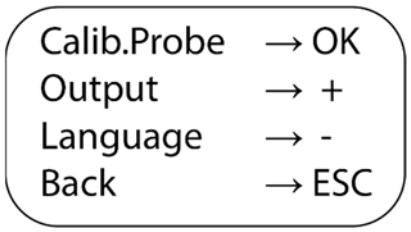


The maximum resistance of the line in serial, depends on the power supply. These values have to be bear in mind for the good run of the NMC .

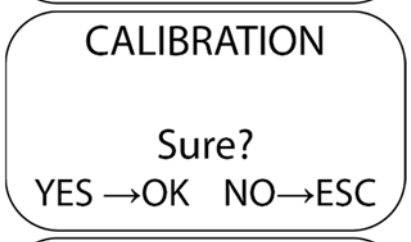


9. Programming

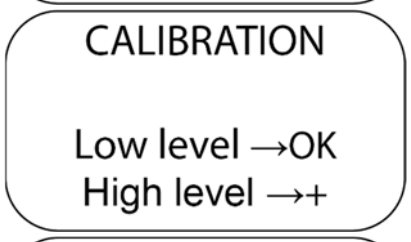
9.1 Calibrating probe



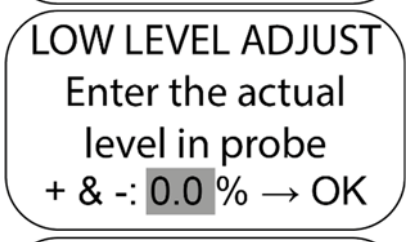
Pressing any key, you enter in the main menú.
Press (OK) to enter in calibration probe.



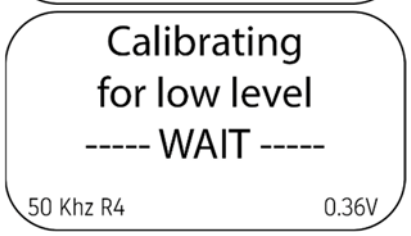
To avoid mistakes, asks again if you are sure that, you want to calibrate the unit. Press (OK) another time to enter.



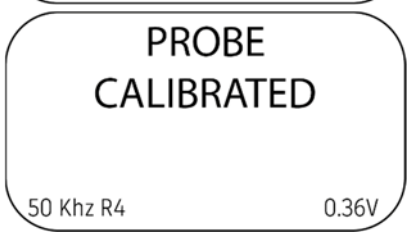
If the level in the tank is low, we will choose the (OK) option to adjust the unit with the lowest level.



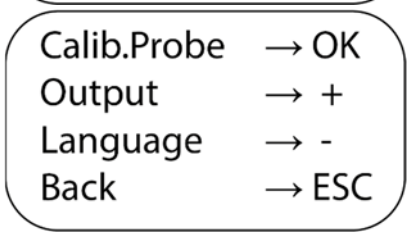
If, for example, when you adjust the low level, the level of the tank is the 0 % of the capacitance, we will indicate it in the display using the (+) and (-) keys. Confirm with (OK).



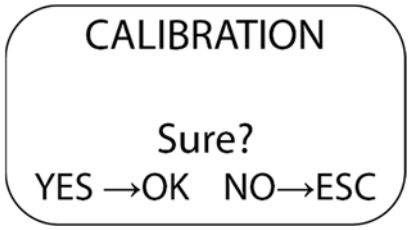
In this moment the microprocessor makes the operations to choose the best measurement range. This operations takes some seconds.



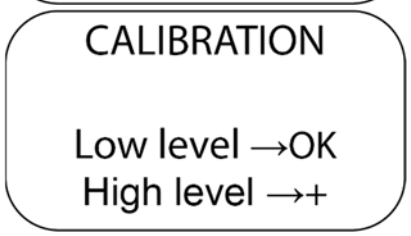
When this operation is finished, the display shows the message “PROBE CALIBRATED”.



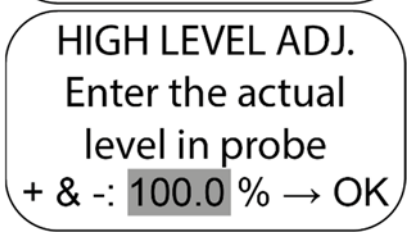
Automatically the display show the main menu.
Now need calibrate the High Level, then pressing (OK) another time to enter in the calibration probe menu.



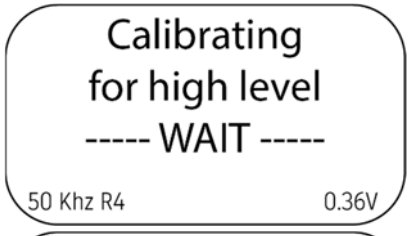
To avoid mistakes, asks again if you are sure that you want to calibrate the unit. Press (OK) another time to enter.



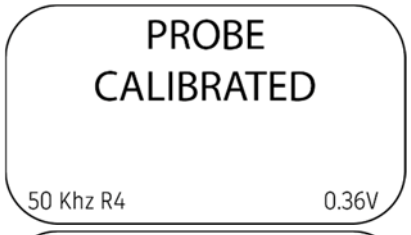
Pressing (+) we enter in High level calibration.



