NIVETEC Instrumentação e Controle

Catálogo

NIVETEC INSTRUMENTAÇÃO E CONTROLE LTDA CNPJ: 66.747.627/0001-19
Tel: +55 (11) 2627-6600
E-mail: comercial@nivetec.com.br
Rua das Flechas, 801 - Jardim Prudência, São Paulo - SP, 04364-030
www.nivetec.com.br

MicroTREK

GUIDED MICROWAVE LEVEL TRANSMITTERS
FOR LIQUIDS & SOLIDS

NIVETEC

NIVELCO

LEVEL TRANSMITTERS

MicroTREK HT–700 series guided microwave level transmitter is designed for continuous level and interface measurement of conductive and non-conductive liquids, pulps, and solids. This level transmitter operates based on measuring the transit time of measuring impulse and reflections *(TDR – Time Domain Reflectometry)*. The electronics generate microwave pulses which are emitted along the probe with traveling speed of light.

Part of the impulse energy is reflected from the product surface depending on the material. Transit time of the reflected signals is measured and processed by the electronics, and then it is converted to a volume- and level-proportional signal. Reflections depend highly on the medium's dielectric constant (ε_r), which must be at minimum 1.4 for successful measurement. The propagation speed of microwave impulses in a vacuum, air, and other gases is virtually the same; distance measurement is therefore independent of the medium within the given limits.

FEATURES

- The measurement is not affected by temperature, pressure and medium properties (e.g. density, dielectric constant, humidity, etc.)
- Measuring range up to 30 m (100 ft)
- Tracking speed: 2000 m/h (555 mm/s; 6561 ft/hour; 22 in/s)
- Accuracy: ±5 mm (0.197")
- Rod, flexible, or coaxial probes
- Segmented rod probe version
- Lowest $\varepsilon_r \geq 1.4$
- Interface measurement *(optional)*
- Dual current output for interface measurement *(optional)*
- Plug-in display
- Advanced threshold management
- False echo suppression
- Output Conversion Table *(OCT, VMT)* with up to 100 point pairs for accurate output linearization
- PACT*ware*™ compatible
- 4…20 mA + HART® output + relay *(optional)*
- Process temperature range: –30… +200 °C (–22… +400 °F)
- Highest process pressure: 40 bar (580 psi)
- IP67 (NEMA 6 equivalent)
- 5 years warranty

HHA / HHB–7□□–□

HTD / HTE–7□□–□

HTK / HTL–7□□–□

CERTIFICATES

- ATEX (Ex ia G)
- ATEX (Ex ia D)
- ATEX (Ex ta/tb D)
- IEC Ex (Ex ia G)
- IEC Ex (Ex ia D)
- INMETRO (Ex ia G)
- INMETRO (Ex ia D)
- UKCA Ex (Ex ia G)
- UKCA Ex (Ex ia D)
- UKCA Ex (Ex ta/tb D)
- FM Clas I, Div. 1 *(pending)*
- FM Clas I, Div. 2 *(pending)*

APPLICATIONS

Mono cable / Mono rod Mono segmented rod	Twin cable	Twin rod	Coaxial pipe
■ Cement, limestone, fly ash, alumina, soot ■ All high-viscosity liquids ■ Mineral powders ■ Clean and contaminated liquids ■ For stilling wells and bypass applications (calibration required) ■ With plastic-coated probe for chemically aggressive substances ■ Slightly conductive foams ■ High-temperature applications	■ Tank plants with solvents, oil and fuels ■ Water storage tanks ■ Plastic granules ■ For products with low dielectric constant (ε_r > 1.8) ■ For all liquids, light granules without any conductive sediments ■ For narrow tanks ■ Where minimum dead zone is requested ■ Mounting close to tank wall is possible	■ Plastic granules ■ Clean and moderately contaminated liquids ■ Where minimum dead zone is needed ■ For grains and fine powders in small hoppers ■ For small size and narrow tanks ■ For low dielectric media and slightly moving products	■ Up to 6 m high small vessels and tanks ■ Solvents, liquefied gases ■ LPG, LNG ■ For clean liquids with low dielectric constant ■ Agitated or flowing liquids – the probe acts as a stilling well ■ Liquid or vapor spray near the probe ■ Can be heated ■ Contact possible with metallic object or tank wall ■ Where no dead zone allowed

