



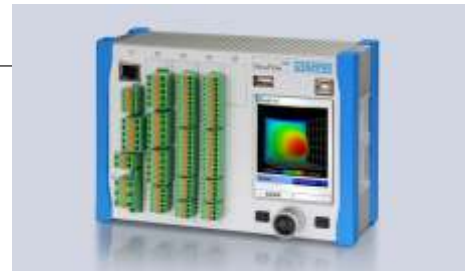
Illustrated Parts list 2016/17



FLOW MEASUREMENT

Universal transmitter NivuFlow 750 with intuitive operating concept. Up to 9 sensors can be connected to the NivuFlow 750 M9. Also measurements on 3 different measurement places are possible.

More information: Flow permanent > P. 11



new



FLOW MEASUREMENT

Universal transmitter NivuFlow 650 and NivuFlow 600 for flow measurement for clean to slightly contaminated liquid by using transit time method.

More information: Flow permanent > P. 22



new



FLOW MEASUREMENT

New and optimised transit time sensors offer you the best solution for each application.

More information: Flow permanent > P. 24



new

The release of the price list 2016/17 invalidates any previous issue.
This price list is valid as of 1. April 2016.
All prices are quoted ex works, exclusive of VAT and do not include packing, postage and installation.

We assume no liability due to misprints!
Modifications subject to change!

Send national and international e-mail orders to:
mailorder@nivus.com

² Product group A = no reduction



FLOW

Permanent

1

Portable

2



LEVEL

Continuous Measurement Technology
Ultrasound, hydrostatic and pressure

3



TELECONTROL

Recording of measurement data
GPRS Data logger

4



Data recording
Interne portal D2W

5



WATER QUALITY

Turbidity, Detection of Interfaces
Analyse

6



SERVICES

Identifications
Confirmations & Certificates

7



ACCESSORIES

Mounting Systems
Overvoltage Protection

8



NIVUS Hotline

Phone: +49 (0)7262 9191-888
hotline-worldwide@nivus.com

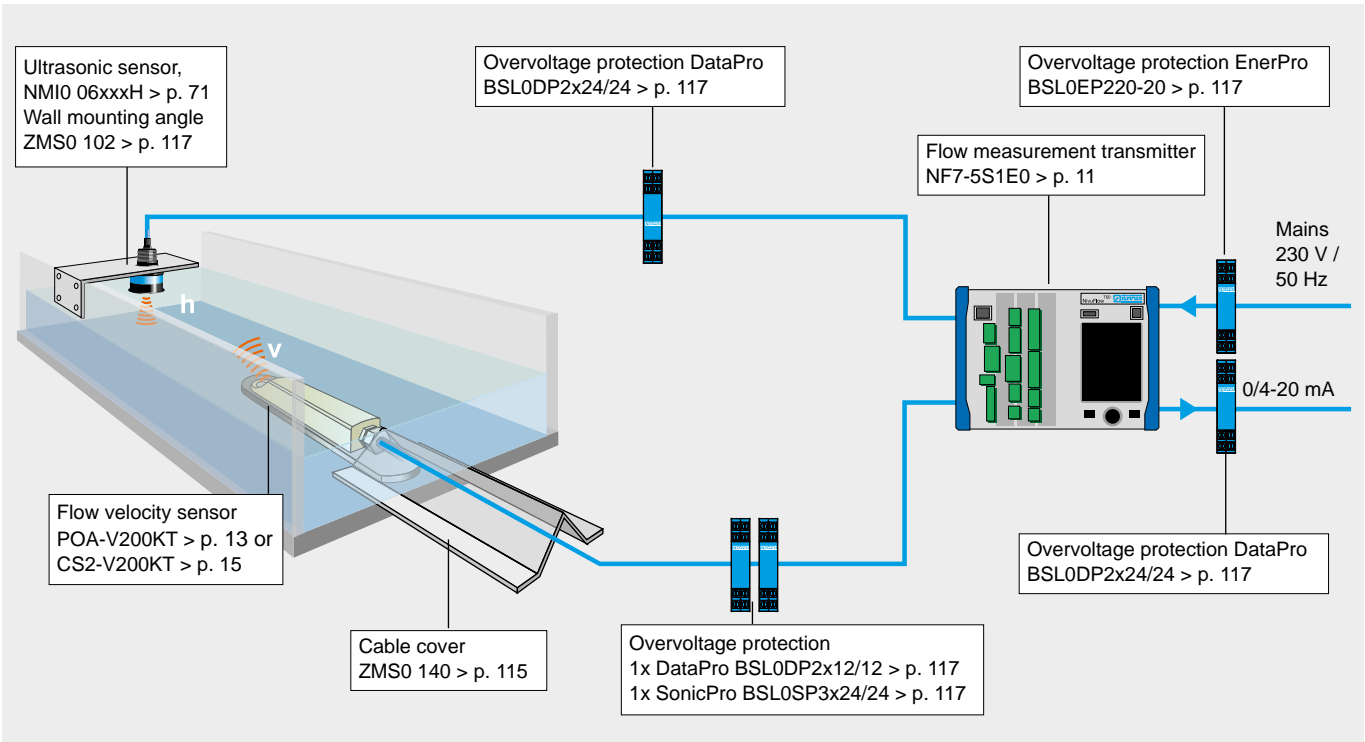
Our experienced and committed experts will quickly and comprehensively answer your questions.



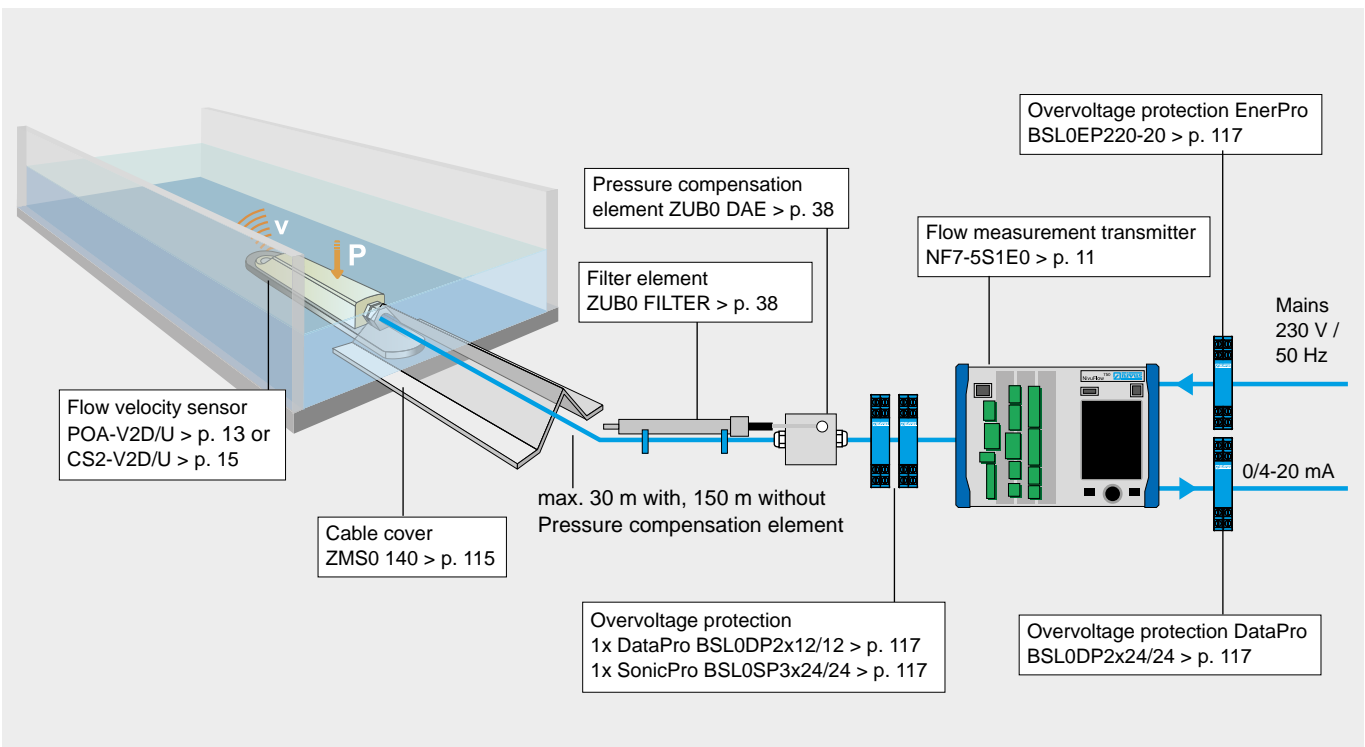
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Example 1: Measurement in open channels, Ex Zone 1, level measurement using ultrasound from top down

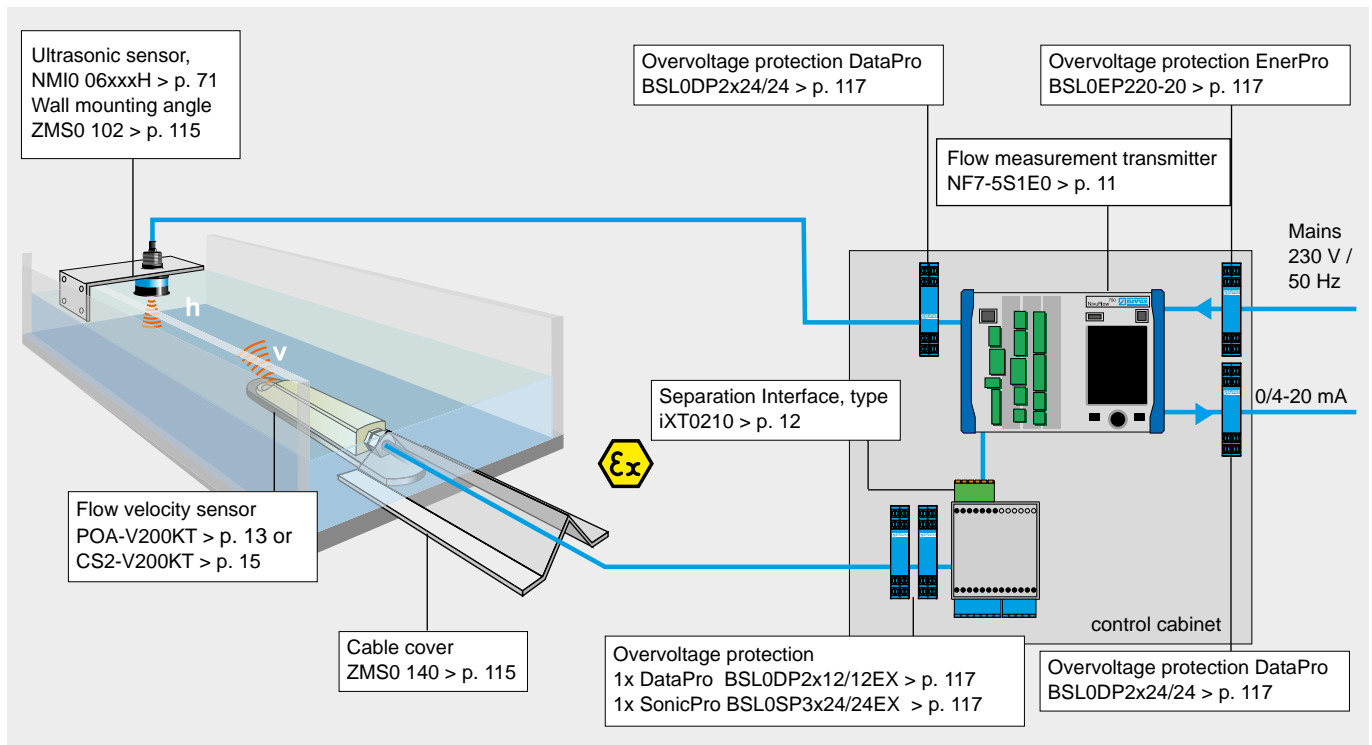


Example 2: Measurement in open channels without Ex, level measurement using pressure from bottom up

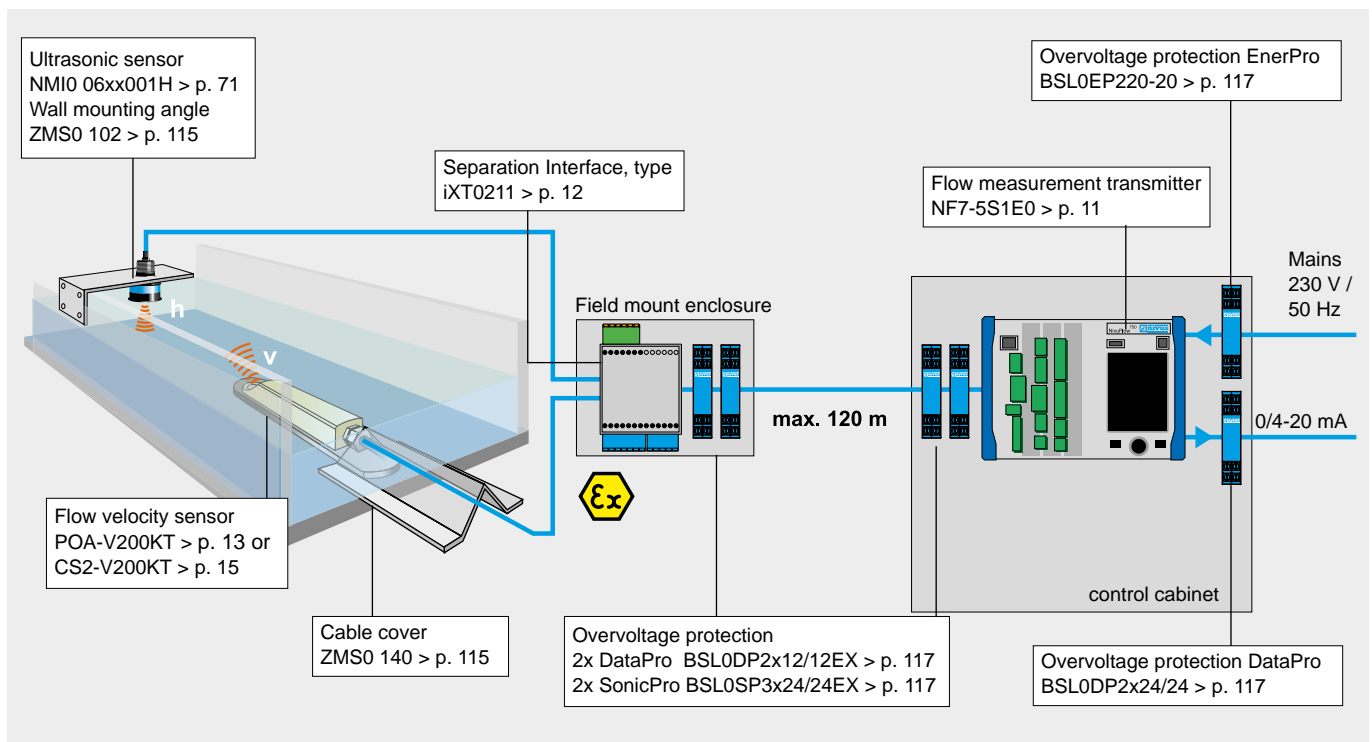




Example 3: Measurement in open channels Ex Zone 1, große Entfernung vom Sensor zum Messumformer



Example 4: Measurement in open channels without Ex, level measurement using ultrasound from top down

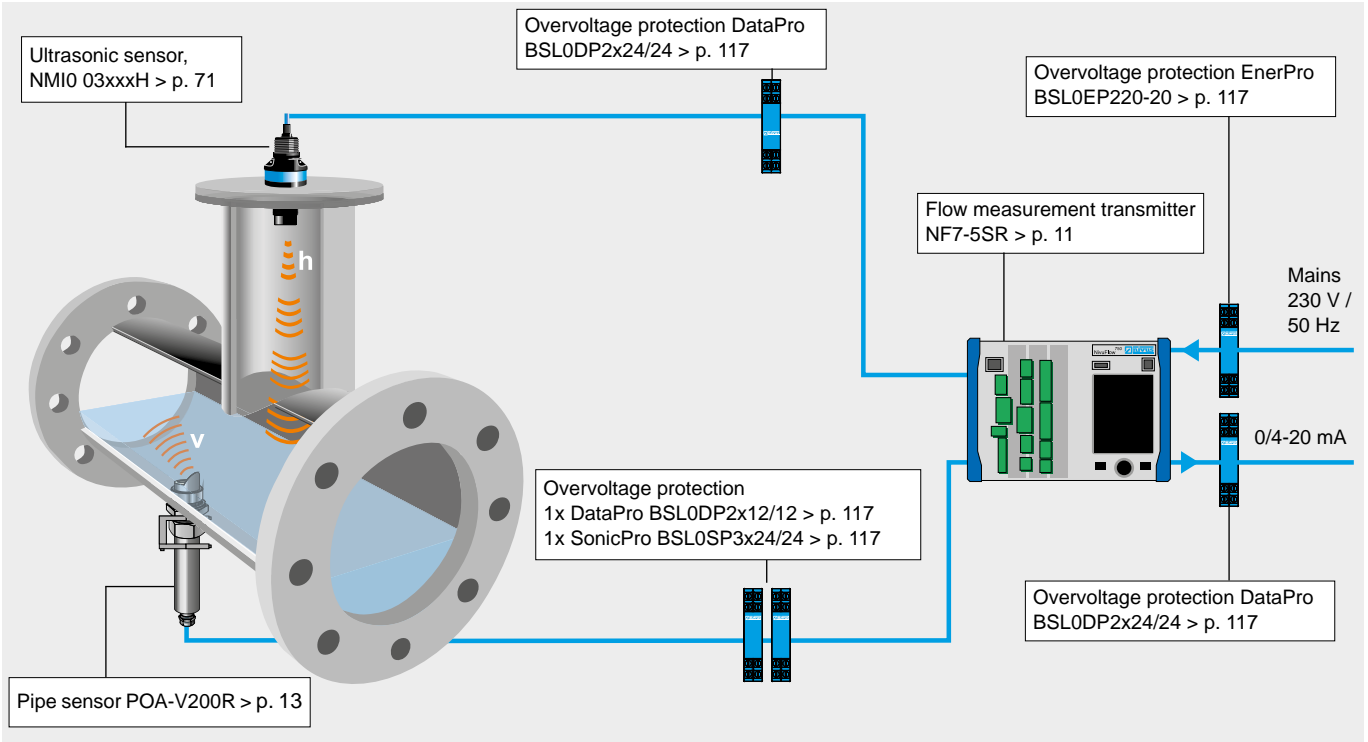




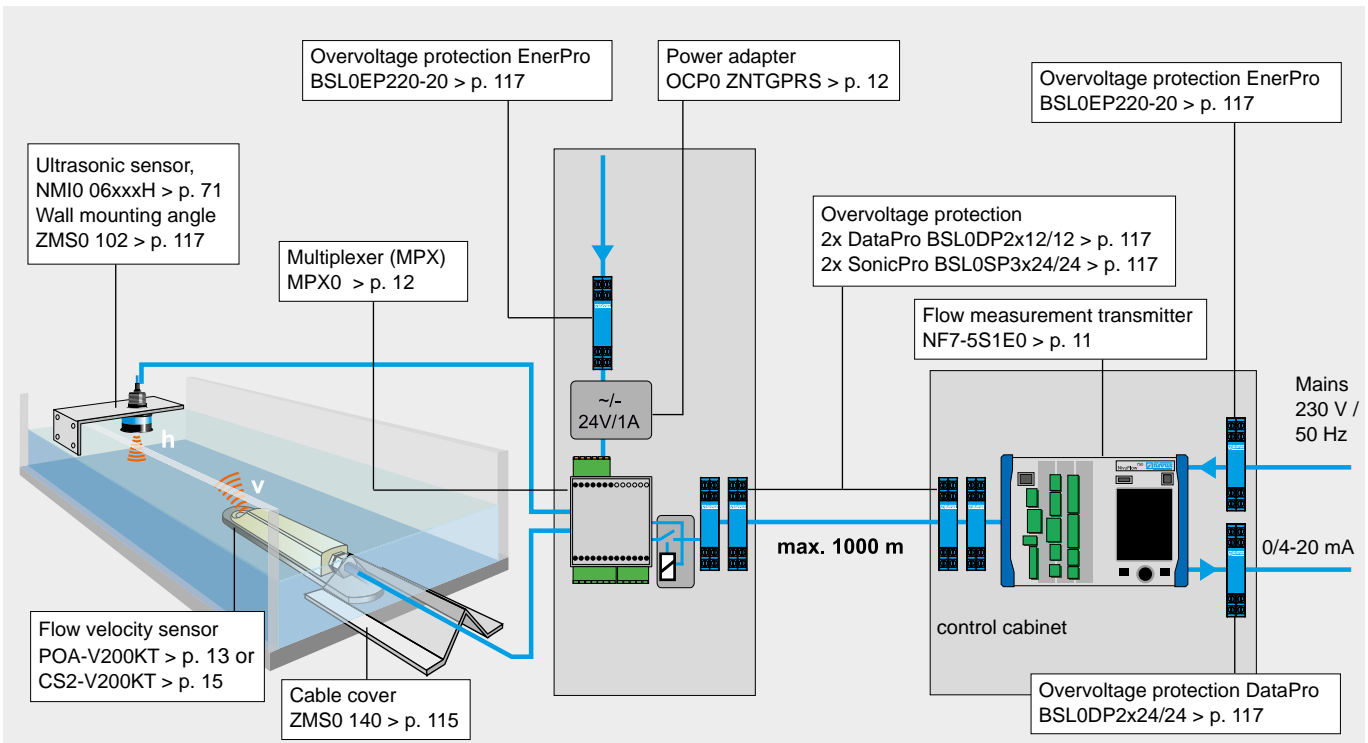
FLOW permanent



Example 5: Measurement in pipe measuring sections

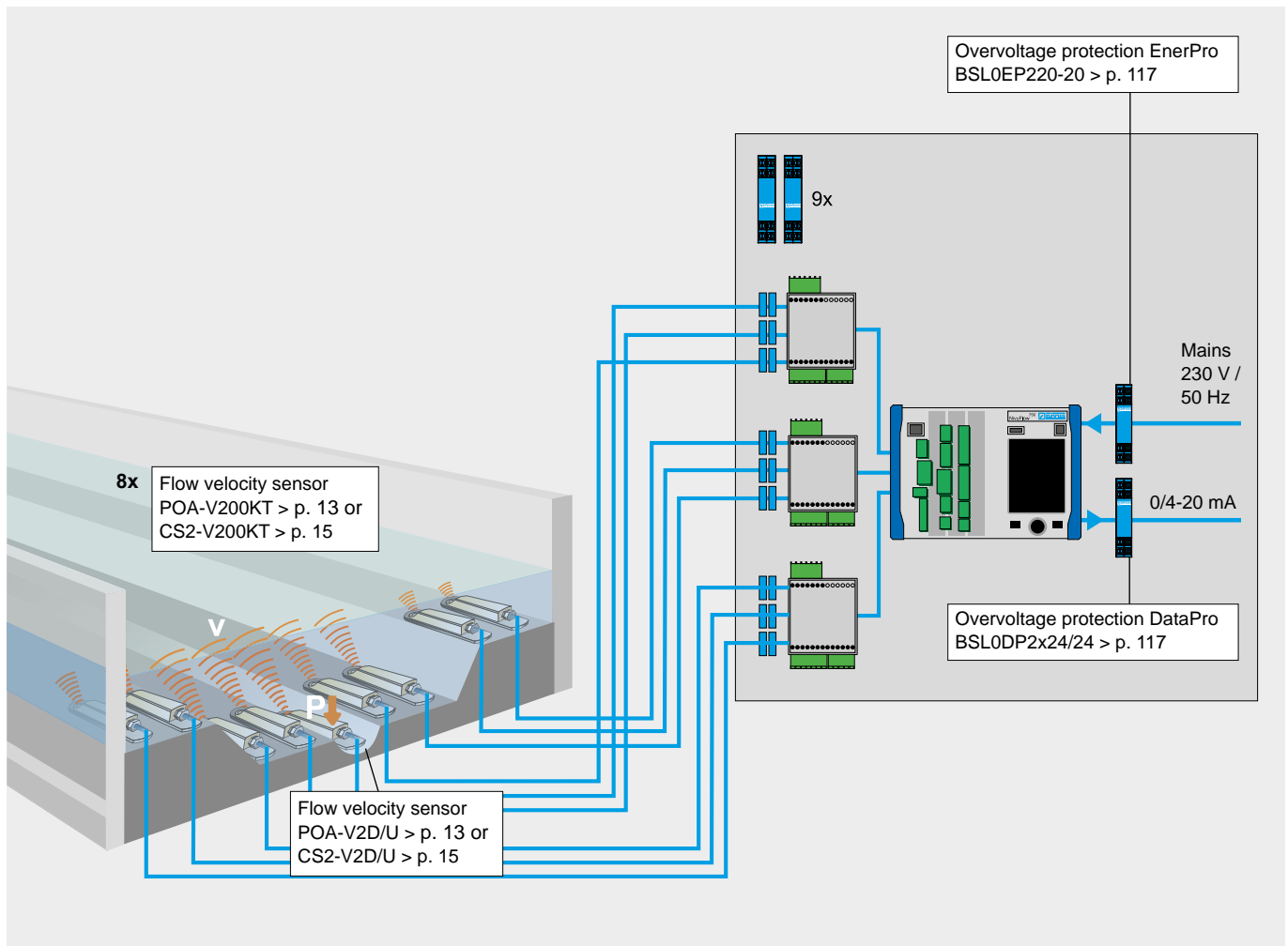


Example 6: Measurement with sensors in a distance of more than 250 m from transmitter





Example 7: Up to 9 velocity sensors, non Ex, level measurement with pressure form bottom up.

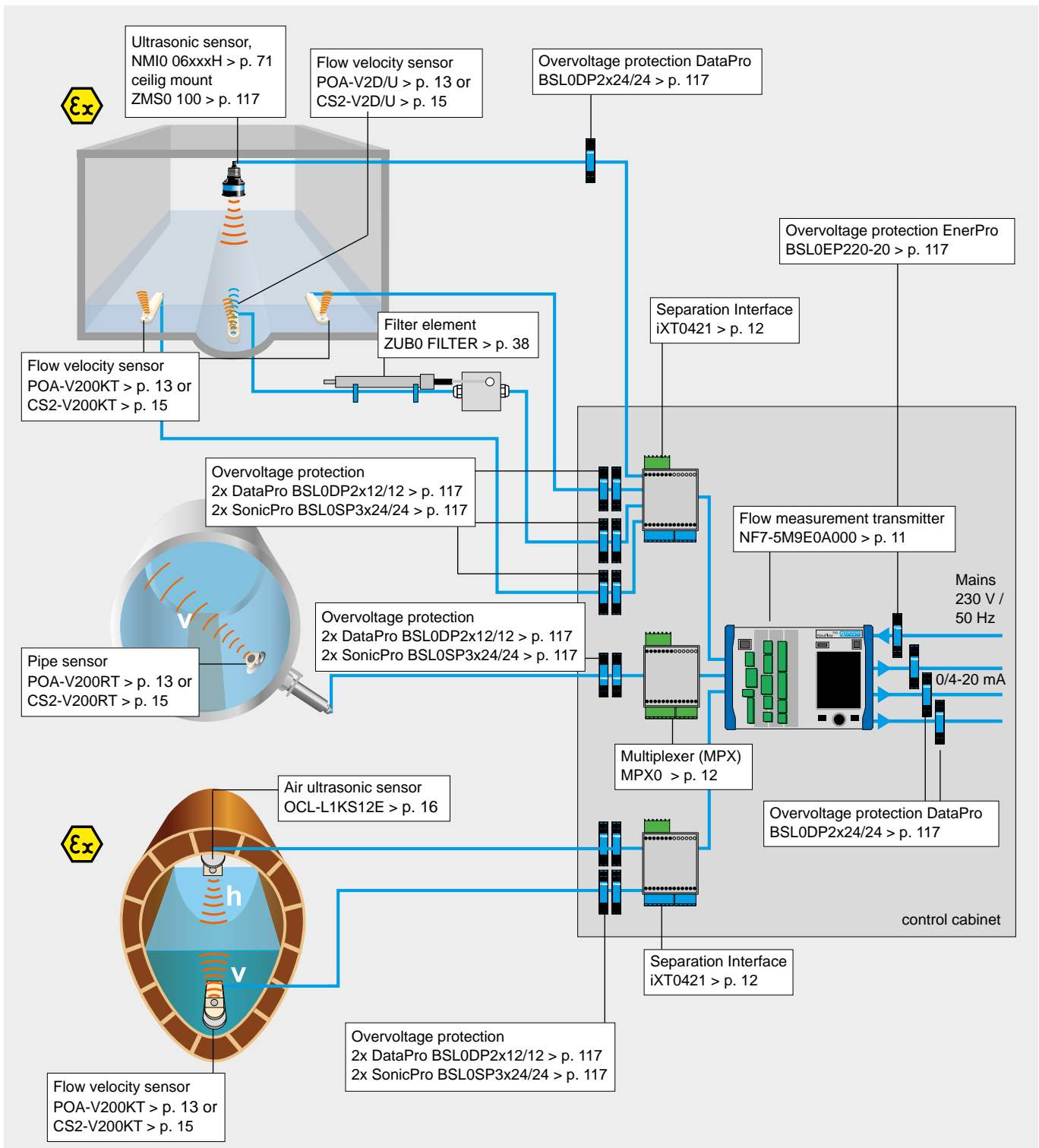




FLOW permanent



Example 8: Measurement in 3 different Measurement places with one Measurement transmitter.





NivuFlow 750

Flow measurement transmitter NivuFlow for channels and pipes. Flow profile measurement using ultrasound. Signal evaluation by using cross correlation. HART, TCP/IP via Intranet or direct connection with Modbus TCP/RTU.



NF7-

Construction

NF7-	5	For part filled and full pipes	
		Type	
		S1	1x v-sensor, 1x air-ultrasonic sensor OCL, 2x DI, 2x DO, 2x AI, 2x AO
		SR	1x v-sensor, 1x air-ultrasonic sensor OCL, 7x DI, 5x DO, 5x AI, 4x AO; integrated 3-step controller
		M3	3x v-sensor, 1 x air-ultrasonic sensor OCL, 10x DI, 6x DO, 8x AI, 4x AO; integrated 3-step controller
		M9	via Multiplexer or Ex Separation Interface expandable to a maximum of 9 v-sensors and 3x air-ultrasonic sensor OCL, 10x DI, 6x DO, 8x AI, 4x AO; integrated 3-step controller
		Enclosure and construction	
		E0	DIN rail/panel mounting (cabinet)
		W0	Field enclosure
		W2	Type S with built-in Ex Separation Interface type iXT 210 in field enclosure
W4	Type M3 with built-in Ex Separation Interface type iXT 420 in field enclosure		
Power Supply			
A0	100 - 240 V AC		
D0	9-36 V DC		
Firmware extensions			
0	none		
Number of measurement sites			
1	1 measurement site		
2	2 measurement sites (only Type M9, enclosure E0)		
3	3 measurement sites (only Type M9, enclosure E0)		
NF7-			



OCM Pro CF

Flow measurement transmitter for open channels and part filled and full pipes. Flow profile measurement using ultrasound. Signal evaluation by using cross correlation. Predecessor model of the measurement transmitter NivuFlow /50



Separation Interface type iXT

Intelligent Ex Separation Interface for Ex-safe connection of correlation sensors POA-V2, CS2, OCL-L1 as well as electronic box EBM-V1.

Ex Separation module for sensor power supply in Ex Zone 1

- IXT0 210* Intelligent Ex Separation Interface for sensor power supply in Ex zone 1, connection: 1 x v-sensor, 1 x OCL sensor, 1 x 2-wire (for transmitter Types S1 and SR)
- IXT0 211* Intelligent Ex Separation Interface for sensor power supply in Ex zone 1, connection: 1 x v-sensor, 1 x OCL sensor, 1 x 2-wire with HART (for transmitter Types S1 and SR)
- IXT0 420* Intelligent Ex Separation Interface for sensor power supply in Ex zone 1, connection: 3 x v-sensor, 1 x OCL sensor, 2 x 2-wire (for transmitter Types M3 and M9)
- IXT0 421* Intelligent Ex Separation Interface for sensor power supply in Ex zone 1, connection: 3 x v-Sensor, 1 x OCL sensor, 2 x 2-wire, one of them HART (for transmitter Types M3 and M9)

Multiplexer

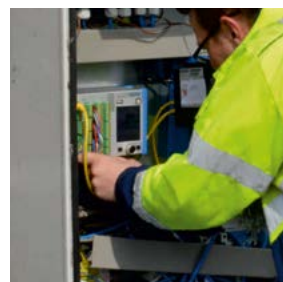
- MPX0 421* Multiplexer for sensors in **non-Ex areas**, connection: 1 x v-sensor, 1 x OCL sensor, 1 x 2-wire with HART (for measurement transmitter type M3 and M9)

Power adapter for use on site MPX

- OCP0 ZNTGPRS* DIN rail power adapter 230 V AC / 24 V DC; 25 VA

Coupling relay for use on site MPX

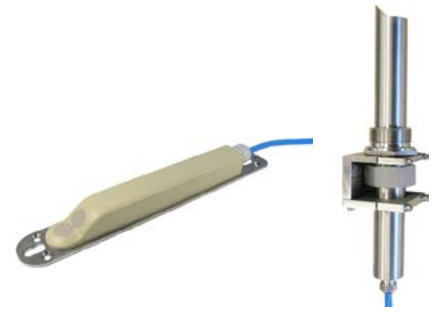
- ZUB0 REL12V* DIN rail relay 12 V DC, 1 SPDT 6A / 250 V



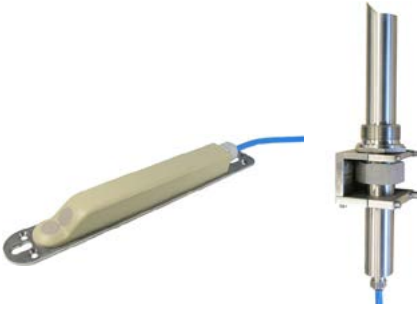


POA Sensors

Ultrasonic sensor for flow velocity or combi sensor for flow velocity and level for connection to NivuFlow 750.



POA-	Type	Sensor with spatial allocation of flow velocities covering a maximum of 16 scan layers
	V200	without Level Measurement
	KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571
	KP	Wedge sensor made of high resistant full PEEK, ground plate 1.4571
	KX	Wedge sensor, special construction (e.g. made of high resistant full PEEK with ground plate made of Hastelloy or Titanium).
	RT	Pipe sensor made of PPO with PEEK sensor face; pipe body 1.4571
	RP	Pipe sensor made of high resistant full PEEK; pipe body 1.4571
	RX	Pipe sensor, special construction
	V2H1	with ultrasound from bottom up for Level Measurement
	KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571
	KP	Wedge sensor made of high resistant full PEEK, ground plate 1.4571
	KX	Wedge sensor, special construction (e.g. made of high resistant full PEEK with ground plate made of Hastelloy or Titanium).
	RT	Pipe sensor made of PPO with PEEK sensor face; pipe body 1.4571
	RP	Pipe sensor made of high resistant full PEEK; pipe body 1.4571
	RX	Pipe sensor, special construction
	V2D0	with Pressure Measurement Cell ¹ for Level Measurement
	KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571
	KX	Wedge sensor, special construction
	V2U1	with Pressure Measurement Cell ¹ and ultrasound from bottom up for Level Measurement
	KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571
	KX	Wedge sensor, special construction
	ATEX approvals	
	0	none
	E	Zone 1
	Cable Length (max. 150 m / with pressure measurement cell up to 30 m)	
	10	10 m
	15	15 m
	20	20 m
	30	30 m
	50	50 m
	99	100 m
	XX	Special length upon request
	1B	10 m, FEP coated*
	2B	20 m, FEP coated*
	3B	30 m, FEP coated*
	5B	50 m, FEP coated*
	9B	100 m, FEP coated*
	XB	Special length / special construction*



POA-						

Sensor Connection

K Cable end pre-configured for connection to NivuFlow 750, Type V20 and V2H

L Cable end pre-configured for connection to NivuFlow 750, Type V2D and V2U

Pipe Length

0 (only for wedge sensor)

2 20 cm (standard)

3 30 cm (minimum length for ball stop valve)

4 40 cm (minimum length for retractable fitting)

X Special pipe length in dm, price per dm

G 20 cm + extension thread

* = Cable not possible for sensor type V2D0 and V2U1

1 = Please find pressure compensation element on

Sensors of the "Mini" sensor family for connection to permanent flow meters see page 14





CS2 Sensors

Sensor for flow velocity profile measurement using ultrasound or combi sensor with integrated level measurement. Ideal in applications with water levels up to 4 meters. For use in part filled and full pipes and open channels. For connection to NivuFlow 750.