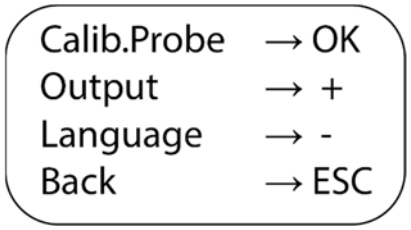
If when you adjust the high level, the liquid in the tank is 100 % of the capacitance, we will indicate it in the display using the (+) and (-) keys. Confirm with (OK).



The microprocessor makes the operations to calibrate the maximum level of the unit. This operation takes some seconds.

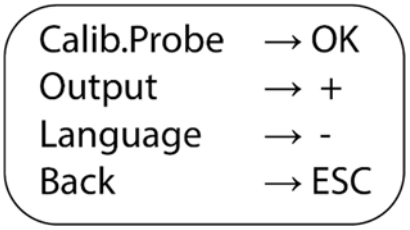


The display shows this message to indicate NMC has finished the calibration internal process.
When the liquid level will be in the minimum point, it will indicate 000.0 % and when the liquid level will be in the maximum, 100.0 %.

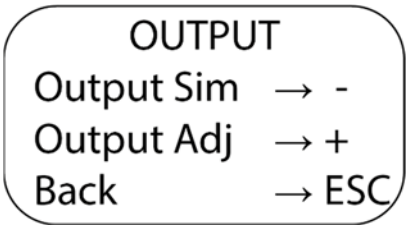


Automatically, the display shows the main menu.
Pressing ESC the unit return to read state.
Pressing (+) we can enter in output adjustment.
menu and simulation mode.

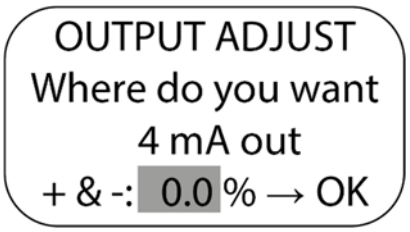
9.2 Output Adjustment



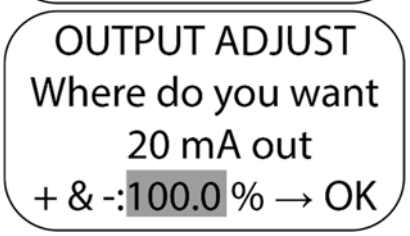
Pressing any key, you enter in the main menu.
Press (+) to enter in Output.



Pressing (+), we enter in Output adjustment menu.

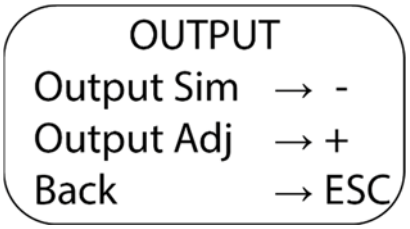


This asks, where do you want the NMC gives us mA. If you want it in 0 % of the probe. Using (+) and (-) we indicate this value in the display. Confirm with (OK)

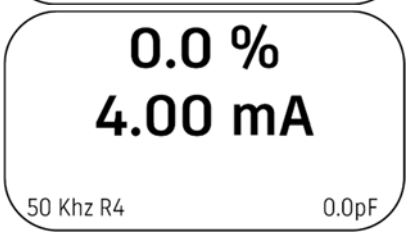


We do the same for the 20 mA. In this case, if we want this current in the 100 % of the probe, we will indicate this value using (+) and (-). Confirm with (OK)

Finished the adjustment, we can incorporate a filter to avoid oscillations caused by quick movements of the liquid's surface. This value between 0 and 5 (maximum filter). Confirm with (OK)

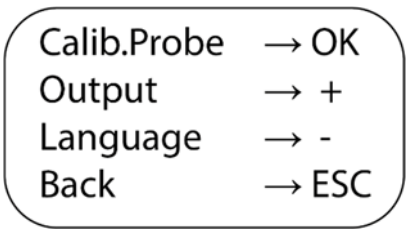


Automatically return to output menu.
Pressing ESC return to measuring mode.

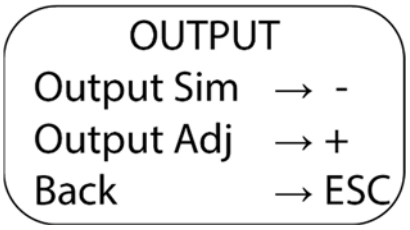


In this point, the NMC is adjusted. The number in % indicates the height that reaches the level in the probe (0 to 100). The value of the current will depend of the adjustment of the points 3 and 4 of this section, and it can be in any point of the probe. It can be 4 mA in maximum point and 20 mA at the minimum point.

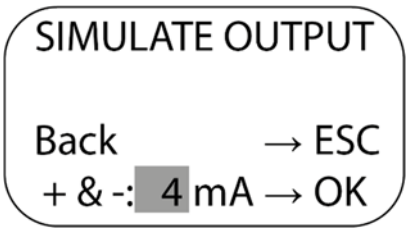
9.3 Output simulate



Pressing any key, you enter in the main menu.
Press (+) to enter in Output.

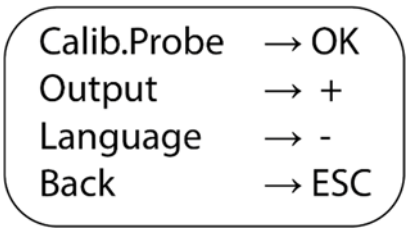


Pressing (-), we enter in simulate output menu.