TECHNICAL DATA

Version		Plastic housing	Aluminum housing	Stainless steel housing
Measured values / calculated values		Distance, level; / Volume, Weight		
Measuring range		Depending on probe version and dielectric constant (ε_r) of the medium		
Probe versions		Mono cable, twin cable, mono rod, twin rod, coaxial pipe, segmented coaxial pipe and segmented rod		
Accuracy	Linearity error[1]	For liquids: ±5 mm (±0.2"), if probe length ≥10 m (33 ft): ±0.05% of the probe length. For solids: ±20 mm (±0.75"), if probe length ≥10 m (33 ft): ±0.2% of the probe length		
	Resolution	1 mm (0.04")		
Lowest ε_r of medium		1.4 (depending on probe version)		
Supply voltage		12[3]…36 V DC, nominal 24 V DC, Ex version: 12[3]…30 V DC, transient overvoltage protection		
Output	Communication	4…20 mA + HART®		
	Display (optional)	SAP–300 graphic display unit		
	Relay (optional)	SPDT 30 V / 1 A DC; 48 V / 0.5 A AC		
Process temperature		–30…+90 °C (–22… +194 °F); high-temperature version: –30…+200 °C (–22…+400 °F)		
		For plastic-coated probes, coated: see "Probe Properties"		
Highest process pressure		40 bar (580 psi); with plastic lined flange: max. 25 bar (363 psi)		
Ambient temperature		–30…+65 °C (–22…+149 °F), with display: –20…+65 °C (–4…+149 °F)		
Process connection		Threaded, flanged or sanitary connections (as per order code)		
Ingress protection		IP67 (NEMA 6 equivalent)		
Electrical connection		2× M20×1.5 cable glands (for Ø6…Ø12 mm diameter cables) and 2× ½" NPT conduits Electric connection: Removable screw terminal, max. 1.5 mm² (15 AWG)		
Electrical protection		Class III		
Housing material		Plastic (PBT)	Painted aluminum	Stainless steel (1.4571, 316Ti equivalent)
Seal		FPM (Viton®), optional: FFKM (Kalrez®), EPDM		
Explosion protection		—	See "Ex Information"	
Weight (head unit)		1.3 kg (2.86 lb)	2.2 kg (4.85 lb)	3.9 kg (8.6 lb)

[1] Under reference conditions and constant temperature. *[2] The use of SAP–300 graphic displays is limited in hazardous environment. For further information, see "Ex Information".*
[3] Stable HART® communication can be guaranteed with terminal voltage > 13 V DC.

Ex INFORMATION

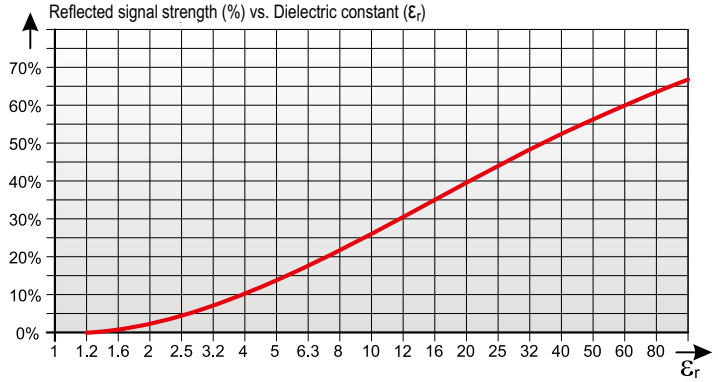
		H□□–7□□–8 Ex / H□□–9□□–8 Ex		H□□–7□□–6 Ex H□□–9□□–6 Ex	H□□–7□□–5 Ex H□□–9□□–5 Ex	H□□–7□□–9 Ex H□□–9□□–9 Ex
		Without probe coating, without display	With coated probe and/or display			
Protection		Ex ia G		Ex ia D	Ex ta/tb D	Ex ta D[4]
Ex marking[5]	ATEX	⟨Ex⟩ II 1 G Ex ia IIC T6…T3 Ga	⟨Ex⟩ II 1 G Ex ia IIB T6…T3 Ga	⟨Ex⟩ II 1 D Ex ia IIIC T85°C…T180°C Da	⟨Ex⟩ II 1/2 D Ex ta/tb IIIC T85°C… T180°C Da/Db	⟨Ex⟩ II 1D Ex ta IIIC T105°C Da
	IEC Ex[6]	Ex ia IIC T6…T3 Ga	Ex ia IIB T6…T3 Ga	Ex ia IIIC T85°C…T180°C Da	Ex ta/tb IIIC T85°C…T180°C Da/Db	Ex ta IIIC T105°C Da
Ex supply voltage and intrinsic safety data		C_i ≤ 25 nF, L_i ≤ 300 µH, U_i ≤ 30 V, I_i ≤ 100 mA, P_i ≤ 0.75 W	C_i ≤ 25 nF, L_i ≤ 300 µH, U_i ≤ 30 V, I_i ≤ 140 mA, P_i ≤ 1 W		U_i = 30 V DC, I_i = 1 A	
Supply voltage		12[7]…30 V DC				
Electrical connection		2× M20×1.5 metal cable glands, cable outer diameter: Ø6…Ø12 mm (Ø0.23…Ø0.47"), wire cross section: maximum 1.5 mm² (AWG16)				
Ambient temperature		–30…+65 °C (–22…+149 °F), with display: –20…+65 °C (–4…+149 °F)				

