

# IQ SENSORNET 2014

PRODUCT SPECIFICATION CATALOG  
W108-02



a xylem brand

JANUARY 1, 2014



by Order No. 4

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Dissolved Oxygen 7

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pH/ORP 14

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Conductivity 20

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Turbidity/Suspended Solids 24

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Nitrogen 29

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Carbon: COD/TOC/DOC/SAC/BOD 42

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Phosphate 48

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Sludge Level 51

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Accessories 75

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## by Order No.

Order No.	Model
107040Y	VARIION®Plus 700 IQ
107042Y	VARIION® Ref
107044Y	VARIION®Plus NH4
107045Y	VARIION®Plus NO3
107046Y	VARIION®Plus K
107047Y	VARIION®Plus Cl
107050Y	VARIION®/ES-1
107052Y	VARIION®/ES-2
107056Y	VARIION® 700 IQ-SK
107057Y	VARIION®/Epack
107058Y	VARIION® Case
107060Y	VARIION®Plus A comp SET NH4
107062Y	VARIION®Plus N comp SET NO3
107066Y	VARIION®Plus AN/A comp SET NH4 & NO3
107068Y	VARIION®Plus AN/N comp SET NH4 & NO3
107070Y	AmmoLyt® Plus 700 IQ
107071Y	AmmoLyt® Plus SET
107072Y	AmmoLyt® Plus SET/Comp
107080Y	NitraLyt®Plus 700 IQ
107081Y	NitraLyt®Plus SET
107082Y	NitraLyt®Plus SET/Comp
108540Y	S 200
108542Y	S 200/2
108544Y	S 200/4
109115Y	SensoLyt® SEA
109117Y	SensoLyt® ECA
109118Y	SensoLyt® SEA-HP
109119Y	SensoLyt® DWA
109125Y	SensoLyt® PtA
109170Y	SensoLyt® 700 IQ
109171Y	SensoLyt® 700 IQ SW
109232Y	GWA
109260Y	UA 55
109261Y	UA 130
109263VY	UA-SO Armatur**
109265Y	UA/DS
109270Y	EH/P 170
109271Y	EH/R 170
109272Y	EH/F 170-1.5
109273Y	EH/F 170-2.5
109274Y	EH/W 170
109275Y	BE/M 170-D
109276Y	BE/M 170
109278Y	BE/R 170
109279Y	BE/R 170-D
109280Y	BE/ST 170
109281Y	BE/ST 170-R
109283Y	BE/ST 170-M
109284Y	SD/K 170

Order No.	Model
109286Y	MR/SD 170
109287Y	SD/M 170-D
109288Y	MS/SD 170
109289Y	MS/RKH 170
109290Y	MS/KK 170
109291Y	CHS New
109295Y	SSH/IQ
109304Y	IN/SET1
109305Y	IN/SET2
109306Y	IN/SET3
109317Y	EH/SW
109320Y	EH/U 170
109323Y	EH2/U 170
109325Y	EH3/U 170
109360Y	EH/W 171 New
109361Y	EH/W 172 New
109362Y	EH/WB New
201640Y	TriOxmatic® 700 IQ
201641Y	TriOxmatic® 700 IQ SW
201644Y	TriOxmatic® 701 IQ
201646Y	TriOxmatic® 702 IQ
201650Y	FDO® 700 IQ
201652Y	FDO® 700 IQ SW
201653Y	FDO® 701 IQ SW
201654Y	SC-FDO® 700
201655Y	SC-FDO® 701
201660Y	FDO® 701 IQ
202510Y	RA 600
202620Y	ZBK 600
202621Y	ZBK 25i
202850Y	WP 600/2
202852Y	WP 25i/2
203680Y	SF 300
203745Y	D 700/N
203747Y	D 702/N
203749Y	DMS/N
203751Y	EBS 700-DU/N
203753Y	EBST 700-DU/N
203754Y	EBST 700-DU/ND
203755Y	ESS 700 VA/N
203757Y	ESS 700 VA/10
203758Y	EBST/SW
203759Y	EBST-D/SW
203761Y	ADA-DF 1
203767Y	ADA-DF 4
203771Y	ADA-DF 6
203773Y	ADA-DF 7
203777Y	ADA-DF 9
203781Y	ADA-DF 11
203787Y	ADA-DF 14
203789Y	ADA-DF 15
203790Y	ADA-DF9/SW
205200Y	RL-AG/Oxi
205212Y	ELY/A
205251Y	MSK 600
205253Y	MSK FDO®
205254Y	MSK FDO®CS

Order No.	Model
2458000Y	
2458038Y	
2458039Y	
302500Y	TetraCon® 700 IQ
302501Y	TetraCon® 700 IQ SW
470000Y	MIQ/TC 2020 XT
470016Y	MIQ/TC 2020 XT-H3
470017Y	MIQ/TC 2020 XT-H3 C6
471015Y	MIQ/MC2 New
471016Y	MIQ/MC2-MOD New
471017Y	MIQ/MC2-PR New
471018Y	MIQ/2-MOD New
471019Y	MIQ/2-PR New
472000Y	DIQ/S 182
472001Y	DIQ/S 182 XT
472002Y	DIQ/S 182-PR
472003Y	DIQ/S 182-MOD
472005Y	DIQ/JB
472007Y	DIQ/CHV
472009Y	MS/DIQ
472010Y	DIQ/S 182/24V
472011Y	DIQ/S 182 XT/24V
472012Y	DIQ/S 182-PR/24V
472013Y	DIQ/S 182-MOD/24V
472015Y	DIQ/S 182 XT-4
472017Y	DIQ/S 182 XT-4-PR
472019Y	DIQ/S 182 XT-4-MOD
472021Y	DIQ/S 182 XT-4/24V
472023Y	DIQ/S 182 XT-4-PR/24V
472024Y	DIQ/S 182 XT-4-MOD/24V
480004Y	MIQ/PS
480006Y	MIQ/24V
480008Y	MIQ/JB
480010Y	MIQ/JBR
480013Y	MIQ/R6
480014Y	MIQ/CR3
480015Y	MIQ/C6
480016Y	MIQ/IC2
480017Y	Cleaning Air Box - 115 VAC
480018Y	MIQ/CHV PLUS
480021Y	MIQ/Blue PS SET
480026Y	AF/Cleaning Air Box
480027Y	RM/Cleaning Air Box
480029Y	BPV
480040Y	SACIQ-1.5
480041VY	SACIQ-SO***
480042Y	SACIQ-7.0
480044Y	SACIQ-15.0
480045Y	SACIQ-20.0 SW
480046Y	SNCIQ
480047Y	SNCIQ/UG

Order No.	Model	
480048Y	PMS/IQ	
480050Y	THS/IQ	
480052Y	WMS/IQ	
480060Y	SACIQ-50.0 SW	
480061Y	VIS Flow-thru/ Epack	
480062Y	SACIQ-100.0 SW	
480064VY	SACIQ-SO SW***	
480065Y	SACIQ-Plug	
480066Y	SACIQ-25.0 SW	
480067Y	SACIQ-75.0 SW	
480070Y	SNCIQ-250	
480072Y	SNCIQ-500	
480074Y	SNCIQ-1000	
480075Y	SNCIQ/UG-250	
480077Y	SNCIQ/UG-500	
480079Y	SNCIQ/UG-1000	
480080Y	VIS FT-1	New
480081Y	VIS FT-1/RS	New
480100Y	WA 700/10	
480102Y	WA 700/2	
480104Y	ESS-WA 700/ST	
480106Y	ESS-WA 700/VA	
480108Y	ADA-WA 1	
480114Y	ADA-WA 4	
480116Y	WA/BV	
480118Y	WA/Epack	
481030Y	VIS Set O-rings	
481031Y	VIS Set Brushes/1mm	
481032Y	VIS Set Brushes/5mm	
481044Y	NitraVis® 701 IQ	
481045Y	NitraVis® 701 IQ TS	
481046Y	NitraVis® 705 IQ	
481047Y	NitraVis® 705 IQ TS	
481048Y	CarboVis® 701 IQ	
481049Y	CarboVis® 701 IQ TS	
481050Y	CarboVis® 705 IQ	
481051Y	CarboVis® 705 IQ TS	
481052Y	NiCaVis® 705 IQ	
481054Y	NiCaVis® 701 IQ NI	New
481055Y	NiCaVis® 705 IQ NI	New
481071Y	VIS/CT	
481073Y	VIS Set/EH	
481074Y	VIS/CV	
481075Y	SET/AP	
481077Y	ST-1	
481078Y	ST-2	
481079Y	VIS C/Set	
481200Y	IFL 700 IQ	New
481201Y	IFL 701 IQ	New
481205Y	IFL-D	New
481207Y	IFL-RM	New
505123Y	S/CH	
505124Y	CH/1	

Order No.	Model	
505521Y	DFS/VisoTurb®/TW	
505527Y	MT/IQ 2+1	
505537Y	DFS/VisoTurb®	
505550Y	MT/IQ 4+1	
505551Y	MT/IQ 1+1/vert	
505553Y	MT/IQ 4+1/vert	
600010Y	VisoTurb® 700 IQ	
600011Y	VisoTurb® 700 IQ SW	
600012Y	ViSolid® 700 IQ	
600013Y	ViSolid® 700 IQ SW	
821970Y	ST-BT	New
821971Y	ST 0.0	New
821972Y	Filter	New
821973Y	FM-Case	New
821974Y	RL 2	New
821975Y	RL 115-2	New
821976Y	RL 230-2	New
821977Y	SL 10	New
821978Y	SL 5	New
821979Y	SL 115-10	New
821980Y	SL 230-10	New
821981Y	SL 115-5	New
821982Y	SL 230-5	New
821983Y	FM-Adapter	New
821984Y	Filter-CL	New
821985Y	M-EXT 1.5	New
821986Y	M 1.5	New
821987Y	FM	New
821988Y	RM	New
821989Y	WM	New
821990Y	LED	New
821991Y	SM	New
821992Y	T SET	New
821993Y	PT	New
821994Y	PM	New
821995Y	ST 20.0	New
821996Y	ST 8.0	New
821997Y	ST 1.6	New
821998Y	CL 1.0	New
821999Y	RE 2.5	New
8P-000Y	P 700 IQ-I115	New
8P-001Y	P 700 IQ-O115	New
8P-010Y	P 700 IQ-P115	New
8P-011Y	P 700 IQ-PO115	New
900107Y	CH	
900111Y	CH/Epack	
902887Y	MIQ/TM/SET	
902888Y	ADA/D-SUB	

\* Sensors with user-defined cable length. Additional costs depending on cable length.  
 \*\*UA-SO Sensor extension assembly with user-defined length. Additional costs depending on cable length.