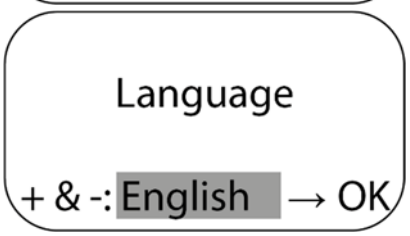


In this screen, using the (+) and (-) keys, the loop current (2 wire) will change in steps of 1mA. With this option, you can do current testes without generator.
Pressing (OK) return to menu show in point 2.
Pressing (ESC) return to read mode.

9.4 Language



Pressing any key, you enter in the main menu.
Press (+) to enter in Output.



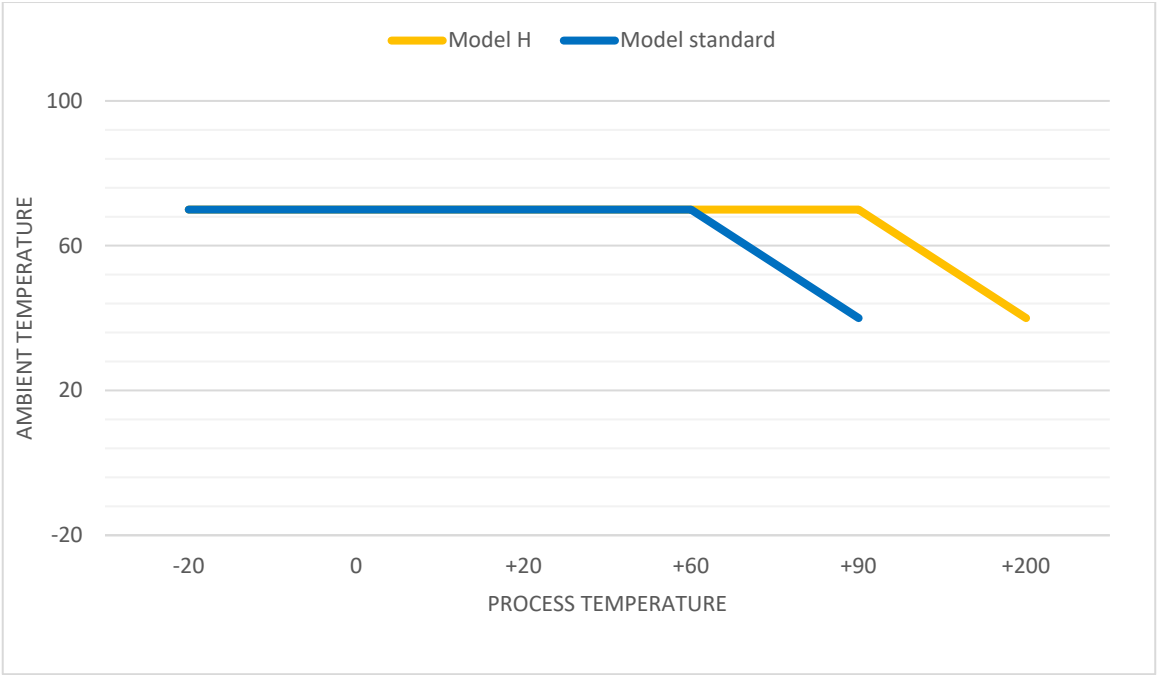
Pressing (+) or (-) we can choose the language for the display.
Language available: Spanish, English, German, Italian, French, Portuguese, Catalan.
Pressing (OK) return to main menu in language selected.

10. Technical Data

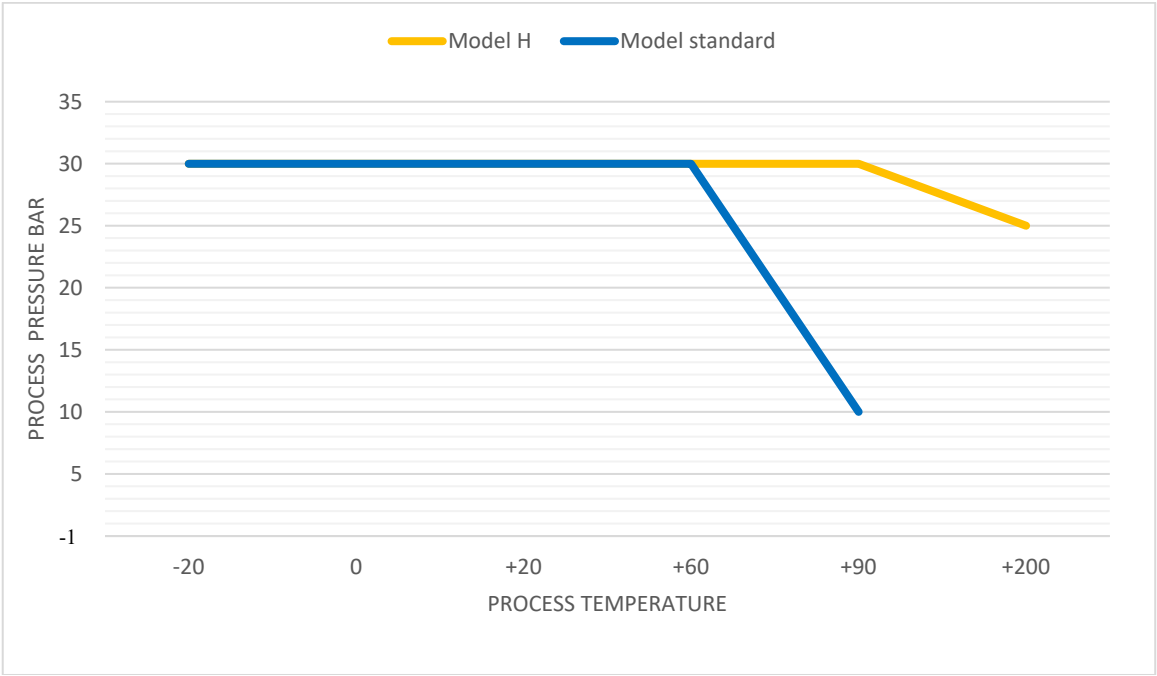
Note:	Kobold Mesura makes every attempt to ensure the accuracy of these specifications but reserves the right to change them at any time.