[4] Ex ta D protection class devices are available only with a windowless cap.
[5] In IIC environment SAP–300 graphic display must not be used!
[6] IEC Ex compliance is optional; must be requested in the order.
[7] In an industrial environment, reliable operation can be guaranteed with a terminal voltage >13 V.

MEASURABILITY OF THE MEDIUM

The measurability of the medium and the reflected signal strength depends on the relative dielectric constant (ε_r) of the medium.

Informative ε_r values			
Butane	1.4	Grain	3…5
Cement	1.5…10	Cooking oil	3.9
LPG	1.6…1.9	Limestone	6.1…9.1
Kerosene	1.8…2.1	Acetone	21
Crude oil	2.1	Ethanol	24
Diesel oil	2.1	Methanol	33.1
Gasoline	2.3	Glycol	37
Asphalt	2.6	Nitrobenzene	40
Clinker	2.7	Water	80
Resin	2.4…3.6	Sulphuric acid (T = +20 °C [+68 °F])	84



INTERFACE MEASUREMENT OF LIQUIDS

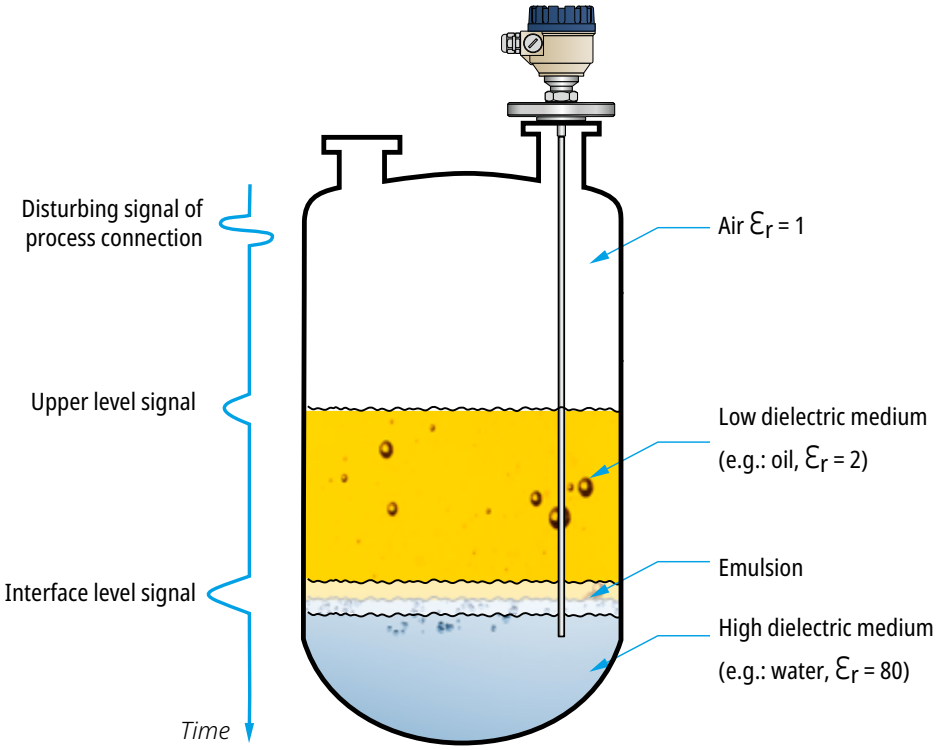
Non-conductive materials are semi-transparent to the microwave signal. Such materials only partially reflect the energy of the microwave signal. The non-reflected part of the emitted measuring signal energy passes through the non-conductive medium and is reflected from the phase boundary of the lower liquid. The versions of the MicroTREK suitable for interface measurement work on this principle.