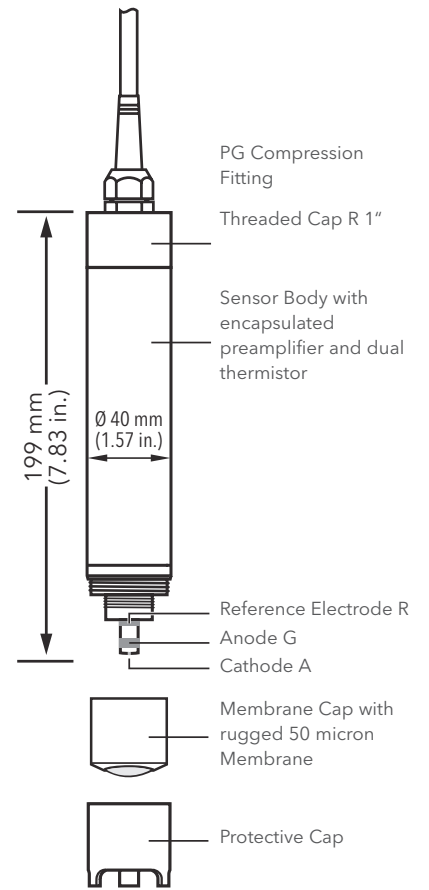
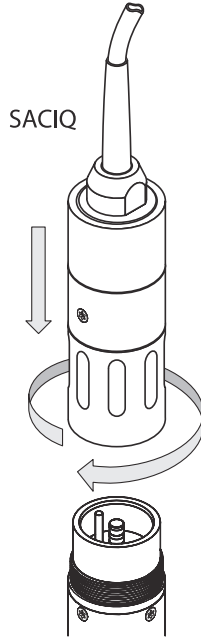
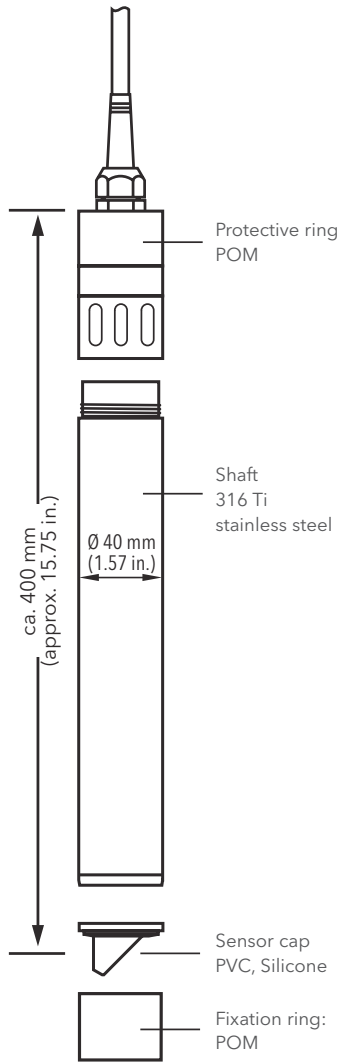
Model	Description	Order No.
<b>Optical D.O. Sensor FDO® 700 IQ</b>		
<b>FDO® 700 IQ</b>	Digital calibration free optical D.O. sensor (universal use). Optimized for monitoring/controlling the O <sub>2</sub> input in wastewater treatment plants, for use with IQ SENSORNET. Factory calibrated system composed of sensor FDO® 700 IQ and membrane cap SC-FDO® 700, without connection cable (SACIQ order separately)	201650Y
<b>FDO® 700 IQ SW</b>	Digital calibration free optical D.O. sensor (universal use). Optimized for measuring and controlling the O <sub>2</sub> input in saltwater applications, for use with IQ SENSORNET. Factory calibrated system composed of sensor FDO® 700 IQ SW, membrane cap SC-FDO® 700 and protective cap MSK FDO®, without connection cable (SACIQ order separately).	201652Y
<b>FDO® 701 IQ SW</b>	Digital calibration free optical D.O. sensor with fast response time (universal use). Optimized for measuring/controlling the O <sub>2</sub> input in saltwater applications, for use with IQ SENSORNET. Factory calibrated system composed of sensor FDO® 700 IQ SW, membrane cap SC-FDO® 701 and protective cap MSK FDO®, without connection cable (SACIQ order separately)	201653Y
<b>FDO® 701 IQ</b>	Digital calibration free optical D.O. sensor with fast response time (universal use). Optimized for monitoring/controlling the O <sub>2</sub> input in waste water treatment plants, for use with IQ SENSORNET. Factory calibrated system composed of sensor FDO® 700 IQ and membrane cap SC-FDO® 701, without connection cable (SACIQ order separately).	201660Y
<b>Accessories for FDO® 700 IQ</b>		
<b>SC-FDO® 700</b>	Universal sensor cap for FDO® IQ 700/IQ 700 SW	201654Y
<b>SC-FDO® 701</b>	Fast response time sensor cap for FDO® IQ 701/IQ 701 SW	201655Y
<b>MSK FDO®</b>	Membrane protective cap, provides protection against fishes and rock slide etc. for FDO® 70X IQ and FDO® 70X IQ SW series.	205253Y
<b>MSK FDO® CS</b>	Cleaning set for FDO® 70X IQ SW and FDO® 70X IQ in combination with MSK FDO®	205254Y
<b>SACIQ-1.5</b>	Sensor cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-50</b>	Sensor cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041VY
<b>SACIQ-7.0</b>	Sensor cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>	Sensor cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-20.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 20 m (65 ft), with screwable SACIQ-Plug	480045Y
<b>SACIQ-50.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 50 m (162 ft), with screwable SACIQ-Plug	480060Y
<b>SACIQ-100.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 100 m (330 ft), with screwable SACIQ-Plug	480062Y
<b>SACIQ-50 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft), with screwable SACIQ-Plug	480064VY
<b>SACIQ-Plug</b>	Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>SACIQ-25.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 25 m (82 ft), with screwable SACIQ-Plug	480066Y
<b>SACIQ-75.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 75 m (243 ft), with screwable SACIQ-Plug	480067Y
<b>Electrochemical D.O.Sensor TriOxmatic® Series</b>		
<b>TriOxmatic® 700 IQ</b>	Universal digital D.O. sensor for monitoring/controlling O <sub>2</sub> input in wastewater treatment plants for use with IQ SENSORNET. Supplied with accessory kit (ZBK 600) comprising: 2 exchange membrane heads (WP 600/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1x cathode cleaner (SF 300), without connection cable (SACIQ order separately)	201640Y
<b>TriOxmatic® 700 IQ SW</b>	Universal digital D.O. sensor for monitoring/controlling the O <sub>2</sub> input, in salt water design, for use with IQ SENSORNET. Supplied with accessory kit (ZBK 600) comprising: 2 exchange membrane heads (WP 600/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1 x cathode cleaner (SF 300), without connection cable (SACIQ order separately)	201641Y
<b>TriOxmatic® 701 IQ</b>	Fast response time digital D.O. sensor for use in wastewater treatment plants, e.g. denitrification, for use with IQ SENSORNET. Supplied with accessory kit (ZBK 25i) comprising: 2 exchange membrane heads (WP 25i/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1x cathode cleaner (SF 300), without connection cable (SACIQ order separately)	201644Y
<b>TriOxmatic® 702 IQ</b>	Digital D.O. sensor for trace level measurements in the ppb range, e.g. ultrapure water/boiler feed water, for use with IQ SENSORNET. Supplied with accessory kit (ZBK 25i) comprising: 2 exchange membrane heads (WP 25i/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1x cathode cleaner (SF 300), without connection cable (SACIQ order separately)	201646Y