Measuring principle:	Capacitive (for liquids up to 1000 pF)
Probe length:	265…4000 mm (shorter versions on request)
Accuracy:	±2 mm
Medium temp.:	standard -20…+ 90 ºC, NMC-H -20…+200 ºC
Max. pressure.:	-1…30 bar
Media DC-value:	ε_r = min. 1.5
Materials:	Housing: Polycarbonate Connection: St.steel 1.4305 (NMC-N,NMC-T,NMC-H) PVDF (NMC-S) Probe: - St.steel with PTFE coating (NMC-N, NMC-T) - PVDF coating (NMC-S)
Mech. connection:	G1 male (NMC-N, NMC-H, NMC-T) G2 male (NMC-S)
Supply voltage:	10…35 Vdc 12…30 Vdc for ATEX
Electr. connection:	1 x cable gland M20
Output:	4-20mA, two-wire
Protection:	IP 65
ATEX	Ex II 2/1 GD Ex ia IIC T4 Gb/Ga Ex ia IIIC T85ºC Db/Da 20ºC≤Ta≤+60ºC

10.1 Process temperature range



10.2 Process pressure range



11. Safety Instructions (ATEX)

11.1 Validity

These safety instructions must be applied to the capacitive level transmitters series NMC...E when used in explosive atmospheres.

11.2 General considerations

Working principle of NMC..E is capacitive and these instruments are used to measure and control the level on a liquid of any zone. Including zones with explosion risk.
Level instruments NMC..E have an analogue output 4-20 mA two wires, and are used to measure the level in a tank. They can be used in explosive atmospheres group IIA, category 1/2GD
NMC..E have a housing with the electronic module and a probe that can be rigid (one or two roads) or flexible.
The probe can be installed in explosion risk areas 1/2GD.
The process connection element and the housing must be installed in area 2GD.
When installing these instruments in explosive zones, all general instructions and recommendations regarding installations in explosive zones, as well as the instructions of this safety manual must be followed.
Verify that all data in the label of the instrument fits the installation requirements.
EN60079-0, EN60079-11, EN60079-26, EN60079-31 must be followed.
Switch off power supply before open housing or be sure there is no explosion risk.
Verify that housing is closed before switch on the instrument.
It is very important to verify that ground terminal of the instrument is connected to ground of the installation.
Installation in hazardous zones must be done by trained people.

11.3 Protection against ESD (electrostatic discharges)

Instruments with plastic parts that can produce electrostatic discharges, have a label for it.

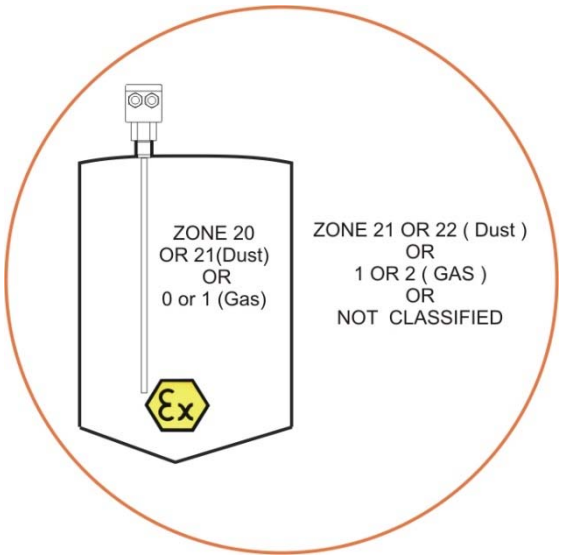
It is important to follow some rules to avoid ESD:
-Avoid frictions.
-Do not clean the instrument with a dry cloth.
-Do not install in locations close to pneumatic flow of materials or close to steam exhaust systems.