CS2-	Type	Correlation sensor for large dimensions				
	V100	without level measurement				
		RP	Pipe sensor made of high resistant full PEEK; pipe body 1.4571			
		RX	Pipe sensor, special construction			
	V200	SP	Rod sensor made of highly resistant full PEEK, pipe material 1.4571			
		without level measurement				
	V2H1	KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571			
		with ultrasound from bottom up for level measurement				
	V2D0	KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571			
		with pressure measurement cell ¹ for level measurement				
	V2U1	KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571			
		with pressure measurement cell ¹ and ultrasound from bottom up for level measurement				
		KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571			
		ATEX approval				
		0	none			
		E	Zone 1			
		Cable Length (max. 150 m / with pressure measurement cell up to 30 m)				
		10	10 m			
		15	15 m			
		20	20 m			
	30	30 m				
	50	50 m				
	99	100 m				
	XX	Sensor Connection				
	Sensor Connection					
	K	Connection to NivuFlow 750, Type V20 and V2H				
	L	Connection to NivuFlow 750F, Type V2D and V2U				
	R	for pipe sensors for connection to NivuFlow 750, Type V10				
	F	Connection to PCM Pro and PCM 4 for type V2D and V2U, incl. plug and replaceable filter element				
	S	Connection to PCM Pro and PCM 4 for type V20 and V2H, incl. plug				
	Pipe Length					
	0	(only for wedge sensor)				
	2	20 cm (standard)				
	3	30 cm (minimum length for stop ball valve)				
	4	40 cm (minimum length for retractable fitting)				
	X	Special pipe length in dm, price per dm				
	G	20 cm + extension thread				

ZUB0 KABS Cable protection length 0.5, 1 and 3 m, other lengths

¹ = Please find pressure compensation element (not for connection F and S) on page 38



OCL sensor

Active air-ultrasonic sensor for non-contacting water level measurement for connection to NivuFlow 750.



OCL-L1 Active air-ultrasonic sensor

Construction

- K** Wedge sensor
- X** Special construction

Sensor Version

- S** Standard version made of PPO, cable: PUR
- X** Special construction

Transmitting Frequency

- 12** 120 kHz
- XX** Special construction

ATEX approval

- 0** ohne
- E** Zone 1

Cable Length (max. 150 m)

- 10** 10 m
- 15** 15 m
- 20** 20 m
- 30** 30 m
- 50** 50 m
- 99** 100 m
- XX** Special length upon request

Sensor Connection

- K** Cable end pre-configured for connection to NivuFlow 750

					K
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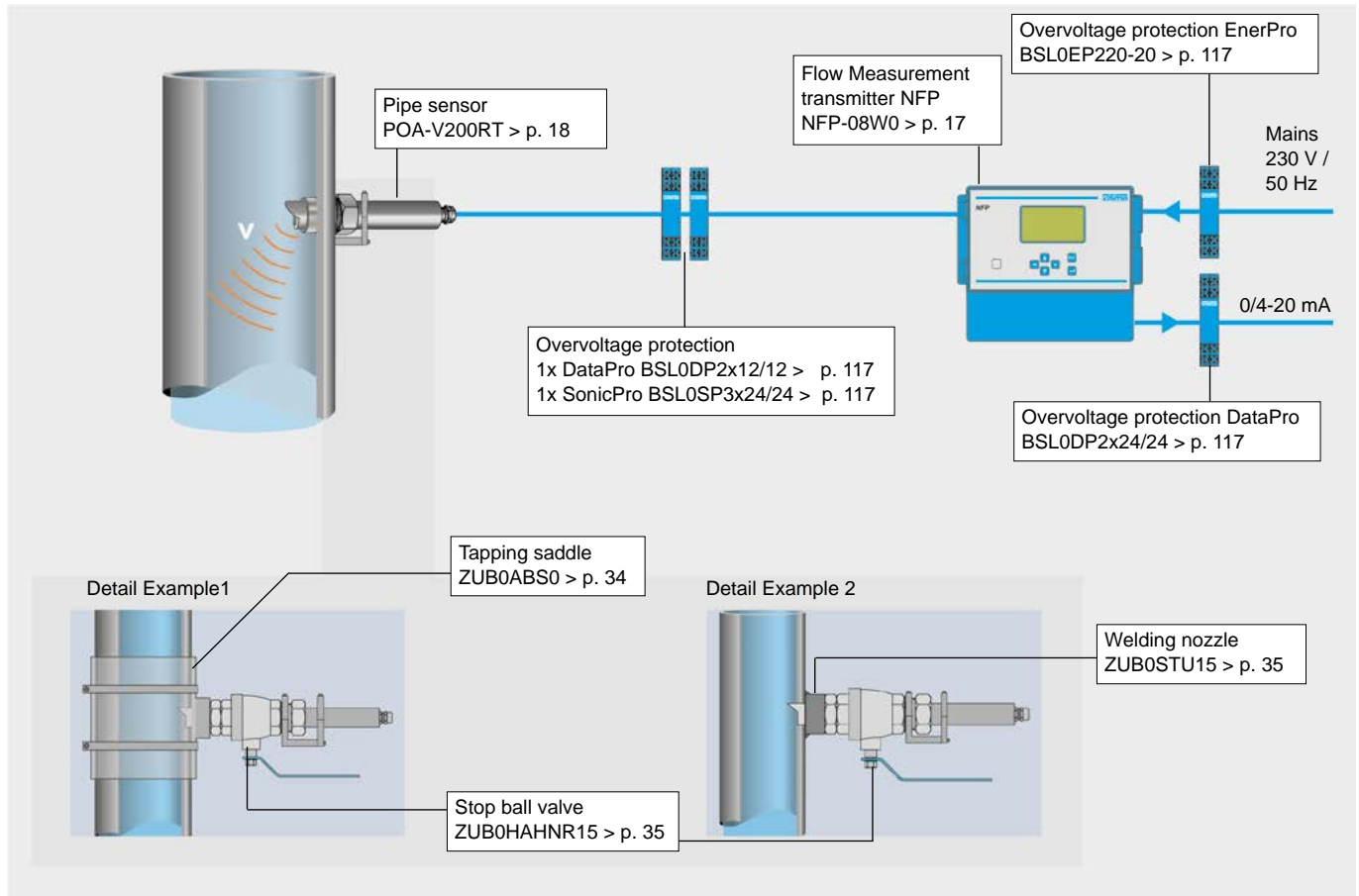


NFP - Nivus Full Pipe

Measurements exclusively in full pipelines up to 800 mm diameter. Ideal for slightly polluted media up to sludge. Flow velocity profile measurement using ultrasound. Signal evaluation by using cross correlation.



Example: Measurement in pipe line



NFP-	Type			
	05	Nominal diameter DN100 - DN500		
	08	Nominal diameter DN100 - DN800		
		Construction		
		W0	Wall mount enclosure IP 65	
			Power Supply	
		AC	85 - 265 V AC, 47-63 Hz	
		DC	20 - 28 V DC	
			ATEX approval	
		0	none	
		E	Intrinsically safe sensor supply in Ex zone 1	
			Extensions (Hardware)	
		1	1 analog output	
		3	3 analog outputs	
NFP-		W0		



POA Sensor for NFP

Ultrasonic sensors for flow velocity for connection to NIVUS Full Pipe (NFP). Retaining element for pipe sensors inclusive.

POA- Active water-ultrasonic sensor with spatial allocation of flow velocities covering a maximum of 16 scan layers

V200					
	RT	Pipe sensor made of PPO with PEEK sensor face; pipe body 1.4571			
	RP	Pipe sensor made of high resistant full PEEK; pipe body 1.4571			
	RX	Pipe sensor, special construction			
	ATEX approvals				
	0	none			
	E	Zone 1			
	Cable Length - max. 150 m (FEP coating upon request)				
	10	10 m			
	15	15 m			
	20	20 m			
	30	30 m			
	50	50 m			
	99	100 m			
	XX	Special length upon request			
	Sensor Connection				
	K	Cable end pre-configured for connection to NFP			
	Pipe Length				
	2	20 cm (standard)			
	3	30 cm (minimum length for ball stop valve)			
	4	40 cm (minimum length for retractable fitting)			
	X	Special pipe length in dm, price per dm			
	G	20 cm + extension thread			
POA-	V200			K	





OFR - Open Channel Surface Radar

Radar sensor for flow velocities for connection to OCM Pro CF.
Fittings optional.

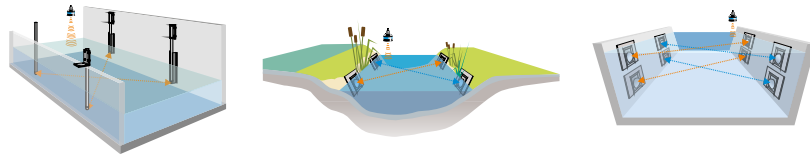
OCP-	Construction	<p>R4 Multifunctional version with 5 relays, 4 mA outputs (galv. isolated), 4 digital inputs, 5 analog inputs (1 of them galv. isolated with 2-wire sensor supply), integrated 3-point step controller with flush function, connecting options for one Radar sensors, type OFR</p> <p>Construction</p> <p>F0 Panel mounting IP54 / IP20, no data transmission available</p> <p>W0 Wall-mounting IP65</p> <p>Data Transmission</p> <p>00 without Internet communication (for F0 enclosure)</p> <p>IN Internet communication via Intranet (for W0 enclosure)</p> <p>MG Internet communication via GPRS (GSM antenna required) (for W0 enclosure)</p> <p>Power Supply</p> <p>A4 100-240 V AC / 47-63 Hz</p> <p>D4 9-36 V DC</p>
OCP-		

OFR- Open Channel Surface Radar: Sensor for contactless surface velocity measurement of liquid media

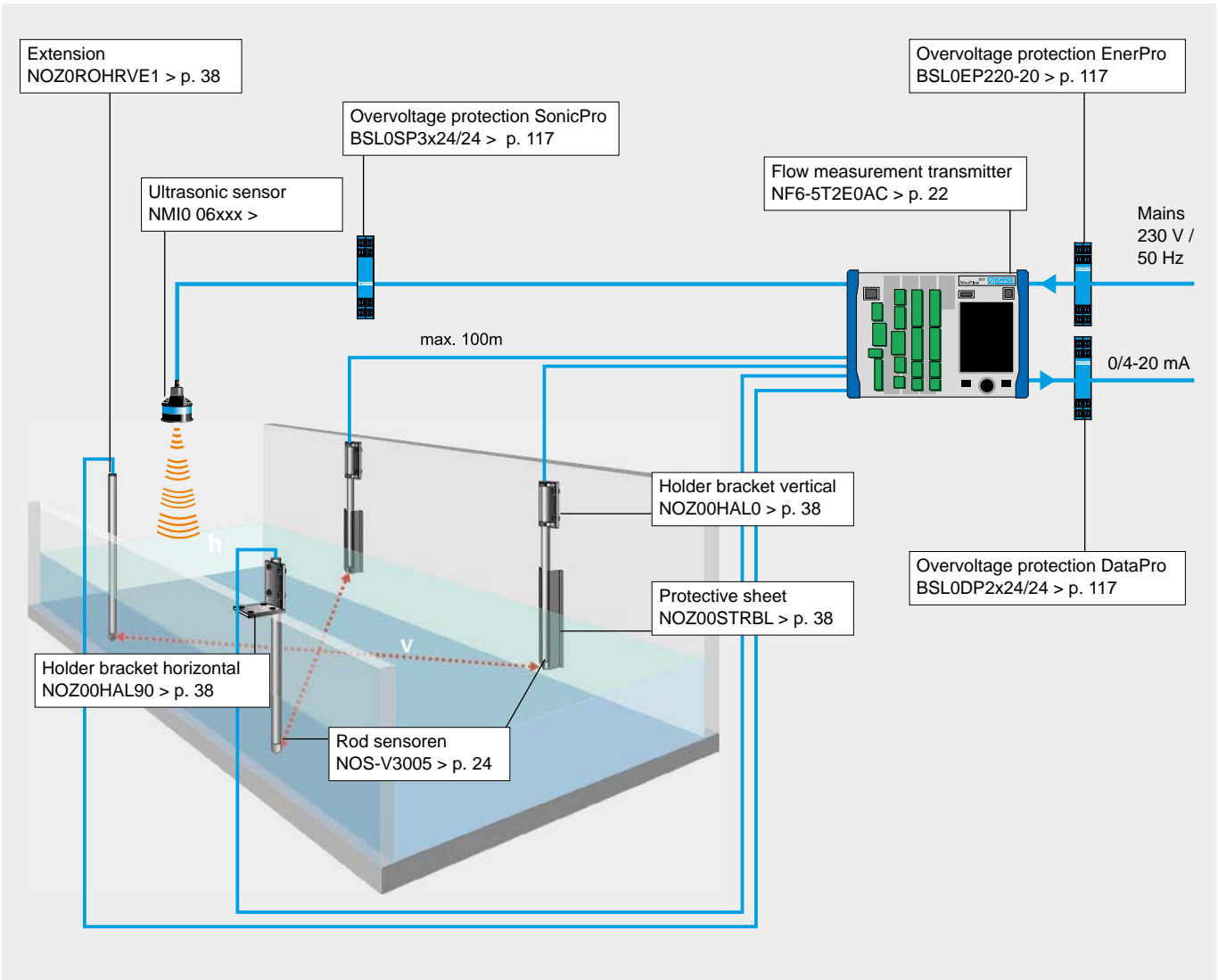
	Enclosure	<p>P Extremely robust metal enclosure, IP54 with plug connection for connection to OCM Pro CF radar, indoor version</p> <p>F Field enclosure made of plastic, IP68, for use in areas subject to flood risk.</p> <p>Measurement range</p> <p>001 Single-Array Radar for distances to surface between 0.3 and 10 m Velocity determination from ±0.2 to 20 m/s</p> <p>Cable length</p> <p>0 none</p> <p>010 10 m</p> <p>020 20 m</p> <p>030 30 m</p> <p>050 50 m</p> <p>099 100 m</p> <p>0XX Special length upon request</p>
OFR-		

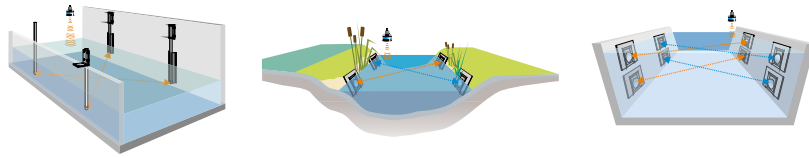
Accessories

- ZUB0 OFRHAL Holder bracket for OFR sensor and NMI-03/06 level sensor
- ZUB0 OFRB HAL Holder bracket extension ZUB0 OFRHAL for fastening on bridge railings.

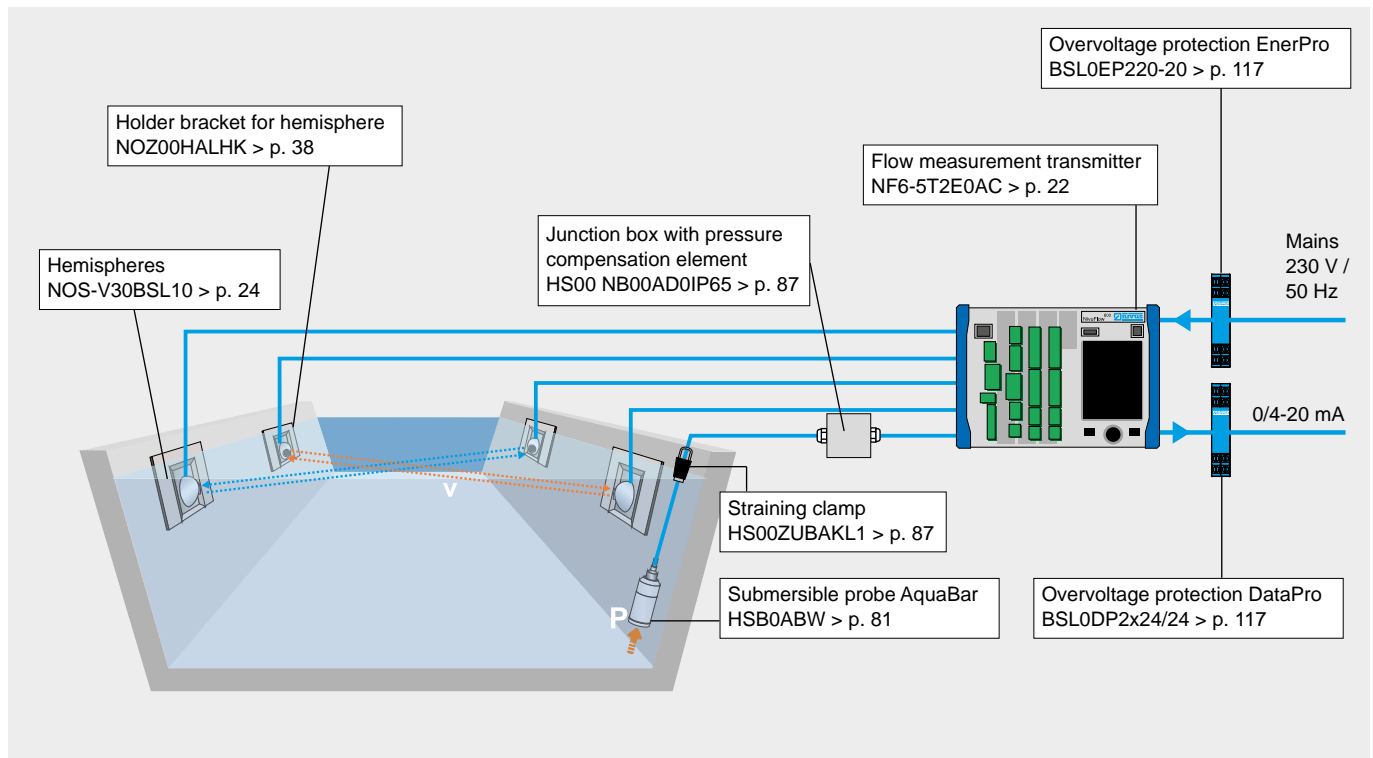


Example 1: Transit time measurement in open channel, 1 or 2 paths with rod sensors and level measurement using ultrasound from top down





Example 2: Transit time measurement in open channel, 1 or 2 paths with hemispherical sensor and level measurement using pressure probe





NivuFlow 650

Flow measurement transmitter for full and part filled pipes, open channels/water bodies and multi-path measurements according to transit time measurement method. HART, TCP/IP via Intranet or ModBus TCP / RTU

NF6- Construction

NF6-	5	For part filled and full pipes, and channels		
		Type		
		T2E0	up to 2 acoustic paths, 1 x air-ultrasonic sensor OCL, 2 x DI, 2 x DO, 2 x AI, 2 x AO, construction: DIN rail/panel mounting (cabinet)	
		T4E0	up to 4 acoustic paths, 1 x air-ultrasonic sensor OCL, 2 x 2 x DI, 2 x DO, 2 x AI, 2 x AO, construction: DIN rail/panel mounting (cabinet)	
		T2W0	up to 2 acoustic paths, 1 x air-ultrasonic sensor OCL, 2 x DI, 2 x DO, 2 x AI, 2 x AO, construction: field enclosure	
		T4W0	up to 4 acoustic paths, 1 x air-ultrasonic sensor OCL, 2 x DI, 2 x DO, 2 x AI, 2 x AO, construction: field enclosure	
		Power Supply		
		AC	100-240 V AC / 47-63 Hz	
		DC	9-36 V DC	
		Firmware extensions		
0	none			
Number of measurement sites				
1	1 measurement site			
2	2 measurement sites			
NF6-	5		0	



NivuChannel

Flow measurement transmitter for full and part filled pipes, open channels/water bodies and multi-path measurements according to IEC60041 (calibration according to EN ISO 6416 on site recommended). Internet access via HTML protocol, TCP/IP via Ethernet or direct connection with Modbus TCP. Includes NivuSoft software for Windows Vista / Windows 7 and 8. For connection of more than 4 paths.



Screw-in sensors and Plug-in sensors

Screw-in sensors for connection to NivuChannel for flow velocity detection via ultrasonic transit time in full pipes - preferably multi-path applications according to IEC60041.



NOS-	Type
	<p>V2E00 Screw-in sensors for installation in welding nozzle (installation possible only from the outside!); sensor pair (2 pieces!)</p> <p>V2S00 Plug-in sensors for installation in duct (installation only possible from the inside!); sensor pair (2 pieces!)</p> <p>Pressure Level</p> <p>H 80 bar</p> <p>Path Position</p> <p>A 45°</p> <p>B Position 18° of path upon request</p> <p>C Position 30° of path upon request</p> <p>D Position 54° of path upon request</p> <p>X Special position</p> <p>ATEX-Zulassung</p> <p>0 ohne</p> <p>Kabellänge</p> <p>10 10 m pre-configured</p> <p>15 15 m pre-configured</p> <p>20 20 m pre-configured</p> <p>30 30 m pre-configured</p> <p>50 50 m pre-configured</p> <p>99 100 m pre-configured</p> <p>XX Special length</p> <p>Sensor Connection</p> <p>K Connection to NivuFlow transmitter</p> <p>Z Connection to NivuFlow transmitter via adapter box</p>
NOS-	H 0





Hemispheres and Rod sensors

Sensors for part filled channel shapes for connection to NivuChannel for flow velocity detection by ultrasonic transit time

NOS-

Type

- V2005** Rod sensor made of 1.471; installation tube length 500 mm diameter 35 mm; sensor head with CFK sensor face (ø20 mm) for 1 MHz; pair of sensors (2 pieces!)
- V3005** Rod sensor made of 1.471; installation tube length 500 mm diameter 35 mm; sensor head with CFK sensor face (ø40 mm) for 1 MHz; pair of sensors (2 pieces!)
- V20BS** Adjustable ball sensor made of 1.4571 and POM with GFK sensor face (20 mm); pair of sensors (2 pieces!)
- V30BS** Hemispheres made of POM, sensor face 1.4571 (ø 40 mm) made of CFK (Carbon); for 1 MHz; pair of sensors (2 pieces!)
- V30BX** Hemispheres (CFK), sensor face 1.4571 (ø 40 mm); special construction; pair of sensors (2 pieces!)
- V4005** Rod sensor made of 1.471; installation tube length 500 mm diameter 35 mm; sensor head (ø65 mm) für 200 KHz; pair of sensors (2 pieces!)

Pressure Level

L 1,2 bar

Path Position

1 Path position 45° against flow direction (recommended setup angle)

ATEX aproval

0 none

Cable Length

10 10 m pre-configured

15 15 m pre-configured

20 20 m pre-configured

30 30 m pre-configured

50 50 m pre-configured

99 100 m pre-configured

XX Special length

Sensor Connection

A Connection to NivuFlow transmitter via underwater plug connection (only for Type V30B)

B Connection via adapter box to NivuFlow transmitter via underwater plug connection (only Type V30B)

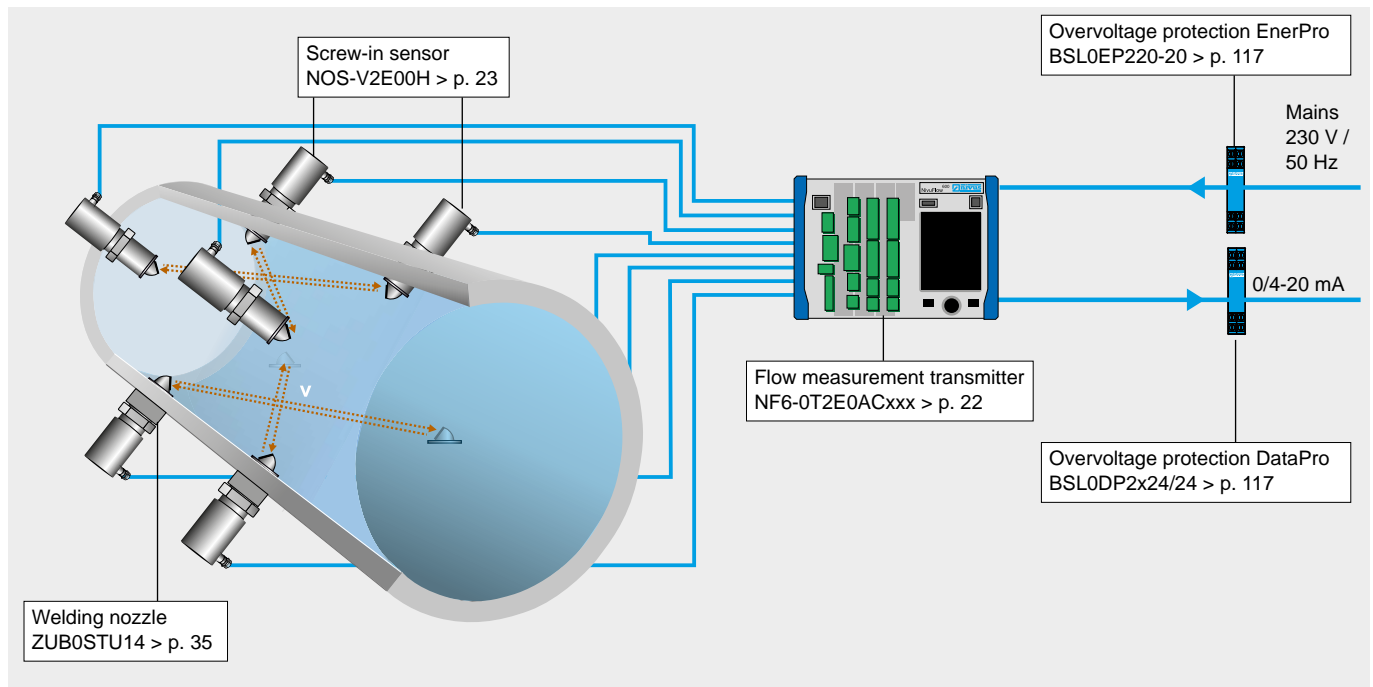
K Connection to NivuFlow transmitter

Z Connection to NivuFlow transmitter via underwater plug connection (only for Type V30B)

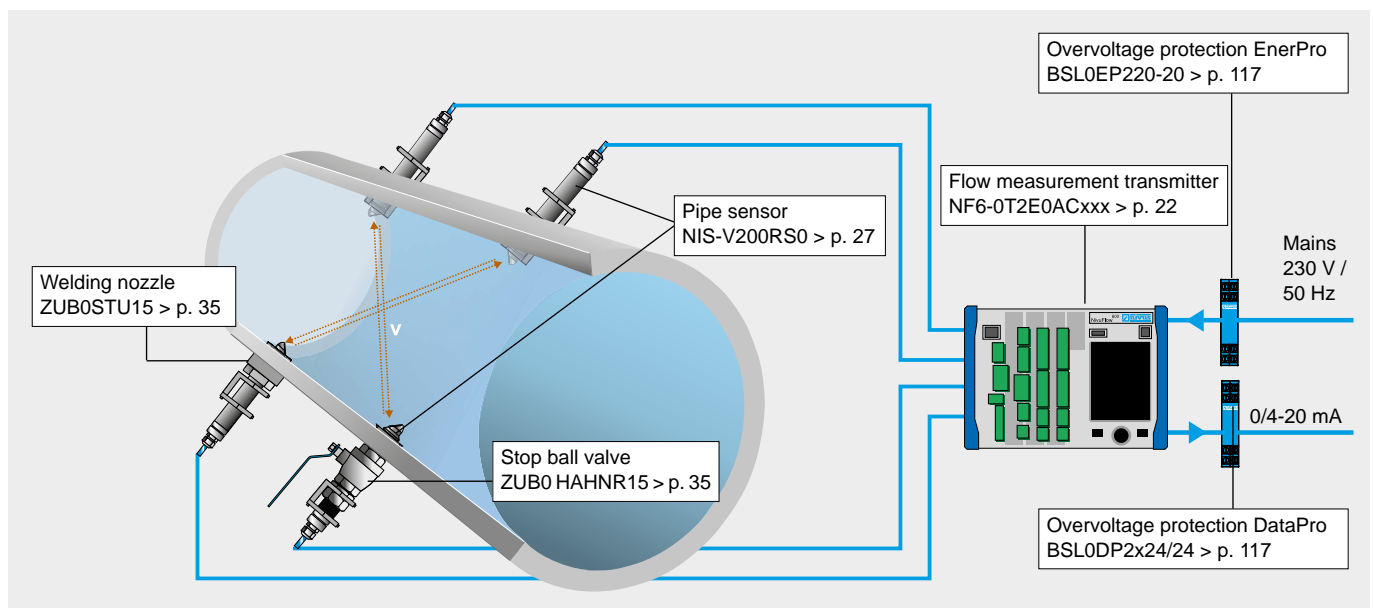
NOS-		L	1	0		
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Example 1: Transit time measurement in full pipe line with more than 2 measurement paths.



Example 2: Transit time measurement in full pipe line with 2 measurement paths.





NivuFlow 600

Flow measurement for full pipes / Channels using ultrasonic transit time measurement method. TCP/IP via Ethernet, ModBus TCP or ModBus RTU, RS485 / RS232

NF6- Construction

NF6-	0	for permanent full pipe lines			
		Type			
		T2E0	up to 2 acoustic paths, 1 x air-ultrasonic sensor OCL, 2 x DI, 2 x DO, 2 x AI, 2 x AO, construction: DIN rail/panel mounting (cabinet)		
		T4E0	up to 4 acoustic paths, 1 x air-ultrasonic sensor OCL, 2 x 2 x DI, 2 x DO, 2 x AI, 2 x AO, construction: DIN rail/panel mounting (cabinet)		
		T2W0	up to 2 acoustic paths, 1 x air-ultrasonic sensor OCL, 2 x DI, 2 x DO, 2 x AI, 2 x AO, construction: field enclosure		
		T4W0	up to 4 acoustic paths, 1 x air-ultrasonic sensor OCL, 2 x DI, 2 x DO, 2 x AI, 2 x AO, construction: field enclosure		
		Power Supply			
		AC	100-240 V AC / 47-63 Hz		
		DC	9-36 V DC		
		Firmware extensions			
	0	none			
Number of measurement sites					
	1	1 measurement site			
	2	2 measurement sites			
NF6-	0			0	





NIS sensors

Sensors for connection to NivuSonic for flow velocity detection using ultrasonic transit time in full pipes. Retaining element for pipe sensors inclusive.



NIS-	Type				
	V200	Pipe sensor			
		RL0	Pipe sensors ¾"; for 1" stop ball valve (2 pcs needed 1 MHz; sensor pair (2 pcs.) pressure up to 4 bar max. Use in DN100 - DN500		
		RT0	Pipe sensors; 1.4571; with CFK sensor face; starting at DN100 sensor pair (2 pcs.)		
		RT2	Pipe sensors; 1.4571; with CFK sensor face; starting at DN100 Version with drinking water approval according to WRAS (BS6920)		
		RX0	Pipe sensors; special construction; sensor pair (2 pcs.)		
	V280	Wedge sensor			
		KS0	Wedge sensors 1.4571 with alignment aid; sensor pair (2 pcs.)		
			Cable Length		
			10	10 m pre-configured	
			15	15 m pre-configured	
			20	20 m pre-configured	
			30	30 m pre-configured	
			50	50 m pre-configured	
			99	100 m pre-configured	
			XX	Special length upon request	
			Sensor Connection		
			K	Connection to NivuFlow 600 transmitter	
			Z	Connection via adapter box, extension module	
			Pipe Length		
			0	(for wedge sensor)	
			2	200 mm (for pipe sensors)	
			3	300 mm (for stop ball valve)	
			X	special length	
NIS-					

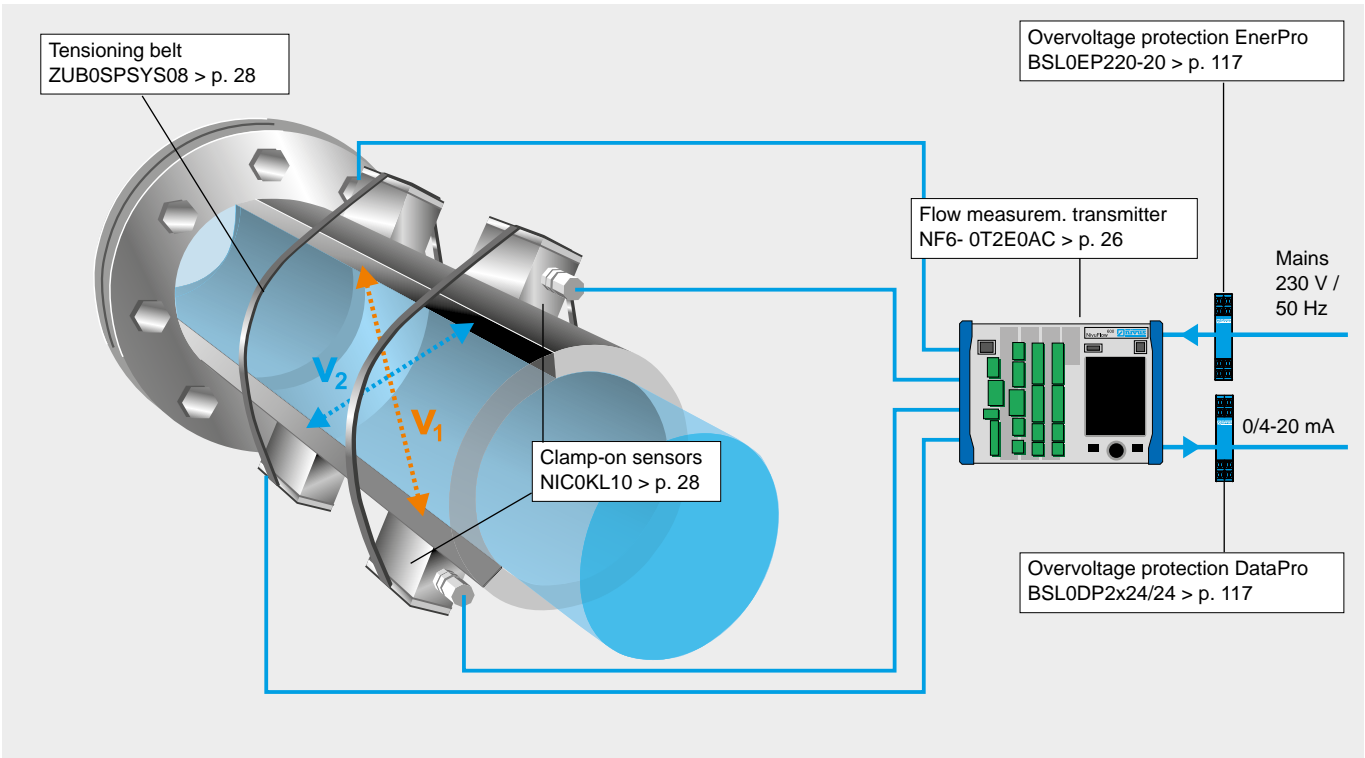


Clamp-on sensors

Sensors for non-contact flow velocity measurement using ultrasonic transit time on full pipes. For clean to slightly polluted water.