Model	Description	Order No.
<b>Accessories for TriOxmatic® Sensors</b>		
<b>RA 600</b>	Cleaning head for TriOxmatic® 700 (IQ)/701(IQ)/702(IQ) sensors	202510Y
<b>ZBK 600</b>	Accessory kit for D.O. sensors TriOxmatic® 700 IQ series, complete set for regeneration of D.O. electrode. Included: 2 membranes (WP 600/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1x cathode cleaner (SF 300)	202620Y
<b>ZBK 25i</b>	Accessory kit for D.O. sensors TriOxmatic® 701(IQ)/702 (IQ) series, complete set for regeneration of D.O. electrode Included: 2 membranes (WP 25i/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1x cathode cleaner (SF 300)	202621Y
<b>WP 600/2</b>	Replacement membranes (2 pcs) for D.O. probes TriOxmatic® 700 (IQ) series	202850Y
<b>WP 25i/2</b>	Replacement membranes (2 pcs) for D.O. probes TriOxmatic® 701 (IQ)/702 (IQ) probes	202852Y
<b>SF 300</b>	Cathode cleaner (abrasive foil) for TriOxmatic® and CellOx® sensors	203680Y
<b>RL-AG/Oxi</b>	Cleaning solution for the silver anode of D.O. probes of TriOxmatic® 700 (IQ)/701 (IQ)/702 (IQ) series. 1 bottle with 50 ml	205200Y
<b>ELY/A</b>	Electrolyte for D.O. probes series TriOxmatic® 700 (IQ)/701 (IQ)/702 (IQ) Included: 1 bottle with 50 ml	205212Y
<b>MSK 600</b>	Membrane protective guard for TriOxmatic® 70X IQ probe	205251Y
<b>SACIQ-1.5</b>	Sensor cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-50</b>	Sensor cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041VY
<b>SACIQ-7.0</b>	Sensor cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>	Sensor cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-20.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 20 m (65 ft), with screwable SACIQ-Plug	480045Y
<b>SACIQ-50.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 50 m (162 ft), with screwable SACIQ-Plug	480060Y
<b>SACIQ-100.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 100 m (330 ft), with screwable SACIQ-Plug	480062Y
<b>SACIQ-50 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft), with screwable SACIQ-Plug	480064VY
<b>SACIQ-Plug</b>	Screwable plug for all SACIQ sensor cables	480065Y
<b>SACIQ-25.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 25 m (82 ft), with screwable SACIQ-Plug	480066Y
<b>SACIQ-75.0 SW</b>	Sensor cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 75 m (243 ft), with screwable SACIQ-Plug	480067Y

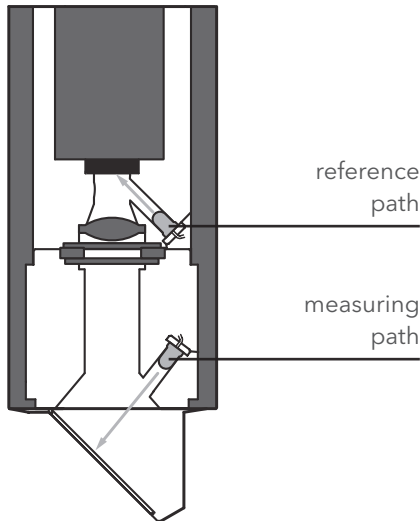
# FDO® 700 IQ

## IQ sensor connection

# TriOxmatic®



## EPRS-referencing method



## EPRS-referencing method

Measuring and reference path are identical which minimizes sensor drift

Technical Data Digital D.O. Sensors					
Type	TriOxmatic® 700 IQ (SW*)	TriOxmatic® 701 IQ	TriOxmatic® 702 IQ	FDO® 700 IQ (SW*)	FDO® 701 IQ (SW*)
Measuring method	Electrochemical			Optical	
Measuring range (25 °C)					
O <sub>2</sub> concentration	0.0 - 60.0 mg/l	0.00 - 20.00 mg/l	0 - 2000 µg/l	0 - 20.00 mg/l	0 - 20.00 ppm)
O <sub>2</sub> saturation	0 - 600%	0.0 - 60.0 mg/l 0.0 - 200.0% 0 - 600%	0.00 - 10.00 mg/l 0 - 10%	(0 - 20.00 ppm)	0 - 200.0 %
Resolution					
O <sub>2</sub> concentration	0.1 mg/l	0.01 mg/l	0.001 mg/l	0.01 mg/l	(0.01 ppm)
O <sub>2</sub> saturation	1%	0.1 mg/l 0.1% 1%	0.01 mg/l 0.1%	0.1 %	
Response time at 25 °C	T-90: 180 seconds	T-90: 30 seconds T-99: 90 seconds	T-90: 30 seconds T-99: 110 seconds	T-90: < 150 seconds T-95: < 200 seconds	T-90: < 60 seconds T-95: < 80 seconds
Minimum flow rate	0.05 min/seconds	0.23 min/seconds	0.3 min/seconds	No flow required	
SensCheck	SensLeck (700 IQ) SensReg (700 IQ/700 IQ SW)	SensLeck SensReg	- SensReg	Monitoring of membrane function	
Signal output	Digital			Digital	
Sensor memory for calibration values	Yes			Yes (factory calibrated)	
Power consumption	0.2 Watt			0.7 Watt	
Temp. measurement	Integrated NTC, 23 - 140 °F (-5 °C - +60 °C) ±0.5 °C				
Temp. compensation	32 - 140 °F (0 °C - +60 °C)			23 - 122 °F (-5 °C - +50° C)	
Maximum pressure	10 bar (incl. sensor connection cable)				
Ambient conditions	Operating temperature: 32 - 140 °F (0 °C - +60 °C)			23 - 122 °F (-5°C - +50°C)	23 - 104 °F (-5°C - +40°C)
	Storage temperature: 32 - 149 °F (0 °C - +65 °C)			-13 - 122 °F (-25°C - +50 °C)	-13 - 104 °F (-25°C - +40 °C)
Electrical connections	2-wire shield cable with quick connector to sensor				
Input power	Powered by IQ SENSORNET				
Translet voltag protection	Yes				
EMI/RFI Conformance	EN 61326, Class B, FCC Class A; Intended for indispensable operation				
Certifications	CE, cETLus				
Mechanical	Membrane head assembly, locking cap: POM Sensor body: 316 Ti stainless steel Protection rating: IP 68			Sensor cap, fixation: POM, PVC, silicone, PMMA housing shaft: VA steel 1.4571 protec- tion type IP 68	
Dimensions (length x diameter)	14.17 x 1.57 in. (360 x 40 mm); SW: 14.17 x 2.34 in. (360 x 59.5 mm)			15.75 x 1.57 in. (400 x 40 mm) SW: 15.75 x 2.34 in. (400 x 59.5 mm)	
	incl. connection thread of SACIQ sensor connection cable				
Weight (Approx.)	1.46 lb (660 g, without sensor connection cable); SW: 2.58 lb (1.170 g)			1.98 lb (900 g) SW: 3.31 lb (1.5 kg)	
Sensor cap lifetime	-	-	-	24 month warranty**	6 month warranty**
Warranty	2 years for sensor acc. § 10 AGB				

\* SW: Sensor in salt water design (with plastic armouring (POM)) \*\* for standard use under ambient conditions

Configuration Guide Digital D.O. Measurement		
		<b>IQ SENSORNET</b> <b>Systems 2020 XT/182</b>
	1. Measuring range 2. Response time T-90 3. SensCheck Function	
<b>TriOxmatic® 700 IQ</b> D.O. sensor for water/wastewater	1.: 0.0 - 60.0 mg/l; 0 - 600% 2.: < 180 s 3.: SensLeck; SensReg	<ul style="list-style-type: none"> <li>• Water/wastewater</li> <li>• Oxygenation</li> <li>• Fishfarming</li> <li>• Water monitoring</li> </ul>
<b>TriOxmatic® 701 IQ</b> D.O. sensor for water/wastewater	1.: 0.00 - 20.00 mg/l; 0.0 - 60.0 mg/l 0.0 - 200.0%; 0 - 600% 2.: < 30 s 3.: SensLeck; SensReg	<ul style="list-style-type: none"> <li>• Water/wastewater</li> <li>• Oxygenation</li> <li>• Residual D.O.</li> </ul>
<b>TriOxmatic® 702 IQ</b> Trace Level D.O. sensor	1.: 0 - 2000 µg/l; 0.00 - 10.00 mg/l; 0 - 110% 2.: < 30 s 3.: SensReg	<ul style="list-style-type: none"> <li>• Water/wastewater</li> <li>• ppb measuring range</li> <li>• Ultrapure water</li> <li>• Boiler feedwater</li> </ul>
<b>FDO® 700 IQ</b> D.O. sensor for water/wastewater	1.: 0.0 - 20.0 mg/l; 0 - 200% 2.: < 150 s 3.: -	<ul style="list-style-type: none"> <li>• Water/wastewater</li> <li>• Oxygenation</li> <li>• Fishfarming</li> <li>• Water monitoring</li> </ul>
<b>FDO® 700 IQ SW</b> D.O. sensor for water/wastewater	1.: 0.0 - 20.0 mg/l; 0 - 200% 2.: < 150 s 3.: -	<ul style="list-style-type: none"> <li>• Water/wastewater</li> <li>• Oxygenation</li> <li>• Saltwater</li> <li>• Fishfarming</li> </ul>

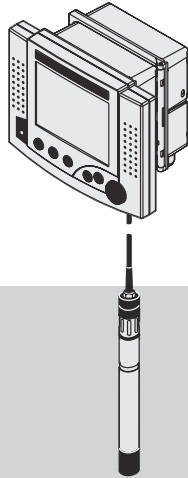
# System Configurations Digital Systems

## IQ SENSORNET System 2020 XT

The 2020 XT SensorNet system is configurable based on the application's needs. Here are just a few configuration examples.