TYPICAL APPLICATIONS FOR INTERFACE MEASUREMENT

Storage or separator tanks containing water, and oils or other low dielectric, non-conductive, water-insoluble liquid chemicals. Most often, we encounter guided microwave phase boundary measurement in the oil industry, which practically has displaced all other measurement methods.

MicroTREK H–700 devices ordered with interface measurement option can measure the upper level of already separated liquids, the phase boundary (*interface*) level, or the thickness of the upper liquid layer. Depending on the setting, any of listed measured values can be assigned to the 4…20 mA and HART® outputs.

MicroTREK H–700 series with interface option are suitable for phase boundary *(interface)* measurement with any NIVELCO made probe. The use of more sensitive probes *(twin and coaxial)* is recommended for more critical applications.



The basic criteria for interface measurement

- *The upper liquid layer must be electrically non-conductive*
- *The value of relative dielectric constant of the upper liquid layer must be known*
- *The upper liquid layer must be homogeneous, its composition and material structure must not change*
- *The upper layer of the fluid can only be measured if its layer thickness exceeds 12 cm (4.8 in)*
- *The lower and upper liquids must be separated from each other, free from emulsion transition*
- *The lower liquid layer must be electrically conductive, or if it is not, than the difference in the relative dielectric constants of the two liquids must be greater than 10.**

**In the case of clean separation of the liquids and use of a most sensitive coaxial probe.*

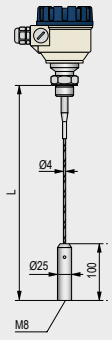
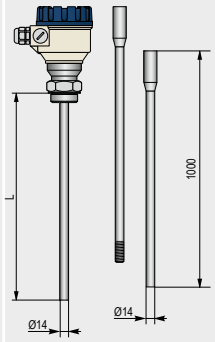
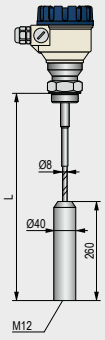
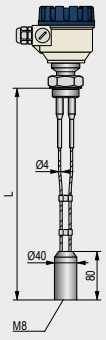
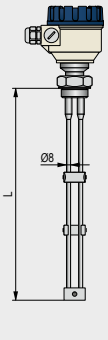
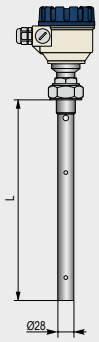
PROBES

Reliable measurement with microwaves depends on selecting the appropriate probes and taking the medium's properties and other vessel conditions into consideration.

Probe types	Max. measuring range	Dead zone[1]		Process connection	ε_r min.
		Upper (t) / lower (b) ε_r = 80	Upper (t) / lower (b) ε_r = 2.4		
Mono cable Ø4 mm (Ø0.16")	30 m (100 ft)	250 mm / 20 mm (10" / 0.79")	350 mm / 100 mm (14" / 4")	1"; 1½"	2.1
Mono cable Ø8 mm (Ø0.315")				1½"	
Mono rod Ø8 mm (Ø0.315")	3 m (10 ft)			1"	
Mono / segmented rod Ø14 mm (Ø0.6")	6 m (20 ft)			1½"	
Twin cable Ø4 mm (Ø0.16")	30 m (100 ft)	150 mm / 20 mm (6" / 0.79")	300 mm / 100 mm (12" / 4")		1.8
Twin rod Ø8 mm (Ø0.315")	3 m (10 ft)				
Coaxial pipe Ø28 mm (Ø1.1")	6 m (20 ft)	0 mm / 10 mm (0" / 0.4")	0 mm / 100 mm (0" / 4")	1"; 1½"	1.4
Segmented coaxial pipe Ø14 mm (Ø0.6")				1½"	1.6
Coated cable Ø6 mm (Ø0.24")	30 m (100 ft)	250 mm / 20 mm (10" / 0.79")	350 mm / 100 mm (14" / 4")	1"; 1½" TriClamp; DN40 Milch, DN50	2.4
Coated cable Ø12 / 16 mm (Ø0.5" / 0.63")	3 m (10 ft)			DN50	