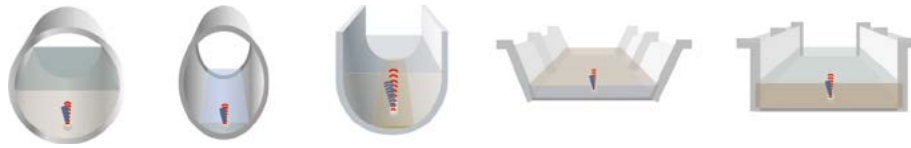
Example1: Transit time measurement in full pipe line with clamp on sensors, 2 path measurement



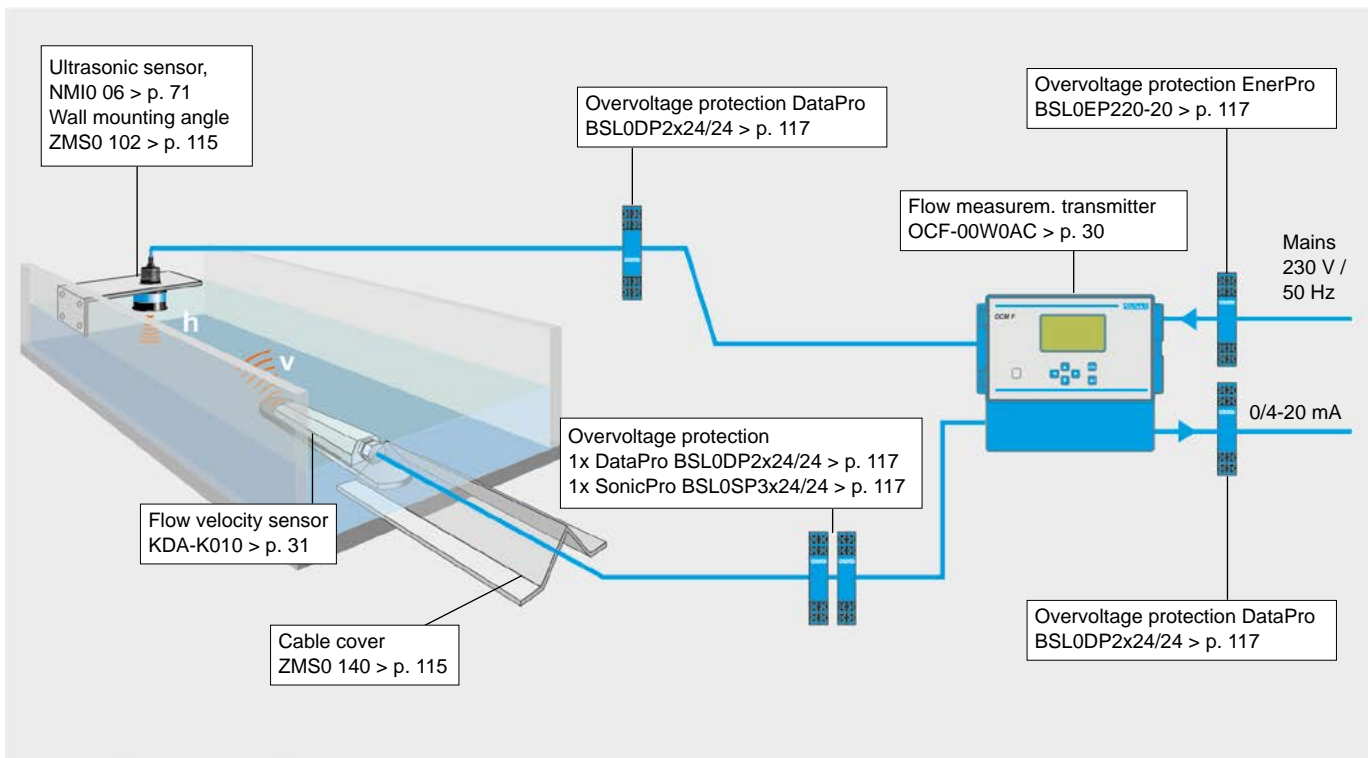
NIC0	Type
	K1L Clamp-on sensor pair for connection to NivuFlow 600; measurement range ± 20 m/s; DN50-2000 ATEX approvals 0 none Cable Length 10 10 m pre-configured 15 15 m pre-configured 20 20 m pre-configured 30 30 m pre-configured 50 50 m pre-configured Sensor Connection K Connection to NivuFlow 600 transmitter
NIC0	KL1 0 K

Fastening system / Accessories

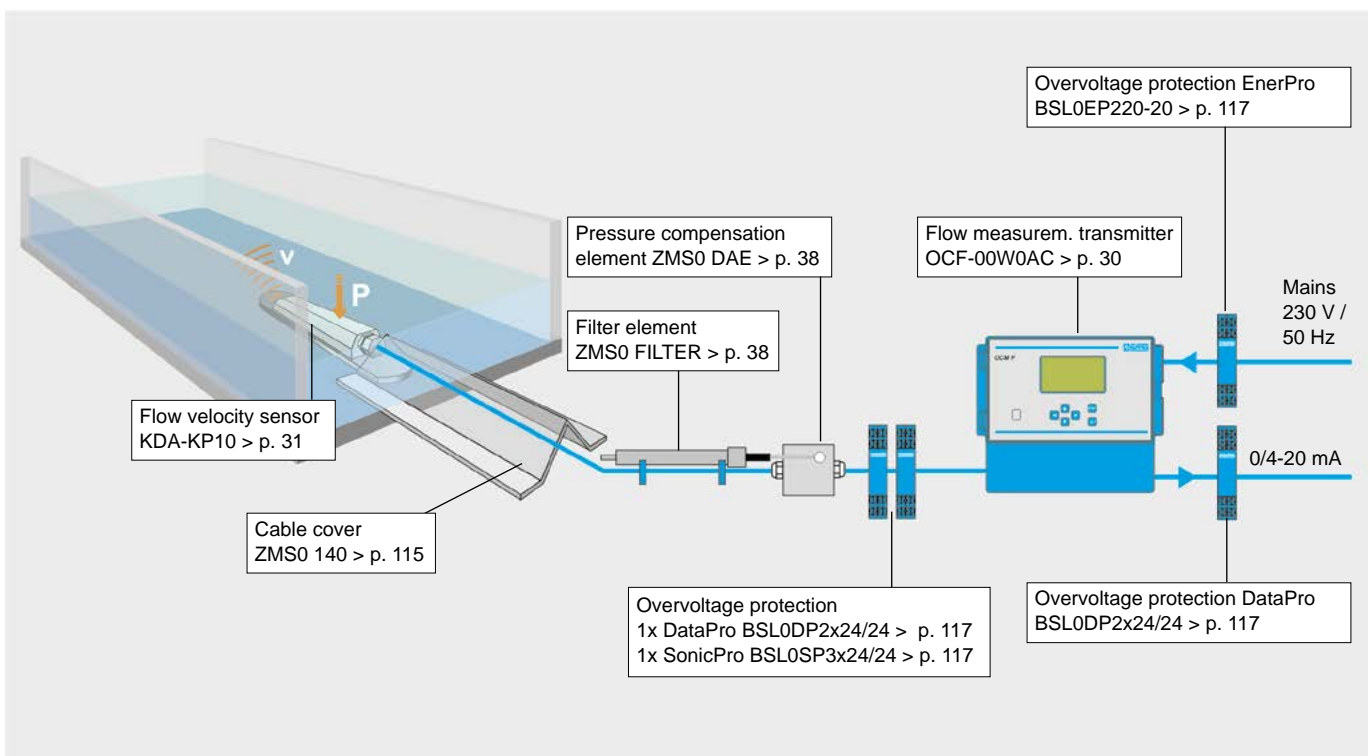
- ZUB0 SPSYS08 Clamping system consisting of tensioning belt, width 8 mm (length 10 m for 2 x 5 m) and 2 turnbuckles for fastening of 2 sensors; incl. coupling paste
- ZUB0 CORAIL Rail system consisting of tensioning belt, length 10 m, 2 turnbuckles and split, movable sensor receptacles for easier sensor installation.
- ZUB0 COBAG01 Transport bag for ZUB0 CORAIL rail system



Example 1: Measurement in open channel, level measurement using ultrasound from top down



Example 2: Measurement in open channel, level measurement using pressure from bottom up





OCM F

Flow measurement transmitter for open channels and part filled or full pipes.
Flow velocity detection by using Doppler method.



OCF-	Type			
	00	Standard version for various pipe and channel shapes. 5 relays, 3 mA outputs (galv. isolated), 1 mA input (galv. isolated with 2-wire sensor supply) or for external level measurement , integrated 3-step controller		
		Enclosure		
		W0	wall mount IP65	
			Power Supply	
		AC	85 - 265 V AC, 47-63 Hz	
		DC	20 - 28 V DC	
			ATEX approvals	
		0	none	
		E	Intrinsically safe sensor supply in Ex zone 1	
OCF-	00	W0		





KDA sensors

Ultrasonic Doppler sensor for flow velocity or combi sensor for flow velocity and level for connection to OCM F.



KDA- Compact Doppler active sensor

Construction

K010 Wedge sensor for fastening on channel bottom or by using the RMS2 pipe mounting system

KP10¹ Combi wedge sensor with integrated pressure measurement cell, suitable for simultaneous flow velocity and level measurement. For installation on channel bottom or for fastening using the RMS 2 pipe mounting system.

R007 Pipe sensor for installation with G1½" screw thread

ATEX Approvals

0 none

E zone 1

Cable Length (max. 150 m / max. possible 30 m with sensor type KP)

10 10 m

15 15 m

20 20 m

30 30 m

50 50 m

99 100 m

XX Special cable lengths upon request

Sensor Connection

K Cable end, pre-configured, for Types K0 and R0

L Cable end, pre-configured, for Type KP

Pipe Length

0 (only for wedge sensor)

2 20 cm (standard)

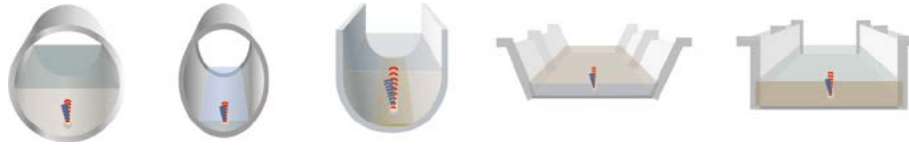
3 30 cm (minimum length for stop valve)

X Special pipe length in dm, price per dm

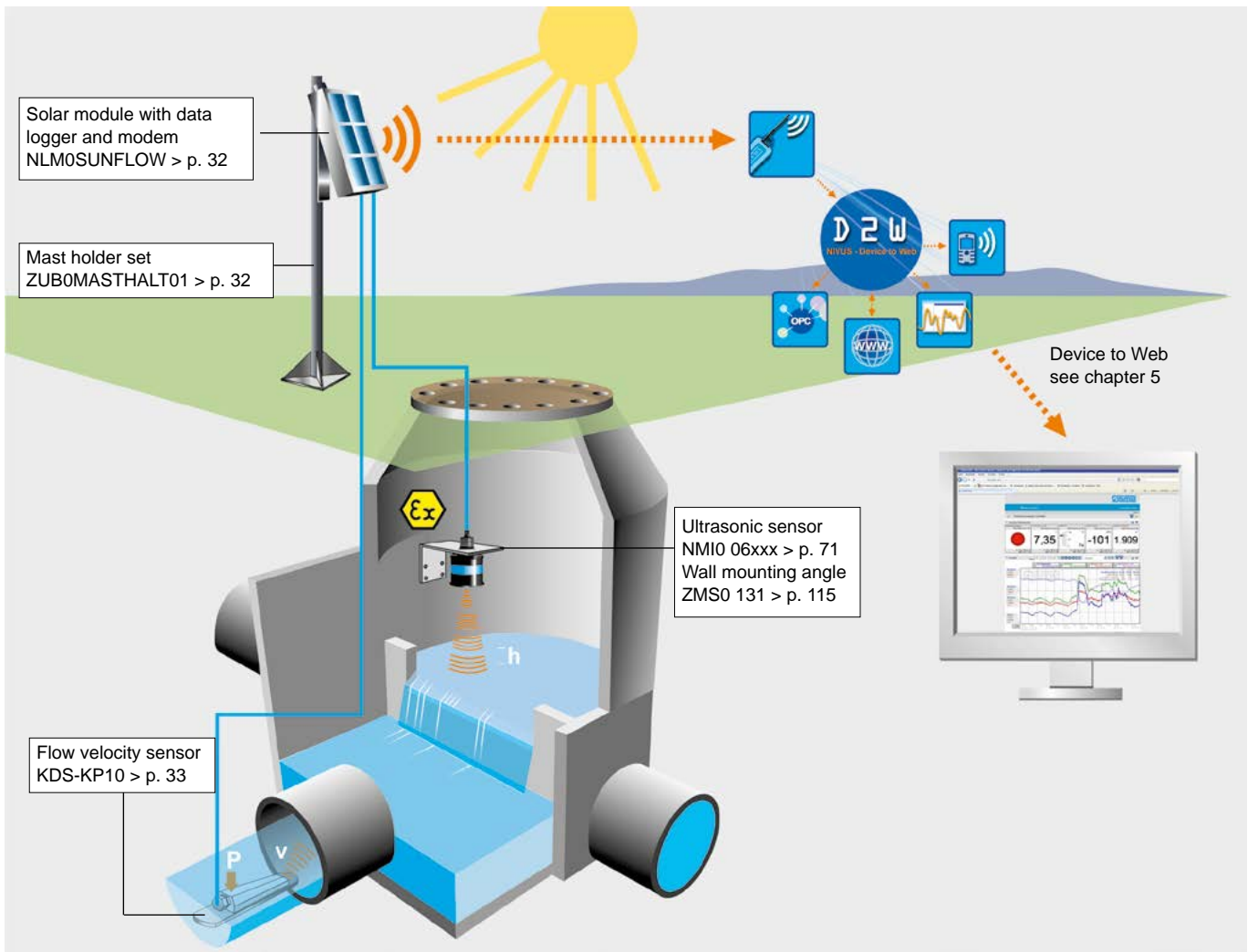
G 20 cm + extension thread

KDA-					
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¹ = Please find Pressure compensation element on page 38.



Example: solar-powered discharge volume measurement with tank monitoring data logger and GPRS data transmission.



NivuLog SunFlow

Solar-powered measurement station

NLMO SUNFLOW

NivuLog SunFlow - solar-powered measurement station with integrated data logger, GPRS data transmission, solar control and buffer batteries¹

ZUB0 MASTHALT01

Robust mast holder set for fastening and adjustment of the NivuLog SunFlow on a mast with Ø70 - 90 mm, adjustable angles for 20°, 29°, 37° or 45°; material: stainless steel 1.4571

¹ Data tariffs - see price list on page 103.

**KDS sensors**

Ultrasonic Doppler sensor for flow velocity or combi sensor for flow velocity and level for direct connection to NivuLog SunFlow.



KDS- Compact Doppler active sensor

Construction

K010 Wedge sensor for fastening on channel bottom or by using the RMS 2* pipe mounting system.

KP10 Combi wedge sensor with integrated pressure measurement cell, suitable for simultaneous flow velocity and level measurement. For installation on channel bottom or for fastening using the RMS 2* pipe mounting system.

R007 Pipe sensor for installation with G 1½" screw thread

ATEX Approvals

0 none

Cable Length (with sensor type KP max. 30 m)

10 10 m

15 15 m

20 20 m

30 30 m

50 50 m

Sensor Connection

K Cable end, pre-configured, for Types K0 and R0

L Cable end, pre-configured, for Type KP

Pipe Length

0 for wedge sensors

2 20 cm (standard)

3 30 cm (Minimum length for stop valve)

X Special pipe length in dm, price per dm

G 20 cm + extension thread

KDS-	0				
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* RMS 2 pipe mounting system - see price list on page 59.



Mounting accessories for pipe sensors

Tapping saddles for installation of pipe sensors

- ZUB0 ABS0108 for outside pipe diameters between 108-134 mm (pipe circumference 339-421 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines; material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0133 for outside pipe diameters between 133-155 mm (pipe circumference 418-487 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines; material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0138 for outside pipe diameters 138-160 mm (pipe circumference 433-502 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0159 for outside pipe diameters between 159-181 mm (pipe circumference 500-569 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0168 for outside pipe diameters between 168-190 mm (pipe circumference 528-597 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0190 for outside pipe diameters between 190-212 mm (pipe circumference 597-666 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0216 for outside pipe diameters between 216-238 mm (pipe circumference 679-748 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0238 for outside pipe diameters between 238-260 mm (pipe circumference 748-817 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0267 for outside pipe diameters between 267-289 mm (pipe circumference 839-908 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0289 for outside pipe diameters between 289-311 mm (pipe circumference 908-976 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0305 for outside pipe diameters 305-325 mm (pipe circumference 958-1021 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0324 for outside pipe diameters between 324-346 mm (pipe circumference 1018-1087 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)
- ZUB0 ABS0356 for outside pipe diameters between 356-378 mm (pipe circumference 1118-1188 mm), with nozzle 1.5" and gasket for installation of 1.5" pipe sensors in pipe lines. Material: stainless steel 1.4301 (V2A) and NBR (gasket)

More tapping saddles for diameters up to 1000 mm



Mounting plates with nozzle for installation of pipe sensors in pipes made of HDPE and concrete

- ZUB0 ABP1590X Mounting plate with nozzle 90° for installation of pipe sensors in pipes made of HDPE or concrete, 1½" inner thread; material: stainless steel 1.4571
- ZUB0 ABP1520X Mounting plate with nozzle 20° for installation of pipe sensors in pipes made of HDPE or concrete, 1½" inner thread; material: stainless steel 1.4571
- ZUB0 ABP1530X Mounting plate with nozzle 30° for installation of pipe sensors in pipes made of HDPE or concrete, 1½" inner thread; material: stainless steel 1.4571

ATTENTION:

DN specifications are not equivalent to outside pipe diameters.

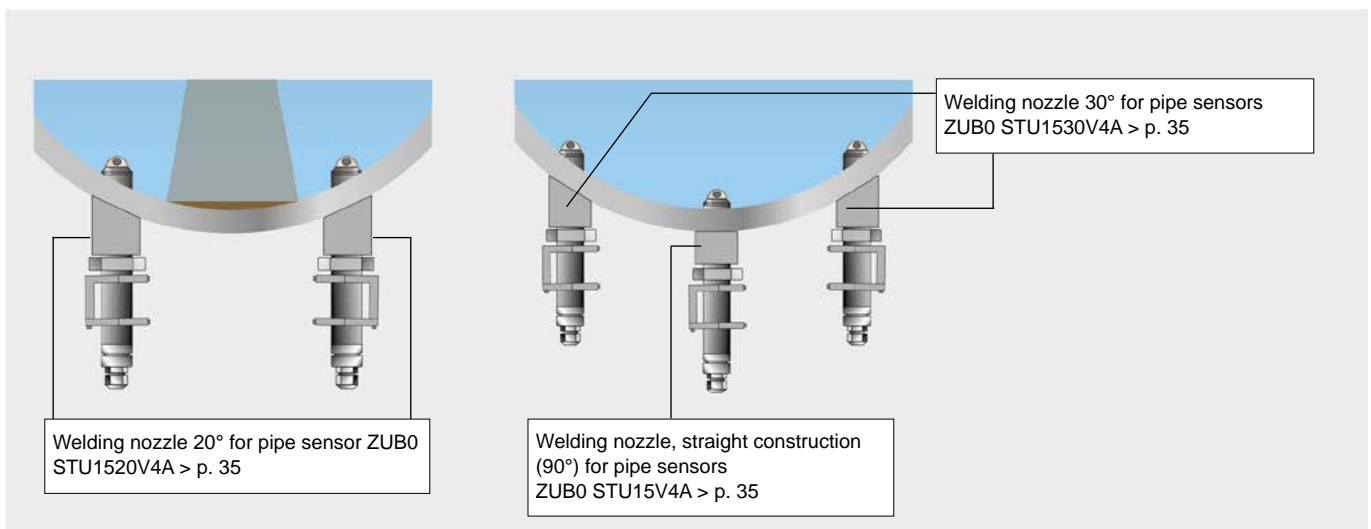
Please specify the accurate outside pipe diameter when ordering tappings saddles and mounting plates!

**Drill bits**

ZUB0 BOHRK36	Drill bit ø36 mm for steel and stainless steel, for drilling through 1.5" ball valves (extension „ZUB0VER“ additionally required), max. drilling depth 30 mm
ZUB0 BOHRK36 XL	Drill bit ø36 mm extra long (special design), max. drilling depth 100 mm
ZUB0 BOHRK38	Drill bit ø38 mm for steel and stainless steel
ZUB0 VER	Extension: 200 mm for drill bits 36 mm and 38 mm
ZUB0 SCHNEID	High-performance cutting paste for stainless steel and titanium, 125 g

Welding nozzle, Stop ball valve, Extraction tool

ZUB0 STU15ST	Welding nozzle, straight construction (90°) for pipe sensors, 1½" inner thread; Material: steel
ZUB0 STU15V4A	Welding nozzle, straight construction (90°) for pipe sensors, 1½" inner thread; Material: stainless steel 1.4571
ZUB0 STU1 520V4A	Welding nozzle, slanted construction (20°) for pipe sensors, 1½" inner thread; material: stainless steel 1.4571
ZUB0 STU1 530V4A	Welding nozzle, slanted construction (30°) for pipe sensors, 1½" inner thread; material: stainless steel 1.4571
ZUB0 STUSOV4A	Welding nozzle, special construction, straight construction (90°) with 1½" outer thread; Material: stainless steel 1.4571
ZUB0 HAHNR15	Stop ball valve 1½" for removal of pipe sensors from pipes without pressure; Material: stainless steel 1.4408
ZUB0 AA	Manual extraction tool for removal of 1 ½" pipe sensors under process conditions. Maximum pressure up to 4 bar; material: duralumin + brass (outside body); Retractable length: approx. 150 mm





Boats and holder

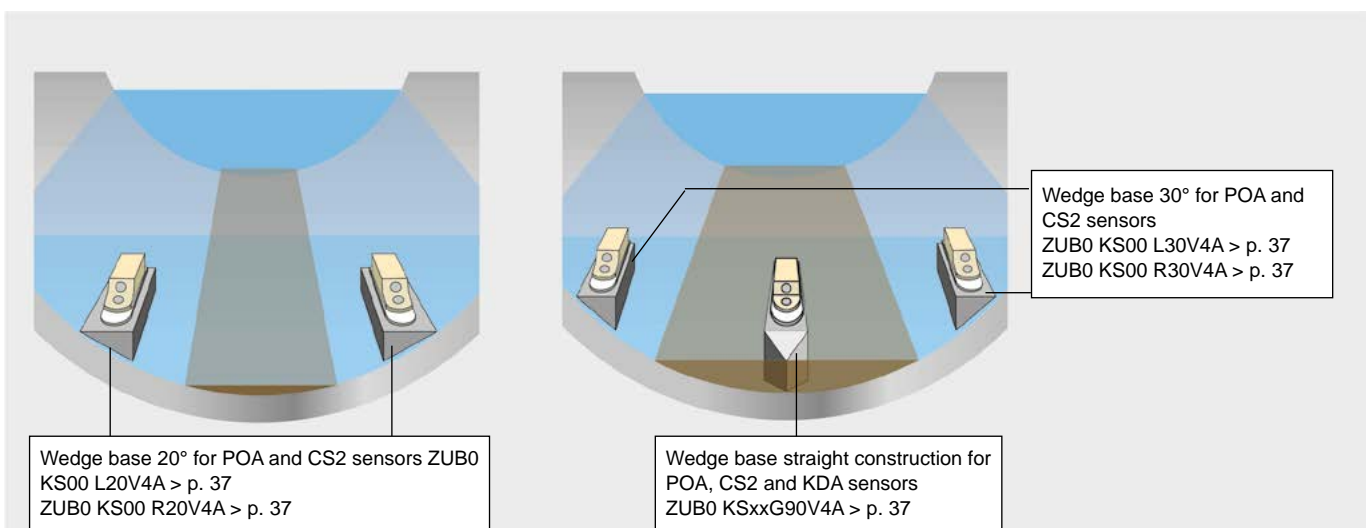
ZUB0SWK030KP	Float body made of stainless steel 1.4571, float width 300 mm for use in channels as from 800 mm width, for CS2 wedge sensor mounting. Minimum water level (without sediments): 30 cm Recommended maximum flow velocity: 100 cm/s
ZUB0SWK030R	Float body made of stainless steel 1.4571, float width 300 mm for use in channels as from 800 mm width, for pipe sensor mounting. Minimum water level (without sediments): 20 cm Recommended maximum flow velocity: 100 cm/s
ZUB0SWK040KP	Float body made of stainless steel 1.4571, float width 400 mm for use in channels as from 1200 mm width, for CS2 wedge sensor mounting. Minimum water level (without sediments): 30 cm Recommended maximum flow velocity: 100 cm/s
ZUB0SWK040R	Float body made of stainless steel 1.4571, float width 400 mm for use in channels as from 800 mm width, for pipe sensor mounting. Minimum water level (without sediments): 20 cm Recommended maximum flow velocity: 100 cm/s
ZUB0 SWHA 30D	Holder for float body of 300 mm width; for vertically movable fastening of the float body on horizontal ceilings, crossbeams or similar. 4-point suspension with a length of 2000 mm, can be shortened. Material: stainless steel 1.4571
ZUB0SWHA30W	Holder for float body of 300 mm width; for vertically movable fastening of the float body on perpendicular walls. Maximum fastening width 1300 mm (other sizes upon request). 4-point suspension with 2000 mm length, can be shortened.
ZUB0SWHA40D	Holder for float body of 400 mm width; for vertically movable fastening of the float body on horizontal ceilings, crossbeams or similar. 4-point suspension with a length of 2000 mm, can be shortened. Material: stainless steel 1.4571
ZUB0SWHA40W	Holder for float body of 400 mm width; for vertically movable fastening of the float body on perpendicular walls. Maximum fastening width 1300 mm (other sizes upon request). 4-point suspension with 2000 mm length, can be shortened.
ZUB0SWVERL	Extension tubes for one float, 4 pcs. with 1000 mm length each (max. 1 extension per float possible)
POA0 CATA MARAN1	PVC NIVUS Float Assembly - Catamaran for ONE flow sensor
POA0 CATA MARAN2	PVC NIVUS Float TWIN Assembly - Catamaran for TWO flow sensors (Trimaran).
ZUB0 BOAT PVC	PVC NIVUS BOAT - LxWxD 800 x 200 x 150 mm C/W Grade 304 S/Steel Frame Assembly C/W 4 x Grade 304S/Steel, 1500 mm Long x 15 mm Square x 1.5 mm Thick Wall 4 x Grade 304 S/Steel, 12 mm Dia Pivot Assemblies 1 x Machined 50 mm O/D x 35.5 mm I/D Sensor Housing Tube



Mounting accessories for wedge sensors

Wedge bases and sensor protective sheet

ZUB0 KS03 G90POM	Wedge base straight construction for POA, CS2 and KDA sensors; for elevated sensor installation. Height: 30 mm, wedge base material: POM-C natural colour; fastening strap material: stainless steel 1.4571
ZUB0 KS05 G90POM	Wedge base straight construction for POA, CS2 and KDA sensors; for elevated sensor installation. Height: 50 mm, wedge base material: POM-C natural colour; fastening strap material: stainless steel 1.4571
ZUB0 KS10 G90V4A	Wedge base straight construction for POA, CS2 and KDA sensors; for elevated sensor installation. Height: 100 mm, material: stainless steel 1.4571
ZUB0 KS15 G90V 4A	Wedge base straight construction for POA, CS2 and KDA sensors; for elevated sensor installation. Height: 150 mm, material: stainless steel 1.4571
ZUB0 KS20 G90V4A	Wedge base straight construction for POA, CS2 and KDA sensors; for elevated sensor installation. Height: 200 mm, material: stainless steel 1.4571
ZUB0 KS00 L20V4A	Wedge base left 20° for POA and CS2 sensors; for horizontal sensor installation in pipe. Material: stainless steel 1.4571
ZUB0 KS00 R20V4A	Wedge base right 20° for POA and CS2 sensors; for horizontal sensor installation in pipe. Material: stainless steel 1.4571
ZUB0 KS00 L30V4A	Wedge base left 30° for POA and CS2 sensors; for horizontal sensor installation in pipe. Material: stainless steel 1.4571
ZUB0 KS00 R30V4A	Wedge base right 30° for POA and CS2 sensors; for horizontal sensor installation in pipe. Material: stainless steel 1.4571
ZUB0 SENSCHU1	Protective sheet for all KDA-wedge sensors; material: 1.4571
ZUB0 SENSCHU2	Protective sheet for all POA- and CS2-wedge sensors; material: 1.4571



**Mounting accessories for transit time sensors****Mounting accessories for rod sensors type NOS-V20 and -V30 (NivuFlow 650 sensors)**

<i>NOZO 0HAL0</i>	Holder bracket for Rod sensor fastening on vertical walls, material: stainless steel 1.4301 (2 pcs. required per measurement path)
<i>NOZO 0HAL90</i>	Holder bracket 90° for Rod sensor fastening on horizontal surface, material: stainless steel 1.4301 (2 pcs. required per measurement path)
<i>NOZO 0STRBL</i>	Flow-optimised protective sheet for rod sensors; length 1300 mm, material 1.4301
<i>NOZO ROHRVE1</i>	Extension for installation tube 33,7 x 2,0 mm; length 1000 mm; Material 1.4571

Mounting accessories for screw-in sensors type NOS-V2E and -V2S (NivuFlow 650 sensors)

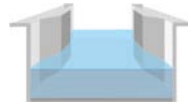
<i>ZUB0 STU14V4A</i>	Welding nozzle, straight construction (90°) for screw-in sensors, 1¼" inner thread; material: stainless steel 1.4571
<i>ZUB0 STU1 4ST</i>	Welding nozzle, straight construction (90°) for screw-in sensors, 1¼" inner thread; material: steel

Mounting accessories for hemispheres type NOS-V30BS and -V30BX (NivuFlow 650 sensors)

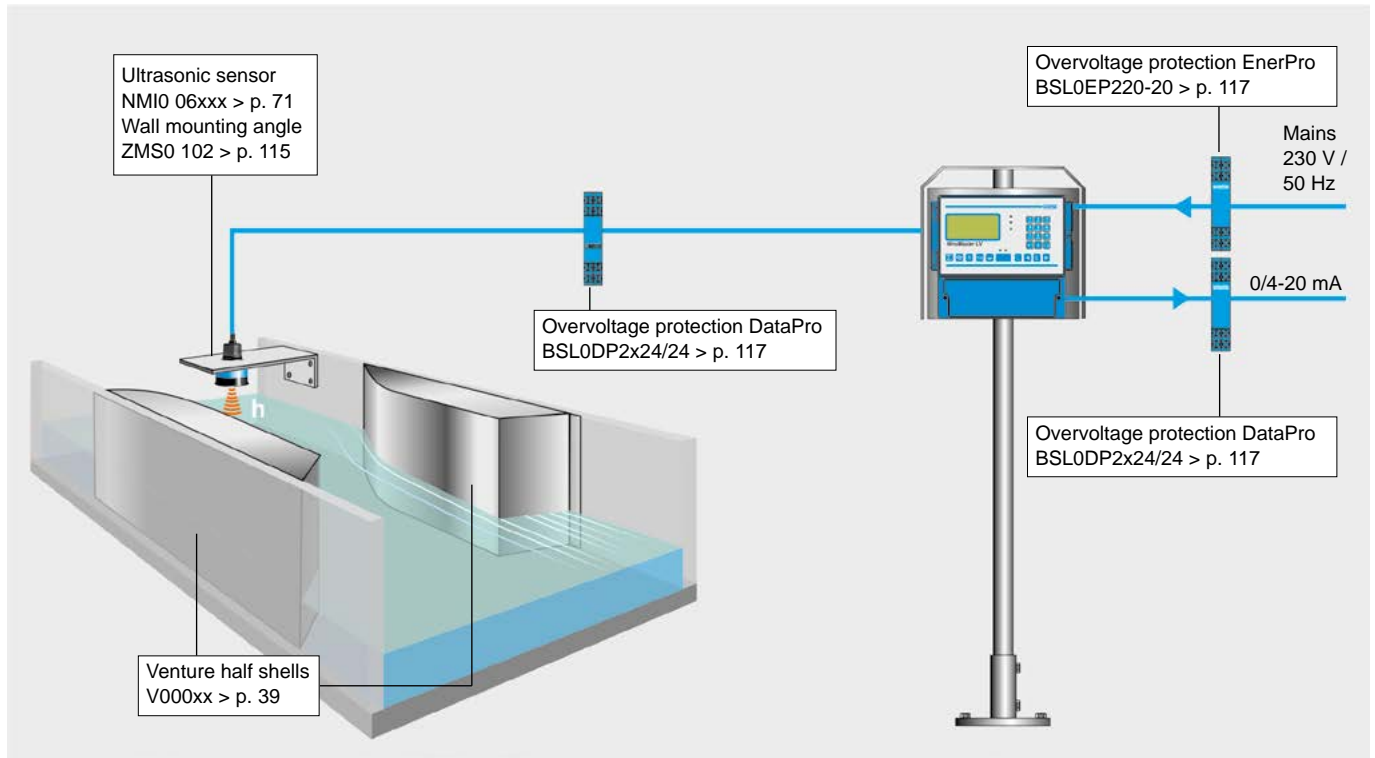
<i>NOZO 0HALHK</i>	Standard holder bracket for hemisphere fastening for sensors Type NOS-V30B... on counterforts, material: stainless steel 1.4571
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Other Accessories**Accessories for connection and extension of sensors type POA, CS2, OCL and KDA**

<i>ZUB0 DAE</i>	Pressure compensation element for connection of POA-, CS2- and KDA-sensors with pressure measurement cell
<i>ZUB0 FILTER02</i>	Filter element with plug and connection hose for pressure compensation element
<i>POA0 VER10KONF00</i>	Extension cable 10 m; for POA-, CS2- and KDA sensors without pressure measurement cell as well as OCL sensors
<i>POA0 VER15KONF00</i>	Extension cable 15 m; for POA-, CS2- and KDA sensors without pressure measurement cell as well as OCL sensors
<i>POA0 VER20KONF00</i>	Extension cable 20 m; for POA-, CS2- and KDA sensors without pressure measurement cell as well as OCL sensors
<i>POA0 VER30KONF00</i>	Extension cable 30 m; for POA-, CS2- and KDA sensors without pressure measurement cell as well as OCL sensors
<i>POA0 VER50KONF00</i>	Extension cable 50 m; for POA-, CS2- and KDA sensors without pressure measurement cell as well as OCL sensors
<i>POA0 VER99KONF00</i>	Extension cable 100 m; for POA-, CS2- and KDA sensors without pressure measurement cell as well as OCL sensors



Example: Venturi measurement



Venturi half shells

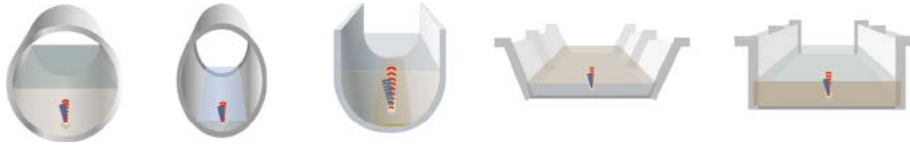
Venturis, according to DIN 19559; stainless steel 1.4571