### Example 1 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



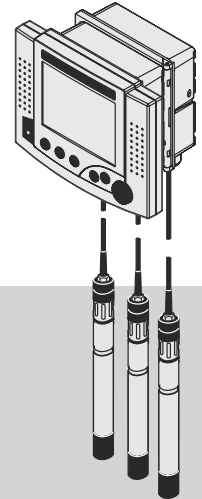
Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensor

Monitor  
with 3 analog outputs and 3 relays, for any parameters

### Example 2 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable



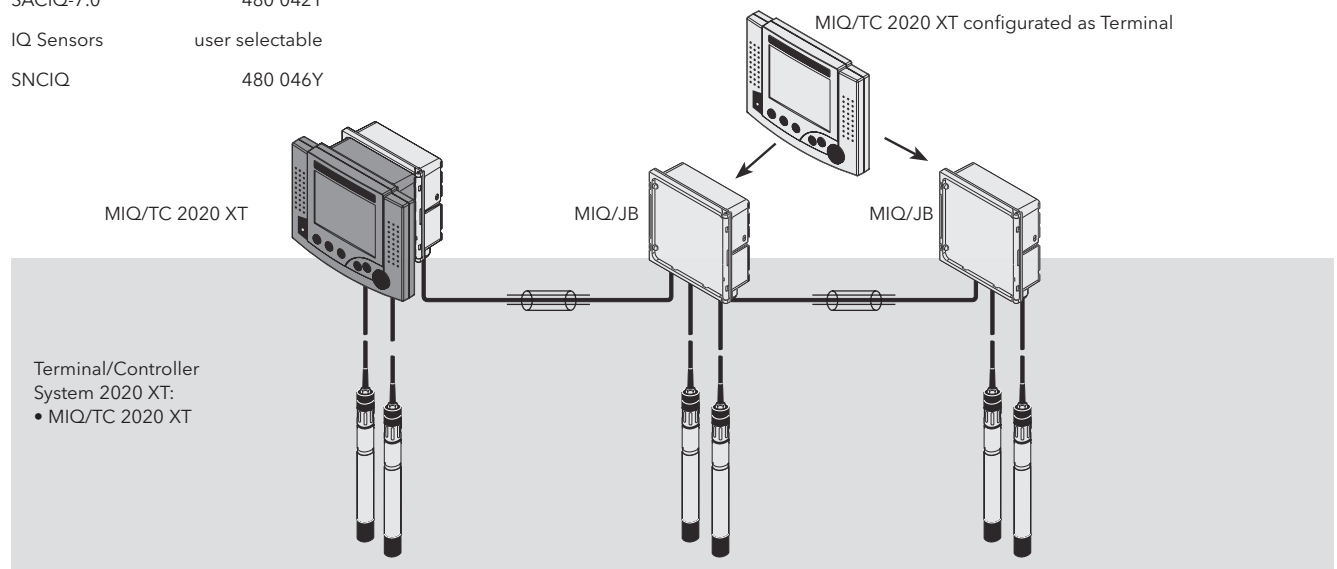
Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x Relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensors

Multi-parameter monitor  
for any 3 parameters, with 3 analog outputs and 3 relays

### Example 3 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT	470 000Y
MIQ/PS	480 004Y
MIQ/C6	480 015Y
MIQ/JB	480 008Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable
SNCIQ	480 046Y



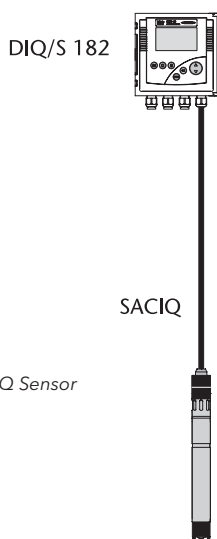
Branched system 2020 XT for up to 20 parameters. System with 6 analog outputs. Second, movable MIQ/TC 2020 XT terminal serves as an additional display unit for easy, on-site calibration with backup controller function.

# System Configurations Digital Systems

## IQ SENSORNET System 182

### Example 1

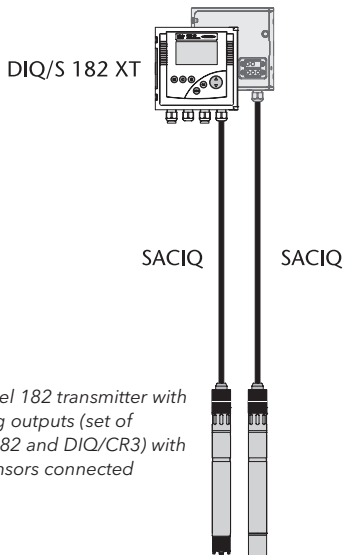
Configuration Example	Order No.
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



182 transmitter with 1 IQ Sensor connected

### Example 2

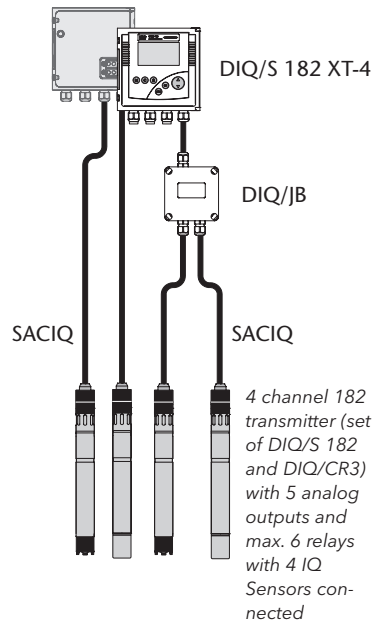
Configuration Example	Order No.
DIQ/S 182 XT	472 001Y
2 x SACIQ-7.0	480 042Y
2 IQ Sensors	user selectable



2 channel 182 transmitter with 4 analog outputs (set of DIQ/S 182 and DIQ/CR3) with 2 IQ Sensors connected

### Example 3

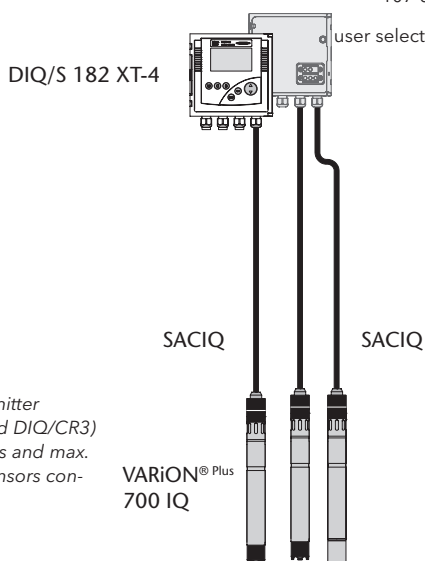
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
4 x SACIQ-7.0	480 042Y
DIQ/JB	472 005Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 4 IQ Sensors connected

### Single measuring point with analog outputs

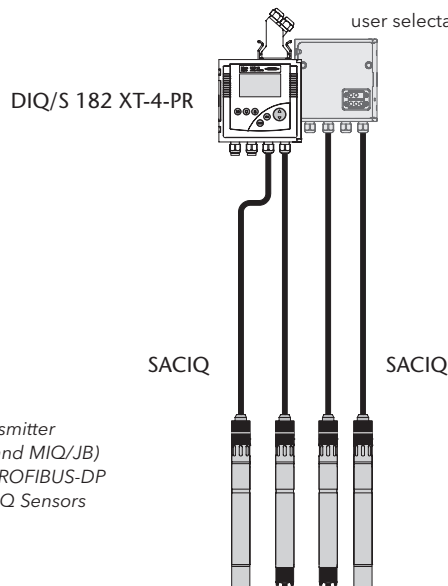
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
3 x SACIQ-7.0	480 042Y
VARION <sup>®</sup> Plus 700 IQ	107 066Y
2 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 3 IQ Sensors connected

### Single measuring point PROFIBUS / MODBUS

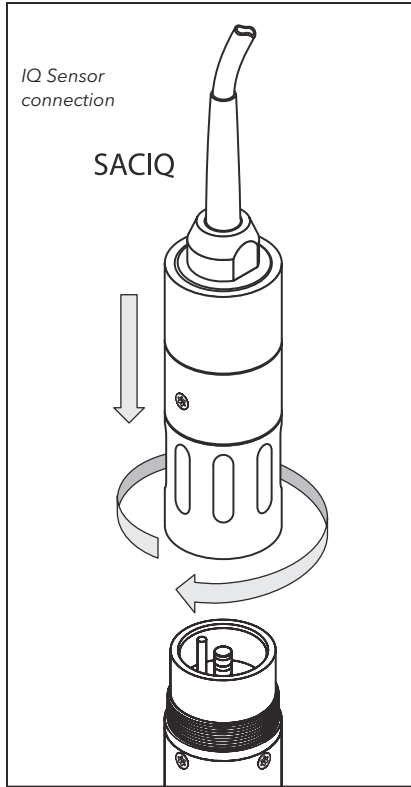
Configuration Example	Order No.
DIQ/S 182 XT-4-PR	472 017Y
4 x SACIQ-7.0	480 042Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and MIQ/JB) with 3 relays and PROFIBUS-DP connection with 4 IQ Sensors connected