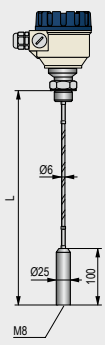
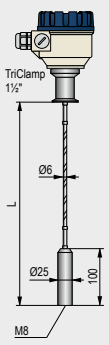
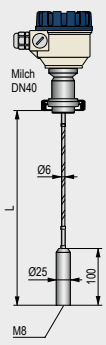
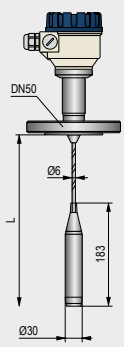
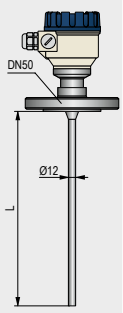
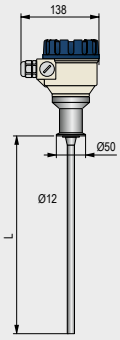
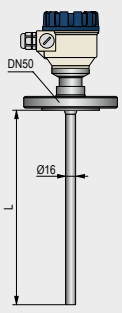
[1] *The unmeasurable upper and lower part of the tank. The lower dead zone is extended with the length of the counterweight (cable versions only).*

PROBE PROPERTIES

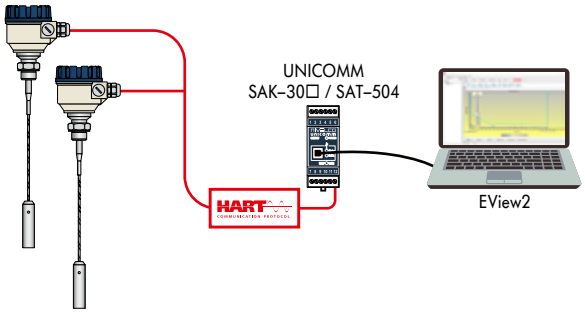
Probe	Ø4 mm cable	Rod	Rod / Segmented rod	Ø8 mm cable	2× Ø4 mm twin cable	Twin rod	Coaxial
Type	H□K, H□L H□V, H□W	H□R, H□P	H□S, H□Z	H□N, H□J	H□T, H□U	H□D, H□E	H□A, H□B H□C, H□H
Maximum measuring distance	30 m (100 ft)	3 m (10 ft)	6 m (20 ft)	30 m (100 ft)		3 m (10 ft)	6 m (20 ft)
Min. meas. dist. (ε_r = 80 / ε_r = 2.4)	250 mm / 350 mm (10" / 14")				150 mm / 300 mm (6" / 12")		0 m
Lowest ε_r of medium	2.1				1.8		1.4
Sensing area around probe	Ø600 mm (24")				Ø200 mm (8")		Ø0 mm
Process connection	1" BSP / NPT	1" BSP	1½" BSP				1" BSP / NPT
	1½" BSP / NPT	1" NPT	1½" NPT				1½" BSP / NPT
Probe material	1.4401 (AISI 316)	1.4571 (316Ti equivalent)		1.4401 (AISI 316)		1.4571 (316Ti equivalent)	
Probe nominal diameter	4 mm (0.16")	8 mm (0.315")	14 mm (0.6")	8 mm (0.315")	2× 4 mm (2× 0.16")	2× 8 mm (0.315")	28 mm (1.1")
Weight	0.12 kg/m (0.08 lb/ft)	0.4 kg/m (0.25 lb/ft)	1.2 kg/m (0.8 lb/ft)	0.4 kg/m (0.25 lb/ft)	0.24 kg/m (0.16 lb/ft)	0.8 kg/m (0.5 lb/ft)	1.3 kg/m (0.85 lb/ft)
Separator material[2]	–				PFA, welded on the cable	PTFE-GF25	PTFE
Dimensions							
Weight dimensions	Ø25 × 100 mm (Ø1" × 4")	–		Ø40 × 260 mm (Ø1.6" × 10.4")	Ø40 × 80 mm (Ø1.6" × 3.15")	–	
Weight material	1.4571 (316Ti equivalent)	–		1.4571 (316Ti equivalent)		–	