V000 0150 /150 000	Type 150/15	Qmax 7l/s
V000 0200 /200 000	Type 200/20	Qmax 15l/s
V000 0300 /300 000	Type 300/30	Qmax 40l/s
V000 0400 /400 000	Type 400/40	Qmax 85l/s
V000 0500 /500 000	Type 500/50	Qmax 150l/s
V000 0600 /600 000	Type 600/60	Qmax 240l/s
V000 0700 /700 000	Type 700/70	Qmax 350l/s
V000 0800 /700 000	Type 800/70	Qmax 400l/s
V000 0900 /700 000	Type 900/70	Qmax 450l/s
V000 1000 /700 000	Type 1000/70	Qmax 500l/s
V000 1200 /700 000	Type 1200/70	Qmax 600l/s
V000 1500 /700 000	Type 1500/70	Qmax 750l/s

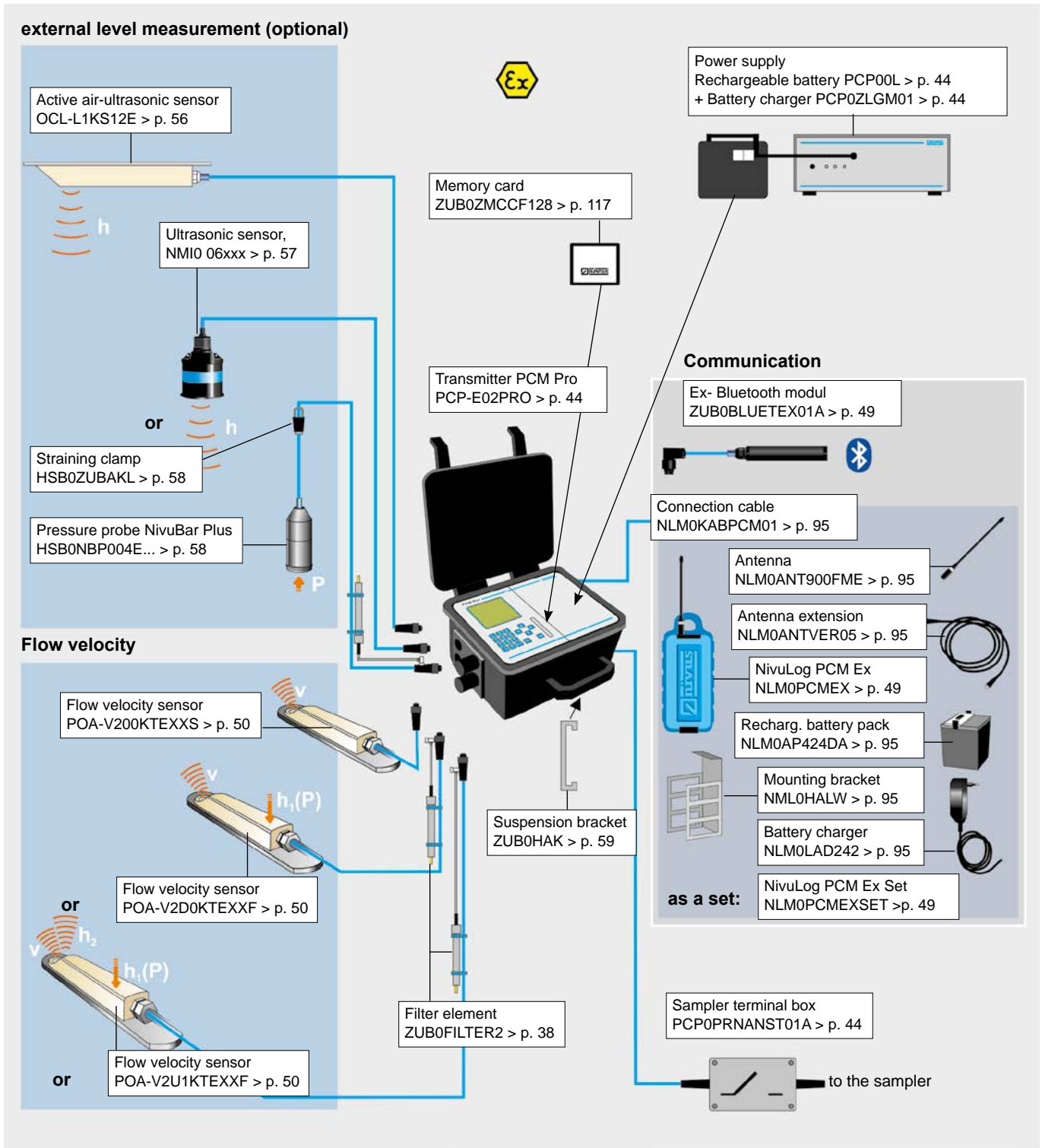
Intermediate sizes

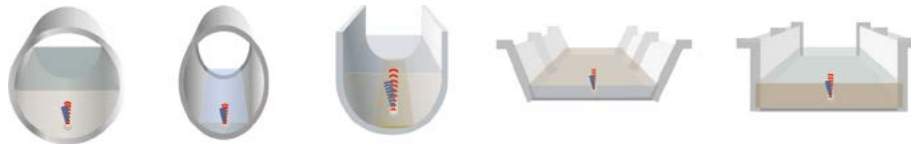


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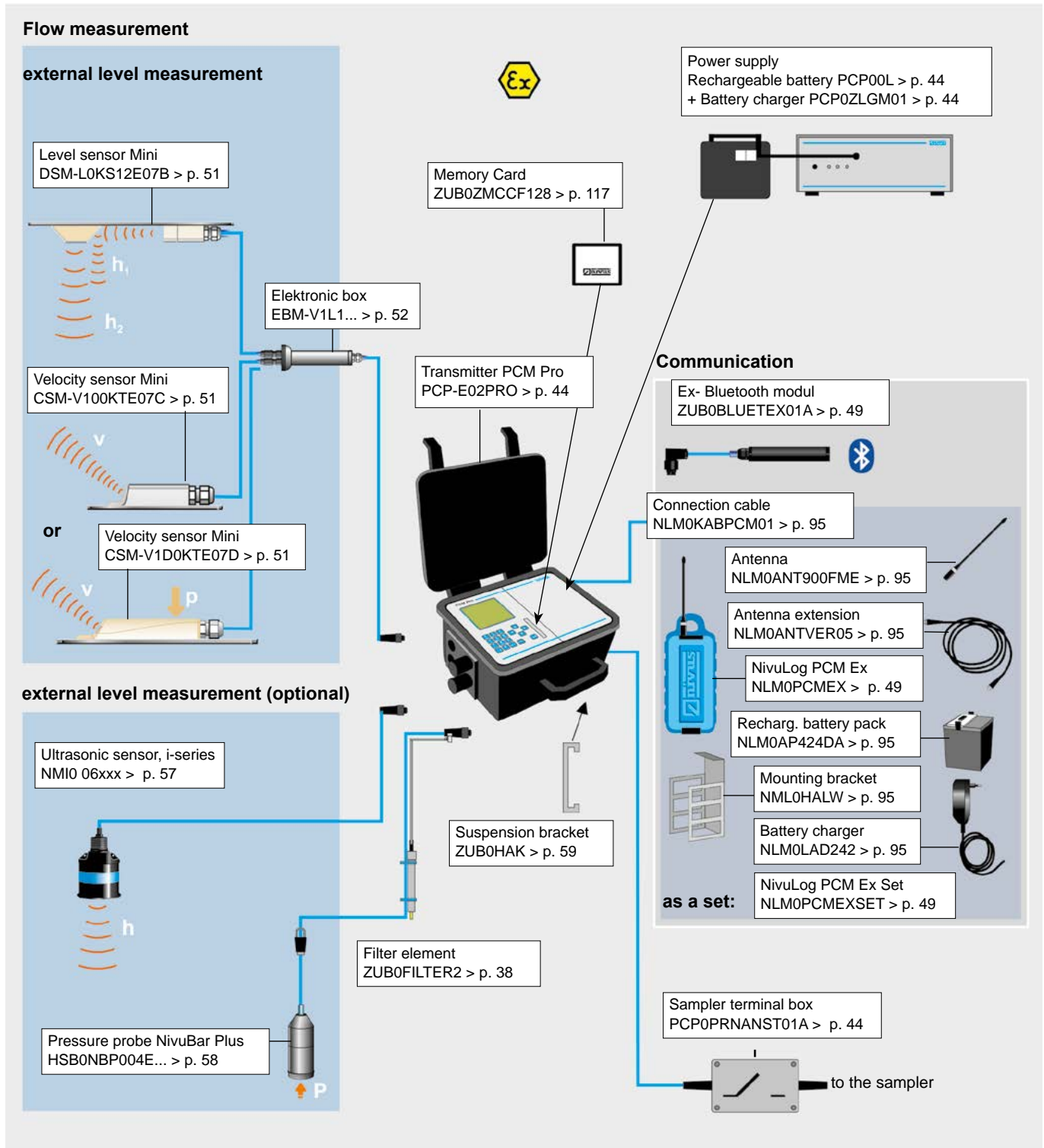


Example: portable flow measurement in Ex area for universal use; e.g. measurement places for billing, channel efficiency etc. in open channels and part filled and full pipelines as from inner diameters of 250 mm





Example: portable flow measurement in Ex area with lowest discharge volumes; e.g. extraneous water and indirect dischargers; small pipe diameters as from 160 mm and measurement places for billing.





PCM Pro

Portable flow measurement transmitter for open channels and part filled or full pipes for using in Ex Zone 1; incl. Software für Windows Vista / Windows 7 und 8.

PCP-E02PRO Portable Ex protected flow measurement transmitter, includes software NivuSoft for Windows Vista / Windows 7 und 8

ZUB0 BLUE TEUP SP Subsequent installation of interface on PCM Pro for connection of Bluetooth / GPRS module and sampler terminal box.
Upgrading possible as of Art. No. PCP-E01

Power Supply for PCM Pro

PCP0 0L00 Rechargeable battery NiMH 25,5 Ah

PCP0 ZLGM 0100 3-line battery charger for rechargeable NiMH battery



Accessories for PCM Pro

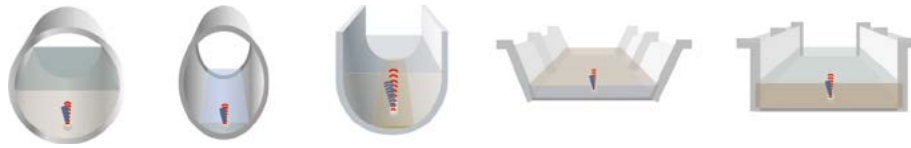
PCP0 PRNA NST0 1A Sampler terminal box (Ex protected) for connection to PCM Pro

PCP5 ZKEY1 Replacement safety socket wrench for opening of battery compartment cover

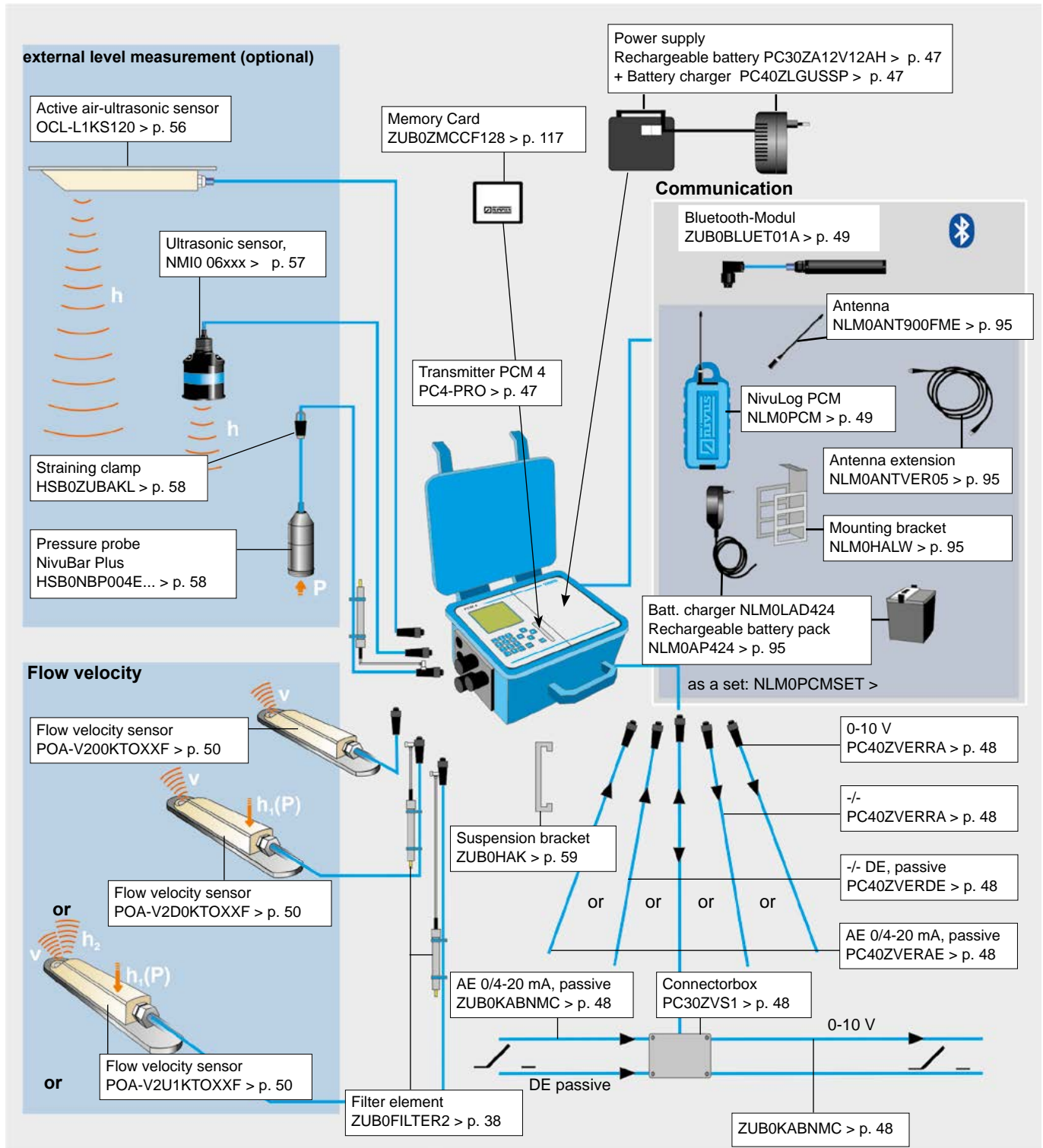
You can find the communication via GPRS on page 47.
More accompanying articles can be found in chapters 4 and 5.

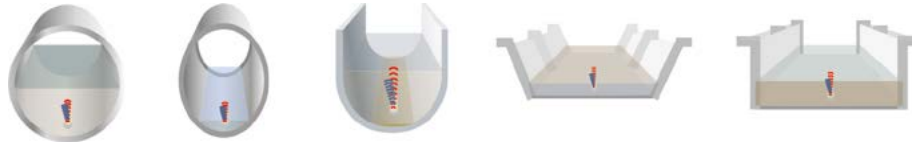


You can find the external level sensors on page 58 .
Please find additional accessories for installation and operation of our portable flow meters starting from page 59.

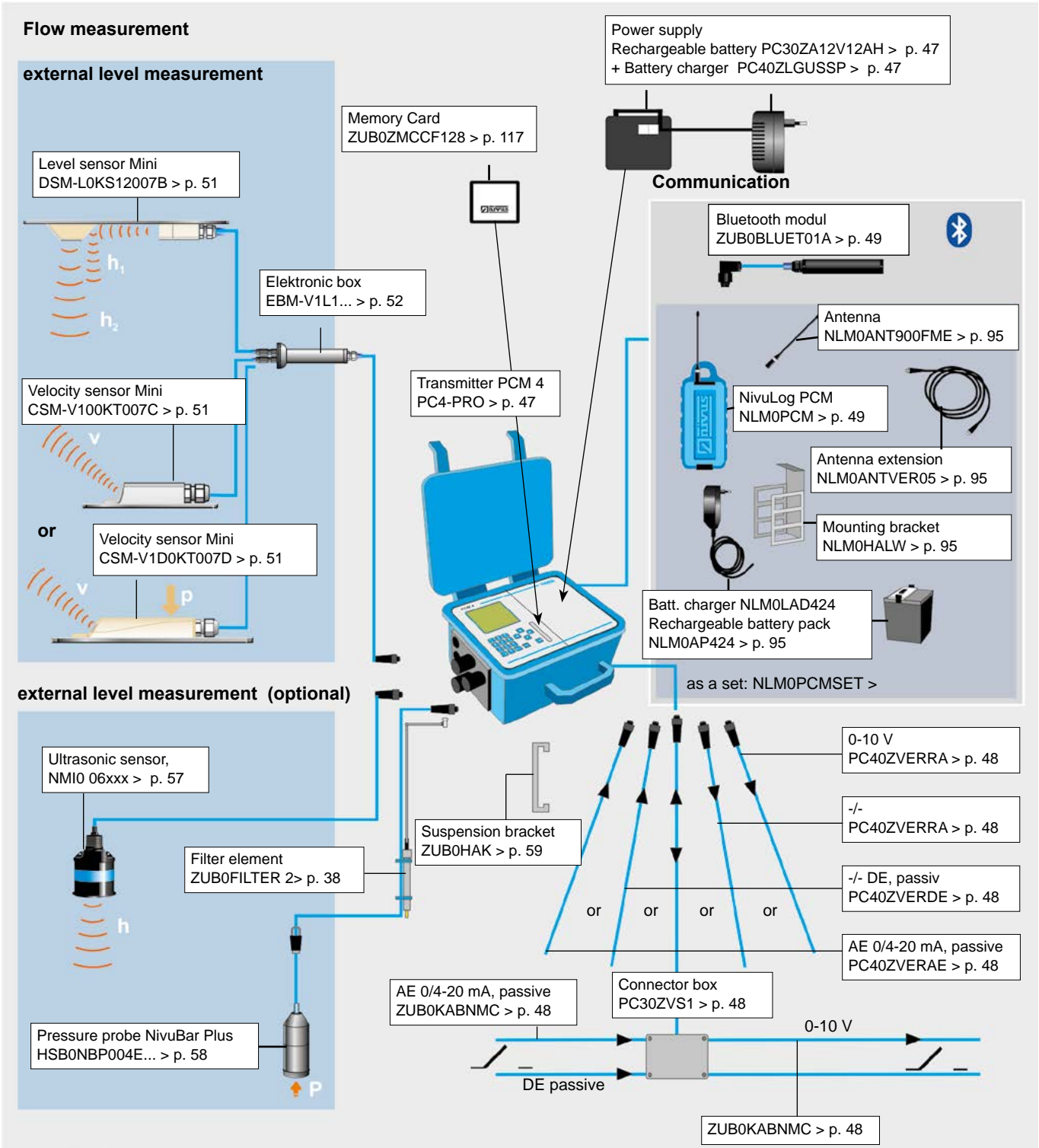


Example: portable flow measurement for universal use; e.g. measurement places for billing, channel efficiency etc. in open channels and part filled and full pipelines as from inner diameters of 250 mm





Example: portable flow measurement with lowest discharge volumes; e.g. extraneous water and indirect dischargers; small pipe diameters as from 150 mm and measurement places for billing





PCM 4

Portable flow measurement transmitter for open channels and part filled or full pipes. includes software NivuSoft for Windows Vista / Windows 7 and 8. For use in non-Ex areas.



PC4- Portable Flow Measurement Transmitter

	PRO Standard version
	PROB with Bluetooth / GPRS module connection socket
PC4-	

ZUB0 BLUETUP Subsequent installation of interface on PCM 4 for connection of Bluetooth / GPRS module. (Upgrading possible as of Serial No. 0846PC40000).

Power Supply for PCM 4 and PCM F

- PC30 ZA12V12AH Rechargeable lead battery with cable and connection plug; 12V/12Ah
- PC40 ZLGU SSP Mains adapter and battery charger
Supply voltage: 100-240V AC, 50/60 Hz
- PC40 ZBBOX020 Battery holder with cable and connection plug for 12 pcs. 1,5 V LR-20 batteries
(batteries not part of standard delivery)

- PC40 ZBBO XEXTA External battery box for connection via charger socket
- PC40 ZA12 V26AH Rechargeable lead battery for external battery box 12 V / 26 Ah
- PC40 ZLGHF3A Battery charger for rechargeable lead batteries for use in external battery box.
Mains voltage 100-240 V, charging voltage 12 V, charging current 3 A.
- PC40 ZVER PS1A 2-wire connection cable for connection of external power supply, cable length 2 m

You can find the communication via GPRS on page 47.
More accompanying products can be found in chapters 4 and 5.



Connection cable for multifunctional socket on PCM 4 or PCM F

- PC40 ZVERAE Connection cable; Analog input (one side with plug, other side with open cable end);
e.g. for data logging of self-powered external 0/4 - 20mA signals, cable length 10 m
- PC40 ZVERAA Connection cable; Analog output (one side with plug, other side with open cable end);
e.g. for analog signal forwarding, cable length 10 m
- PC40 ZVERDE Connection cable; Digital input (one side with plug, other side with open cable end);
e.g. for measurement cable switchover or archiving of pump run times, cable length 10 m
- PC40 ZVERRA Connection cable; Relay output (one side with plug, other side with open cable end);
e.g. for sampler control, volume impulse, output of limit values; cable length 10 m

Connector box and connection cable

PC30 ZVS1 Connector box IP 67, 1 m cable and plug for connection to multifunctional socket

The connector box has to be used in case of connecting more than one input or output signal to the multifunctional socket.

- ZUB0 KABNMC10 2 poles, cable end sleeves on both sides, cable length 10 m
- ZUB0 KABNMC20 2 poles, cable end sleeves on both sides, cable length 20 m
- ZUB0 KABNMC30 2 poles, cable end sleeves on both sides, cable length 30 m

You can find the external level sensors on page 58 .
Please find additional accessories for installation and operation of our portable flow meters starting from page 59.



Communication via GPRS with NIVUS Data logger NivuLog.



NivuLog PCM Ex

- NLM0 PCM EX* NivuLog PCM Ex; portable data logger with GPRS module (quad band) for detection and transmission of measurement data from PCM Pro, for use in Ex zone 1, protection rating IP67
It is possible to either use the internal SIM chip or a customer SIM card
Delivery:
- 1 pc. data logger with protective cover, type NivuLog PCM Ex;
 - 1 pc. USB cable for configuration of SIM parameters, type ZUB0 KABUSB02
 - 1 pc. connection cable, 2.8 m, between PCM and NivuLog PCM Ex, type NLM0 KABPCM01
 - 1 pc. magnet for device initialisation, Type NLM5 MAGNET

- NLM0 PCM EX SET* Starter set for PCM Pro consisting of:
- 1 pc. data logger with protective cover, type NivuLog PCM Ex
 - 1 pc. rechargeable battery pack, type NLM0 AP424DA
 - 1 pc. battery charger, type NLM0 LAD424
 - 1 pc. antenna, type NLM0 ANT900FME
 - 1 pc. USB cable for configuration of SIM parameters, type ZUB0 KABUSB02
 - 1 pc. connection cable, 2.8 m, between PCM and NivuLog PCM Ex, type NLM0 KABPCM01
 - 1 pc. antenna extension 5 m, for antenna 900 FME, type NLM0 ANTVR05
 - 1 pc. maintenance and gasket set, type NLM5 WART01
 - 1 pc. magnet for device initialisation, type NML5 MAGNET

NivuLog PCM

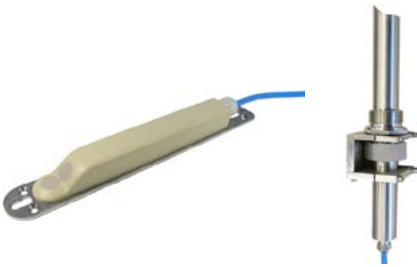
- NLM0 PCM* NivuLog PCM; portable data logger with GPRS module (quad band) for detection and transmission of measurement data from PCM 4, protection rating IP67
It is possible to either use the internal SIM chip or a customer SIM card
Delivery:
- 1 pc. data logger with protective cover, type NivuLog PCM
 - 1 pc. USB cable for configuration of SIM parameters, type ZUB0 KABUSB02
 - 1 pc. connection cable, 2.8 m between PCM and NivuLog PCM, type NLM0 KABPCM01
 - 1 pc. magnet for device initialisation, type NML5 MAGNET

- NLM0 PCM SET* PCM Starter set GPRS data logger for PCM 4 consisting of:
- 1 pc. data logger with protective cover, Type NivuLog PCM
 - 1 pc. rechargeable battery pack, type NLM0 AP424D
 - 1 pc. battery charger, type NLM0 LAD424
 - 1 pc. antenna, type NLM0 ANT900FME
 - 1 pc. USB cable for configuration of SIM parameters, type ZUB0 KABUSB02
 - 1 pc. connection cable 2.8 m between PCM and NivuLog PCM, Type NLM0 KABPCM01
 - 1 pc. antenna extension, 5 m, for antenna 900 FME, type NLM0 ANTVR05
 - 1 pc. maintenance and gasket set, type NLM5 WART01
 - 1 pc. magnet for device initialisation, type NML5 MAGNET

Communication via Bluetooth

- ZUB0 BLUE TEX01 A* Bluetooth module for remote control and data transmission, for connection to PCM Pro for use in EX zone 1
- ZUB0 BLUE T01A* Bluetooth module for connection to PCM 4, non Ex area

You can find more communication accessories in chapters 4 and 5.
Data tariffs see price listpage 103



POA sensors

Ultrasonic flow velocity sensors or combi sensors for flow velocity and level for connection to PCM Pro and PCM 4.

POA- Sensor with spatial allocation of flow velocities covering a maximum of 16 scan layers

Level Measurement

V200 no Level Measurement

- KT** Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571
- KP** Wedge sensor made of high resistant full PEEK, ground plate 1.4571
- KX** Wedge sensor, special construction
- RT** Pipe sensor made of PPO with PEEK sensor face; pipe body 1.4571
- RP** Pipe sensor made of high resistant full PEEK; pipe body 1.4571
- RX** Pipe sensor, special construction

V2H1 with ultrasound from bottom up for Level Measurement

- KT** Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571
- KP** Wedge sensor made of high resistant full PEEK, ground plate 1.4571
- KX** Wedge sensor, special construction
- RT** Pipe sensor made of PPO with PEEK sensor face; pipe body 1.4571
- RP** Pipe sensor made of high resistant full PEEK; pipe body 1.4571
- RX** Pipe sensor, special construction

V2D0 with Pressure Measurement Cell

- KT** Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571
- KX** Wedge sensor, special construction

V2U1 with Pressure Measurement Cell ' and ultrasound from bottom up

- KT** Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571
- KX** Wedge sensor, special construction

ATEX approvals

- 0** none
- E** Zone 1 (Attention: only for PCM Pro)

Cable Length (max. 150 m / with pressure sensor up to 30 m possible)

- 10** 10 m
- 15** 15 m
- 20** 20 m
- 30** 30 m
- 50** 50 m
- 99** 100 m
- XX** Special length upon request

Sensor Connection

- F** Connection to PCM Pro and PCM 4 for Types V2D and V2U, portable version incl. plug and exchangeable filter element
- S** Connection to PCM Pro and PCM 4 for Types V20 and V2H, portable version incl. plug

Pipe Length

- 0** (only for wedge sensor)
- 2** 20 cm (standard) (7.8")
- 3** 30 cm (minimum length for stop valve) (11.8")
- X** Pipe length in dm, price per dm
- G** 20 cm + extension thread (absolutely required for NPP)

POA-						
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CSM sensors

Correlation Sensor Mini:

Ultrasonic velocity sensor for connection to Electronic Box EBM.



CSM- Sensor with spatially allocated flow velocity measurement

Level measurement					
V100 no Level Measurement					
	KT	Wedge sensor made of PVDF; ground plate 1.4571			
	XX	Special construction			
V1D0 with Pressure Measurement Cell					
	KT	Wedge sensor made of PPO with PEEK sensor face; ground plate 1.4571			
	XX	Special construction			
ATEX approvals					
	0	none			
	E	Zone 1			
Cable Length					
	07	7 meters			
	15	15 meters (only for type V1D0)			
Sensor Connection					
	C	Connection to EBM Type RD			
	D	Connection to EBM Type RD, incl. pressure compensation element			
CSM-					

DSM sensors

Distance Sensor Mini:

Ultrasonic level sensor for connection to Electronic Box EBM



DSM-L0 Air-ultrasonic sensor for non-contact level measurement

Construction					
	K	Wedge sensor			
	X	Special construction			
Sensor Version					
	S	Standard version made of PPO, ground plate 1.4571			
	X	Special construction			
Transmitting Frequency					
	12	Standard frequency			
	XX	Special construction			
ATEX approvals					
	0	none			
	E	Zone 1			
Cable Length					
	07	7 meters			
	15	15 meters			
Sensor Connection					
	B	Connection to Electronic Box			
DSM-L0					B

You can find sensor accessories on page 59.



2



EBM

Elektronikbox Mini; required for connection of CSM and DSM to PCM Pro, PCM 4 and OCM Pro CF.

EBM-V1L1 Electronic Box for connection of 1x CSM- and 1x DSM-Sensor incl. suspension bracket and mounting plate; IP68

Construction				
R0	Standard construction			
XX	Special construction			
ATEX approval				
0	none			
E	Zone 1 (Attention: only for PCM Pro and NivuFlow 750)			
Cable Length, max. 150 m				
03	3 m			
10	10 m			
15	15 m			
20	20 m			
30	30 m			
50	50 m			
99	100 m			
XX	Special lengths			
Sensor Connection				
S	Connection to PCM Pro and PCM 4			
K	Cable end pre-configured for connection to NivuFlow 750			
EBM-V1L1				



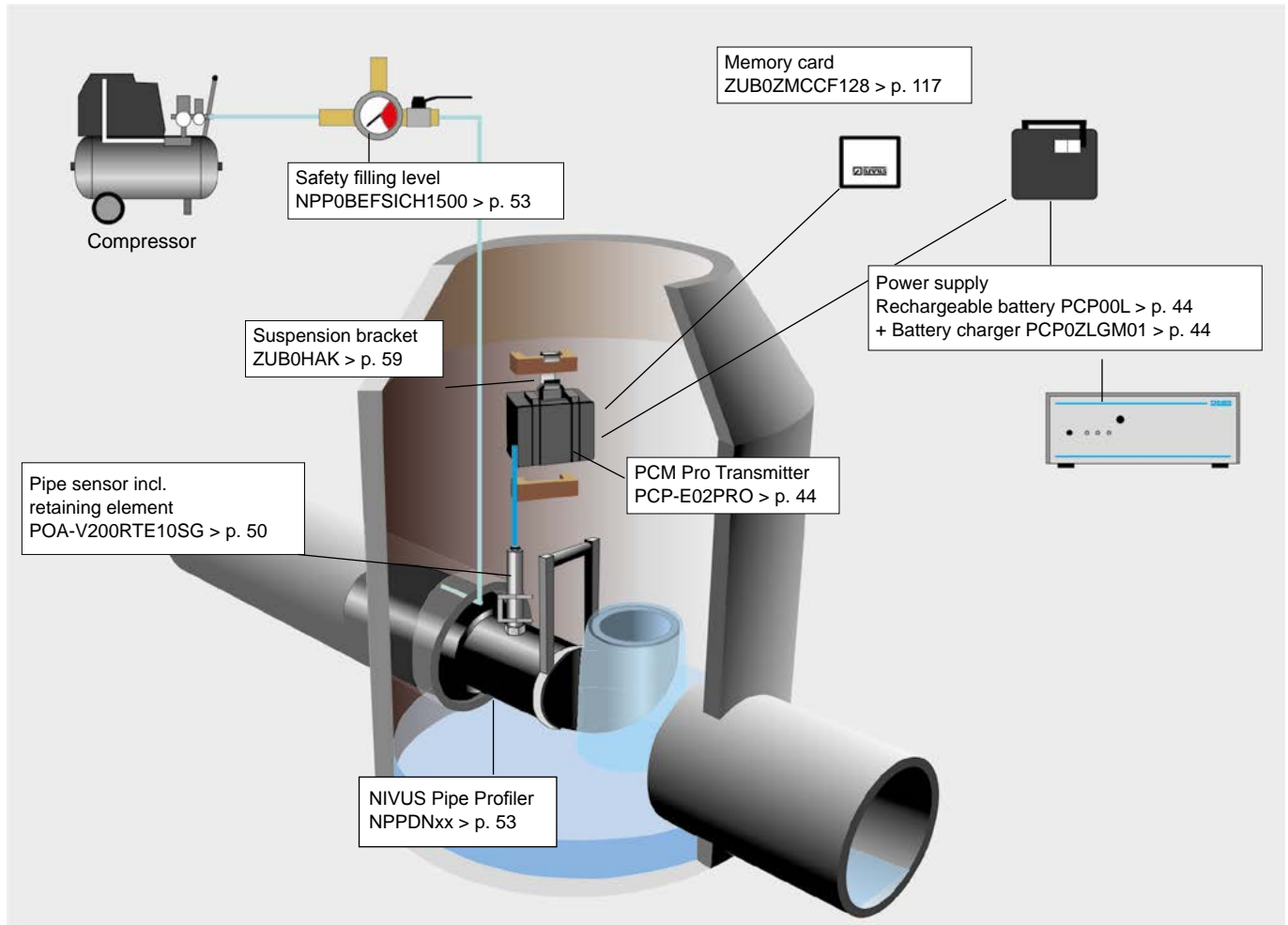
NPP

Pipe measuring section as extension of the portable flow measurement systems PCM Pro and PCM 4 for flexible implementation of additional measurement tasks in channel systems such as low discharge volumes or poor hydraulic flow conditions.