Model	Description	Order No.
<b>pH/ORP Combination Electrodes</b>		
<b>SensoLyt® SEA</b>	pH combination electrode especially suited for measurements in heavily polluted wastewater, with armouring for use in SensoLyt® armatures. With watertight S7 plug head (IP 67)	109115Y
<b>SensoLyt® ECA</b>	pH combination electrode esp. suited for normally polluted wastewater (e.g. municipal wastewater) with armouring for use in SensoLyt® armatures. With watertight S7 plug head (IP 67)	109117Y
<b>SensoLyt® SEA-HP</b>	pH combination electrode with optimized armouring for use under high pressure/temperature conditions, for installation in SensoLyt® armatures. With watertight S7 plug head (IP 67)	109118Y
<b>SensoLyt® DWA</b>	pH combination electrode especially for drinking water applications, for installation in armatures of SensoLyt® 650/690/700 (IQ) series. With watertight S7 plug head (IP 67)	109119Y
<b>SensoLyt® PtA</b>	ORP combination electrode especially suited for measurements in heavily polluted wastewater, for installation in SensoLyt® armatures. With watertight S7 plug head (IP 67)	109125Y
<b>pH/ORP Sensor Assemblies</b>		
<b>SensoLyt® 700 IQ</b>	Robust digital pH/ORP sensor for pH/ORP electrodes SensoLyt® SEA/DWA/ECA/PtA for use with the IQ SENSORNET. Has built-in pre-amplifier and temperature sensor (NTC), and SensCheck function. SACIQ cable ordered separately.	109170Y
<b>SensoLyt® 700 IQ SW</b>	Robust digital pH/ORP sensor for SensoLyt® SEA/ DWA/ECA/PtA pH/ORP electrodes, in salt water design, for use with the IQ SENSORNET. Has built-in pre-amplifier and temperature sensor (NTC), and SensCheck function. SACIQ cable ordered separately.	109171Y
<b>Accessories pH/ORP</b>		
<b>SACIQ-1.5</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-SO</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041VY
<b>SACIQ-7.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-20.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 20 m (65 ft), with screwable SACIQ-Plug	480045Y
<b>SACIQ-50.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 50 m (162 ft), with screwable SACIQ-Plug	480060Y
<b>SACIQ-100.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 100 m (330 ft), with screwable SACIQ-Plug	480062Y
<b>SACIQ-SO SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft), with screwable SACIQ-Plug	480064VY
<b>SACIQ-Plug</b>	Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>SACIQ-25.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 25 m (82 ft), with screwable SACIQ-Plug	480066Y
<b>SACIQ-75.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 75 m (243 ft), with screwable SACIQ-Plug	480067Y



Technical Data Digital SensoLyt® Sensor Assemblies	
Type	SensoLyt® 700 IQ (SW*)
Integrated Preamplifier	Yes
Signal output	Digital
Sensor check function	Yes
Sensor stores calibration values	Yes
Power consumption	0.2 Watt
Temperature measurement	Integrated NTC, 23 - 140 °F (-5 - +60 °C)
Ambient conditions	Operating temperature: 32 - 140 °F (0 - +60 °C)
Electrical connections	2-wire shielded cable with quick fastener to sensor
Transient voltage protection	Yes
EMI/RFI Conformance	EN 61326 class B, FCC Class A Intended for indispensable operation
Certifications	CE, cETLus
Mechanical	Sensor body: 316 Ti stainless steel Protection cap: PVC Sensor holder: POM Protection rating: IP 68
Dimensions (L x D)	20 x 1.57 in. (508 x 40 mm); SW: 20.78 x 2.34 in. (515 x 59.5 mm)
Weight (without cable)	2.14 lb (970 g) SW: approx. 3.97 lb (1.800 g)
Warranty	2 years for defects in material and workmanship

\* SW: Sensor in salt water design (with plastic armouring (POM))

\*\* Electrode without armor, e.g. for direct use in flow-thru vessels

Configuration Guide Digital pH/ORP Measurement		
		IQ SENSORNET Systems 2020 XT/182
<b>Digital</b>	<b>SensoLyt® 700 IQ</b> with integrated pre-amplifier, integrated temperature measurement 32 - 140 °F (0 - 60 °C), SensorCheck and calibration value storage	Compatible electrodes: SEA: 2 - 12 pH SEA-HP: 4 - 12 pH DWA: 0 - 14 pH ECA: 2 - 12 pH PtA: ±2000 mV 32 - 140 °F (0 - 60 °C)
		<ul style="list-style-type: none"> <li>• Digital signal transmission</li> <li>• SensCheck</li> <li>• pH/ORP measurement in highly polluted wastewater (municipal/industrial) Type SEA</li> <li>• pH measurement in normally polluted wastewater (municipal/industrial) Type ECA</li> <li>• pH measurement in drinking water (DWA)</li> <li>• ORP measurement in highly polluted wastewater (municipal/industrial) Type PtA</li> <li>• Inline installation (SEA or SEA-HP)</li> </ul>

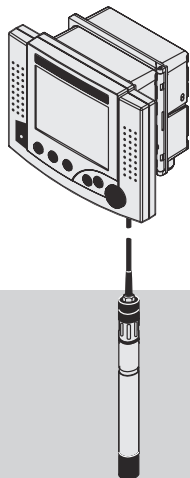
# System Configurations Digital Systems

## IQ SENSORNET System 2020 XT

The 2020 XT SensorNet system is configurable based on the application's needs. Here are just a few configuration examples.

### Example 1 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



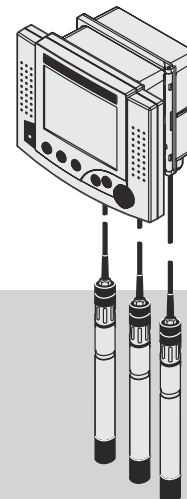
Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensor

Monitor  
with 3 analog outputs and 3 relays, for any parameters

### Example 2 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable



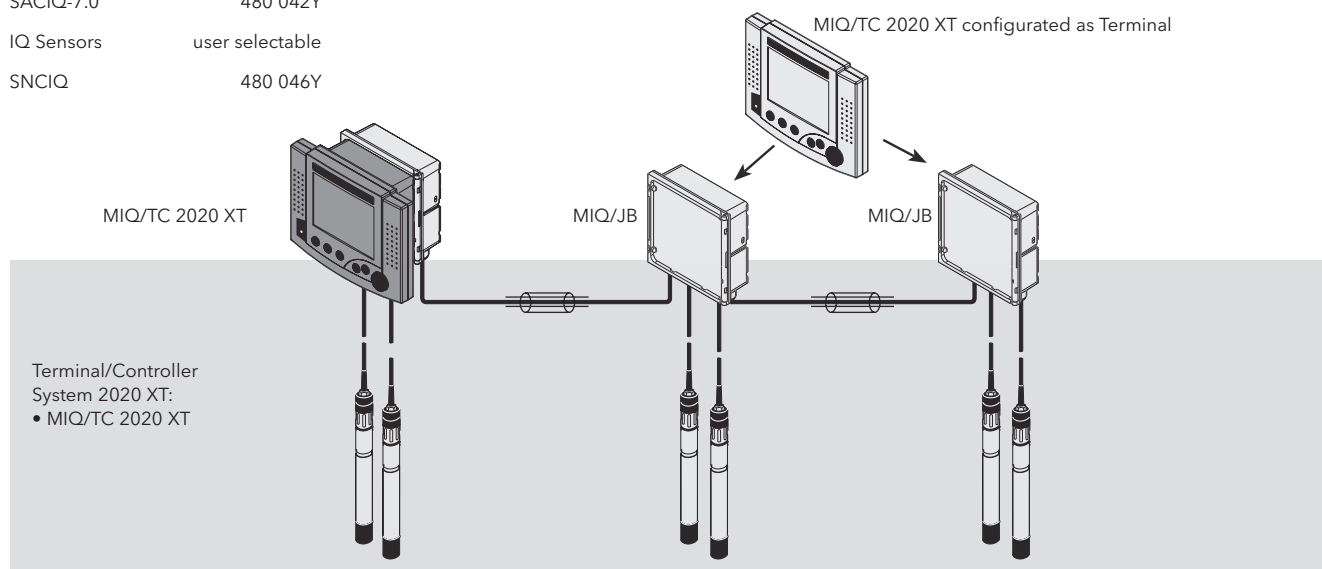
Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x Relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensors

Multi-parameter monitor  
for any 3 parameters, with 3 analog outputs and 3 relays

### Example 3 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT	470 000Y
MIQ/PS	480 004Y
MIQ/C6	480 015Y
MIQ/JB	480 008Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable
SNCIQ	480 046Y



Terminal/Controller  
System 2020 XT:  
• MIQ/TC 2020 XT

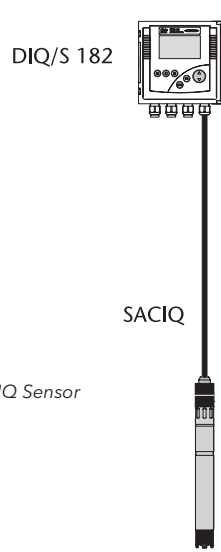
Branched system 2020 XT for up to 20 parameters. System with 6 analog outputs. Second, movable MIQ/TC 2020 XT terminal serves as an additional display unit for easy, on-site calibration with backup controller function.