11.4 Chemical resistance

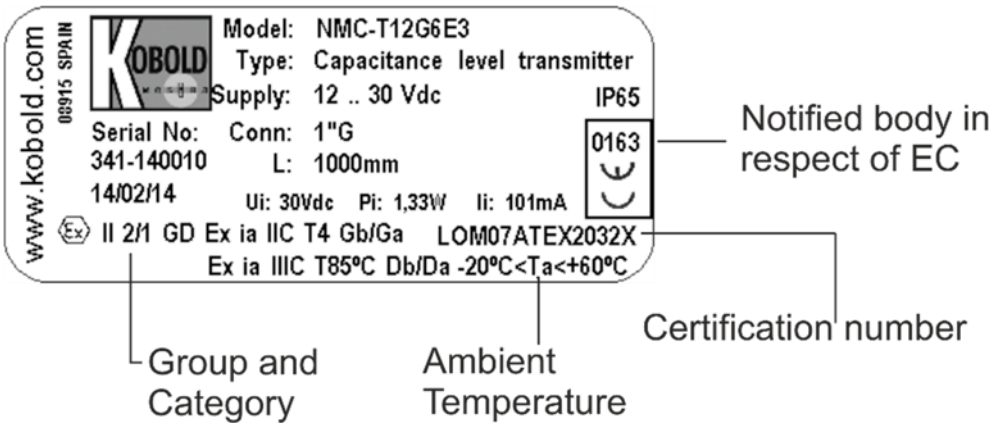
Materials in touch with the instrument must be chemically resistant specially when used in hazardous zones category 1/2GD.

12. Installation in classified zone (ATEX)

In classified zones, NMC EX version, must be installed with the housing in zone 21, 22 dust and 1, 2 for Gas (category 2) or NOT CLASSIFIED.
Process connection is mounted in the border wall between areas of category 2 and 1.
Probe can be mounted in ZONE 20,21 or 0,1 (category 1).
Installation must be done by people trained in ATEX environments.



13. Label Description (ATEX)



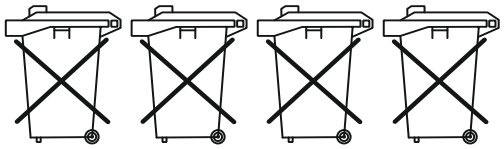
14. Disposal

Note!

- Avoid environmental damage caused by media-contaminated parts
- Dispose of the device and packaging in an environmentally friendly manner
- Comply with applicable national and international disposal regulations and environmental regulations.

Batteries

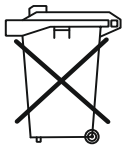
Batteries containing pollutants are marked with a sign consisting of a crossed-out garbage can and the chemical symbol (Cd, Hg, Li or Pb) of the heavy metal that is decisive for the classification as containing pollutants:



Cd[1] Hg[2] Pb[3] Li[4]

1. „Cd" stands for cadmium
2. „Hg" stands for mercury
3. „Pb" stands for lead
4. „Li" stands for lithium

Electrical and electronic equipment



15. Declaration of conformity ATEX

DT0164

DECLARACIÓN DE CONFORMIDAD EU

EU DECLARATION OF CONFORMITY
EU-KONFOMITÄTSERKLÄRUNG
DÉCLARATION DE CONFORMITÉ
DICHIARAZIONE DI CONFORMITÀ EU

KOBOLD MESURA SLU
Avda. Conflent 68, nave 15 08915 Badalona (España)

Declara, bajo la propia responsabilidad, que el producto
Declares under our sole responsibility, that the product
Erklärt in alleiniger Verantwortung, dass das produkt
Déclare sous sa seule responsabilité, que le produit
Dichiara sotto la propia responsabilità, che il prodotto

NMC…E

A los cuales se refiere esta declaración, son conformes a las siguiente Directivas Europeas:
To which this declaration relates is in conformity with the following European Directives:
Mit folgenden Richtlinien konform ist:
À auxquels se réfère cette déclaration, ils sont conformes aux Directives Européennes suivant :
A ai quali si riferisce questa dichiarazione, sono conformi alle direttive europee seguente:

EMC2014/30/EU LVD2014/35/EU Atex2014/34/EU RoHS2011/65/EU

Normas armonizadas y documentos de la normativa aplicados:
Applied harmonised standards and normative documents:
Angewandte harmonisierte Normen und normative Dokumente:
Normes harmonisées et documents normatifs appliqués
Norme armonizzate e documenti normativi applicati:

EN61010-1:2011/A1:2020	EN60079-0:2009 (acc. EN60079-0:2018)
EN61000-6-2:2019	EN60079-26:2007 (acc. EN60079-26:2015)
	EN60079-11:2007 (acc. EN60079-11:2012)
	EN60079-31:2009 (acc. EN60079-31:2014)

*No changes are required to enable compliance with the replacement standards.

Certificado de examen CE de tipo
EC-type examination certificate
EG-baumusterprübescheinigung
Attestation d´examen CE de type
Certificazione per esame di tipo CE

LOM07ATEX2032X

Marcado
Marking
Kennzeichnung
Inscription
Marcatura

II 2/1 GD Ex ia IIC T4 Gb/Ga
Ex ia IIIC T85ºC Db/Da
-20ºC ≤ Ta ≤ +60ºC

Fabricado en: **KOBOLD MESURA SLU Avda. Conflent 68, nave 15 08915 BADALONA (Spain)**
Made in:
Hergestellt in:
Fabriqué dans:
Fabbricato in:

Organismo notificado: **LOM 0163**
Notified organism
Zertifizierungsstelle
Organization annoncée
Organismo informato

Número notificación: **LOM 05ATEX9070**
Number notification
Zertifikatsnummer
Nombre notification
Notifica di numero

Badalona March 2024

Gerente

16. UE Declaration of Conformity

DT0490

DECLARACIÓN DE CONFORMIDAD EU

EU DECLARATION OF CONFORMITY
EU-KONFOMITÄTSERKLÄRUNG
DÉCLARATION DE CONFORMITÉ
DICHIARAZIONE DI CONFORMITÀ EU

KOBOLD MESURA SLU
Avda. Conflent, 68 nave 15 08915 Badalona (España)