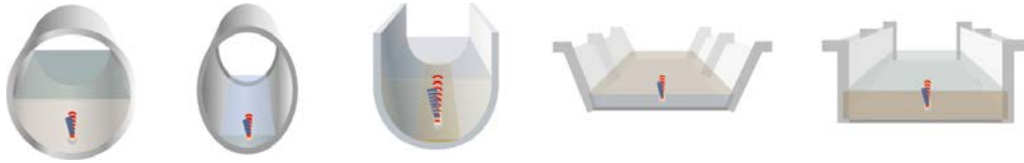
2

Example: Portable Flow measurement

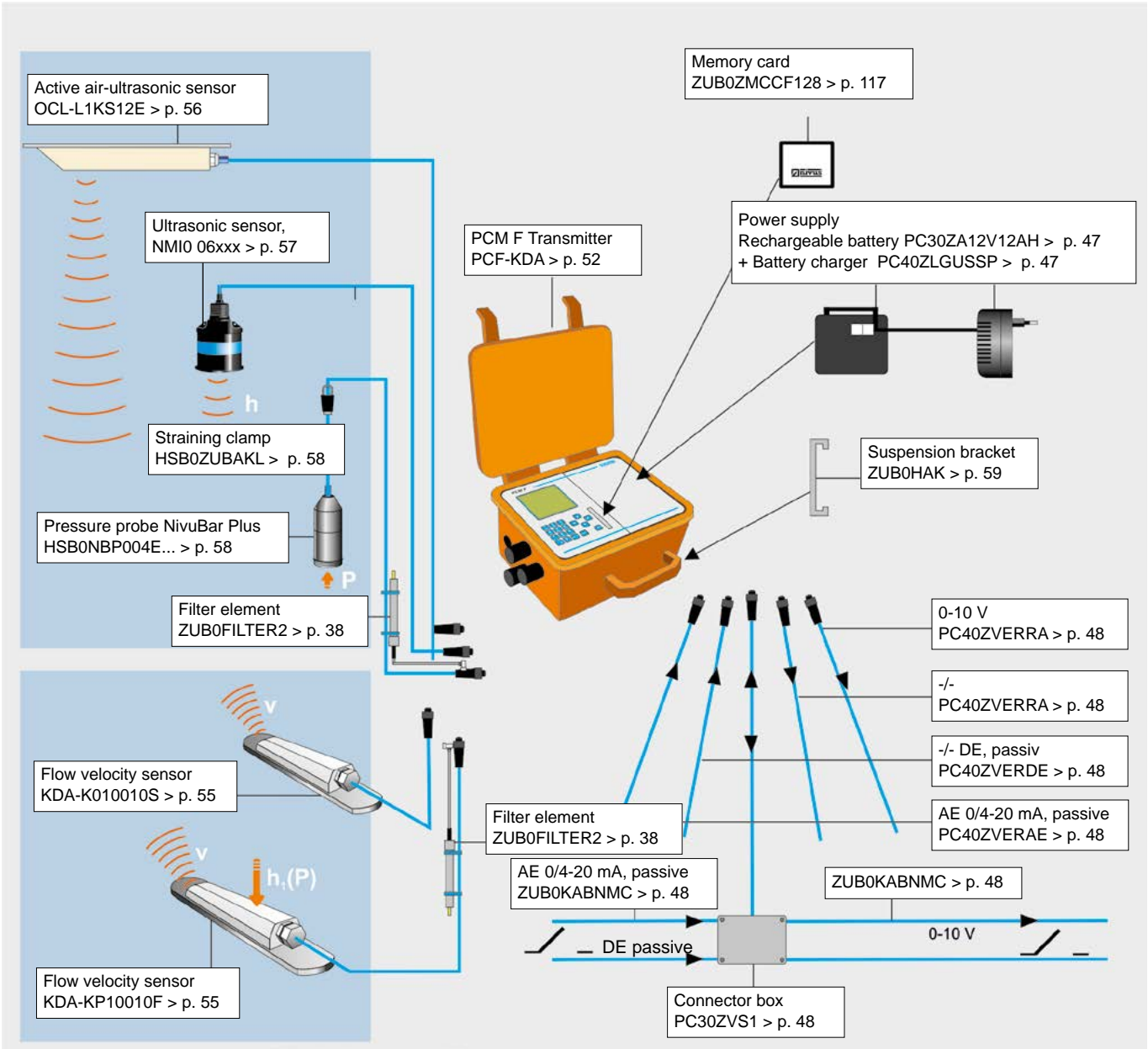


NPP0 DN	Type
150	for inner pipe diameters of 150 - 300 mm
200	for inner pipe diameters of 195 - 500 mm
300	for inner pipe diameters of 265 - 600 mm
350	for inner pipe diameters of 295 - 600 mm
NPP0 DN	

NPP0 BEFS ICH1 500 Safety filling valve 1.5 bar - for NIVUS Pipe Profiler



Example: Portable Flow measurement / Doppler technology



PCM F For use in non-Ex areas, includes software NivuSoft for Windows XP / Vista / Windows 7

PCF- KDA Portable Flow Measurement Transmitter

Please find power supply on page 39 and connection cables on page 40

For external level sensors which can be connected to our portable flow measurement units see page 49.

Please find additional accessories for installation an operation of our portable flow meters starting from page 50.



KDA sensor

Ultrasonic Doppler for flow velocity or combi sensor for flow velocity and height/level for connection to PCM F.
Retaining element for pipe sensors inclusive.



2

KDA- Compact Doppler active sensor

Construction

- K0** Wedge sensor for fastening on channel bottom or by using the RMS2 pipe mounting system
- KP** Combi wedge sensor with integrated pressure measurement cell, suitable for simultaneous flow velocity and level measurement. For installation on channel bottom or for fastening using the RMS 2 pipe mounting system.
- R0** Pipe sensor for installation with G1½" screw thread

Transmitting Frequency

- 07** 750 KHz, only for pipe sensor
- 10** 1 MHz, only for wedge sensor

ATEX Approvals

- 0** none

Cable Length (max. 150 m / with pressure sensor up to 30 m possible)

- 10** 10 m
- 15** 15 m
- 20** 20 m
- 30** 30 m
- 50** 50 m
- 99** 100 m
- XX** Special length upon request

Sensor connection

- S** Connection to PCM F for Types K0 and R0, incl. plug
- F** Connection to PCM F for Type KP, incl. plug and exchangeable filter element

Tube length

- 0** (only for wedge sensor)
- 2** 20 cm (standard)
- 3** 30 cm (minimum length for stop valve)
- X** Pipe length in dm, price per dm
- G** 20 cm + extension thread

KDA-						
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OCL sensors

Active air-ultrasonic sensor for non-contact level measurement for connection to PCM Pro, PCM 4 and PCM F.



OCL-L1 Active air-ultrasonic sensor

Construction

- K** Wedge sensor
- X** Special construction

Sensor Version

- S** Standard version made of PPO, cable: PUR
- X** Special construction

Transmitting Frequency

- 12** 120 kHz
- XX** Special construction

ATEX approvals

- 0** none
- E** Zone 1 (Attention: only for PCM Pro)

Cable Length, max. 150 m

- 10** 10 m
- 15** 15 m
- 20** 20 m
- 30** 30 m
- 50** 50 m
- 99** 100 m
- XX** Special lengths upon request

Sensor Connection

- S** Connection plug for PCM Pro, PCM 4 and PCM F

OCL-L1						S
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i-Sensor

External i-Series Sensor for connection to PCM Pro and PCM 4.



NMIO	Type	Measurement range			
	Standard Construction				
	03	0.125 to 3 m			
	06	0.3 to 6 m			
	10	0.3 to 10 m			
	15	0.5 to 15 m			
	Cable length				
	05	5 m			
	10	10 m			
	20	20 m			
	30	30 m			
	xx	Special cable length upon request			
	Construction				
	0	Standard			
	1	SUB Flood Protection Sleeve			
	ATEX approvals				
	001	Zone 1			
	Connection				
	Plug type				
				PC	for connection to PCM
NMIO				H	PC



NivuBarPlus (II)

Hydrostatic level measurement with capacitive, ceramic measurement cell for liquid media in Ex version.

Submersible probe with integrated 4-20 mA transmitter, firmly connected cable, plug and filter element for connection to PCM Pro, PCM 4 and PCM F.

HSB0 **NBP** Submersible probe with ceramic diaphragm for level measurement

Measurement Ranges

- 004** 4 m wc
- 006** 6 m wc
- 010** 10 m wc (20 m cable recommended)

ATEX Approval

E Zone 0

Cable Length

- 010** 10 m (not for measurement range 10 m wc)
- 020** 20 m
- 030** 30 m

Construction

F Connection to PCM Pro, PCM 4, PCM F with plug and exchangeable filter element

HSB0	NBP		E		F
-------------	------------	--	----------	--	----------

HS00 ZUBA KL10 000 AKL 1 straining clamp made of stainless steel 1.4571



Accessories

External temperature sensor for high-accurate temperature detection in the medium

ZUB0 PCXTSET1	Temperature sensor Ex zone 1 with transmitter box, connection cable and plug for direct connection to PCM Pro and PCM 4
ZUB0 PCXTSET2	Temperature sensor Ex zone 1 with transmitter, additional socket for parallel operation of air-ultrasonic sensor type OCL. Connection cable and plug for direct connection to PCM Pro and PCM 4

Pipe Mounting System

ZUB0 RMS2	Pipe mounting system 2 for temporary installation of POA-, CS2-, KDA-, CSM- and DSM wedge sensors in pipe lines with diameters between 200 and 800 mm
ZUB0 RMS2 EB	Additional metal sheet for RMS2 for simultaneous installation of active sensors Types POA-, CS2- and KDA wedge sensors and OCL air-ultrasonic sensors, for pipe lines as from 250 mm
ZUB0 RMS2 V05	Extension of clamping diameter by 50 mm for RMS2
ZUB0 RMS2 V10	Extension of clamping diameter by 100 mm for RMS2
ZUB0 RMS2 V15	Extension of clamping diameter by 150 mm for RMS2
ZUB0 RMS3	Pipe mounting system 3 for temporary installation of POA, KDA, CSM and DSM wedge sensors in pipe lines with diameters between 150 and 300 mm
ZUB0 RMS4	Pipe mounting system 4 for temporary installation of POA-, CS2-, KDA-, CSM- and DSM wedge sensors in pipe lines with diameters between 150 and 800 mm
ZUB0 RMS3 BSD	Base sheet for RMS3 for simultaneous installation of CSM sensor with pressure measurement cell, Type CSM-V1D0 and DSM sensor. For use as from DN160

Spare parts for Pipe Mounting System

ZUB0 RMS2 BSB	Base plate RMS 2
ZUB0 RMS3 BSB	Base plate RMS 3
ZUB0 RMS2 SPV	Scissors jack for RMS 2
ZUB0 RMS3 SPV	Scissors jack for RMS 3



Transmitter fastening

ZUB0 HAK	Suspension bracket with eyelet for PCM; material: stainless steel 1.4571
----------	--

Sensor accessories

ZUB0 SCHUTZKAPPE	Protective cap for sensor plug
ZUB0 FILTER02	Replacement filter with plug and connection hose for sensors with pressure measurement cell (Type POA, CS2 and KDA)
ZUB0 TROCK ENK	20 Drying capsules for CSM sensors with pressure measurement cell, individually packed
ZUB0 TELE SKOP	Telescopic rod with sensor holder

Sensor adapters

ZUB0 KLEM M02	Metal connection box incl. clamps for adaptation of PCM Sensors without pressure cell to OCM Pro CF transmitters (in Ex and Non-Ex areas).
ZUB0 KLEM M03	Metal connection box incl. clamps for adaptation of K-configured sensors to PCM (in Ex and Non-Ex areas).
ZUB0 KLEM MD03	Metal connection box incl. clamps for adaptation of L-configured sensors to PCM (in Ex- and Non-Ex areas). Incl. pressure compensation element for air humidity absorption.



Measurement system maintenance

- PCM5 DISET* Kit for routine maintenance of portable flowmeters type PCM, consisting of:
- 1 lid gasket
 - 1 tube of gasket glue + dosage tip
 - 2 gasket rings for sensor sockets
 - 1 protective cap for sensor sockets

Measurement system inspections

- REPO.PCPP RÜF01* Factory inspection of a flowmeter type PCM, includes:
- Transmitter inspection (function, leak tightness, firmware)
 - Sensor inspection (function, ringdown behaviour, firmware)
 - Checking of measurement value inputs in test lab
 - Inspection protocol issue

Defects which might arise during inspection will be part of a separate estimate of costs.
No maintenance included

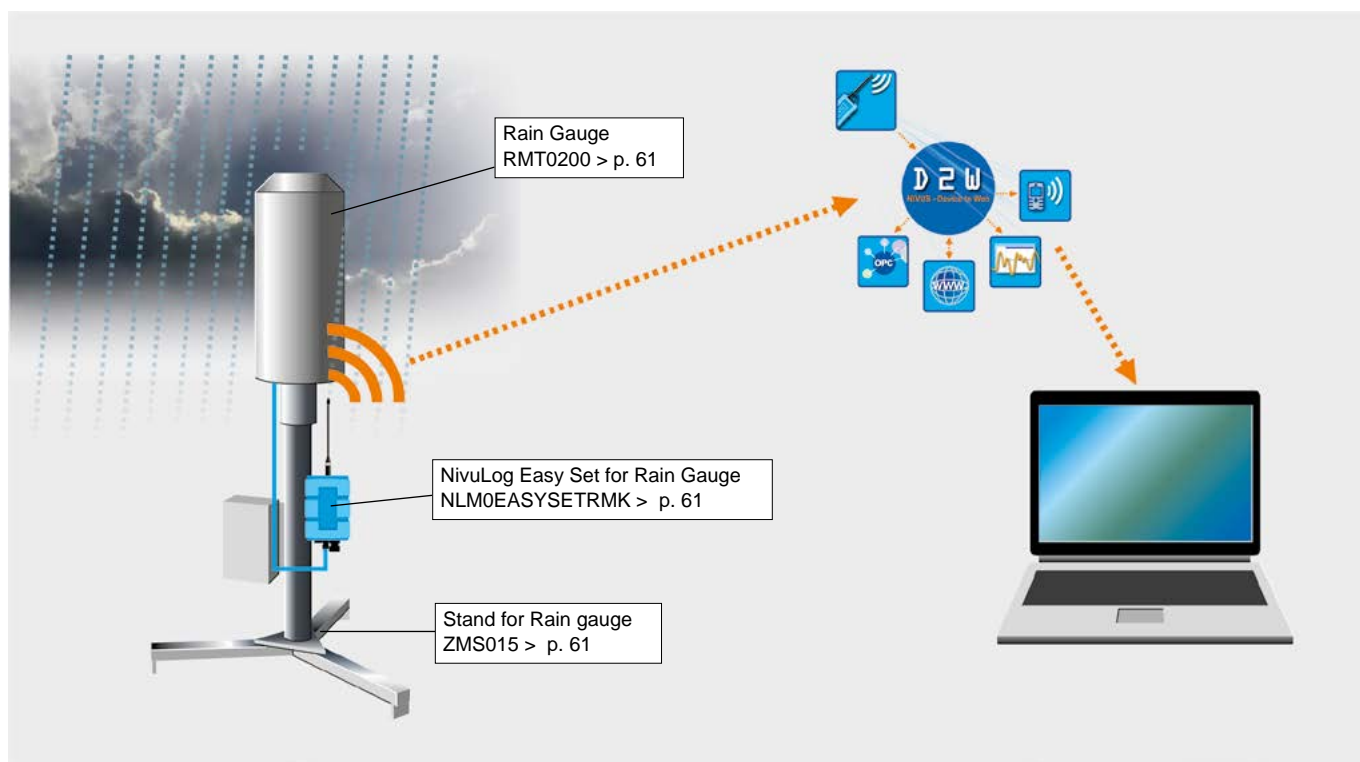


Rain Gauge

Detection of rainfall levels incl. data storage and transmission for the Internet portal.

2

Example: Rain gauge with Data logger and GPRS transmission to the Internet portal Device to Web (D2W)



Rain Gauge

Rainfall Volume Detection based on the Tipping Scale Principle, Resolution: 0.1 mm

RMT0 200

Type RM 200; rain gauge with tipping scale

RMT0 202

Type RM 202 with heating; 24 V DC; for winter operation

Rain Gauge Accessories

ZMS0 1550 0000

ZMS 155: Stand with ground plate and fastening tube 650 mm

ZMS0 1560 0000

ZMS 156: Stand for field use incl. tensioning system; fastening tube 650 mm

RMT0 ZNTH 0100

Mains adapter for RM 202 with heating; 85-265 V AC

RMT0 ZVOG ELSC H

Bird protection ring made of stainless steel

Data storage and transmission

NivuLog Easy data logger with GPRS module (quad band) for detection and transmission of rainfall, protection rating IP66

NLM0 EASY SETR MK

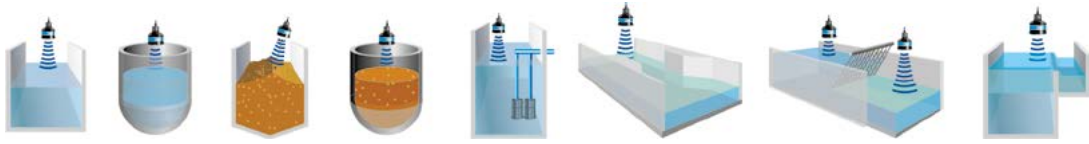
Set, consisting of:

- 1 pc. data logger NivuLog Easy, type NLM0 EASY
- 1 pc. rechargeable battery pack, type NLM0 AP413D+
- 1 pc. battery charger, type NLM0 LADE413D
- 1 pc. connection cable between data logger and rain gauge
- 1 pc. connection cable between data logger and PC
- 1 pc. antenna, type NLM0 ANT900FME
- 1 pc. USB extension

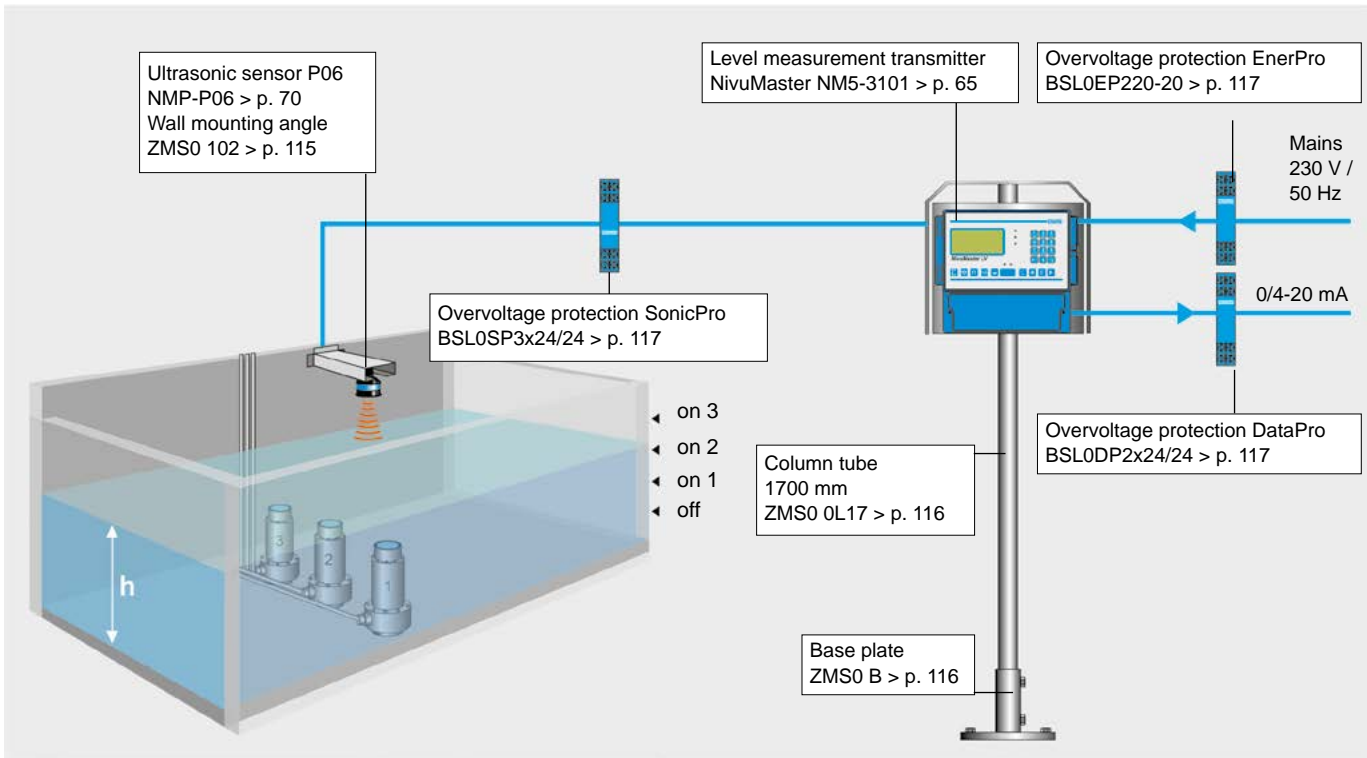
Data online via D2W can be found in chapter 5.



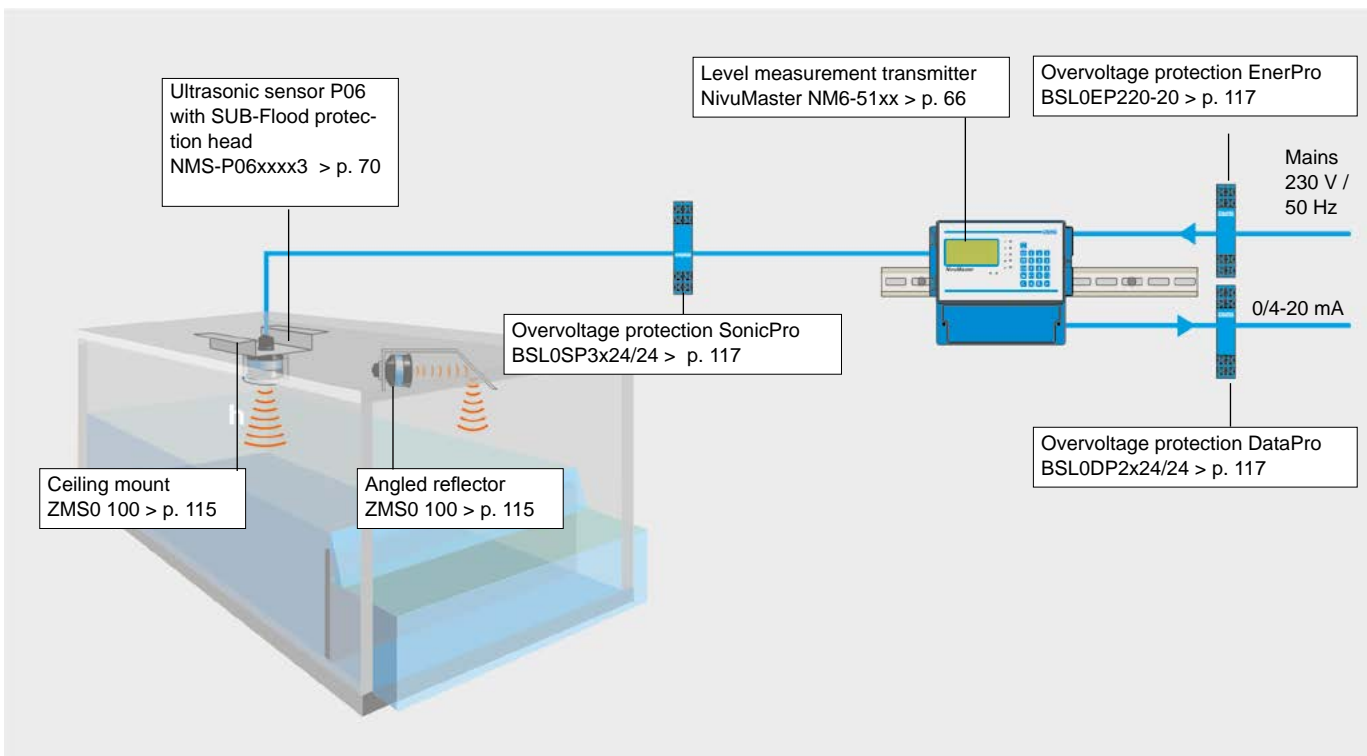
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3 Example: Pump control



Example: Level measurement and volume measurement





NivuMaster 3 Relais

Measurement transmitter for ultrasonic level measurement incl. Ultra PC programming software and connection cable. Power Supply: 230 V AC and 24 V DC. Approval for Ex sensor supply in zone 0, 1 and 2.



3

NM5-

Type

3 Rel. Level, trend, flow measurement (not in conjunction with P-25/P-40), pump control and volume calculation of tanks
Relays: free programmable alarm and control functions

Hardware	Relays	Output 0/4-20 mA	Input 4-20 mA	Measurement channel
----------	--------	---------------------	------------------	------------------------

31 01	3	1	0	1
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Construction / Enclosure

- 65T** IP65 Enclosure with keypad
- 19H** 19" Plug-In unit without keypad (euro format 10HP/3RU)
- FB0** Panel mount enclosure incl. 19" plug-in unit
- PAT** Panel mount with keypad and large display

Approval for Ex sensor supply in Zone 0

- 65Z** IP65 enclosure with keypad
Ex-Zone 0 (only in connection with Ex Zone 0 sensor)
Due to technical reasons the Ex unit is available in 5-relay enclosure IP65

Language / Menus

- DE** German
- EN** English
- FR** French

NM5-	3101		
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NivuMaster 5 Relays

Level measurement transmitter with 5 Relays for ultrasonic level measurement, incl. Ultra PC programming software and connection cable.
 Power Supply: 230 V AC and 24 V DC.
 Approval for Ex sensor supply in zone 1 and 2.

3

NM6-

Type

5 Rel. Level, Trend, Flow Measurement (not in conjunction with P-25/P-40), Pump Control, Volume Calculation in Tanks and Comparative Measurement, Averaging (2 ultrasonic inputs).

Relays: free programmable Alarm and Control Functions

Hardware	Relays	Output 0/4-20 mA	Input 4-20 mA	Measurement Channel
5101	5	1	0	1
5111	5	1	1	1

Construction / Enclosure

- 65T** IP65 Enclosure with keypad
- 19H** 19" Plug-In unit without keypad (euro format 10HP/3RU)
- FB0** Panel mount enclosure incl. 19" plug-in unit
- PAT** Panel mount with keypad and large display

Language / Menus

- DE** German
- EN** English
- FR** French

NM6-			
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NivuMaster LF 5:2

Measurement transmitter (5 relays) for screen control and overflow measurement, incl. Ultra PC programming software and connection cable
 Power Supply: 230 V AC and 24 V DC.
 Approval for Ex sensor supply in zone 1 and 2.



3

NM	Type	Measurement Mode									
	A-	LF-5:2 (RUEB Master) Level, Trend, Flow Measurement on Weirs and Channels (not in conjunction with P-25/P-40) Relays: free programmable Alarm and Control Functions									
	B-	LD-5:2 Level, Trend, Comparative Measurement (2 ultrasonic inputs) Relays: free programmable Alarm and Control Functions									
	Hardware	<table border="1"> <thead> <tr> <th>Relays</th> <th>Output 0/4-20 mA</th> <th>Input 4-20 mA</th> <th>Measuram. Channel</th> </tr> </thead> <tbody> <tr> <td>5201</td> <td>5</td> <td>2</td> <td>0</td> <td>1</td> </tr> </tbody> </table>	Relays	Output 0/4-20 mA	Input 4-20 mA	Measuram. Channel	5201	5	2	0	1
Relays	Output 0/4-20 mA	Input 4-20 mA	Measuram. Channel								
5201	5	2	0	1							
		Construction / Enclosure 65T IP65 Enclosure with keypad 19H 19" Plug-In unit without keypad (euro format 10HP/3RU) FB0 Panel mount enclosure incl. 19" plug-in unit PAT Panel mount with keypad									
		Language / Menus DE German EN English FR French									
NM		5201									



NivuMaster Plus

Measurement transmitter (6 relays) with pump management, incl. Ultra PC programming software and connection cable.

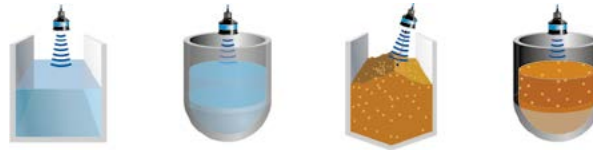
Power Supply: 230 V AC and 24 V DC.

Approval for Ex sensor supply in zone 1 and 2.

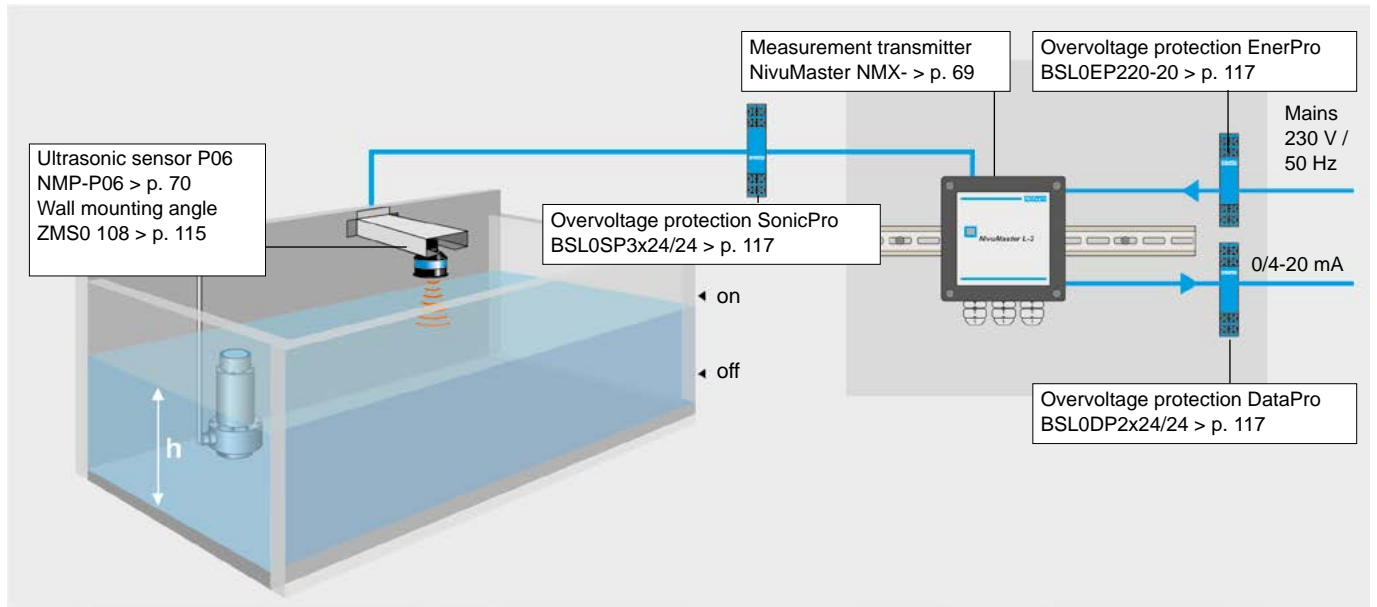
3

NM	Type	Measurement Mode															
	9-	Plus Level measurement, intelligent pump control and pump management via 7 digital inputs, Automatic DST changeover, Relays: free programmable Alarm and Control Functions															
		<table border="1"> <thead> <tr> <th>Hardware</th> <th>Relays</th> <th>Output 0/4-20 mA</th> <th>Input 4-20 mA</th> <th>Measur- ment Channel</th> </tr> </thead> <tbody> <tr> <td>6101</td> <td>6</td> <td>1</td> <td>0</td> <td>1</td> </tr> <tr> <td>6111</td> <td>6</td> <td>1</td> <td>1</td> <td>1</td> </tr> </tbody> </table>	Hardware	Relays	Output 0/4-20 mA	Input 4-20 mA	Measur- ment Channel	6101	6	1	0	1	6111	6	1	1	1
Hardware	Relays	Output 0/4-20 mA	Input 4-20 mA	Measur- ment Channel													
6101	6	1	0	1													
6111	6	1	1	1													
		Construction / Enclosure															
		PAT Panel mount with keypad and large display															
		Language / Menus															
		DE German															
		EN English															
		FR French															
NM	9-	PAT															

You can find accompanying ultrasonic sensors on page 70.



Example: Level measurement using ultrasound / simple pump control



NivuMaster L2

Level measurement transmitter incl. programming software and connection cable.
 Power Supply: 230 V AC and 24 V DC.
 Approval for Ex sensor supply in zone 1 and 2.



NM	Type	Measurement Mode	Hardware	Relays	Output 0/4-20 mA	Input 4-20 mA	Measurment. Channel
	X-	L-2 Level, Trend Relays: free programmable alarm functions	2101	2	1	0	1
Construction / Enclosure							
		660	IP66 Enclosure without keypad and display				
		66T	IP66 Enclosure with keypad and display				
Language / Menus							
		DE	German				
		EN	English				
		FR	French				
NM	X-						

You can find accompanying ultrasonic sensors on page 70.



3



Ultrasonic sensors P-series

Ultrasonic sensors with integrated temperature compensation, for connection to NivuMaster series transmitters.

NMS-	Type
	Standard Version
	P06 0.30 to 6 m for fluids
	P10 0.30 to 10 m for fluids
	P15 0.50 to 15 m for fluids
	P25 0.60 to 25 m for fluids
	P40 1.2 to 40 m for fluids
	Special Version with low dead zone
	PM3 0.07 to 2.45 m for fluids; resolution ± 1 mm especially for level/volume measurement (incl. weatherproof cover and flood protection head)
	P03 0.125 to 3 m for fluids; resolution ± 2 mm especially for level measurement Attention: for volume-based (flow rate) applications use PM3!
	PS6 0.20 to 6 m for fluids
	Cable Length
	05 5 m
	10 10 m
	20 20 m
	30 30 m
	50 50 m
	99 100 m
	xx Special cable length upon request
	Sensor Body
	0 Valox (standard)
	P PVDF
	ATEX Approvals
	0 none
	E Zone 1
	Z Zone 0 (only in conjunction with Ex zone 0 transmitter)
	Extensions
	0 none
	2 SUB - Flood protection head 1" only for P03
	3 SUB - flood protection head 86 mm only for PS6, P06, P10 and P15
NMS-	

There are many extensions optionally available not mentioned particularly in the list. These extensions, such as Teflon® or soft foam coatings or various flange versions, can be purchased however. Please note that not each combination is useful or possible in technical respects. In case of doubt please consult the head office.



i-Series sensors

Intelligent ultrasonic i-series sensor (IP68) with integrated measurement transmitter for contact-free measurement of distance, level, space, volume or flow rate of liquids or bulk solids.



NMIO	Type	Measurement range				
	Standard Construction					
	03	0,125 to 3 m				
	06	0,3 to 6 m				
	10	0,3 to 10 m				
	15	0,5 to 15 m				
	Cable Length					
	05	5 m				
	10	10 m				
	20	20 m				
	30	30 m				
	50	50 m				
	99	100 m				
	xx	Special cable length upon request				
	Construction					
	0	Standard				
	000	Standard (front thread 1" with i-3)				
	1	SUB flood protection head (no coating possible)				
	000	Standard				
	2	Flange (PTFE coating 0.25 mm)				
	002	2" ANSI				
	003	3" ANSI				
	004	4" ANSI				
	006	6" ANSI				
	008	8" ANSI				
	050	DN50				
	080	DN80				
	100	DN100				
	150	DN150				
	200	DN200				
	5	Front thread mount				
	015	Front thread 1.5"	(only for i-3 and i-6)			
	020	Front thread 2"	(only for i-10)			
	Coatings					
	0	no coating				
	1	foamed material (only for standard constr.; i-6, i-10 and i-15)				
	2	PTFE 0.25mm (only for flange construction)				
	4	PVDF-enclosure (not for SUB and flange construction, as well as i-3 standard construction)				
	ATEX Approvals					
	0	Zone 1				
	1	Zone 0				
	Connection					
	H	HART / 4-20 mA				
NMIO						H

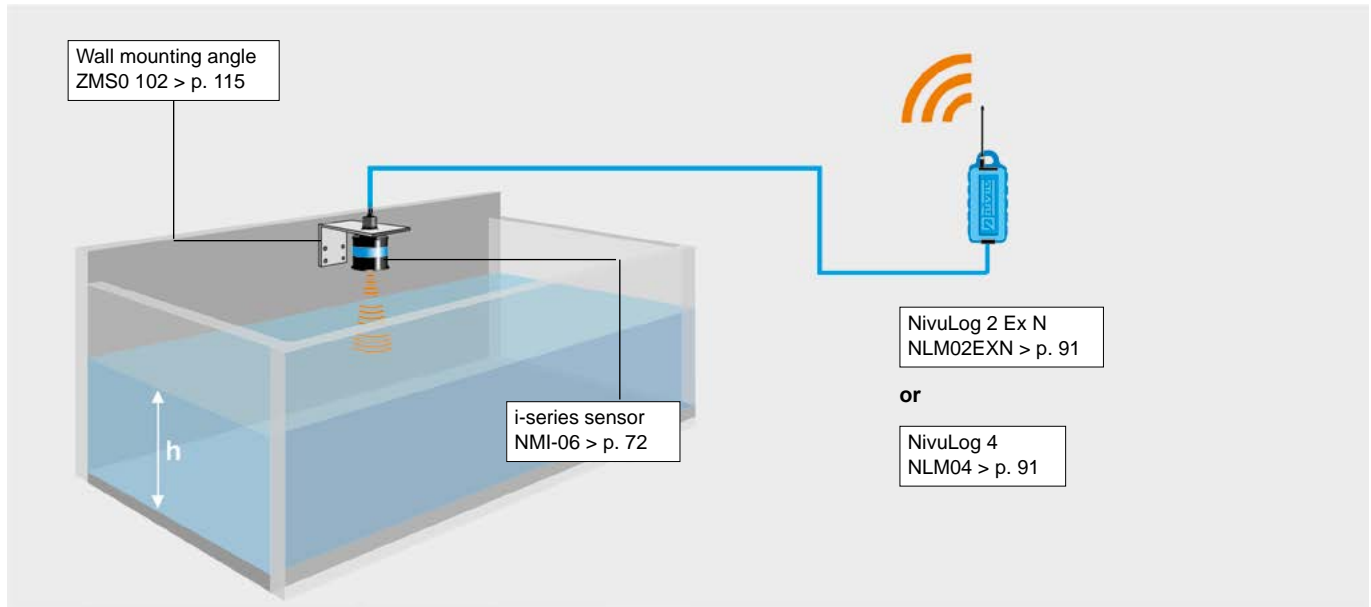


i-Series sensors for NivuLog

Intelligent ultrasonic sensor with pre-configured plug, Ex zone 1, for direct connection NivuLog 2 Ex N and NivuLog 4 measurement systems as well as to PCM series units.