# System Configurations Digital Systems

## IQ SENSORNET System 182

### Example 1

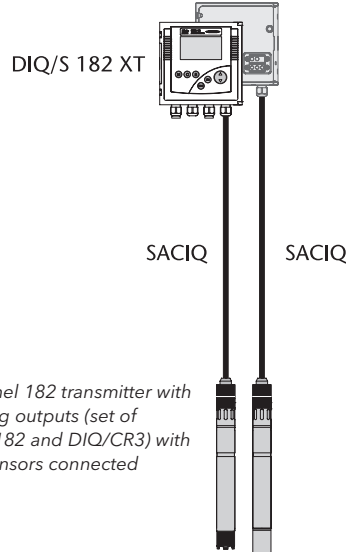
Configuration Example	Order No.
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



182 transmitter with 1 IQ Sensor connected

### Example 2

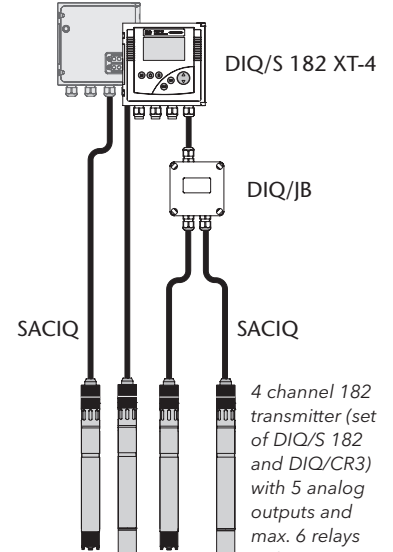
Configuration Example	Order No.
DIQ/S 182 XT	472 001Y
2 x SACIQ-7.0	480 042Y
2 IQ Sensors	user selectable



2 channel 182 transmitter with 4 analog outputs (set of DIQ/S 182 and DIQ/CR3) with 2 IQ Sensors connected

### Example 3

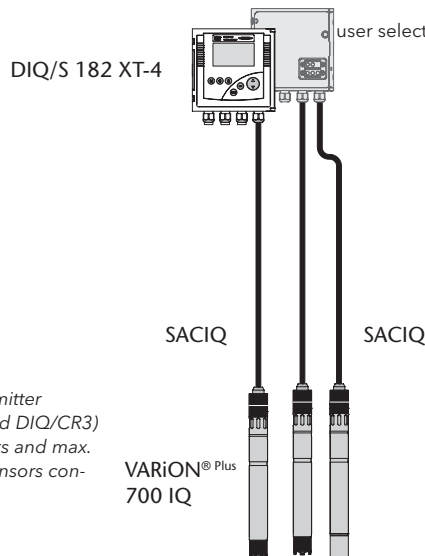
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
4 x SACIQ-7.0	480 042Y
DIQ/JB	472 005Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 4 IQ Sensors connected

### Single measuring point with analog outputs

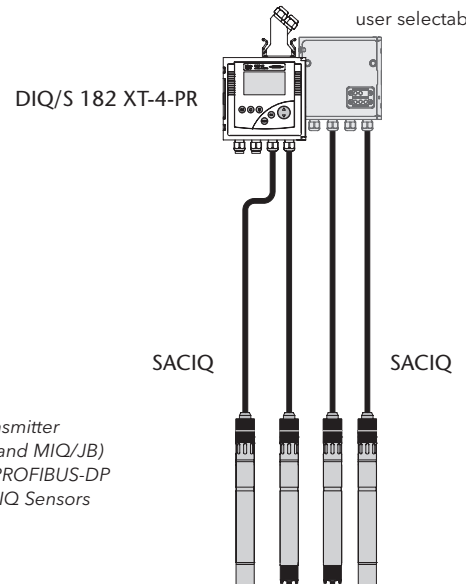
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
3 x SACIQ-7.0	480 042Y
VARION <sup>®</sup> Plus 700 IQ	107 066Y
2 IQ Sensors	user selectable



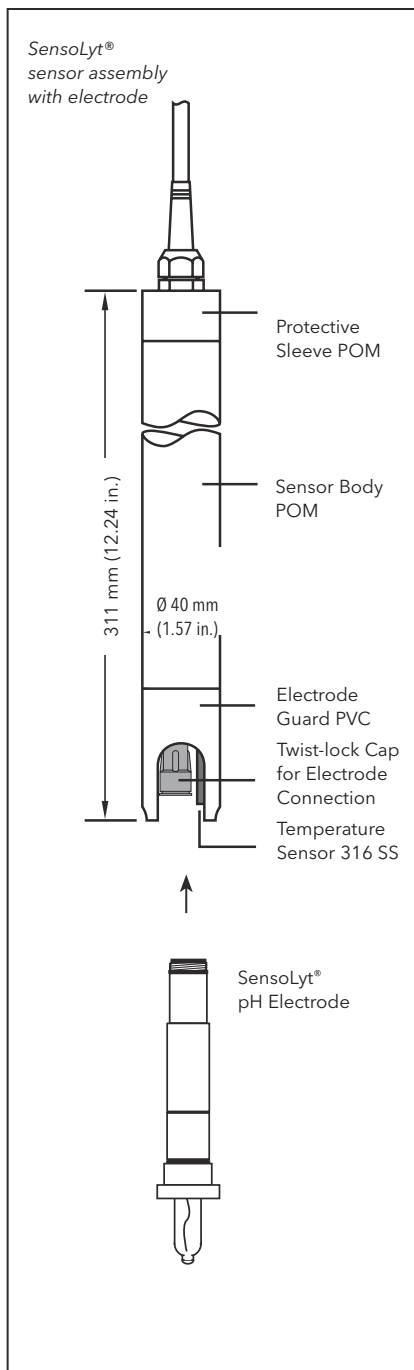
4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 3 IQ Sensors connected

### Single measuring point PROFIBUS / MODBUS

Configuration Example	Order No.
DIQ/S 182 XT-4-PR	472 017Y
4 x SACIQ-7.0	480 042Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and MIQ/JB) with 3 relays and PROFIBUS-DP connection with 4 IQ Sensors connected



### Technical Data SensoLyt® Combination Electrodes

Type	SEA**	SEA-HP	DWA**	ECA**	PtA**
<b>Electrode type</b>	Gel-polymer solid electrolyte double pinhole diaphragm		Modified gel electrolyte single pinhole diaphragm	Gel electrolyte single pinhole diaphragm	Gel-polymer solid electrolyte double pinhole diaphragm
<b>Operation conditions (Overpressure/temperature)</b>	10 bar / 20 °C (68 °F) 1 bar / 60 °C (140 °F) 0 - 60 °C (32 - 140 °F)	10 bar / 60 °C (140 °F) 0 - 60 °C (32 - 140 °F)	6 bar / 20 °C (68 °F) 1 bar / 60 °C (140 °F) 0 - 60 °C (32 - 140 °F)	6 bar / 20 °C (68 °F) 1 bar / 60 °C (140 °F) 0 - 60 °C (32 - 140 °F)	10 bar / 20 °C (68 °F) 1 bar / 60 °C (140 °F) 0...60 °C (32 - 140 °F)
<b>Measuring range</b>	2 - 12 pH	4 - 12 pH	0 - 14 pH	2 - 12 pH	±2000 mV***
<b>Mechanical</b>	Cylindrical glass membrane, armored version with PVC armouring (SEA-HP: POM), 2 Viton O-ring seals for mounting into SensoLyt® sensor assemblies				
<b>Dimensions</b>	Length 120 mm / 4.72 in. (without plug head)				
<b>Electrical connections</b>	watertight connector				
<b>Warranty</b>	6 months				

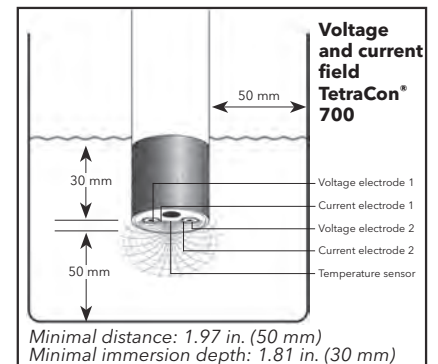
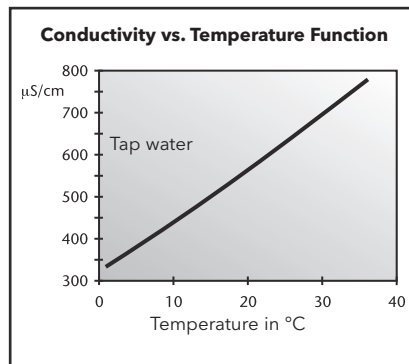
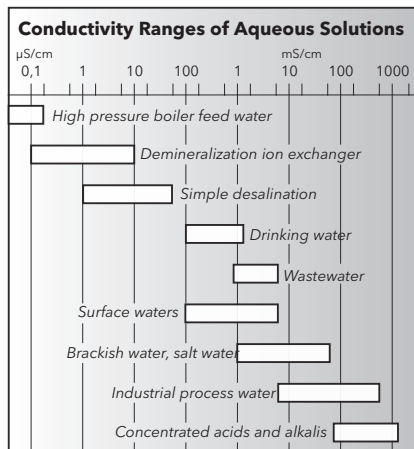
\* SW: Sensor in salt water design (with plastic armouring (POM))

\*\* Electrode without armor, e.g. for direct use in flow-thru vessels

# Conductivity

Parameter	Sensors														
	TriOxmatic® 700 IQ	FDO® 700 IQ	SensoLyt® 700 IQ	<b>TetraCon® 700 IQ</b>	VisoTurb® 700 IQ	ViSolid® 700 IQ	AmmoLyt® Plus 700	NitraLyt® Plus 700	VARiON® Plus 700	NitraVis® 700 IQ	CarboVis® 700 IQ	NiCaVis® 700 IQ	NiCaVis® 700 IQ NI	IFL® 700 IQ	P 700 IQ
Usable with System 2020 XT	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Usable with System 182	●	●	●	●	●	●	●	●	●	●	●	●	●		
Power consumption [W]	0.2	0.7	0.2	0.2	1.5	1.5	0.2	0.2	0.2	8.0	8.0	8.0	8.0	5.5	0.5
Parameter															
<b>Temperature</b>	●	●	●	●			●	●	●						
<b>Conductivity</b>				●											
<b>Salinity</b>				●											
<b>TDS</b>				●											