[2] *There is no separator mounted up to 1.5 m (5 ft) probe length.*

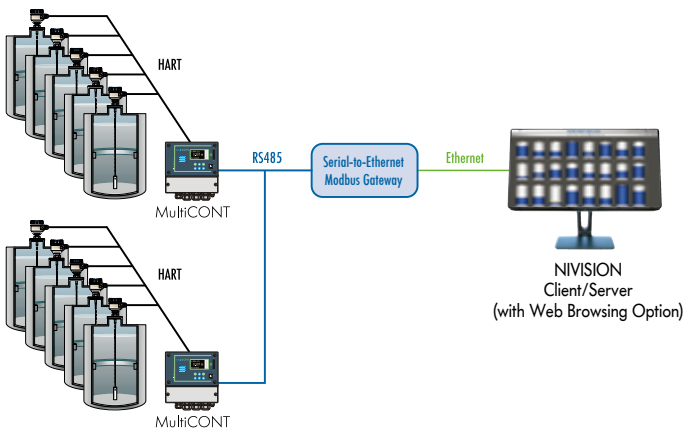
COATED PROBE PROPERTIES

Probe	Ø4 mm (Ø0.16") FEP-coated cable			Ø4 mm (Ø0.16") fully FEP/PFA-coated cable	Fully PFA-coated rod		Fully PP-coated rod
Type	H□F, H□G	H□X	H□Y	H□M	H□Q	H□O	H□I
Maximum measuring distance	30 m (100 ft)				3 m (10 ft)		
Min. measuring distance (ε_r = 80 / ε_r= 2.4)	250 mm / 350 mm (10" / 14")						
Lowest ε_r of medium	2.1						
Sensing area around probe	Ø600 mm (24")						
Process connection	1" BSP; 1" NPT	1½" TriClamp	DN40 Milch	DN50 PN25 flange		1½" TriClamp	DN50 PN25
Highest medium temperature	+200 °C (+392 °F)			+150 °C (+302 °F)			+60 °C (+140 °F)
Probe material	1.4401 (AISI 316)				1.4571 (316Ti equivalent)		
Probe coating	FEP			FEP / PFA	PFA		PP
Probe nominal diameter	6 mm (0.24")				12 mm (0.5")		16 mm (0.63")
Probe coating	–			PFA			PP
Weight material	1.4571 (316Ti equivalent)			1.4571 (316Ti equivalent) + PFA coating	–		
Weight dimensions	Ø25 × 100 mm (Ø1" × 4")				–		
Weight	0.16 kg/m (0.1 lb/ft)				0.5 kg/m (0.33 lb/ft)		0.6 kg/m (0.4 lb/ft)
Dimensions							

MicroTREK TRANSMITTERS IN SYSTEM WITH A PC



Instruments with HART® output can be connected to a PC interfaced by a **UNICOMM** HART®-USB modem, or can be connected wirelessly with the **SAT–504** HART®-Bluetooth® modem. Up to 15 standard instruments can be connected to a single HART® multidrop loop. All measured values can be visualized and/or the instruments can be remote programmed via digital communication. Applicable software: **EView2** configuration software or **NIVISION** process visualization software.



MicroTREK TRANSMITTERS IN HART® MULTIDROP LOOP

The **MultiCONT** can handle up to of 15 standard *(or 4 Ex certified)* MicroTREK HART® capable GWR transmitters. The digital information is processed, displayed and can be transmitted to a PC via an RS485 communication line if required. Remote programming of transmitters is also available. Visualization on a PC can be accomplished with **NIVISION** process visualization software.

ORDER CODES *(NOT ALL COMBINATIONS AVAILABLE)*

CABLE PROBE VERSIONS

MicroTREK H ■■ – ■■■ – ■ [1]

Type	Code
Transmitter[2]	T
High-temperature transmitter[3]	H
Transmitter + display[2]	B
High-temperature transmitter + display[3]	P
With interface function	
Transmitter[2]	C
High-temperature transmitter[3]	E
Transmitter + display[2]	D
High-temperature transmitter + display[3]	F

Housing	Code
Painted aluminum	7
Plastic, PBT, fiberglass-reinforced[4]	8
Stainless steel	9

Probe / Process connection		Code
Mono cable, Ø4 mm (Ø0.16"), 1.4401	1" BSP	K
	1" NPT	L
	1½" BSP	V
	1½" NPT	W
	1½" TriClamp	1
	2" TriClamp	2
Mono cable, Ø8 mm (0.315"), 1.4401	1½" BSP	N
	1½" NPT	J
Twin cable, 2× Ø4 mm (Ø0.16"), 1.4401	1½" BSP	T
	1½" NPT	U
Mono cable, Ø4 mm (Ø0.16"), FEP-coated[5]	1" BSP	F
	1" NPT	G
	TriClamp 1½	X
	DN40 Milch	Y
Mono cable, Ø4 mm (Ø0.16"), PFA/FEP fully coated / DN50, PN25, 1.4571 flange, PFA/FEP lining		M

Code	Probe length[6]		Code
0	0 m	0 m	0
1	10 m	1 m	1
2	20 m	2 m	2
3	30 m	3 m	3
		4 m	4
		5 m	5
		6 m	6
		7 m	7
		8 m	8
		9 m	9