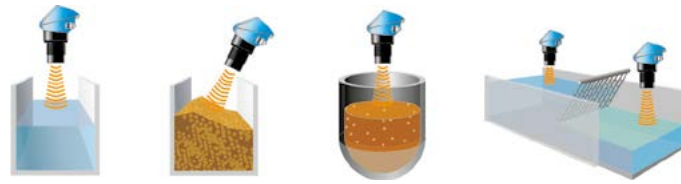
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Example: Level measurement using ultrasound

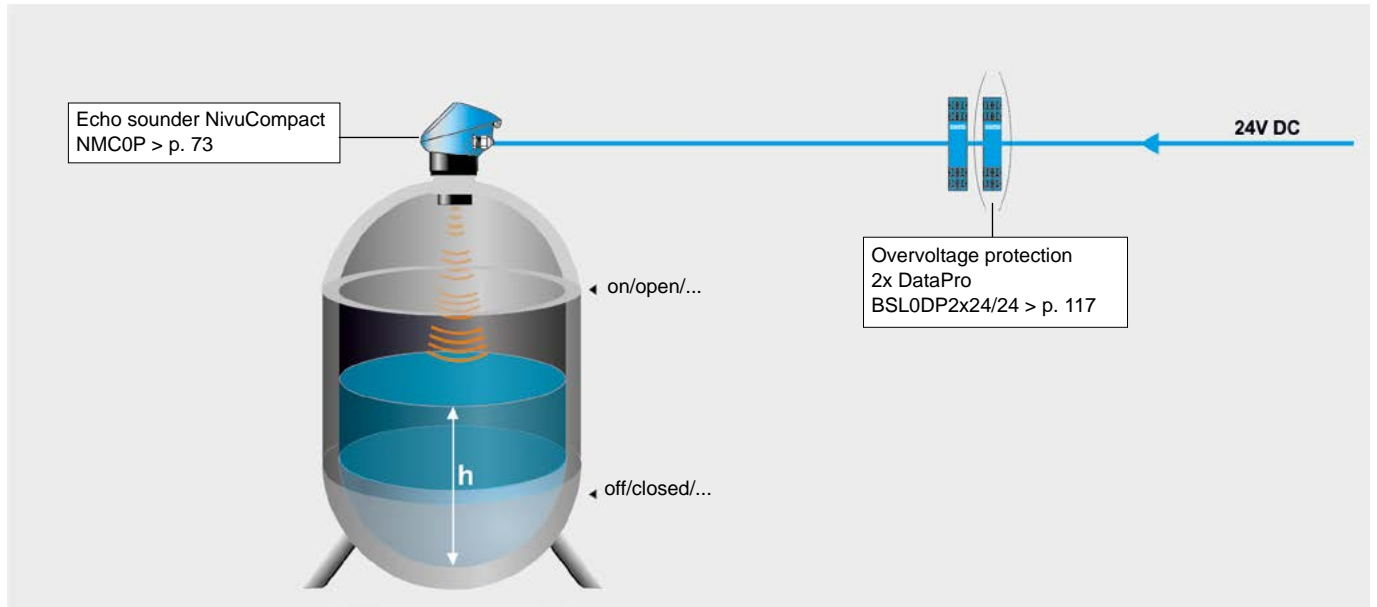


NMIO	Type	Measurement range			
	Standard construction				
	03	0.125 to 3 m			
	06	0.3 to 6 m			
	10	0.3 to 10 m			
	15	0.5 to 15 m			
	Cable Length				
	05	5 m			
	10	10 m			
	20	20 m			
	30	30 m			
	xx	Special cable length upon request			
	Construction				
	0	Standard			
	1	SUB flood protection head			
	ATEX Approvals				
	001	Zone 1			
	Connection				
			Plug Type		
			NL	NivuLog	
			PC	PCM	
NMIO			001	H	

Please find accessories for i-Series sensors with HART protocol on page 74.



Example: Level measurement



NivuCompact

Compact echo sounder IP67 with on-site display and keypad; incl. programming software and interface cable (only for non-Ex versions).
 Power Supply: 11-30 V DC (Ex 12- 28 V DC).



NMC0	Type	Measurement range
	P03	0.2 to 3 m for fluids
	P06	0.3 to 6 m for fluids
	P10	0.3 to 10 m for fluids
	Enclosure	
	0	Valox (standard)
	P	PVDF
	ATEX Approvals	
	L	none, no relays, 2-wire
	0	none, 2 relays, 2/3-wire
	E	Zone 0/1, no relays, 2-wire
NMC0		

**Accessories for ultrasonic sensors and transmitter**

3

i-Series sensors accessories

ZUB0 HART BOX04	HART-Modem with integrated USB sensor power supply for programming and diagnostics of i-Series sensors. With robust and weatherproof Aluminium enclosure (IP66). Connection to Laptop/PC via USB cable, type A. Sensor connection using service clamps.
ZUB0 HART ADAP 01	Adapter for connection to ZUB0 HART BOX04. For adaptation of i-Series sensors with plug Type „NL“ for connection to NivuLog 4 and NivuLog 2 Ex N.
ZUB0 HART ADAP 02	Adapter for connection to ZUB0 HART BOX04. For adaptation of i-Series sensors with plug Type „PC“ for connection to PCM.

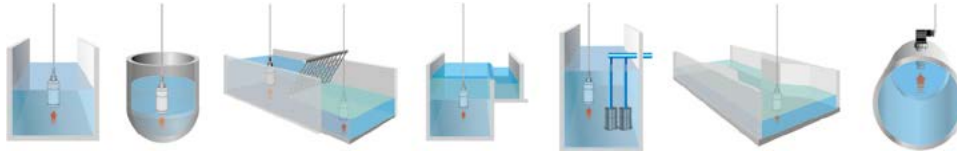
Transmitter accessories

NM00 PROGR-VER01	Handheld programmer for NivuMaster in 19" version
USN0 FL10	Spring rail with 32 poles with terminal clamps for installation of NivuMaster 19" into panel mount
NM00 KABEL9POL00	Interface cable for NM serial as well as NivuCompact
ZUB0 ZENERMOVAEK	Surge arrester type 9002/13-280-093-001 ATEX for connection to pressure sensor NivuBar Plus (II) and AE NivuMaster with optional analog input via AI converter in zone 1 / 2
NM00 AE-CON00	AE-Converter for connection of Ex-pressure probe to NivuMaster analog input
USM0 ZENER	Surge arrester type 9002/13-280-110-001 for power supply of NivuCompact Ex in zones 0 / 1 / 2

Sensor accessories

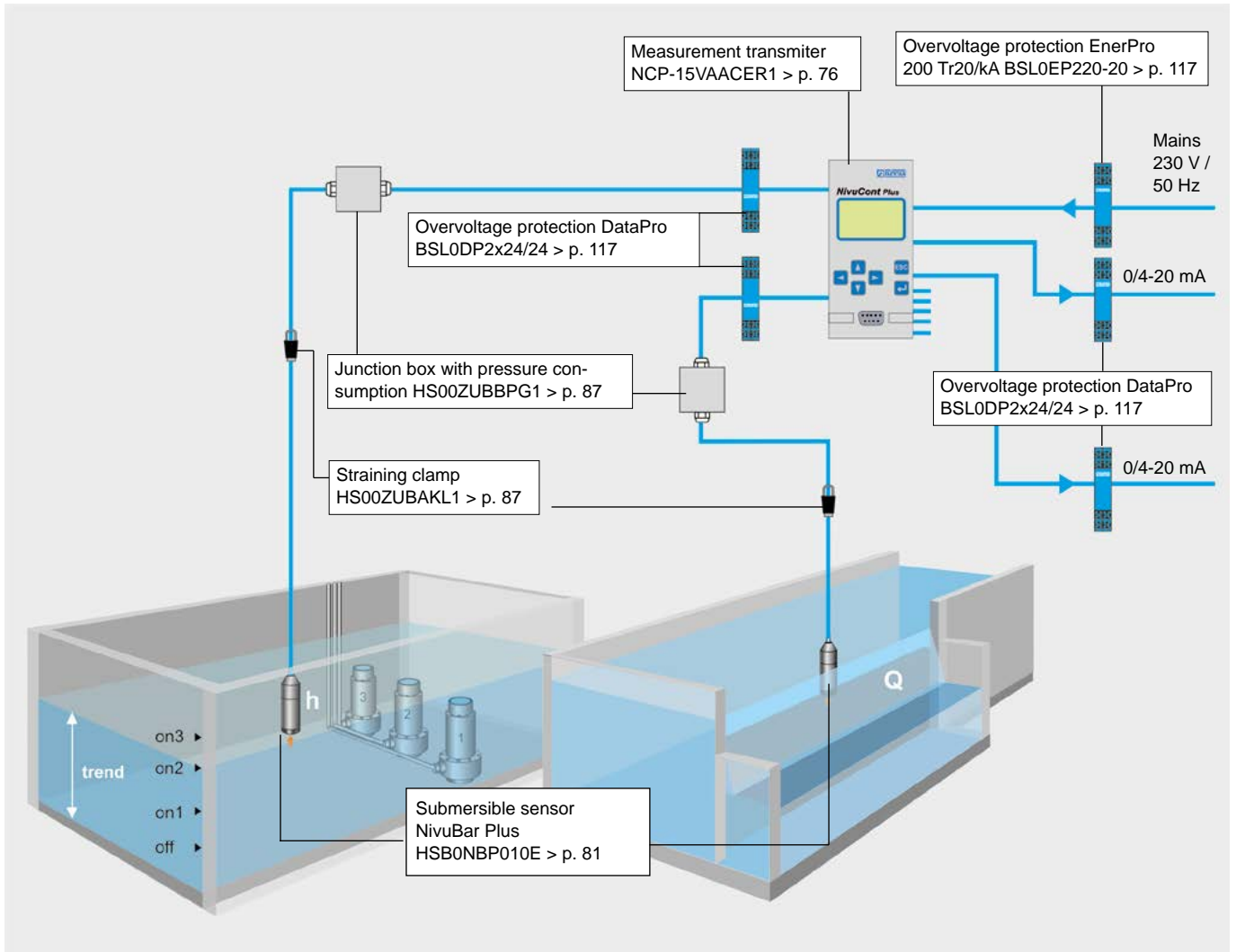
NM00 SUB- SET0	Upgrading kit: flood protection head for PS6, P06, P10, P15 sensors as well as i-Series sensors (i-06, i-10 and i-15) incl. silicone glue
NM00 SUB- SET3	Upgrading kit: screwable flood protection head for P03 and i-03 sensors
USN0 AUSR -VA1	Adjustment fitting with 2" screw thread made of stainless steel V2A for ultrasonic sensors with 1" thread
ZUB0 NIPS ET00	1" Nipple set consisting of PVC bushing, 1" PVC screw nut and cable gland M20x1.5
ZUB0 MUT1 .500	1,5" BSP/NPT PVC screw nut
ZUB0 MUT2 .000	2" BSP/NPT PVC screw nut
ZUB0 RE2_1.5NMC	Reducer for NivuCompact 3/6, 2" BSP outer thread to 1½"- BSP inner thread, material: PVC
ZUB0RE1.5_1NMI	Reducer for i-03 sensors, 1½" outer thread (G) to 1" inner thread, material: PVC
ZUB0 DN10 01.5 PVC	Flange DN100 made of PVC with R 1.5" thread; PN10
ZUB0 DN15 01.5 PVC	Flange DN150 made of PVC with R 1.5" thread; PN10
ZUB0 DN20 01.5 PVC	Flange DN200 made of PVC with R 1.5" thread; PN10

Please find wall mounting angle / accessories for sensor fastening in chapter 8.



Example: combined level and overflow measurement

3





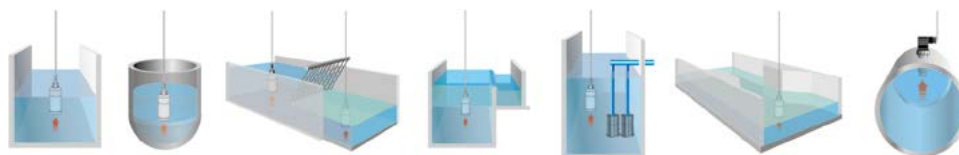
NivuCont Plus

Multifunctional measurement transmitter for combined level and overflow measurement. For 2- and 3-wire sensors.

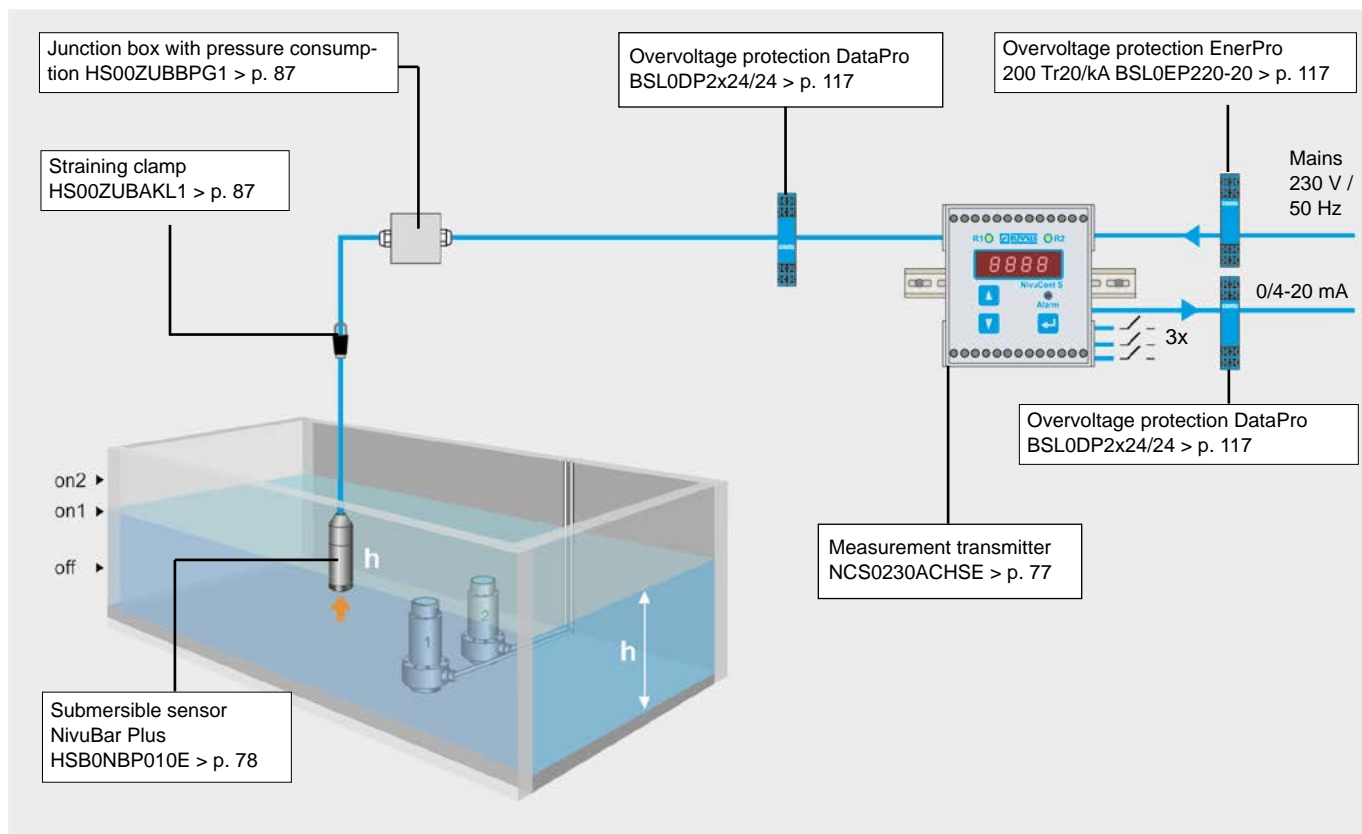


3

NCP-	Type
	<p>10 1 Input 4-20 mA; 1 output 0/4-20 mA</p> <p>12 1 Input 4-20 mA; 1 output 0/4-20 mA, 2 potential-free limit/error message contacts, switching capacity 5 A/230 V (ohm resistive load)</p> <p>15 1 Input 4-20 mA; 1 output 0/4-20 mA, 5 potential-free limit/error message contacts, switching capacity 5 A/230 V (ohm resistive load)</p> <p>Construction / Enclosure</p> <p>19 Plug-in unit in euro format</p> <p>VA Field enclosure IP65 also for DIN rail mounting</p> <p>FB Panel mount IP30</p> <p>Power Supply</p> <p>AC 85 - 264 V AC / 50 - 60 Hz</p> <p>DC 18 - 36 V DC</p> <p>SP 12 V DC</p> <p>ATEX Approvals</p> <p>0 none</p> <p>E Intrinsically safe sensor supply for Ex zone 0 /1</p> <p>Serial Interface</p> <p>R RS232</p> <p>Extensions 2-Channel Unit</p> <p>0 no Extension</p> <p>1 two analog inputs and two analog outputs for 2 separate measurements, total, difference, average</p> <p>Software Extensions</p> <p>00 none (standard software)</p> <p>0B Trend and control of basin purification</p> <p>0M Volume and flow calculation</p> <p>0K Combination of trend and control basin purification and volume as well as flow calculation</p>
NCP-	R



Example: Level measurement / simple pump control



NivuCont S

For 2- and 3-wire sensor supply, 3 relays
(2x limit value / pump exchange, 1x error message);
input 4-20 mA, output 0/4-20 mA.



NCS0	Type
	Power Supply
	230AC 230 V AC; 50/60 Hz
	024DC 24 V DC stabilised
	Enclosure
	FT Panel mount installation IP40 (front), IP20 (clamps); available as Ex version only
	HS DIN rail mounting IP40 (enclosure), IP20 (clamps)
	ATEX Approvals
	0 none
	E Zone 0 / 1
NCS0	



NivuBar Plus (II)

Hydrostatic level device with capacitive ceramic cell for liquids.

Submersible sensor with integrated 4-20 mA-transmitter and hermetically sealed cable.

3

HSB0	Type
	<p>NBP Submersible sensor with ceramic membrane for level measurement</p> <p>Measurement Ranges</p> <p>001 1 m (3 ft) H2O</p> <p>002 2 m (6 ft) H2O</p> <p>004 4 m (13 ft) H2O</p> <p>006 6 m (20 ft) H2O</p> <p>010 10 m (33 ft) H2O (20 m cable recommended)</p> <p>xxx Special measurement range [max. 100 meter H2O]</p> <p>ATEX Approvals</p> <p>E Zone 0 / 1</p> <p>Cable length</p> <p>010 10 m (33 ft) (only recommended at measurement range <10 m H2O)</p> <p>020 20 m (66 ft)</p> <p>030 30 m (100 ft)</p> <p>050 50 m (165 ft)</p> <p>099 100 m (330 ft)</p> <p>xxx Special cable length upon request</p> <p>Construction</p> <p>K Standard</p>
HSB0	NBP E K



NivuBar H (III)

Hydrostatic level device with capacitive ceramic cell for liquids. Communication via HART protocol.
Submersible sensor with integrated 4-20 mA-transmitter and hermetically sealed cable.



HSB0	Type				
	NBH	Submersible sensor with ceramic membrane for level measurement and HART communication			
		Measurement Ranges			
		010 10 m (33 ft) wH2O adjustable; min. 20 % FS			
		020 20 m (66 ft) H2O adjustable; min. 20 % FS			
		xxx Special measurement range [max. 100 m H2O]			
		ATEX-Approvals			
		0 none			
		E Zone 0 / 1			
		Cable length			
		010 10 m (recommended only if measurement range <10 m H2O)			
		020 20 m (66 ft)			
		030 30 m (100 ft)			
		050 50 m (165 ft)			
		099 100 m (330 ft)			
		xxx Special cable length upon request			
		Construction			
		K Standard			
HSB0	NBH				K



NivuBar G (II)

Hydrostatic level device with capacitive ceramic cell for liquids.
Submersible sensor with integrated 4-20 mA-transmitter and hermetically sealed cable.

3

HSB0	Type
	<p>NBP Submersible sensor with ceramic membrane for level measurement</p> <p>Measurement Ranges</p> <p>001 1 m (3 ft) H2O</p> <p>002 2 m (6 ft) H2O</p> <p>004 4 m (13 ft) H2O</p> <p>xxx Special measurement range</p> <p>ATEX Approvals</p> <p>E Zone 0 / 1</p> <p>Cable Length</p> <p>005 5 m (16 ft)</p> <p>010 10 m (33 ft)</p> <p>020 20 m (66 ft)</p> <p>030 30 m (100 ft)</p> <p>050 50 m (165 ft)</p> <p>099 100 m (330 ft)</p> <p>xxx Special cable length upon request</p> <p>Construction</p> <p>G 1" thread on end of probe</p>
HSB0	NBP
	E
	G



AquaBar (II)

Hydrostatic level measurement with stainless steel diaphragm and piezoresistive measurement cell for clean fluids.
Submersible sensor with integrated 4-20 mA transmitter and fixed cable.



HSB0	Type
	<p>AB Submersible probe with stainless steel diaphragm for level measurement</p> <p>Measurement Unit</p> <p>W H2O</p> <p>Measurement Ranges</p> <p>002 2 m (6 ft) H2O</p> <p>004 4 m (13 ft) H2O</p> <p>006 6 m (20 ft) H2O</p> <p>010 10 m (33 ft) H2O (20 m cable recommended)</p> <p>xxx Special measurement range [max. 100 m H2O]</p> <p>ATEX-Approvals</p> <p>0 none</p> <p>Cable Length</p> <p>010 10 m</p> <p>020 20 m</p> <p>030 30 m</p> <p>050 50 m</p> <p>099 100 m</p> <p>xxx Special cable length upon request</p> <p>Construction</p> <p>K Standard</p>
HSB0	AB W 0 K



AquaBar BS

Hydrostatic level measurement for depth measurement in wells and open water bodies.
Diaphragm and enclosure made of stainless steel.
Integrated 4-20 mA transmitter and fixed cable.

3

HSB0	Type
	<p>BS Submersible probe with piezoresistive measurement cell</p> <p>Measurement Unit</p> <p>W Water column</p> <p>Measurement Ranges</p> <p>004 4 m (13 ft) H2O</p> <p>006 6 m (20 ft) H2O</p> <p>010 10 m (33 ft) H2O (min. 20 m cable recommended)</p> <p>020 20 m (66 ft) H2O (min. 30 m cable recommended)</p> <p>xxx Special measurement range [max. 160 Meter H2O]</p> <p>ATEX Approvals</p> <p>0 none</p> <p>Cable Length</p> <p>010 10 m</p> <p>020 20 m</p> <p>030 30 m</p> <p>050 50 m</p> <p>099 100 m</p> <p>xxx Special cable length upon request</p> <p>Construction</p> <p>K Standard</p>
HSB0	BS W 0 K



UniBar E (II)

Pressure transmitter as screw-in probe with stainless steel piezoresistive measurement cell in rugged stainless steel enclosure and with integrated 4-20 mA-transmitter for clean fluids or gases.



HSB0	Type					
	UE	Pressure transmitter with stainless steel diaphragm 1.4404				
		Measurement Unit				
		B	bar			
		W	Water column			
		Measurement Ranges				
		001	1 bar / 1 m (3 ft) H2O			
		002	2 bar / 2 m (6 ft) H2O			
		004	4 bar / 4 m (13 ft) H2O			
		006	6 bar / 6 m (20 ft) H2O			
		010	10 bar / 10 m (33 ft) H2O			
		020	20 bar / 20 m (66) H2O			
		xxx	Special measurement range			
		ATEX-Approval				
		0	none			
		E	Zone 0			
		Gasket				
		V	Viton			
		Enclosure / Connection				
		U	Stainless steel non-rotatable			
		K	Plug connector according to DIN ISO 4400			
		E	Ex Display (LED, integrated)			
		Mechanic Connection / Process Connection				
		05	G½" thread DIN 3852 open connection with 12 mm drilling			
HSB0	UE			V		05



HydroBar G (II)

Pressure transmitter with capacitive ceramic measuring cell, for clear fluids and sludge. Screw-in probe with integrated 4-20 mA transmitter.

3

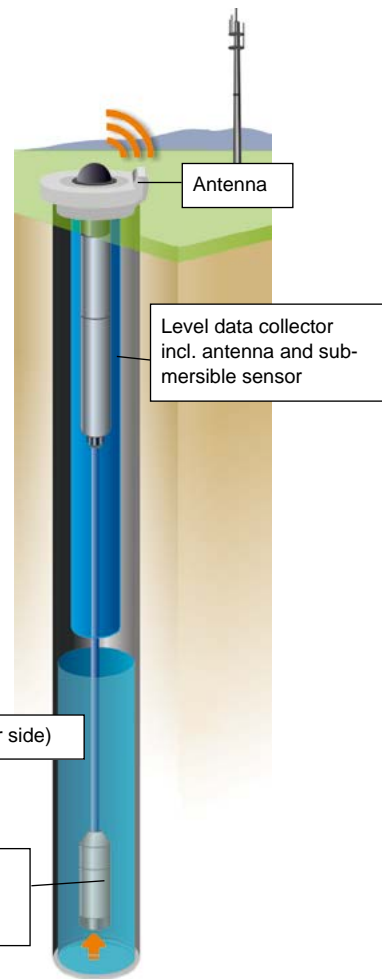
HSB0	Type					
	HG	Pressure transmitter with ceramic diaphragm				
		Measurement Unit				
		B bar				
		W Water column				
		Measurement Ranges				
		001 1 bar / 1 m (3 ft) H2O				
		002 2 bar / 2 m (6 ft) H2O				
		004 4 bar / 4 m (13 ft) H2O				
		006 6 bar / 6 m (20 ft) H2O				
		010 10 bar / 10 m (33 ft) H2O				
		020 20 bar / 20 m (66) H2O				
		xxx Special measurement range				
		ATEX Approvals				
		0 none				
		E Zone 0				
		Gasket				
		V Viton				
		Enclosure				
		U Stainless steel non-rotatable				
		E Stainless steel with rotatable Ex display				
		Mechanic Connection / Process Connection				
		15 G1½" thread according to DIN ISO 228				
		SO Special construction				
HSB0	HG			V		



Level Data Collector

Level measuring system for data transmission via GPRS to server-based Internet portal D2W; incl. AquaBar II submersible probe or with NivuBar Plus II submersible probe.

NLM0PDS0 Type	
G	Level transmitter incl. rod antenna, data transmission via GPRS
2-Wire Pressure Probe Type	
A06	Submersible probe AquaBar II, range 6 m
A10	Submersible probe AquaBar II, range 10 m
N06	Submersible probe NivuBar Plus II, range 6 m
N10	Submersible probe NivuBar Plus II, range 10 m
Axx	Submersible probe AquaBar II, special range
Nxx	Submersible probe NivuBar Plus II, special range
Cable length	
010	10 m
020	20 m
030	30 m
050	50 m
NLM0PDS0	



Accessories for Level Data Collector

NLM0 PDS ANTSTAB	Rod antenna, model Mini GSM 900/1800
NLM0 PDS ANTSET2	Antenna set 2" for Level Data Collector consisting of: dome antenna and preconfigured antenna cable, length 200 mm
NLM0 ZPDSAE3	Adapter suspension plate 3" for Level Data Collector for installation in 3" mast cap
NLM0 ZPDSAE4	Adapter suspension plate 4" for Level Data Collector for installation in 4" mast cap
NLM0 ZPDSAE5	Adapter suspension plate 5" for Level Data Collector for installation in 5" mast cap
NLM0 ZPDSAE6	Adapter suspension plate 6" for Level Data Collector for installation in 6" mast cap





NivuLevel 150

Mains power independent level measurement system consisting of data recording module and accompanying submersible pressure probe, communication via I²C interface. Measurement system can be read out and programmed via USB port.

3

NL10150 Data Recording Module with Ex Approval Zone 1

Probe

NBI06 Hydrostatic immersible probe NivuBar I²C, measurement range: 6 m

NBI10 Hydrostatic immersible probe NivuBar I²C, measurement range: 10 Meter

Cable Length (max. 30 m)

10 10 m

20 20 m

30 30 m

ATEX Approvals

E Zone 1

NL10150			
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D2W0 PROTNL150

Software for logging of single-chamber control plants (CSO protocol) out of NivuLevel 150 measurement system



Accessories for hydrostatic measurement



Accessories for NivuCont Plus

<i>NCP0 FKLE MM32 EX0</i>	Spring contact strip with 32 poles for NCP 19" with terminal clamps -straight- for Ex
<i>NCP0 FKLEMM0</i>	Spring contact strip with 48 poles for NCP 19" with terminal clamps -straight-

Accessories for pressure probes

<i>HS00 ZUBAKL10</i>	AKL 1 straining clamp made of stainless steel 1.4571 for submersible probes with cable diameters of 7.5 - 10.5 mm
<i>HS00 ZUBA1500</i>	Locking sleeve (carrier) G1.5" made of stainless steel for NivuBar Plus (II) pressure sensor
<i>HSB0 ZUBKLB1</i>	KLB1 connector box IP66 for 2-wire pressure probes with overvoltage protection and pressure compensation; material: Aluminium
<i>HS00 ZUBBPG10</i>	BPG Ex Junction box IP 65 with pressure compensation element, material: Plastic
<i>HS00 NB00AD0IP65</i>	Junction box IP65, no pressure compensation element, material: plastic
<i>HS05 ZUBDRUCKA00</i>	Pressure compensation for junction boxes, not submersible
<i>HS00 ZENER-NBP00</i>	Surge arrester type 9001/51-280-091-141 ATEX for connection of Pressure and Submersible probes in zone 1/2 for: NivuBar Plus II; NivuBar G II; HydroBar G II; UniBar E and NivuBar H III to SPS inputs.

Accessories for pressure probes using HART protocol

<i>HSB0 HIF1.010</i>	HART Interface Module for connection of PC via RS232 interface
<i>HSB0 HSW0.100</i>	HART configuration software on CD ROM for NIVUS pressure probes
<i>HSB0 HAM300.0</i>	HART module HAM-300, adapter module for installation in mA-loop

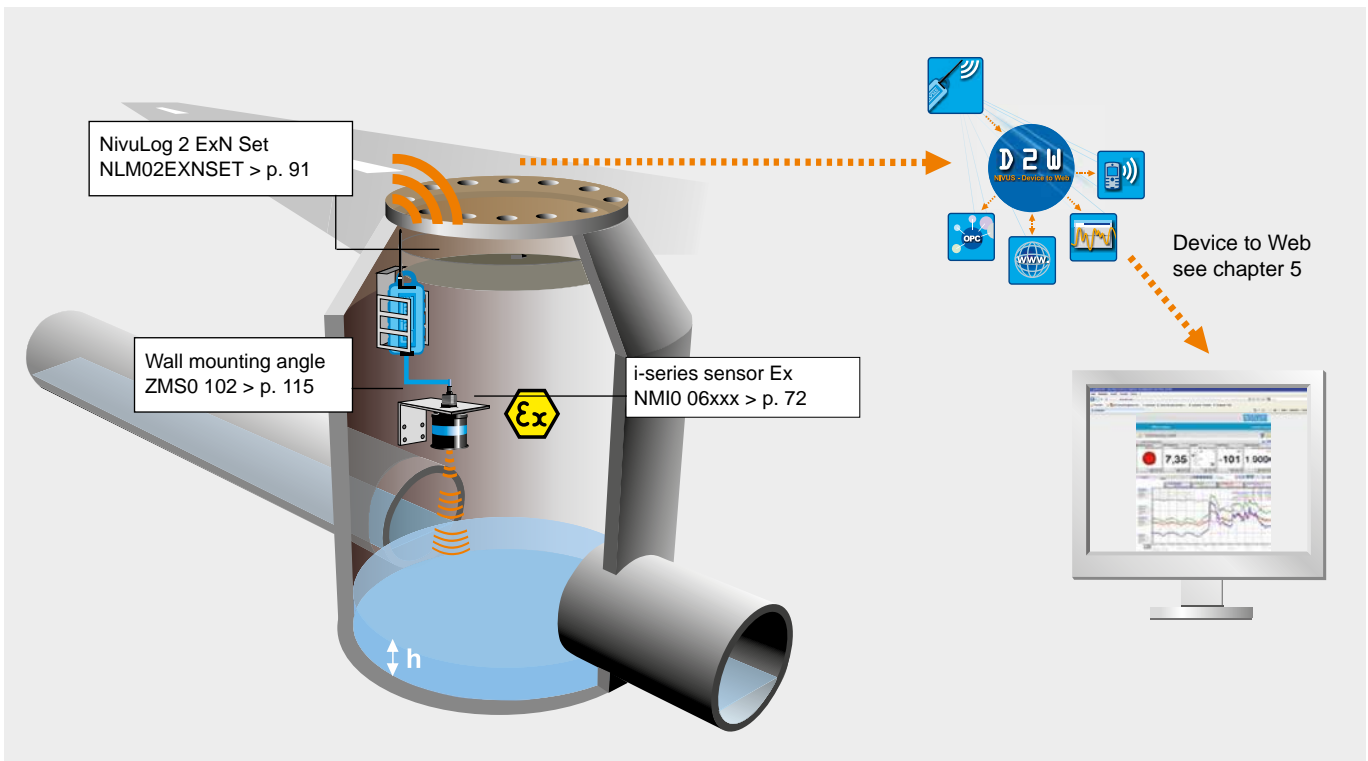


NivuLog 2 Ex N	91
NivuLog 4	91
NivuLog Easy	93
NivuLog Easy	93
NivuLog Easy Set	93
NivuLog Easy Sun	94
Accessories for NivuLog Easy	95
Accessories for antenna	95
Accessories for solar module	95
NivuLog H2S	96
NivuLog H2S no EX	97
Accessories NivuLog NANO	98
NivuLog Nano	98
Accessories NivuLog Nano AMR	99

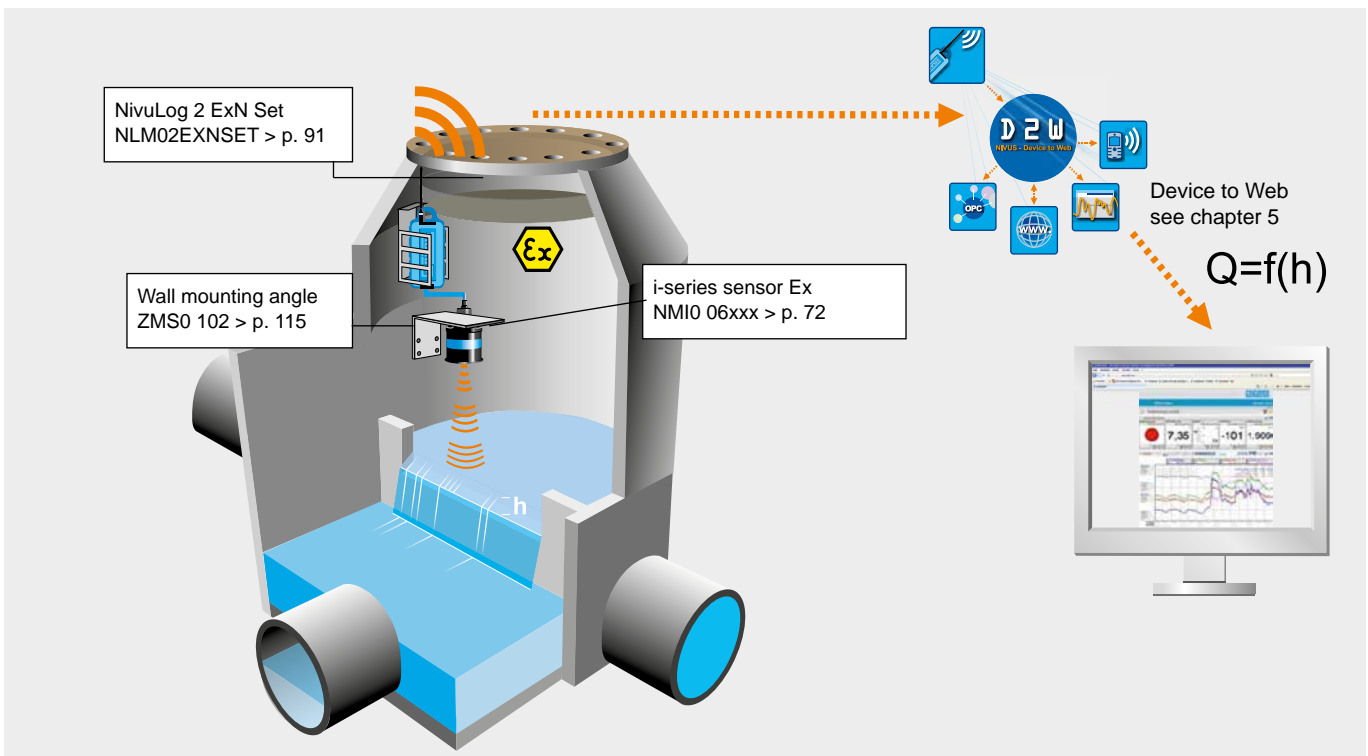
You can find the NivuLog PCM Ex data logger and appropriate accessories in chapter 2



Example: Ultrasonic level measurement in Ex zone, data logger and GPRS transmission



Example: Discharge measurement in Ex zone, data logger and GPRS transmission



**NivuLog:**

Battery-powered GPRS data logger with fully configurable inputs.