Declara, bajo la propia responsabilidad, que el producto
Declares under our sole responsibility, that the product
Erklärt in alleiniger Verantwortung, dass das produkt
Déclare sous sa seule responsabilité, que le produit
Dichiara sotto la propia responsabilità, che il prodotto

NMC…

A los cuales se refiere esta declaración, son conformes a las siguiente Directivas Europeas:
To which this declaration relates is in conformity with the following European Directives:
Mit folgenden Richtlinien konform ist:
À auxquels se réfère cette déclaration, ils sont conformes aux Directives Européennes suivant :
A ai quali si riferisce questa dichiarazione, sono conformi alle direttive europee seguente:

EMC2014/30/EU LVD2014/35/EU RoHS2011/65/EU

Normas armonizadas y documentos de la normativa aplicados:
Applied harmonised standards and normative documents:
Angewandte harmonisierte Normen und normative Dokumente:
Normes harmonisées et documents normatifs appliqués
Norme armonizzate e documenti normativi applicati:

EN61010-1:2010+A1:2019 EN61000-6-2:2019

Fabricado en: **KOBOLD MESURA SLU Avda. Conflent, 68 nave 15 08915 BADALONA (Spain**)
Made in:
Hergestellt in:
Fabriqué dans:
Fabbricato in:

Badalona March 2024 Gerente

17. UK Declaration of Conformity

DECLARACIÓN DE CONFORMIDAD UK

UK DECLARATION OF CONFORMITY
UK-KONFOMITÄTSERKLÄRUNG
DÉCLARATION DE CONFORMITÉ UK
DICHIARAZIONE DI CONFORMITÀ UK

KOBOLD MESURA SLU
Avda. Conflent, 68 nave 15 08915 Badalona (España)

We Kobold Mesura S.L.U. declare under our sole responsibility that the product:

Level transmitter NMC-..

To which this declaration relates is in conformity with the standards noted below:

BS EN 61010-1:2010+A1:2019

Safety requirements for electrical equipment for measurement, control, and laboratory use. General requirements

BS EN 61000-6-2:2019

Electromagnetic compatibility (EMC) -- Part 6-2: Generic standards - Immunity for industrial environments

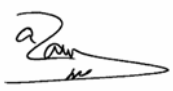
Also, the following UK guidelines are fulfilled:

S.I. 2016/1091 Electromagnetic Compatibility Regulations 2016.

S.I. 2016/1101 Electrical Equipment (Safety) Regulations 2016.

S.I. 2012/3032 The Restiction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012.

Badalona March 2024 Gerente



18. ATEX Certified

LABORATORIO OFICIAL J. M. MADARIAGA

(1) EC-TYPE EXAMINATION CERTIFICATE

(2) Equipment or protective system intended for use in potentially explosive atmospheres Directive 94/9/EC

(3) EC-Type Examination Certificate number: **LOM 07ATEX2032 X**

(4) Equipment or Protection System: Capacitive level measuring device
Types Microcap...EX.. / NMC-... E..

(5) Applicant: Kobold Mesura S.L.U

(6) Address: Grifé, 655
08918 Badalona (BARCELONA)
SPAIN

(7) This equipment or protective system and any acceptable variation thereto is specified in the schedule to this certificate and the documents therein referred to.

(8) Laboratorio Oficial J.M. Madariaga (LOM), notified body number 0163 in accordance with Article 9 of the Directive 94/9/EC of the European Parliament of 23 March 1994, certifies that this equipment or protective system has been found to comply with the Essential Health and Safety Requirements relating to the design and construction of equipment and protective systems intended for use in potentially explosive atmospheres, given in Annex II to the Directive.

The examination and test results are recorded in confidential report nr. **LOM 07.105 HP**

(9) Compliance with the Essential Health and Safety Requirements has been assured by compliance with:
– Standards **EN 60079-0:2006** **EN 60079-11:2007** **EN 60079-26:2007**
EN 61241-0:2006 **EN 61241-11:2006**

(10) If the sign X is placed after the certificate number, it indicates that the equipment or protective system is subject to special conditions for safe use specified in the schedule to this certificate.

(11) This EC-Type Examination Certificate relates only to the design and construction of this specified equipment or protective system in accordance with the Directive 94/9/EC. Further requirements of the Directive applies to the manufacture and supply of this equipment or protective system. These are not covered by this certificate.

(12) The marking of the equipment or protective system shall include the following:
Ex II 1/2 G D Ex ia IIC T4 Ta: -20 °C / +60 °C
Ex iaD 20 T85 °C IP65

Madrid, 4th May 2007

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of ATEX area

(This document may only be reproduced in its entirety and without any change)
This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text

Page 1/3

ENAC INSPECCIÓN Nº 23/E1037
UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
(Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29 -)
Alenza, 1 - 28003-MADRID • ☎ (34) 91 4421366/ 91 3367009 • Fax.(34) 91 4419433 • ✉ lom@lom.upm.es

LABORATORIO OFICIAL J. M. MADARIAGA

(A1) **SCHEDULE**

(A2) EC-Type Examination Certificate: : **LOM 07ATEX2032 X**

(A3) Description of equipment or protective system

Capacitive level control device foreseen to be commercialised as two different type references:
Microcap...EX
NMC-... E

Type nomenclature:

Microcap._ _ _ _ _ EX _ _
NMC-_ _ _ _ _ E _ _

- Probe version: N, S, T H
- Probe length (m): 1 to 4
- Connection material: 2 or 9
- Connection: G1 or G2
- Power supply
- Option

This device is a current loop transmitter at 4-20 mA. The head of the device is made as category 2 and probe as category 1

Specific parameters of the type of protection : Ui: 30 V Pi: 1,33 W Ii: 50 mA

(A4) Test report nr: **LOM 07.105 HP**

(A5) Special conditions for safe use

It must be take in account the electrostatic risk of the head enclosure.