Output / Ex		Code
4…20 mA +HART®		4
	Ex ta/tb D[7]	5
	Ex ia D[7]	6
	Ex ia G[8]	8
	Ex ta D[7]	9
	+ Relay	H
2× 4…20 mA +HART®[9]	Ex ia G[8]	U
		T

[1] For explosion-proof devices, the article number is followed by "Ex" on the data plate!
[2] Flange temperature max. +90 °C (+194 °F).
[3] Flange temp. max. +200 °C (+400 °F) ('M' type only up to +150 °C [+302 °F]). *[4] Ex version not available.*
[5] Only the cable probe is coated. *[6] Max. 30 m (98.5 ft) probe length.*
[7] Only for uncoated probe versions. *[8] Plastic-coated probes Ex ia IIB only.*
[9] Only for interface measurement types, under development.

Ø8 MM (0.315") ROD PROBE VERSIONS

MicroTREK H ■■ – ■■■ – ■ [1]

Type	Code
Transmitter[2]	T
High-temperature transmitter[3]	H
Transmitter + display[2]	B
High-temperature transmitter + display[3]	P
With interface function	
Transmitter[2]	C
High-temperature transmitter[3]	E
Transmitter + display[2]	D
High-temperature transmitter + display[3]	F

Housing	Code
Painted aluminum	7
Plastic, PBT, fiberglass-reinforced[4]	8
Stainless steel	9

Probe / Process connection		Code
Mono rod, Ø8 mm (0.315") 1.4571	1" BSP	R
	1" NPT	P
	1½" TriClamp	3
Twin rod,1.4571	1½" BSP	D
	1½" NPT	E
Mono rod PFA-coated	1½" TriClamp PFA-coated	O
	2" TriClamp PFA-coated	7
	DN50, PN25, 1.4571 flange, PFA lining	Q
Mono rod PP-coated / DN50, PN25, 1.4571 flange, PP lining[5]		I

Code	Probe length[6]		Code
0	0 m	0 m	0
1	1 m	0.1 m	1
2	2 m	0.2 m	2
3	3 m	0.3 m	3
4	4 m	0.4 m	4
5	5 m	0.5 m	5
6	6 m	0.6 m	6
		0.7 m	7
		0.8 m	8
		0.9 m	9

Output / Ex		Code
4…20 mA + HART®		4
	Ex ta/tb D[7]	5
	Ex ia D[7]	6
	Ex ia G[8]	8
	Ex ta D[7]	9
	+ Relay	H
2× 4…20 mA +HART®[9]	Ex ia G[8]	U
		T

[1] For explosion-proof devices, the article number is followed by "Ex" on the data plate! *[2] Flange temperature max. +90 °C (+194 °F).*
[3] Flange temp. max. +200 °C (+400 °F) (up to +150 °C [+302 °F] with plastic-coated probes). *[4] Ex version not available.*
[5] Up to a maximum flange temperature of +60 °C (+140 °F). *[6] Max. 3 m (10 ft) probe length.* *[7] Only for uncoated probe versions.*
[8] Plastic-coated probes Ex ia IIB only. *[9] Only for interface measurement types, under development.*

Ø14 MM ROD (0.6") OR COAXIAL PROBE VERSIONS

MicroTREK H ■■ – ■■■ – ■ [1]

Type	Code
Transmitter[2]	T
High-temperature transmitter[3]	H
Transmitter + display[2]	B
High-temperature transmitter + display[3]	P
With interface function	
Transmitter[2]	C
High-temperature transmitter[3]	E
Transmitter + display[2]	D
High-temperature transmitter + display[3]	F

Housing	Code
Painted aluminum	7
Plastic, PBT, fiberglass-reinforced[4]	8
Stainless steel	9

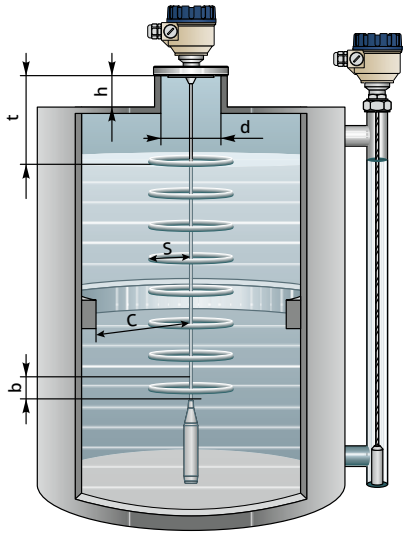
Probe / Process connection		Code
Mono rod, Ø14 mm (0.6"), 1.4571	1½" BSP[5]	S
	1½" NPN[5]	Z
	2" TriClamp	4
Coaxial probe, 1.4571	1" BSP	A
	1" NPT	B
	1½" BSP[5]	C
	1½" NPT[5]	H
	1½" TriClamp	5
	2" TriClamp	6