**NivuLog 2 Ex N**

NLM0 2EXN

NivuLog 2 Ex N; portable data logger in protective cover with GPRS module (quad band) for recording and transmission of 2 analog or 2 digital signals (2 multifunctional inputs), for use in Ex zone 1, protection rating IP67.

It is possible to either use the internal SIM chip or a customer SIM card.

- 1 pc. data logger with protective cover
- 1 pc. antenna, type NLM0ANT900FME
- 1 pc. antenna extension 5 m for antenna 900 FME, type NLM0 ANTVER05
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. maintenance and gasket set, type NLM5 WART01
- 1 pc. USB cable for configuration of SIM parameters, type ZUB0 KABUSB02

NLM0 2EXN SET

NivuLog 2 Ex N-Set for recording and transmission of data, consisting of:

- 1 pc. data logger with protective cover (NLM02EXN)
- 1 pc. rechargeable battery pack, type NLM0 AP424DAN
- 1 pc. antenna, type NLM0 ANT900FME
- 1 pc. antenna extension 5 m for antenna 900 FME, type NLM0 ANTVER05
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. maintenance and gasket set, type NLM5 WART01
- 1 pc. USB connection cable for configuration, type ZUB0 KABUSB02
- 1 pc. rechargeable battery pack, type NLM0 LAD424

NivuLog 4

NLM0 4

NivuLog 4; portable data logger with GPRS module (quad band) for recording and transmission of 4 analog or 4 digital signals (4 multifunctional inputs), protection rating IP67.

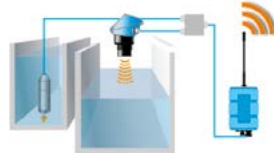
It is possible to either use the internal SIM chip or a customer SIM card.

- 1 pc. data logger with protective cover
- 1 pc. antenna, type NLM0ANT900FME
- 1 pc. antenna extension 5 m for antenna 900 FME, type NLM0 ANTVER05
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. maintenance and gasket set, type NLM5 WART01
- 1 pc. USB cable for configuration of SIM parameters, type ZUB0 KABUSB02

NLM0 4SET

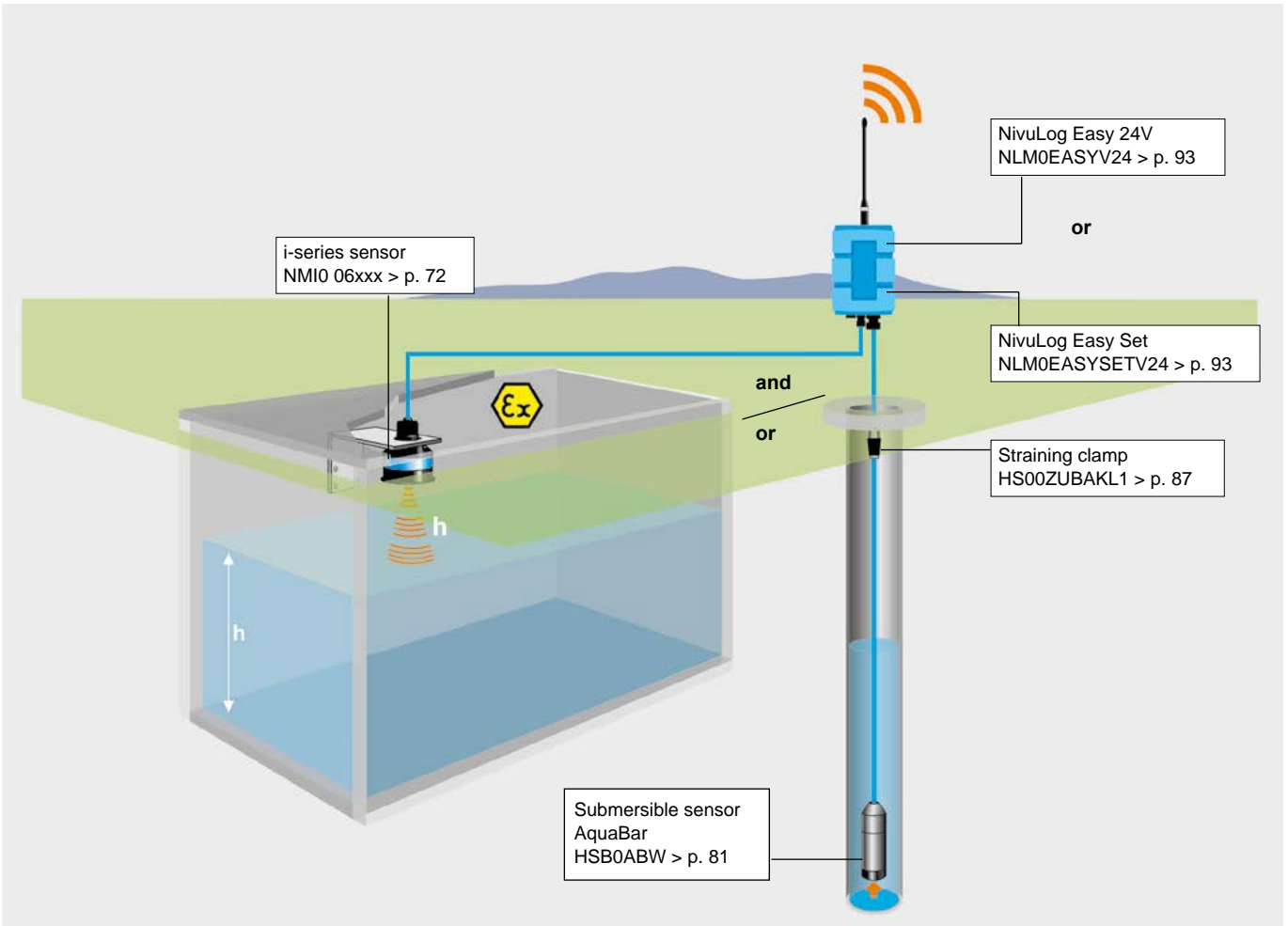
NivuLog 4-Set for recording and transmission of data, consisting of:

- 1 pc. data logger with protective cover (NLM02EXN)
- 1 pc. rechargeable battery pack, type NLM0 AP424D
- 1 pc. antenna, type NLM0 ANT900FME
- 1 pc. antenna extension for antenna 900 FME, 5m, type NLM0 ANTVER05
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. maintenance and gasket set, type NLM5 WART01
- 1 pc. battery charger, type NLM0 LAD424
- 1 pc. USB connection cable for configuration, type ZUB0 KABUSB02



Example: Level measurement, Data logger and GPRS transmission

4





NivuLog Easy

Data logger with GPRS module (quad band) for recording and transmission of 4 analog or 4 digital signals (4 multifunctional inputs), protection rating IP66.
Sensor power supply 15 V DC, 66 mA.



NivuLog Easy

NLM0 EASY

Standard delivery:

- 1 pc. data logger, type NivuLog Easy
- 1 pc. toolpen to open the enclosure, type NLM0 TOOL PEN
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. connection plug, 10 pins

The data logger is equipped with a fixed built-in SIM chip

NLM0 EASY V24

Delivery see NLM0 EASY

Optional 24 V DC operating voltage possible

NLM0 EASY K

Standard delivery:

- 1 pc. data logger, type NivuLog Easy 24 V
- 1 pc. toolpen to open the enclosure, type NLM0 TOOL PEN
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. connection plug, 10 pins

The data logger is equipped with a fixed built-in SIM chip

Optional extensions:

- Extension board for customer SIM card
- USB Interface
- USB Connection cable

NLM0 EASY V24K

Delivery see NLM0 EASY K

Optional 24 V DC operating voltage possible

NivuLog Easy Set

NLM0 EASY SET

NivuLog Easy Set, consisting of:

- 1 pc. data logger, type NivuLog Easy
- 1 pc. toolpen to open the enclosure, type NLM0 TOOL PEN
- 1 pc. antenna, type NLM0 ANT900FME
- 1 pc. rechargeable battery pack, type NLM0 AP413D
- 1 pc. battery charger, type NLM0LAD413D+
- 1 pc. mounting bracket, type NLM0 HALEASY
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. connection plug, 10 pins

The data logger is equipped with a fixed built-in SIM chip

NLM0 EASY SETV24

Delivery see NLM0 EASY

Optional 24 V DC operating voltage possible

NLM0 EASY SETK

NivuLog Easy Set; consisting of:

- 1 pc. data logger, type NivuLog Easy 24 V
- 1 pc. toolpen to open the enclosure, type NLM0 TOOL PEN
- 1 pc. antenna, type NLM0 ANT900FME
- 1 pc. rechargeable battery pack, type NLM0 AP413D
- 1 pc. battery charger, type NLM0 LAD413D+
- 1 pc. mounting bracket, type NLM0 HALEASY
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. connection plug, 10 pins

The data logger is equipped with a fixed built-in SIM chip

Optional extensions:

- Extension board for customer SIM card
- USB Interface
- USB Connection cable

NLM0 EASY SETV24K

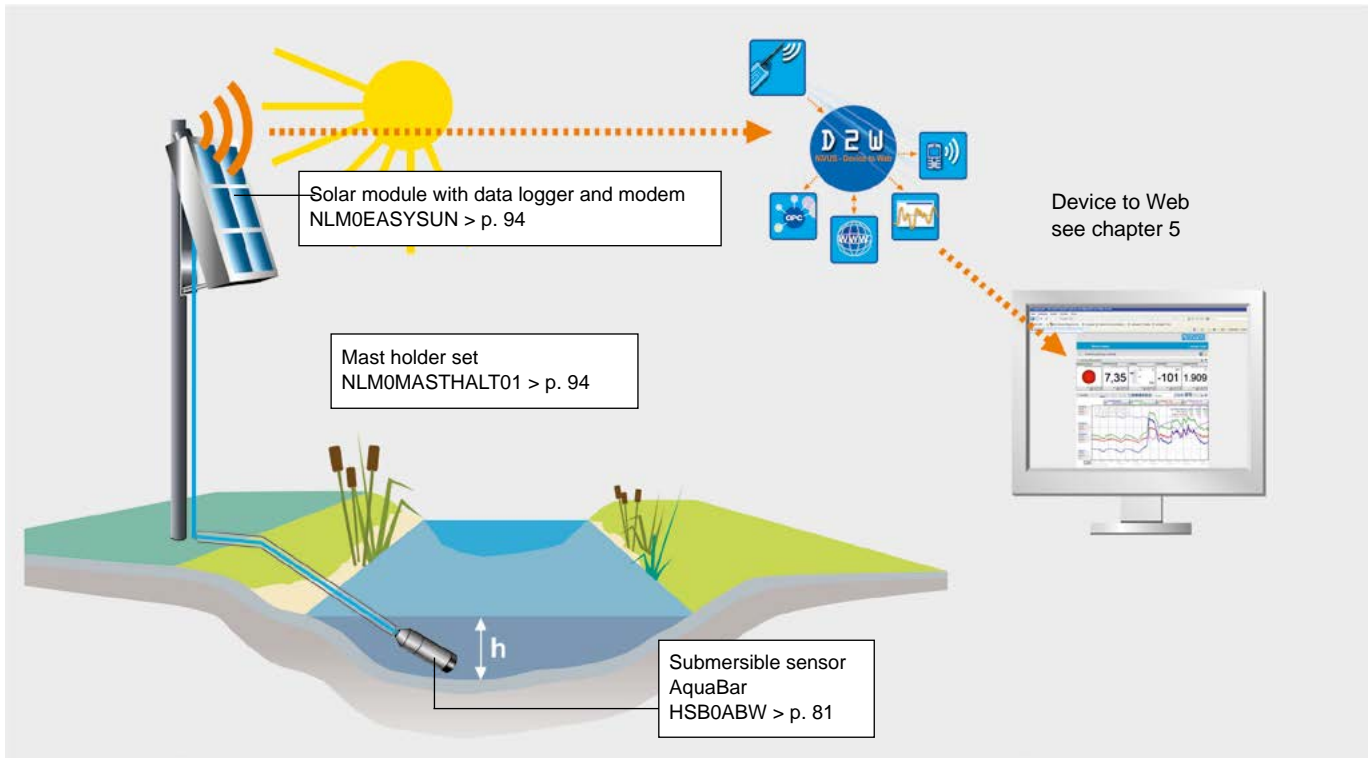
Delivery see NLM0 EASY SETK

Optional 24 V DC operating voltage possible



NivuLog Easy Sun
Solar powered Data logger with GPRS module (quad band)

Example: Hydrostatic level measurement, data logger with solar module and GPRS transmission.



4

NLM0 EASY SUN2 V24

NivuLog Easy Sun 24 V for connection of ultrasonic 2-wire sensors and for use of Ex surge arrestors; robust solar module with cover made of armoured glass, integrated data logger type NivuLog 24 V, GPRS module (quad band), 2 rechargeable buffer batteries, solar control and antenna.





Accessories for NivuLog Easy

HS00 ZENE R-NB P00	Surge arrester for connection to NivuLog Easy 24 V for sensor types: NivuBar Plus (II), NivuBar G (II), HydroBar G (III), UniBar E and NivuBar H (II) as well as NivuCompact
NLM0 ZUB0 AZD0 3	Junction box for Ex surge arrester type: HS00 ZENE R-NB P00 incl. pressure compensation for direct connection of hydrostatic level measurements
NLM0 AP41 3D	Rechargeable battery pack for NivuLog Easy; rechargeable Lithium-Ion battery; Nominal voltage: 3.7 V; charging voltage: 4.2 V; capacity: 13.2 Ah
NLM0 AP41 3D+	Rechargeable battery pack for NivuLog Easy rechargeable Lithium-Ion battery, rechargeable even at temperatures below 0 °C Nominal voltage 3.7 V; charging voltage: 4.2 V; capacity : 13.6 Ah
NLM0 AP40 3D	Battery pack for NivuLog Easy; rechargeable lead gel battery, nominal voltage 4.0 V, capacity 2.5 Ah
NLM0 BP43 4R	Battery pack for NivuLog Easy, not rechargeable; capacity: 26 Ah
NLM0 LAD4 13D+	Battery charger for battery types NLM0 413D and NLM0 413D+
NLM0 NETZ G01	Power adapter for connection of NivuLog Easy to mains power (Attention: a rechargeable battery must be installed even in case of mains-powered operation) Input voltage: 90-264 V AC Output voltage: 12 V DC Output current: 0.5 A

Accessories for antenna

NLM0 ANT9 00FM E	Rod antenna for connection to devices Type NivuLog
NLM0 ANTV ER05	Antenna extension 5 m
ZUB0 EMAT R01	GSM round antenna incl. holder for installation in dirt pan, wall mount or installation on switching cabinets
ZUB0 EMAT R02	GSM round antenna for installation in dirt pan, on switching cabinets or similar
NLM0 ANT9 00KU P	Dome antenna 900 FME, suitable for NivuLog Easy

Accessories for solar module

ZUB0 MAST HALT 01	Robust mast holder set for fastening and adjustment of the solar measurement station on a mast. Material: stainless steel 1.4571 For mast diameters of 70-90 mm Adjustable angle: 20°, 29°, 37° or 45°
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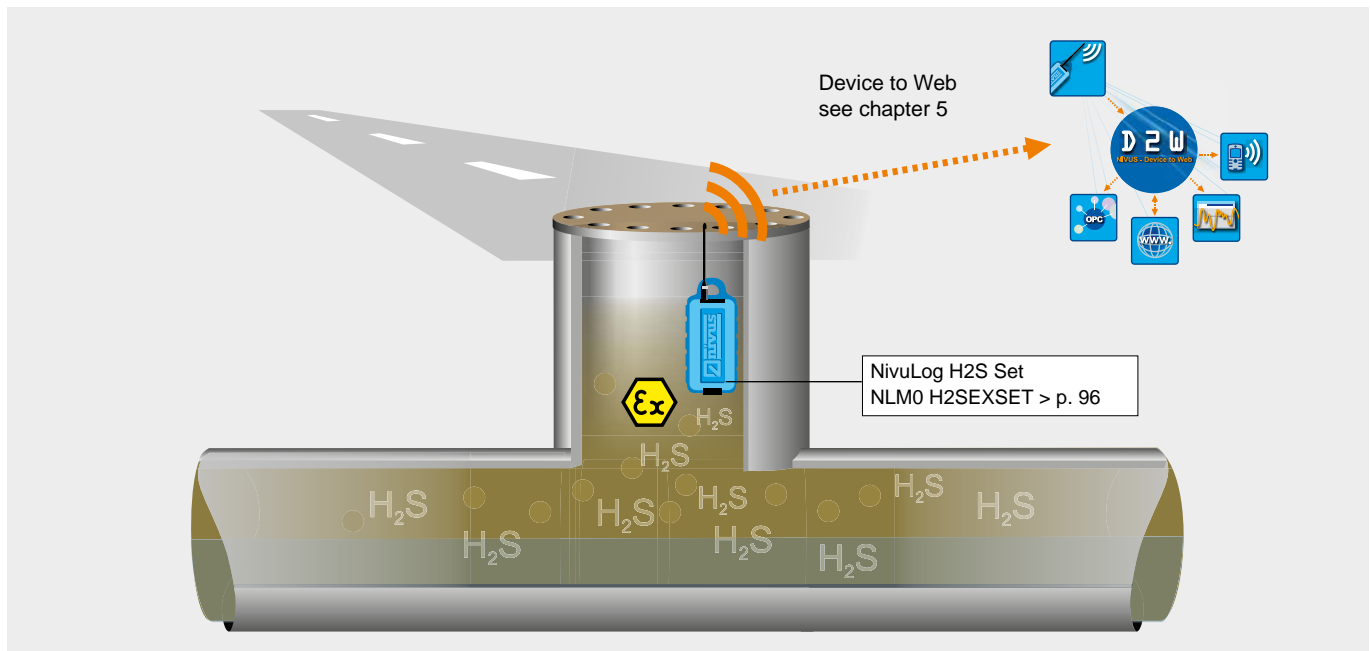
Individual components of data loggers NLM02EXN, NLM04 and NLM0H2S

NLM0 AP42 4DA	Rechargeable battery pack for NivuLog PCM Ex and NivuLog H2S
NLM0 AP42 4DAN	Rechargeable battery pack for NivuLog 2 Ex N
NLM0 AP42 4D	Rechargeable battery pack for NivuLog 4 and NivuLog PCM
NLM0 LAD4 24	Battery charger for rechargeable battery packs NLM0 AP424D, -424DA and -424DAN
NLM0 ZUB0 AZD01	Junction box with connection cable, plug and pressure compensation for NivuLog 2 Ex N or NivuLog 4 for connection of up to 2 sensors
NLM0 ZUB0 AZD02	Junction box with connection cable, plug and pressure compensation for NivuLog 4 for connection of up to 4 sensors
NLM0 KAB1 0	10 m sensor connector cable for NivuLog 2 Ex N or NivuLog 4 incl. plug for connection to the data logger 10 m
NLM0 KAB2 0	20 m sensor connector cable for NivuLog 2 Ex N or NivuLog 4 incl. plug for connection to the data logger 10 m
NLM0 KAB3 0	30 m sensor connector cable for NivuLog 2 Ex N or NivuLog 4 incl. plug for connection to the data logger 10 m
NLM0 HALW	Mounting bracket
NLM0 HALSF	Mounting bracket for use in dirt pan
NLM5 SCHU TZ01	Spare protective cover for NivuLog 2 Ex N, NivuLog 4, NivuLog PCM Ex and NLM0 H2S
NLM5 WART 01	Maintenance and gasket set
NLM0 KABPCM01	Connection cable 2.8 m between PCM and NivuLog PCM

**NivuLog H2S**

Battery-powered GPRS data loggers with built-in H2S sensor 0-1000 ppm, Ex-Zone 1. Protecting rating IP67

Example: Hydrogen sulphide concentrations, summation, storage and transmission

**NLM0 H2S EX**

NivuLog H2S 1000 - standard delivery:

- 1 pc. data logger with protective cover, type NivuLog H2S
- 1 pc. USB cable for configuration of SIM parameters, type ZUB0 KABUSB02
- 1 pc. antenna extension for antenna 900 FME, 5m, type NLM0 ANTVER05
- 1 pc. antenna, type NLM0 ANT900FME
- 1 pc. magnet for device initialisation, type NLM5 MAGNET
- 1 pc. maintenance and gasket set, type NLM5 WART01

NLM0 H2SEX SET

NivuLog H2S 1000 Set; consisting of:

- 1 pc. data logger with protective cover, type NivuLog H2S
- 1 pc. rechargeable battery pack, type NLM0 AP424DA
- 1 pc. battery charger, type NLM0 LAD424
- 1 pc. antenna, type NLM0 ANT900FME
- 1 pc. USB cable for configuration of SIM parameters, type ZUB0 KABUSB02
- 1 pc. antenna extension for antenna 900 FME, 5m, type NLM0 ANTVER05
- 1 pc. maintenance and gasket set, type NLM5 WART01
- 1 pc. magnet for device initialisation, type NLM5 MAGNET

Accessories / maintenance H2S units (device must be returned to NIVUS)**REPO NLMH 2SW0 1**

Maintenance flat rate for data logger H2S type NLM0H2S Ex if required, but not later than after 6 months.

The maintenance flat rate comprises:

- replacement of gasket between logger and rechargeable battery (incl. gasket set)
- calibration of the H2S sensor

REPO NLMH 2SW0 2

Maintenance flat rate for data logger H2S type NLM0H2S Ex if required, but not later than after 24 months.

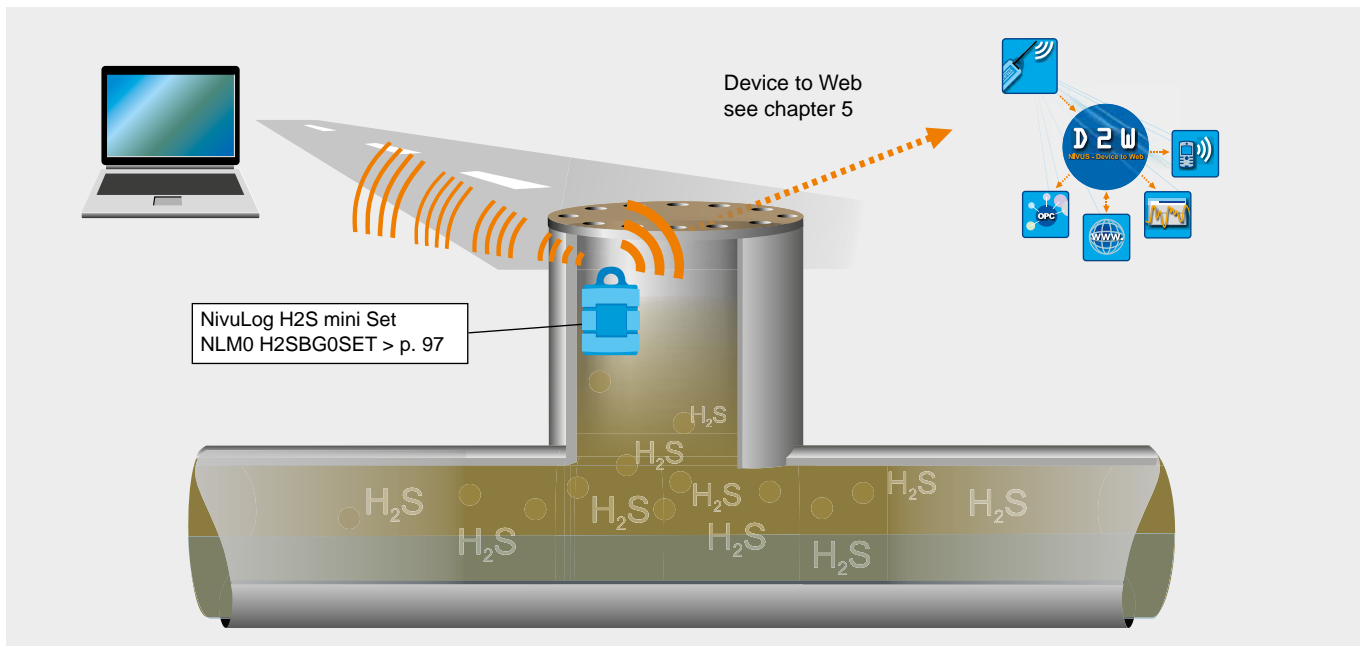
The maintenance flat rate comprises:

- replacement of gasket between logger and rechargeable battery (incl. gasket set)
- H2S sensor replacement (incl. Sensor)
- calibration of the H2S sensor



NivuLog H2S no EX

Data logger independent from mains power, with built-in H2S sensor 0-1000 ppm. Data transmission via Bluetooth or GPRS.



NLM0 H2SB 00SET

mydatasensH2S1000 Set BLE, transmission via Bluetooth; consisting of:

- 1 pc. data logger with protective cover, type BLE Gateway
- 1 pc. H2S 1000 sensor module
- 1 pc. magnet key ring

NLM0 H2SB G0SET

mydatasensH2S1000 Set BLE/3G, transmission via Bluetooth or GPRS; consisting of:

- 1 pc. data logger with protective cover, type BLE & 3G Gateway
- 1 pc. H2S 1000 sensor module
- 1 pc. magnet key ring

Accessories / maintenance NivuLog H2S without EX

REPO NLMH 2SB01

H2S Sensor Module Processing

Sensor replacement in returned sensor module. Calibration of the new sensor is included with flat rate

REPO NLMH 2SB02

Calibration flat rate

Sensor calibration

REPO NLMH 2SB03

BLE Gateway Battery Replacement

Battery replacement in returned BLE Gateway.

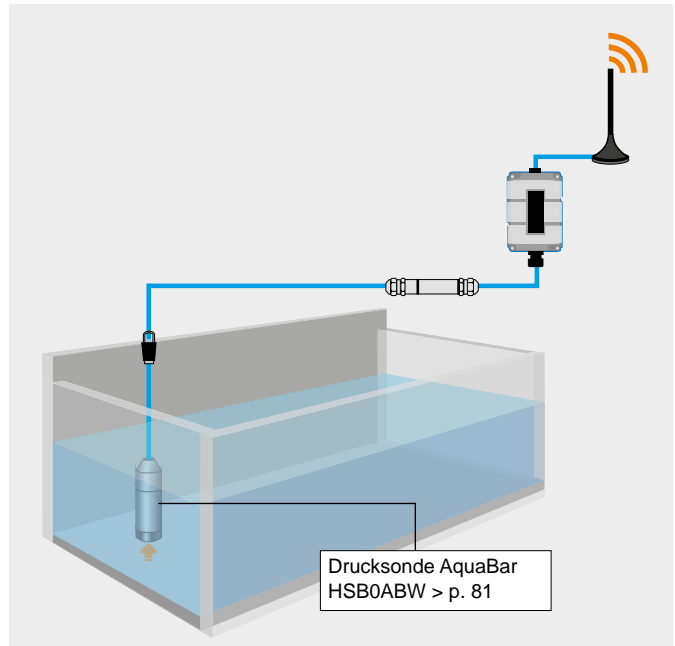
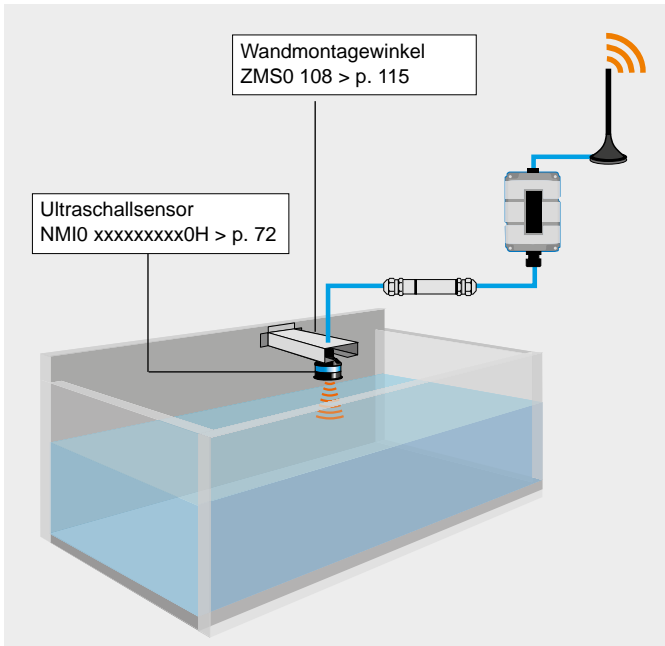


NivuLog Nano

Data logger with GPRS module (quad band) and integrated SIM chip for detection and transmission of 1 analog sensor signal, protection IP68.

Example: Level measurement with ultrasonic or pressure sensor

4



NLM0 NANO

Standard delivery

- 1 pc. data logger, type NivuLog NANO
- 1 pc. rechargeable battery pack, type NLM0 BP71 3RLC
- 1 pc. antenna with magnetic base, 3 m cable and TNC-F plug, type NLM0ANTTNC

Accessories NivuLog NANO

NLM0 BP71 3RLC

Battery pack for NivuLog Nano and NANO AMR , not rechargeable, capacity 13 Ah

NLM0 KABN ANOUNI

Connection cable 1 m with open cable ends for NivuLog NANO and NANO AMR

NLM0 KABN ANOMAP

Connection cable 1 m for NivuLog Nano zto connect mA sensors incl. clamping tube for pressure compensation, protection class IP68

NLM0 ANTT NC

Antenna with magnetic base 3 m cable with TNC plug suitable for: NivuLogNANO and NivuLogNANO AMR

NLM0 NANO ANTADAP

Antenna adapter TNC(f) to FME(m) for connection of FME antennas to NivuLogNANO data logger

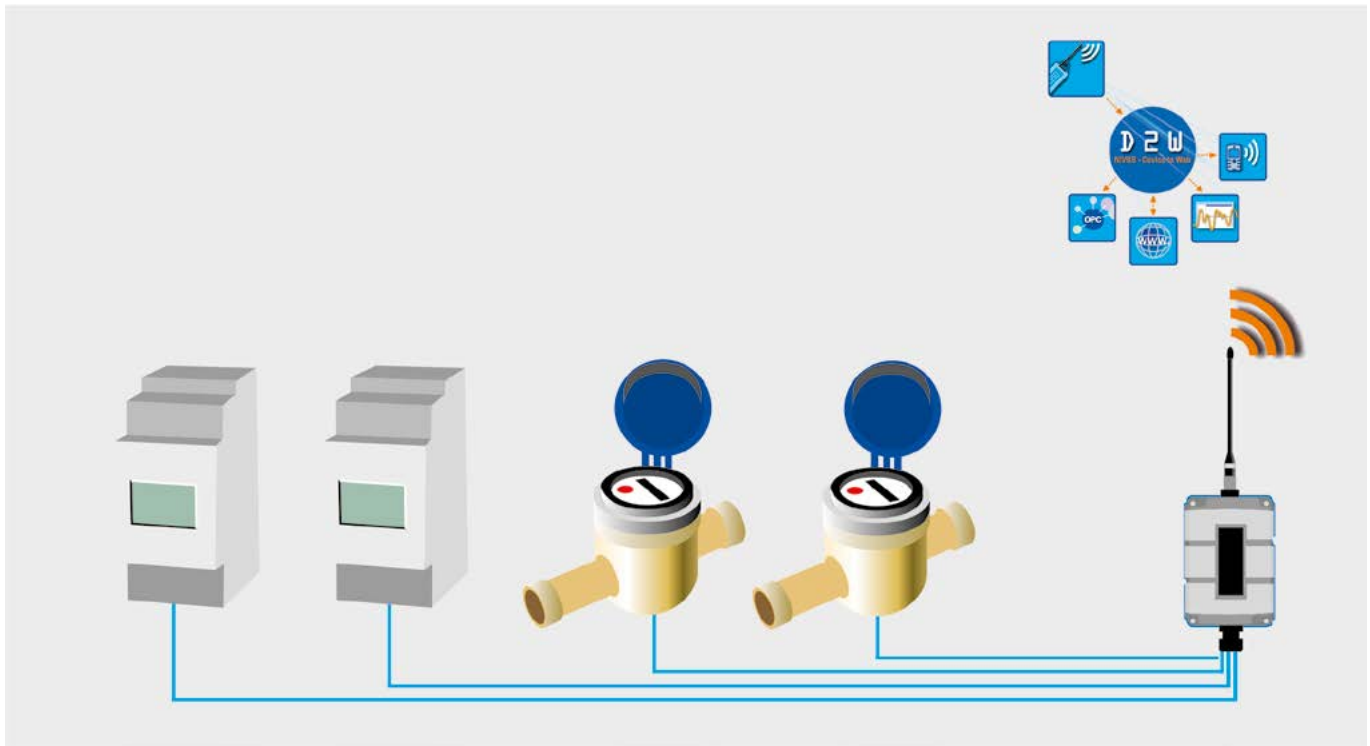


NivuLog Nano AMR

Data logger with GPRS module (quad band) and integrated SIM chip for detection and Transmission of up to 4 Counter readings (configurable digital inputs)
Protection IP68



Example: Transmission of counter readings



NLM0 NANO AMR01

- NivuLog Nano AMR - standard delivery
- 1 pc. data logger, type NivuLog Nano AMR
 - 1 pc. battery pack BP713RLC (lifetime up to 4 years)
 - 1 pc. antenna with magnetic base, 3 m cable and TNC-F plug
 - 1 pc. connection cable NLM0KABNANOUNI

Accessories NivuLog Nano AMR

NLM0 BP71 3RLC

Battery pack for NivuLog Nano AMR, not rechargeable, capacity 13 Ah



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NIVUS price list - 01.04.2016

**Device to Web**

Internet data portal for efficient management of measurement data, measurement places and devices. The "D2W - Device to Web" data portal can be accessed via Internet without the need to install additional software.