(A6) Individual tests

None

OFICIAL LABORATORIO J.M. MADARIAGA LOM

(This document may only be reproduced in its entirety and without any change)
This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text

LABORATORIO OFICIAL J. M. MADARIAGA

(A1) **SCHEDULE**

(A2) EC-Type Examination Certificate: : **LOM 07ATEX2032 X**

(A7) Essential Health and Safety Requirements

Explosion safe requirements are covered by application of the standards indicated in page 1/3 of this certificate.

(A8) Descriptive documents:

		Rev.	Date
- Description nr.:	DT0164	-	2007-04-29
	DT0167	-	2007-03-19
- Component part list:	DT0161	-	2007-03-19
	DT0162 (2 sheets)	-	2007-03-20
	DT0163	-	2007-03-19
- Drawings nr.:	Microcap1	4	2007-01-23
	Microcap2 (2 sheets)	4	2007-01-23
	Microcap3	4	2007-01-25
	PE0201R0	-	2007-03-20
	PE0202R0	-	2007-03-20
	PE0203R0	-	2007-03-20
	PE0204R0	-	2007-03-20
	PE0205R0	-	2007-03-20
	PE0206R0	-	2007-03-20
	PE0207R0	-	2007-03-20
	PE0208R0	-	2007-03-20
	PE0209R0	-	2007-03-20
	PM0481R0	-	2007-03-20
	PM0482R0	-	2007-03-20

OFICIAL LABORATORIO J.M. MADARIAGA LOM

(This document may only be reproduced in its entirety and without any change)
This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text
Page 3/3

LABORATORIO OFICIAL J. M. MADARIGA

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

(2) Equipment or protective system intended for use in potentially explosive atmospheres Directive 94/9/EC

(3) Supplement nr. 1 to EC-Type Examination Certificate number **LOM 07ATEX2032 X**

(4) Equipment or Protection System: Capacitive level measuring device Types Microcap...EX.. / NMC-... E..

(5) Applicant: Kobold Mesura S.L.U.

(6) Address: Grifé, 655
08918 Badalona (BARCELONA)
SPAIN

(7) Test report nr.: **LOM 08.426 CP**

(8) Variations included in this certificate

To include a variant with changes in the electronic circuit

Variations in the specific parameters of the type of protection:

Ui	Pi	Ii
30V	1,33 W	101 mA
20 V	1,33 W	-
14,5 V	-	-

(9) Variations in marking

Those that correspond to the specific parameters of the type of protection

(10) Variations in the special conditions for a safe use

None

(11) Descriptive documents

		Rev.	Date
- Part list nr.:	DT0161	1	2008-11-03
	DT0162	1	2008-09-24
	DT0163	-	2007-03-19
- Drawings nr.:	PE0201R1	1	2008-09-24
	PE0204R1	1	2008-09-24
	PE0207R1	1	2008-09-24
	PE0210	5	2008-09-18
	PE0211 (2 sheets)	5	2008-09-18
	PE0212	5	2008-09-18

OFICIAL LABORATORIO J.M. MADARIAGA LOM

Madrid, 12th December, 2008

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of ATEX area

This supplement must be an inseparable part together with the base certificate **LOM 07ATEX2032 X**
This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish

(This document may only be reproduced in its entirety and without any change)

RCPCER 07.4/2 Rev. 0

UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
(Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)

Alenza, 1 - 28003 MADRID • (34) 91 4421366 / 91 3367009 • (34) 91 4419933 • lom@lom.upm.es

LABORATORIO OFICIAL J. M. MADARIAGA

(1) EC-TYPE EXAMINATION CERTIFICATE SUPPLEMENT

(2) Equipment or protective system intended for use in potentially explosive atmospheres Directive 94/9/EC

(3) Supplement nr. **2** to EC-Type Examination Certificate number **LOM 07ATEX2032 X**

(4) Equipment or Protection System — Capacitive level measuring device Type Microcap...EX.. / NMC-... E..

(5) Manufacturer — KOBOLD MESURA, S.L.U.

(6) Address — Guifré, 665
08918 BADALONA(BARCELONA)
ESPAÑA

(7) Test report nr.: **LOM 12.166 YP**

(8) Variations included in this certificate

- Update to the standards EN 60079-0:2009, EN 60079-31:2009 and EN 60079-26:2007
- Update of electronic design

Type codification remains unchanged.