Code	Probe length[6]		Code
0	0 m	0 m	0
1	1 m	0.1 m	1
2	2 m	0.2 m	2
3	3 m	0.3 m	3
4	4 m	0.4 m	4
5	5 m	0.5 m	5
6	6 m	0.6 m	6
		0.7 m	7
		0.8 m	8
		0.9 m	9

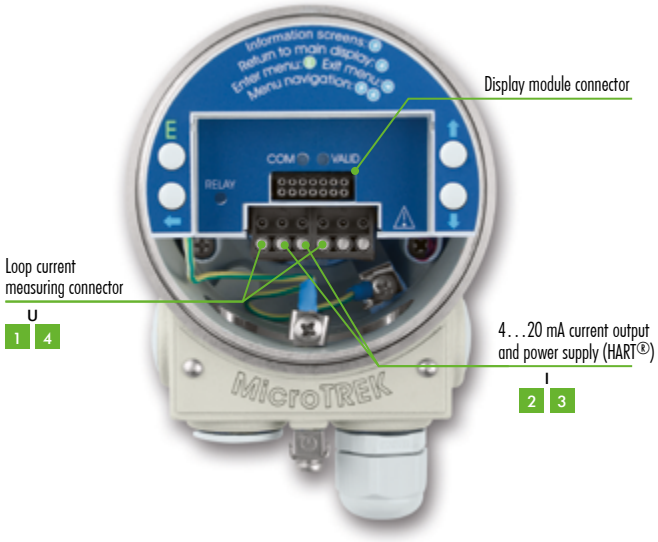
Output / Ex		Code
4…20 mA + HART®		4
	Ex ta/tb D	5
	Ex ia D	6
	Ex ia G	8
	Ex ta IIIC	9
	+ Relay	H
2× 4…20 mA +HART®[7]	Ex ia G	U
		T

[1] For explosion-proof devices, the article number is followed by "Ex" on the data plate! *[2] Flange temperature max. +90 °C (+194 °F).* *[3] Flange temperature max. +200 °C (+400 °F).* *[4] Ex version not available.* *[5] Can be ordered with segmented probe which must be specified in the text of the order. The length of the probe section is 1 m (3.3 ft).*
[6] Max. 6 m (20 ft) probe length. *[7] Only for interface measurement types, under development.*

INSTALLATION



WIRING



Except the plastic coated and the coax types the probes can be removed from the head unit and replaced by the user.

C = minimum distance from the internal disturbing objects. Objects that are parallel to probe do not disturb the measurement.

Mono Probe	S > 300 mm (12")	h ≤ d
Twin Probe	S > 100 mm (4")	t = upper dead zone
Coaxial Probe	S = 0 mm	b = lower dead zone

ACCESSORIES

Plug-in graphical display module	SAP–300–0
HART®–USB modem for remote programming with PC	UNICOMM SAT–504–☐
HART®–USB/RS485 modem for remote programming with PC, DIN rail mountable	UNICOMM SAK–305–☐
HART®–USB/Bluetooth® modem for remote programming	UNICOMM SAT–504–2
eLink unit for software/firmware updates for datalogger reading	UNICOMM SAT–506–☐
Multichannel process controller and display unit	MultiCONT PRW–2☐☐–☐
24 V DC power supply, DIN rail mountable	NIPOWER PPK–431–☐
Intrinsically safe isolator module, DIN rail mountable	UNICONT PGK–301–☐ Ex
EView2 configuration software for remote programming with PC	FREE download

HHA / HHB–7☐☐–☐

PROCESS CONNECTIONS[7]

DIN and ANSI flanges	MFT–☐☐☐–☐
DN40 Pipe coupling (DIN 11851)	
EPDM FFKM seals	

[7] *The above process connections and special seals are ordered separately and must be specified in the text part of the order.*

MicroTREK – CONFIGURATION & REQUEST FOR QUOTE

next.nivelco.com

NIVELCO PROCESS CONTROL CO.
H-1043 Budapest, Dugonics u. 11.
Tel.: (36–1) 889–0100
E-mail: sales@nivelco.com
NIVELCO.COM