Internet portal*D2WF LAT1*

Business package for using the system
NIVUS Device2Web on a NIVUS Server.
Flat rate for 1 instrument
Term: the use of the D2W is coupled with the
lifetime of the logger
Data volume: unlimited
Number of users: unlimited
This position does not contain fees for the transmitted data volume or SMS transmission.

5

Package price on purchases of more pieces possible upon request!

D2W0 PROT 01

Software-Tool zfor logging of single-chamber stormwater treatment plants
Price per plant

Training D2W*D2W0 TRAI
NING 01*

NIVUS D2W Training Level 1
User training if using the NIVUS server
Training, device lessons, troubleshooting

Data tariffs

The costs of the data packs are calculated for a period of 5 years based on the recording and transmission intervals specified below. Modified device settings result in increased data volumes, which will be invoiced at 0.385 €/100kB per month in the event of using the NIVUS Server and at 0.665/100kB if a customer Server is used. The 5-year period includes a total of 100 extra SMS. Additional SMS messages will be invoiced at 0.50 each. The prepaid credits will be charged with these extra costs. Extra costs may be invoiced individually or by using the data pool. The total price is payable immediately after activation.

Data tariffs NivuLog Prepaid - for NivuLog Easy and NivuLog Easy Sun

<i>D2WP PAID NBAS AP</i>	Data Pack BASIC: 1 MB/month	Server used: NIVUS	Service: 15 min recording interval 1x transmission to server per day 100 high-priority error message per SMS
<i>D2WP PAID NCLAS AP</i>	Data Pack CLASSIC: 3 MB/month	Server used: NIVUS	Service: 5 min recording interval 2x transmission to server per day 100 high-priority error message per SMS
<i>D2WP PAID NONL AP</i>	Data Pack ONLINE: 10 MB/month	Server used: NIVUS	Service: 2 min recording interval Online connection to server 100 high-priority error message per SMS
<i>D2WP PAID KBAS AP</i>	Data Pack BASIC: 1 MB/month	Server used: CUSTOMER /MDN driver	Service: 15 min recording interval 1x transmission to server per day 100 high-priority error message per SMS
<i>D2WP PAID KCLAS AP</i>	Data Pack CLASSIC: 3 MB/month	Server used: CUSTOMER /MDN driver	Service: 5 min recording interval 2x transmission to server per day 100 high-priority error message per SMS
<i>D2WP PAID KONL AP</i>	Data Pack ONLINE: 10 MB/month	Server used: CUSTOMER /MDN driver	Service: 2 min recording interval Online connection to server 100 high-priority error message per SMS

Data tariffs NivuLog Data pool

<i>D2WP PAID NFELD AP</i>	Data Pack DATA POOL	Server used: CUSTOMER /MDN driver	Service: For billing of extra use or with measurement campaigns and in case of irregular use / data traffic. Only the actual data volume is charged.
<i>D2WP PAID KFELD AP</i>	Data Pack DATA POOL	Server used: NIVUS	Service: For billing of extra use or with measurement campaigns and in case of irregular use / data traffic. Only the actual data volume is charged.

The minimum volume per month is 1/60 of the data pack price.

This volume is deducted from the prepaid credits independent of the volume(s) actually used.



NivuSoft Professional

NivuSoft is a software with precisely adjusted functions for processing of measurement data in the water industry. The software operates local and communicates with the „D2W - Device to Web“ online data portal. Single user license.

NivuSoft

SWON SPRO

Software for measurement data processing

Software NivuSoft Professional

For operating systems Windows Vista / Windows 7 und 8

Software for project and document management , visualisation of measurement data, evaluation of measurement data, calculating functions for weirs and channels, any formula can be entered, calculation of flow rates (min., max., average values), import and export of .txt and .csv files.

Simulation of theoretical flow parameters compared to measured data.

Comfortable reporting functions to create a complete documentation on projects, measurement places and measurement data.

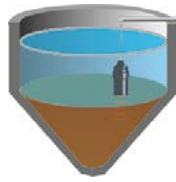
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SWON STRAINING

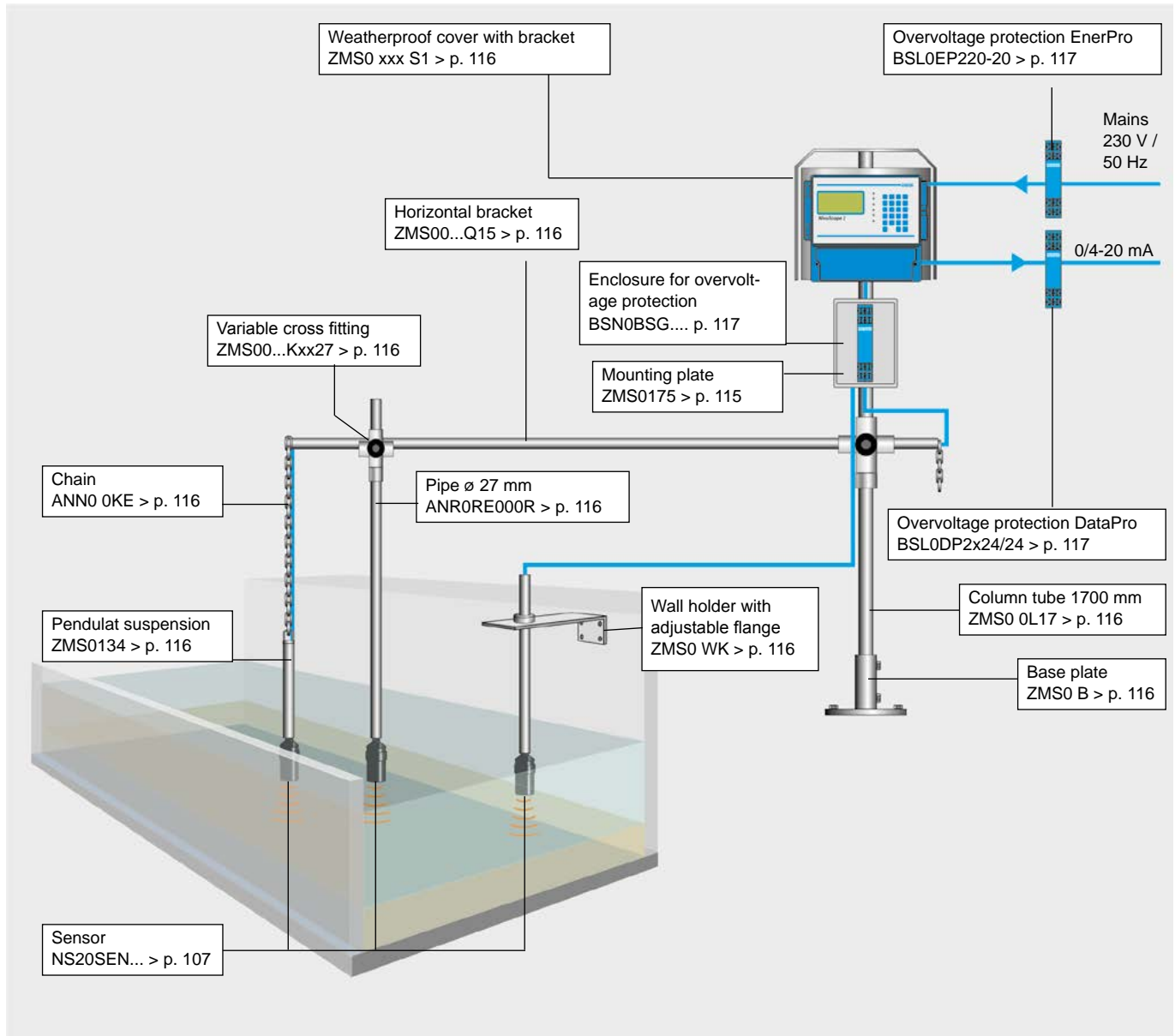
NivuSoft Professional software training



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Example: Detection of interfaces



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NivuScope 2

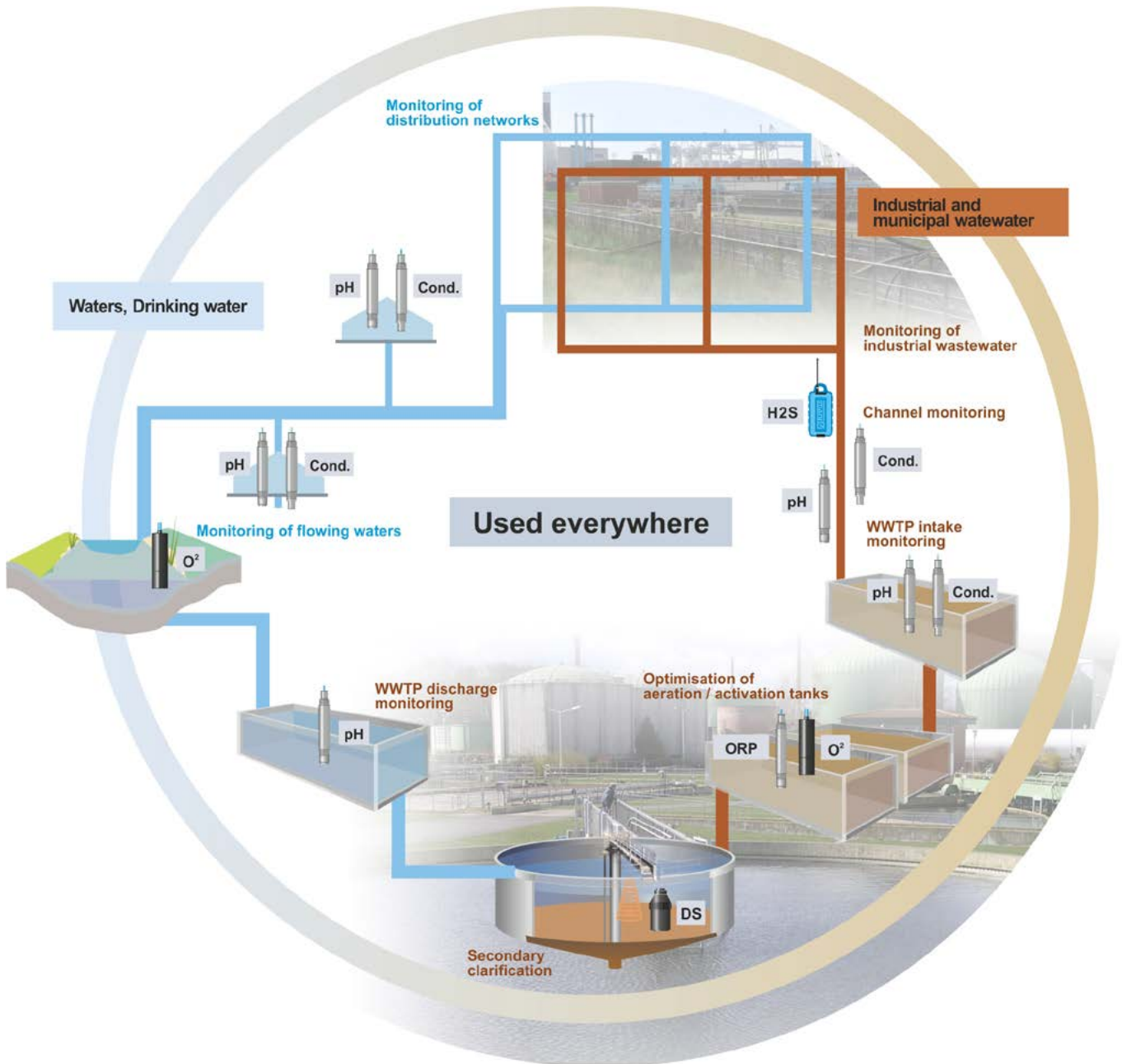
Measurement transmitter for Interface and sludge level detection, independent of density. Programming on site via dialog mode or per RS232 via PC software; two separated measurement channels.

**NivuScope 2**

<i>NS20 2006 5TDE</i>	NivuScope 2, continuous ultrasonic interface detection, 2-channel-system for sludge level detection or level measurement, power supply 24 V DC and 115/230 V AC
<i>NS20 2V06 5TDE</i>	NivuScope 2, NivuScope 2, continuous ultrasonic interface detection, 2-channel-system for sludge level detection or level measurement, Profibus type V0; power supply 24 V DC and 115/230 V AC
<i>NS20 2V16 5TDE</i>	NivuScope 2, continuous ultrasonic interface detection, 2-channel-system for sludge level detection or level measurement, Profibus type V1; power supply 24 V DC and 115/230 V AC
<i>NS20 2M06 5TDE</i>	NivuScope 2, continuous ultrasonic interface detection, 2-channel-system for sludge level detection or level measurement, Modbus; power supply 24 V DC and 115/230 V AC

NivuScope 2 sensors

<i>NS20 SENV T10</i>	Sensor with integrated wiper for NivuScope 2, measurement range: 0,3 to 10 m, 10 m cable length
<i>NS20 SENV T20</i>	Sensor with integrated wiper for NivuScope 2, measurement range: 0,3 to 10 m, 20 m cable length
<i>NS20 SENV T30</i>	Sensor with integrated wiper for NivuScope 2, measurement range: 0,3 to 10 m, 30 m cable length



6

Products for process analysis are available on request

Please contact us to discuss further details. Find more information on our homepage www.nivus.com

Our contact:

phone: +49 (0)7262 9191-0

telefax: +49 (0)7262 9191-999

e-mail: sales@nivus.com

**Analysis Sensors**

ATF0 O210 RD6A 43 Optical oxygen/temperature sensor with Modbus(RTU) communication,
Cable length 10 m

Transmitter

ATF0 MUAV 38CB 0C1 Analysis transmitter 24 V DC
Parameters: pH/Redox/conductivity/oxygen

Spare Parts and Wearing Parts

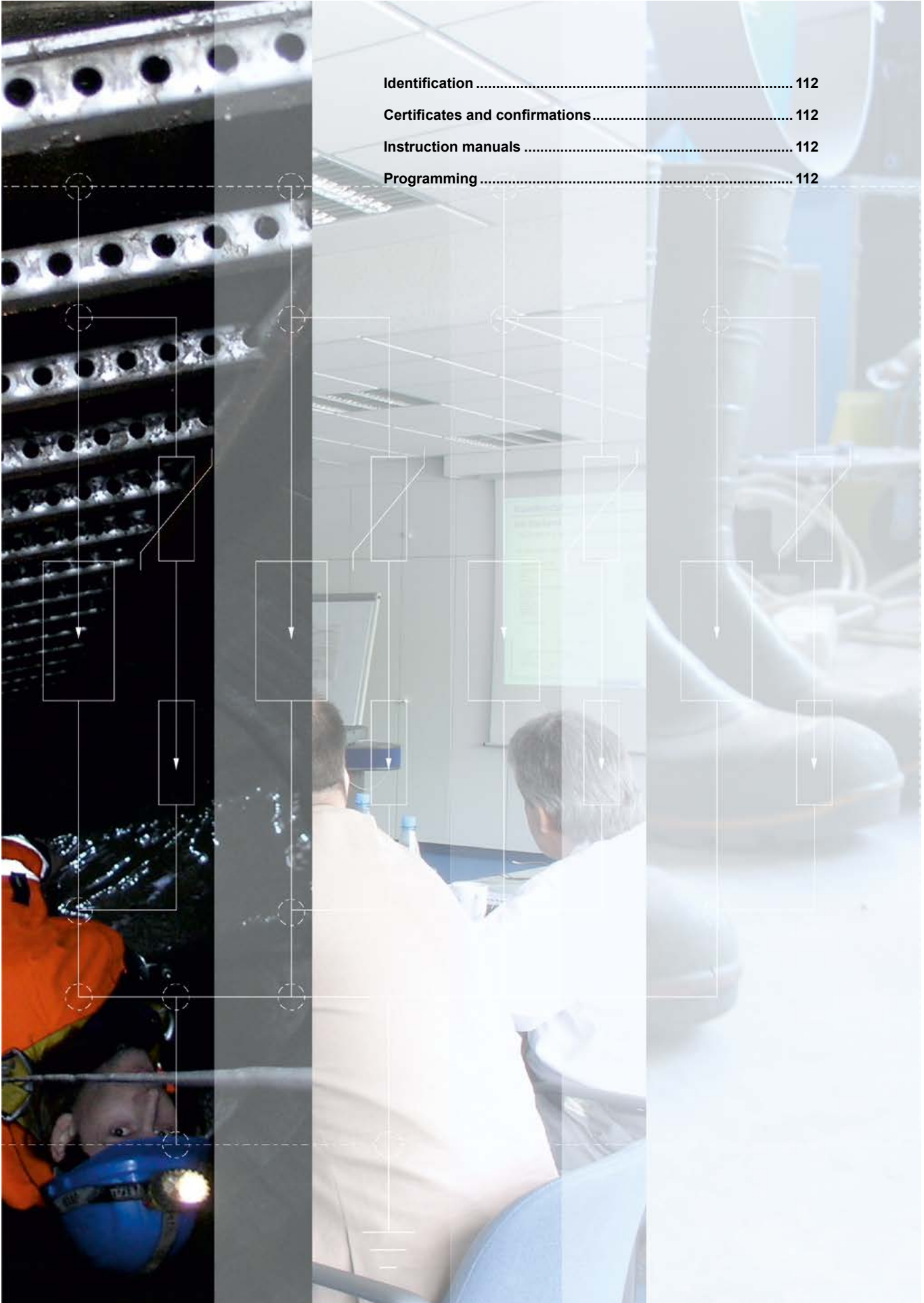
ATF0 Z021 0RDC 1 Replacement sensor cap for optical oxygen sensor (ATF0O210RD6A43)

Mounting Accessories

ASZ0 EALO 1000 Submersible fitting for O2 sensor (ATF0O2...), length 1000 mm

ASZ0 EALO 1500 Submersible fitting for O2 sensor (ATF0O2...), length 1500 mm

You can find more accessories and fastening materials for analysis sensors on



Identification 112

Certificates and confirmations 112

Instruction manuals 112

Programming 112



Identification, Certificates & Confirmations

Identification

Metal adhesive film (70x32 mm) / black letters on silver background / pc.

Metal stickers, dimensions and letters see above / pc.

Tags / labels etc. provided by customer / pc.

Certificates and confirmations

Certificate of origin

Confirmation following DIN 50049-2.1; price per order

Confirmation following DIN 50049-2.2; price per order

Test protocol

Calibration certificate

Other certificates will be calculated depending on specifications and contents

Instruction manuals (each unit is shipped with an instruction manual)

each additional copy:

German

English

French

Programming

Customer-specific programming of characteristic curves and devices

Characteristic curve printout

Flumes, weirs, channel calculations with printout of characteristic curves

Cancellation

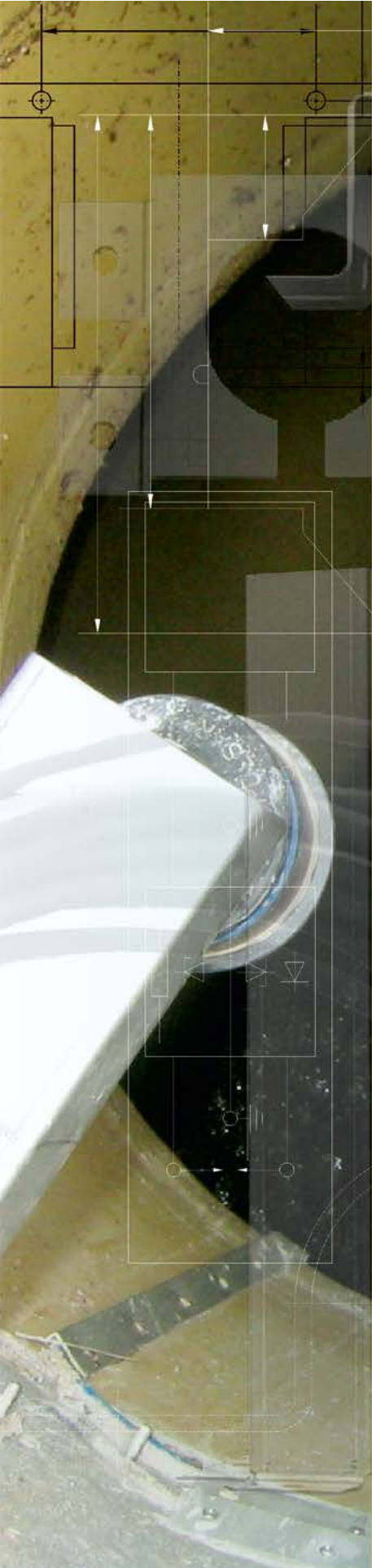
50 % of order value until 10 days prior to the confirmed delivery date, but min.

Customer-specific parts will be invoiced (until 10 days prior to the confirmed delivery date)

100 % entirely

**If canceled later, the contract value shall be calculated.
Changes and cancellations are accepted only in written form!**

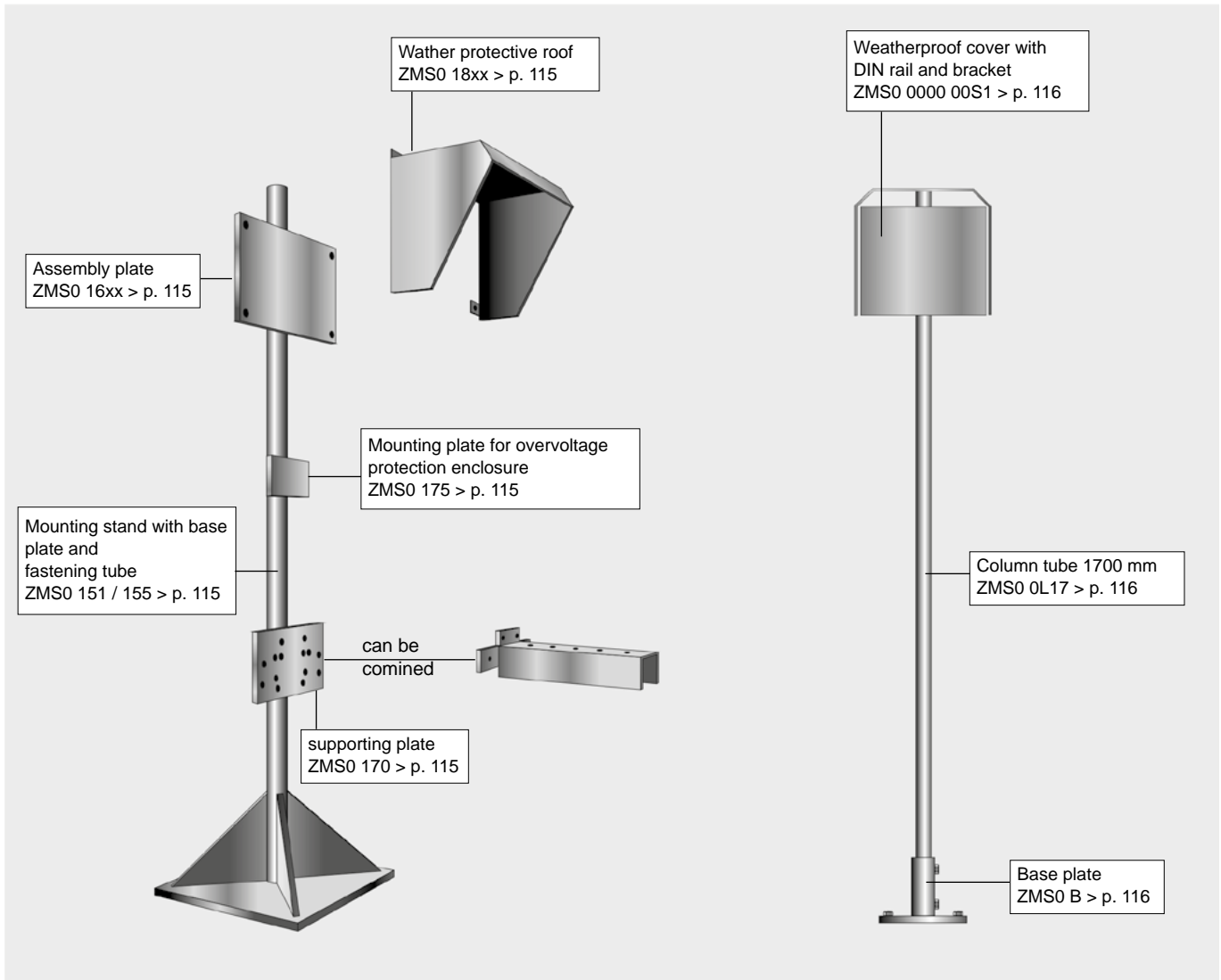




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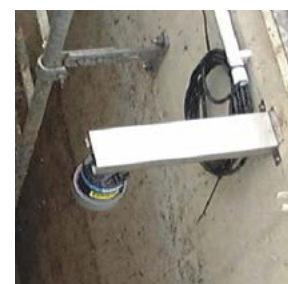
Mounting systems and accessories





Vario Montageset

- ZMS0 1000 ZMS 100 ceiling mount for US sensors R1"
- ZMS0 1020 ZMS 102 wall mounting angle 300 mm for US sensors R1", distance to wall infinitely adjustable
- ZMS0 1080 ZMS 108 wall mounting angle 600 mm for US sensors R1", distance to wall infinitely adjustable
- ZMS0 1090 ZMS 109 wall mounting angle 1000 mm for US sensors R1", distance to wall infinitely adjustable
- ZMS0 1200 ZMS 120 wall mounting angle for compact echo sounder R2", distance wall <-> sensor center: 185 mm
- ZMS0 1210 ZMS 121 wall mounting angle for compact echo sounder R2", distance wall <-> sensor center: 332 mm or 480 mm
- ZMS0 1230 ZMS 123 wall mounting angle for compact echo sounder 1.5" or 2"; distance wall <-> sensor center: 450 mm / 650 mm / 805 mm
- ZMS0 1300 ZMS 130 angled reflector for US sensors R1", 1,5" und 2"
- ZMS0 1310 ZMS 131 wall mounting angle for conductive rod sensors R1.5" and NivuCompact 3/6, distance wall <-> sensor center: 185 mm
- ZMS0 1320 ZMS 132 wall mounting angle for pressure bell switch T202, T208, distance wall <-> sensor center: 83 mm
- ZMS0 1330 ZMS 133 wall mounting angle + protective cover for pressure bell switch T202, T208
- ZMS0 1340 ZMS 134 pendular suspension for ultrasonic sensor with 1" thread L= 500 mm, material: stainless steel
- ZMS0 1350 ZMS 135 pendular suspension for ultrasonic sensor with ¾" thread L= 500 mm, material: stainless steel
- ZMS0 1400 ZMS 140 cable cover, 1000 mm (with holes)
- ZMS0 1410 ZMS 141, bendable cable cover plate, length approx. 1000 mm, suitable as cover for up to 3 sensor cables of flow velocity and level sensors
- ZMS0 1510 ZMS 151 mounting stand with base plate and fastening tube, height 1700 mm
- ZMS0 1550 ZMS 155 mounting stand with base plate and fastening tube, height 650 mm
- ZMS0 1600 ZMS 160 Assembly plate for 1 wall mount enclosure for OCM Pro or NivuChannel
- ZMS0 1610 ZMS 161 Assembly plate for 2 wall mount enclosures for OCM Pro or NivuChannel
- ZMS0 1630 ZMS 163 Assembly plate for 1 wall mount enclosure NivuFlow
- ZMS0 1700 ZMS 170 supporting plate for fastening of mounting angle ZMS 108
- ZMS0 1750 ZMS 175 mounting plate for overvoltage protection enclosure
- ZMS0 1800 ZMS 180 Weather protective roof for ZMS 160
- ZMS0 1810 ZMS 181 Weather protective roof for ZMS 161
- ZMS0 1820 ZMS 182 Weather protective roof for ZMS 160 for OCM Pro or NivuChannel
- ZMS0 1830 ZMS 183 Weather protective roof for ZMS 163 for NivuFlow field enclosure
- ZMS0 1910 ZMS 191 weatherproof cover for US sensors R1"





Column made of 1.4571 for measurement transmitter Type NivuMaster, OCM F, NFP, NivuCont Plus and Hydraulic Calculator Plus (wall mount enclosure 160 x 192 x 105,5 / HxWxD), consisting of base plate, upright tube and weatherproof cover; optional fastening material.

Column holder

ZMS0 B000	Base plate with hole for tube \varnothing 34 mm (also suitable for wall installation)
ZMS0 W000	Wall holder with hole for tube \varnothing 34 mm

Column tube

ZMS0 0L17	Length = 1700 mm; \varnothing 34 mm
ZMS0 0L05	Length = 500 mm; \varnothing 34 mm

Horizontal bracket

ZMS0 0000 0000 Q15	Length = 1500 mm; \varnothing 27 mm
ZMS0 0000 0000 Q10	Length = 1000 mm; \varnothing 27 mm

Variable cross fitting for mounting of horizontal bracket

ZMS0 0000 K342 7	Variable cross fitting with hand wheel, \varnothing 34 mm - \varnothing 27 mm
ZMS0 0000 M34	Fixation bushing, \varnothing 34 mm

Variable cross fitting for installation of submersible tubes

ZMS0 0000 K272 7	Variable cross fitting with hand wheel, \varnothing 27 mm - \varnothing 27 mm
ZMS0 0000 M27	Fixation bushing, \varnothing 27 mm

Weatherproof cover

ZMS0 0000 00S1	Weatherproof cover 300 x 280 x 270 (HxBxT) with bracket
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Chain for submersible fittings

ANNO 00KE	Chain (V4A); L=3m, 2x locking peg (V4A) for submersible fittings
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Submersible pipes

ANR0 RE00 00R	Submersible pipe \varnothing 27 mm; 1500 mm, 3/4" thread, incl. mast cap and 1" bushing
ANR0 RE00 00L	2 Pipes \varnothing 27 mm; tot. length 3000 mm, 3/4" thread, incl. mast cap and 1" bushing

Submersible pipe fitting

ZMS0 WK	Wall holder with adjustable flange for submersible pipes, Material: 1.4571, L=230 mm, incl. plug-in lug and fastening material
ZMS0 WP	Wall holder for pendular suspension of submersible pipes, material: 1.4571; ball bearing mounted; L=230 mm



Data storage for measurement transmitter

ZUB0 USB 08	USB stick 8GB for readout of parameter settings and measurement values using the NivuFlow USB interface
ZUB0 ZMCC F128	Compact Flash memory card 128 MB
ZUB0 ZMCC FADA	Adapter for Compact Flash memory card for PCMCIA slot
ZUB0 ZMCC FUSB	Compact Flash memory card reader for USB connection



Spares for NivuLog family

NLM5 MAGN ET	Spare magnet for device initialisation
ZUB0 KABU SB01	USB connector cable for NivuLog Easy
NLM5 SCHUT Z01	Spare protective cover for NivuLog 2 Ex N, NivuLog 4 and NivuLog PCM Ex
NLM5 WART 01	Maintenance and gasket set for NivuLog 2 Ex N, NivuLog 4 and NivuLog PCM Ex
NLM5 SCHUTZ03	Spare protective cover for H2S data logger BLE Gateway
NLM5 H2S BLE	Spare sensor for H2S data logger BLE

Overvoltage Protection for Power Lines

BSL0 IPTR	IsoPro 220 / 380 Tr	100.000 A working current
BSL0 IPTR -PK	IsoPro 220 / 380 Tr / Pk	100.000 A working current with potential-free contact
BSL0 EP22 0-20	EnerPro 220 Tr / 20kA	
BSL0 EP22 0-50	EnerPro 220Tr / 5kA	

Overvoltage Protection for Data Lines

BSL0 DP2X 24/24	DataPro 2x1 24 V / 24 V for 2-wire data lines and, KDA sensors and i-serie sensors (Zone 1)
BSL0 DP2X 24/2 4EX	DataPro 2x1 24 V / 24 V for 2-wire data lines and, ATEX approval zone 1
BSL0 DP2X 12/12	DataPro 2x1-12V/12V-11µH-Tr(N), 20.000 A leakage current, 2-wired, for sensor lines from POA-, CS2 and OCL sensors
BSL0 DP2X 12/1 2EX	DataPro 2x1-12V/12V-11µH-Tr(N), 20.000 A leakage current, 2-wired, for sensor lines from POA-, CS2-, KDA-and OCL sensors, ATEX approval zone 1
BSL0 DPTA E/NA P	DataPro TAE/N-aP; on-wall installation for data lines of post modem
BSL0 SP3X 24/2 4	SonicPro 3x1-24/24, 20 kA for ultrasonic sensors Type P-xx as well as POA-, CS2-, KDA- and OCL sensors
BSL0 SP3X 24/2 4EX	SonicPro 3x1-24/24, 20 kA for ultrasonic sensors Type P-xx as well as POA-, CS2-, KDA- and OCL sensors; ATEX approval for zone 1

Overvoltage Protection (low voltage)

BSL0 EP1- 24	EnerPro 24-Tr, 20.000 A working current, high-performance surge arrester for power supplies
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Enclosures for Overvoltage Protection Units

BSN0 BSG1 2	BSG 12	(for max. 3 pcs. of overvoltage protection units)
BSN0 BSG2 0	BSG 20 Ex	(for max. 3 pcs. of overvoltage protection units)
BSN0 BSG3 2	BSG 32	(for max. 4 pcs. of overvoltage protection units)
BSN0 BSG4 2	BSG 42	(for max. 9 pcs. of overvoltage protection units)

Cable for echo sounder sensors (P-Series)

KAB7 LIYC Y3x 75SO	Special cable length LIYCY 3 x 0.75 mm ² ; per m (minimum order value 50,- €)
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Accessories for 19" transmitters

NC05 -FKL EMM0	Spring contact strip with 48 poles for NivuCont Plus in 19"-version with screw terminal connection -straight-
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Protective clothing

ZUB0 WARN	Visibility jacket, knitwear; neon-yellow with 2 horizontal stripes (DIN EN 471) incl. bag; printed NIVUS logo
ZUB0 OVER	Overall, white, Polypropylene; sizes L - XXL with printed NIVUS logo



**NIVUS GmbH**

Im Taele 2
75031 Eppingen, Germany
Phone: +49 (0)7262 9191-0
Fax: +49 (0)7262 9191-999
E-mail: info@nivus.com
Internet: www.nivus.de

NIVUS AG

Hauptstrasse 49
8750 Glarus, Switzerland
Phone: +41 (0)55 6452066
Fax: +41 (0)55 6452014
E-mail: swiss@nivus.com
Internet: www.nivus.de

NIVUS Austria

Mühlbergstraße 33B
3382 Loosdorf, Austria
Phone: +43 (0)2754 567 63 21
Fax: +43 (0)2754 567 63 20
E-mail: austria@nivus.com
Internet: www.nivus.de

NIVUS Sp. z o.o.

ul. Hutnicza 3 / B-18
81-212 Gdynia, Poland
Phone: +48 (0)58 7602015
Fax: +48 (0)58 7602014
E-mail: poland@nivus.com
Internet: www.nivus.pl

NIVUS France

14, rue de la Paix
67770 Sessenheim, France
Phone: +33 (0)3 88071696
Fax: +33 (0)3 88071697
E-mail: france@nivus.com
Internet: www.nivus.fr

NIVUS Ltd.

Wedgewood Rugby Road
Weston under Wetherley
Royal Leamington Spa
CV33 9BW, Warwickshire
Phone: +44 (0)1926 632470
E-mail: info@nivus.com
Internet: www.nivus.com

NIVUS Middle East (FZE)

Building Q 1-1, ap. 055
P.O. Box: 9217
Sharjah Airport International
Free Zone
Phone: +971 6 55 78 224
Fax: +971 6 55 78 225
E-mail: Middle-East@nivus.com
www.nivus.com

NIVUS Korea Co. Ltd.

#2502, M Dong, Technopark IT Center,
32 Song-do-gwa-hak-ro, Yeon-su-gu,
INCHEON, Korea 406-840
Phone: +82 32 209 8588
Fax: +82 32 209 8590
E-mail: korea@nivus.com
Internet: www.nivuskorea.com