Specific parameters of the type of protection are the same as specified in supplement 1 of this certificate

(9) Changes in marking

II 2/1GD — Ex ia IIC T4 Gb/Ga
Ex ia IIIC T85 ºC Db/Da
-20 ºC ≤ Ta ≤ +60ºC

(10) Changes in the special conditions for a safe use

Without changes

(11) Descriptive documents

		Rev.	Date
- Description nr.:	DT0492	-	2012-04-01
- Schematics nr.:	PE0231 (sheet 1)	1	2011-11-15
	PE0231 (sheet 2)	1	2011-11-15
	PE0231 (sheet 3)	1	2012-03-27
- Drawings nr:	PE0233R0 (10 sheets)	0	2012-04-12
	DT0488	-	2012-04-12

Getafe, 2012-06-22

Carlos Fernández Ramón
DIRECTOR OF THE LABORATORY

Angel Vega Remesal
Head of ATEX area

This supplement must be an inseparable part together with the base certificate **LOM 07ATEX2032 X**

This Certificate is a translation from the original in Spanish. The LOM liability applies only on the Spanish text

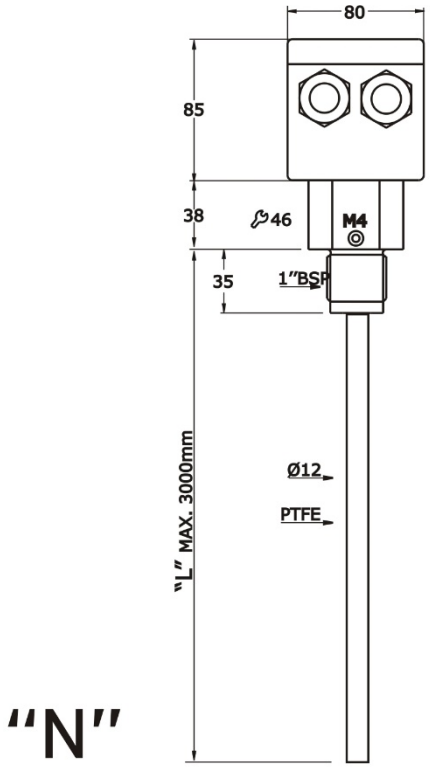
(This document may only be reproduced in its entirety and without any change)

RCPCER 07.4/2
Rev. 0

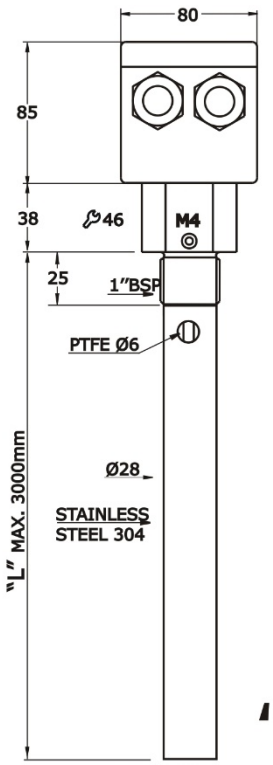
UNIVERSIDAD POLITÉCNICA DE MADRID
ENSAYOS E INVESTIGACIONES DE MATERIALES Y EQUIPOS PARA ATMÓSFERAS EXPLOSIVAS Y MINERÍA
(Real Decreto 334/1992 de 3 de Abril - BOE 1992-04-29)

Eric Kandel, 1 – 28906 GETAFE (MADRID) • ☎ (34) 91 4421366 • 🖷 (34) 91 4419933 • 💻 lom@lom.upm.es

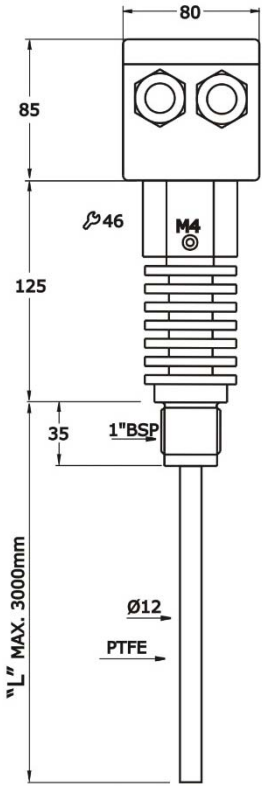
19. Models



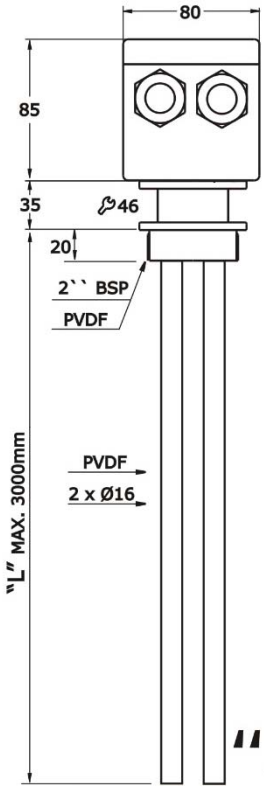
"N"



"T"



"H"



"S"

20. Order details.

Version	Probe length*	Mechanical connection	ATEX	Supply
NMC-N NMC-H NMC-T	…1 = up to 1 meter …2 = up to 2 meter …3 = up to 3 meter ….4 = up to 4 meter	2G6 = G1, st,steel	0 = without E= ATEX	3 = 10…35 Vdc
NMC-S		9G9 = G2, PVDF		

* Please specify in writing length.

KOBOLD MESURA S.L.U
Avda Conflent Nº68 Nave 15
08915 Badalona
Tel.: +34 93 460 38 83
Fax: +34 93 460 38 76
E-Mail: info.es@kobold.com
www.kobold.com

Technical data
Subject to change without prior notice