## Conductivity Measurement with TetraCon® 700



Model	Description	Order No.
<b>Conductivity Cells</b>		
<b>TetraCon® 700 IQ</b>	Digital 4 electrode conductivity cell, especially for heavily polluted wastewater, for use with the IQ SENSORNET System. With integrated temperature sensor, without cable (Please order SACIQ separately)	302500Y
<b>TetraCon® 700 IQ SW</b>	Digital 4 electrode conductivity cell, in saltwater design, suited for heavily polluted water, for use with the IQ SENSORNET. With integrated temperature sensor, without cable (Please order SACIQ separately)	302501Y
<b>Accessories Conductivity</b>		
<b>SACIQ-1.5</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-SO</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041VY
<b>SACIQ-7.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.,0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-20.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 20 m (65 ft), with screwable SACIQ-Plug	480045Y
<b>SACIQ-50.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 50 m (162 ft), with screwable SACIQ-Plug	480060Y
<b>SACIQ-100.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 100 m (330 ft), with screwable SACIQ-Plug	480062Y
<b>SACIQ-SO SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft), with screwable SACIQ-Plug	480064VY
<b>SACIQ-Plug</b>	Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>SACIQ-25.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 25 m (82 ft), with screwable SACIQ-Plug	480066Y
<b>SACIQ-75.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 75 m (243 ft), with screwable SACIQ-Plug	480067Y

<b>Technical Data Digital Conductivity Cells</b>	
<b>Model</b>	<b>TetraCon® 700 IQ (SW**)</b>
<b>Sensor Type</b>	4-electrode cell
<b>Measuring Range</b>	10 µS/cm - 500 mS/cm SAL: 0 - 70 TDS: 0 - 2000 mg/l
<b>Cell Constants</b>	K = 0.917 cm <sup>-1</sup> , ±1.5% (in free solution) K = 0.933 cm <sup>-1</sup> , with EBST 700-DU/N flow-thru adapter
<b>Signal Output</b>	Digital
<b>Power Consumption</b>	0.2 Watt
<b>Temperature Sensor</b>	Integrated NTC
<b>Temp. Measuring</b>	-5 - +60 °C (23 - 140 °F)
<b>Maximum Pressure</b>	10 bar
<b>Electrical Connections</b>	2-wire shielded cable with quick fastener to sensor
<b>Certifications</b>	CE, cETL, ETL
<b>Mechanical</b>	Sensor head: PVC Body: 316 Ti stainless steel Protection rating IP 68
<b>Dimensions</b> (length x diameter)	357 x 40 mm (14.06 x 1.57 in., incl. connection thread of SACIQ sensor connection cable) SW: 357 x 59.5 mm (14.06 x 2.34 in.)
<b>Weight</b> (without cable)	Approx. 660 g (1.46 lb)      SW: approx. 1.170 g (2.58 lb)
<b>Warranty</b>	2 years

\*\* SW: Sensor in salt water design (with plastic armouring (POM))

# System Configurations Digital Systems

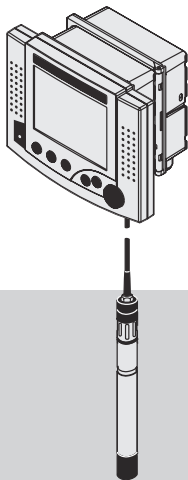
## IQ SENSORNET System 2020 XT

The 2020 XT SensorNet system is configurable based on the application's needs. Here are just a few configuration examples.

### Example 1 System 2020 XT

**Example configuration**    **Order No.**

MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

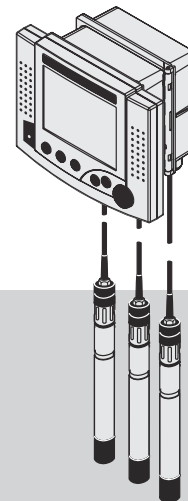
- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensor

Monitor  
with 3 analog outputs and 3 relays, for any parameters

### Example 2 System 2020 XT

**Example configuration**    **Order No.**

MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable



Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

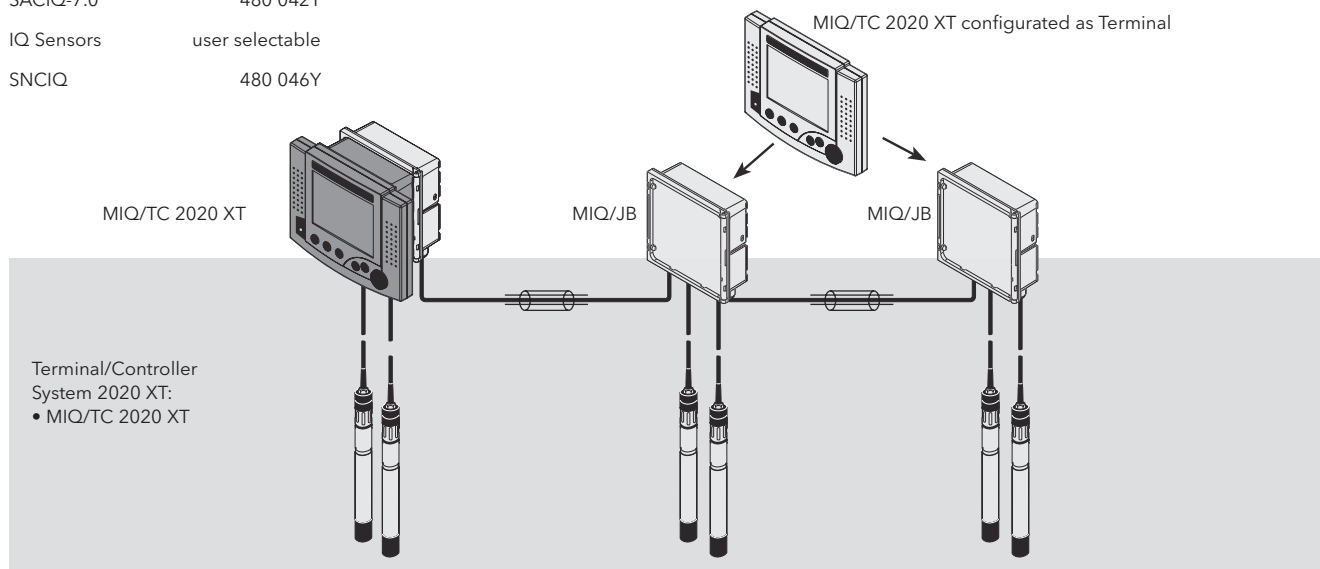
- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x Relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensors

Multi-parameter monitor  
for any 3 parameters, with 3 analog outputs and 3 relays

### Example 3 System 2020 XT

**Example configuration**    **Order No.**

MIQ/TC 2020 XT	470 000Y
MIQ/PS	480 004Y
MIQ/C6	480 015Y
MIQ/JB	480 008Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable
SNCIQ	480 046Y



Terminal/Controller  
System 2020 XT:  
• MIQ/TC 2020 XT

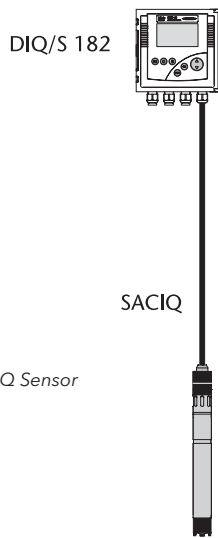
Branched system 2020 XT for up to 20 parameters. System with 6 analog outputs. Second, movable MIQ/TC 2020 XT terminal serves as an additional display unit for easy, on-site calibration with backup controller function.

# System Configurations Digital Systems

## IQ SENSORNET System 182

### Example 1

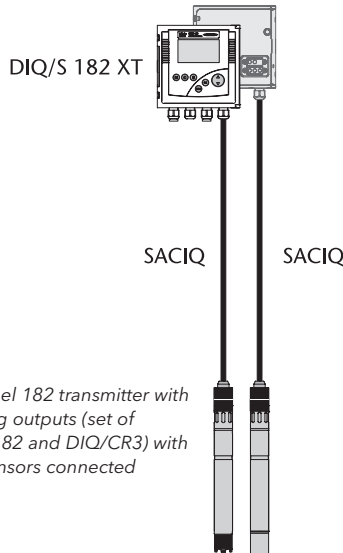
Configuration Example	Order No.
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



182 transmitter with 1 IQ Sensor connected

### Example 2

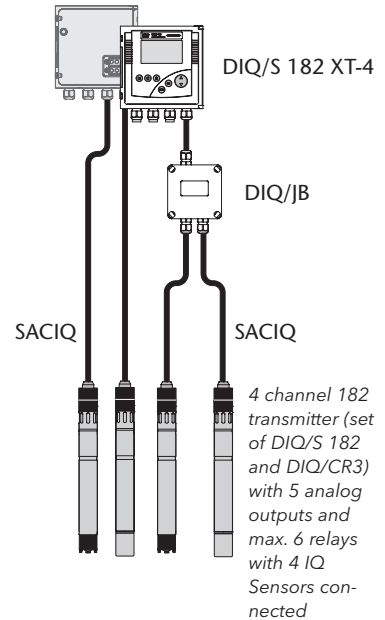
Configuration Example	Order No.
DIQ/S 182 XT	472 001Y
2 x SACIQ-7.0	480 042Y
2 IQ Sensors	user selectable



2 channel 182 transmitter with 4 analog outputs (set of DIQ/S 182 and DIQ/CR3) with 2 IQ Sensors connected

### Example 3

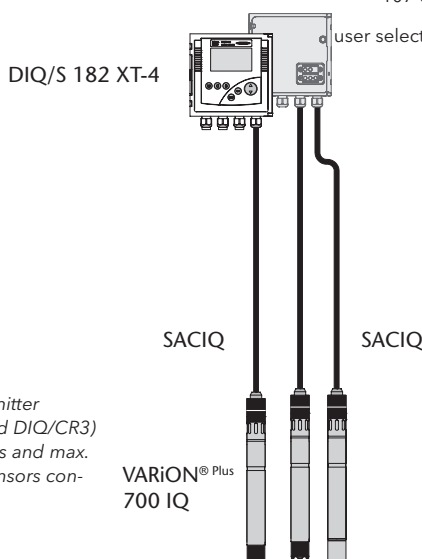
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
4 x SACIQ-7.0	480 042Y
DIQ/JB	472 005Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 4 IQ Sensors connected

### Single measuring point with analog outputs

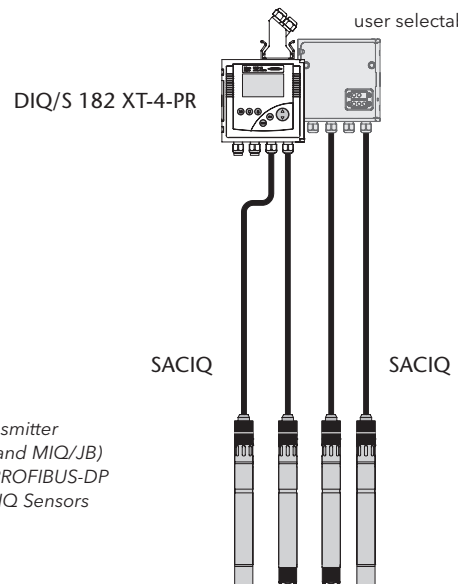
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
3 x SACIQ-7.0	480 042Y
VARION <sup>®</sup> Plus 700 IQ	107 066Y
2 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 3 IQ Sensors connected

### Single measuring point PROFIBUS / MODBUS

Configuration Example	Order No.
DIQ/S 182 XT-4-PR	472 017Y
4 x SACIQ-7.0	480 042Y
4 IQ Sensors	user selectable



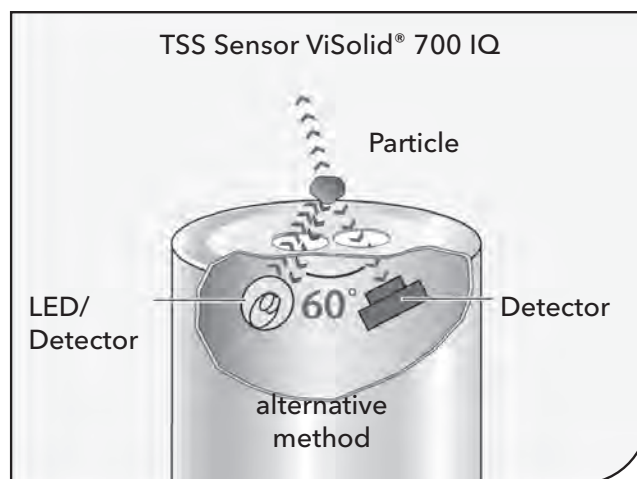
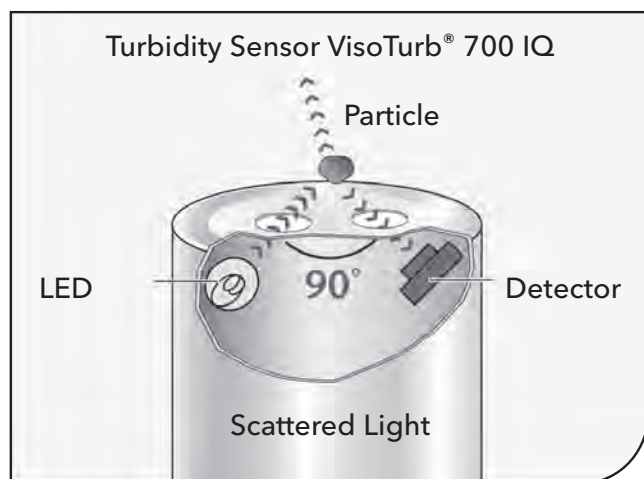
4 channel 182 transmitter (set of DIQ/S 182 and MIQ/JB) with 3 relays and PROFIBUS-DP connection with 4 IQ Sensors connected

# Turbidity/Suspended Solids

Parameter	Sensors														
	TriOxmatic® 700 IQ	FDO® 700 IQ	SensoLyt® 700 IQ	TetraCon® 700 IQ	VisoTurb® 700 IQ	ViSolid® 700 IQ	AmmoLyt® Plus 700	NitraLyt® Plus 700	VARION® Plus 700	NitraVis® 700 IQ	CarboVis® 700 IQ	NiCaVis® 700 IQ	NiCaVis® 700 IQ NI	IFL® 700 IQ	P 700 IQ
Usable with System 2020 XT	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Usable with System 182	●	●	●	●	●	●	●	●	●	●	●	●	●		
Power consumption [W]	0.2	0.7	0.2	0.2	1.5	1.5	0.2	0.2	0.2	8.0	8.0	8.0	8.0	5.5	0.5
Parameter															
<b>Turbidity</b> (optical)					●										
<b>TSS</b> (optical)						●				●	●				

Model	Description	Order No.
<b>Turbidity/Suspended Solids Sensors</b>		
<b>VisoTurb® 700 IQ</b>	Digital turbidity sensor for drinking water and wastewater (UltraClean™ ultrasonic cleaning) for use with the IQ SENSORNET system. Please order connection cable SACIQ separately.	600010Y
<b>VisoTurb® 700 IQ SW</b>	Digital turbidity sensor for industrial and saltwater applications (UltraClean™ ultrasonic) for use with the IQ SENSORNET system. Please order connection cable separately.	600011Y
<b>ViSolid® 700 IQ</b>	Digital suspended solids sensor for water/wastewater/sludge (UltraClean™ ultrasonic) for use with the IQ SENSORNET system. Please order connection cable SACIQ separately.	600012Y
<b>ViSolid® 700 IQ SW</b>	Digital suspended solids sensor for industrial and saltwater applications (UltraClean™ ultrasonic) for use with the IQ SENSORNET system. Please order connection cable separately.	600013Y
<b>Turbidity/Suspended Solids Accessories</b>		
<b>SACIQ-1.5</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-SO</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041Y
<b>SACIQ-7.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-20.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 20 m (65 ft), with screwable SACIQ-Plug	480045Y
<b>SACIQ-50.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 50 m (162 ft), with screwable SACIQ-Plug	480060Y
<b>SACIQ-100.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 100 m (330 ft), with screwable SACIQ-Plug	480062Y
<b>SACIQ-SO SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft), with screwable SACIQ-Plug	480064Y
<b>SACIQ-Plug</b>	Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>SACIQ-25.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 25 m (82 ft), with screwable SACIQ-Plug	480066Y
<b>SACIQ-75.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 75 m (243 ft), with screwable SACIQ-Plug	480067Y

Turbidity/Suspended Solids



Technical Data VisoTurb® 700 IQ (SW*)			
Parameter	FNU; NTU; TEF	mg/l SiO <sub>2</sub> ; ppm SiO <sub>2</sub>	g/l TSS
<b>Measuring Range</b>	0.05 - 4000 FNU	0.1 - 4000 mg/l SiO <sub>2</sub>	0.0001 - 400 g/l TSS
<b>Typical Applications</b>	Drinking water, wastewater plant: effluent, aeration basin ≤3 g/l TSS		
<b>Calibration</b>	Factory calibration with formazine	Factory calibration with SiO <sub>2</sub>	Calibration by user, (TSS regulations in compliance with DIN 38414)
<b>Process variation coefficient</b> according to DIN 38402 part 51	<1% (up to 2000 FNU)		
<b>Repeatability according to</b> DIN ISO 5725 or DIN 1319	< 0.015% or ≥ 0.006 FNU		
<b>Resolution</b>	Auto ranging 0.001 - 1 FNU	0.001 mg/l - 0.01 g/l	0.001 mg/l - 0.1 g/l
<b>Cleaning System</b>	UltraClean™ ultrasound cleaning system		
<b>SensCheck</b>	Detects optic contamination and failure of cleaning system.		
<b>Ambient Conditions</b>	Operating temperature: 32 - 140 °F (0 - 60 °C); UltraClean™ ultrasonic cleaning system: 32 - 104 °F (0 - 40 °C) (overheating protection); Storage temperature: 23 - 149 °F (-5 - +65 °C)		
<b>Measuring Principle</b>	Nephelometric principle in compliance with EN 27027 and ISO 7027		
<b>Mechanical Components</b>	Measuring window: Sapphire; Sensor body: V4A stainless steel 1.4571; Protection rating: IP 68 SW: Measuring window: Sapphire; Sensor-body: Titanium, POM; Protection rating: IP 68		
<b>Pressure Resistance</b>	Maximum 10 bar (incl. sensor connection cable)		
<b>Power Consumption</b>	1.5 Watt		
<b>Dimensions</b>	14.37 x 1.57 in. (365 x 40 mm, length x diameter), incl. sensor connection cable SACIQ		
<b>Weight</b>	Approx. 2.18 lb (990 g, without cable)		
<b>Warranty</b>	2 years		

Technical Data ViSolid® 700 IQ (SW*)			
Parameter	g/l SiO <sub>2</sub> / % SiO <sub>2</sub>		g/l TSS / % TSS
<b>Measuring Range</b>	0.01 - 300 g/l 0.001 - 30%	SiO <sub>2</sub> SiO <sub>2</sub>	0.003 - 1000 g/l 0.0003 - 100% TSS TSS
<b>Typical Applications</b>	Matrix type 1: aeration basin of wastewater plants even with >3 g/l TSS; return-sludge Matrix type 2: digested sludge		
<b>Calibration</b>	Typical sludge characteristics stored: matrix type 1, matrix type 2 Calibration by user: adjustment via correction factor, 1-point or multi-point calibration possible		
<b>Process variation coefficient</b> according to DIN 38402 part 51	<2% for matrix type 1, <4% for matrix type 2		
<b>Resolution</b>	Auto ranging 0.1 mg/l - 1 g/l		0.1 mg/l - 1 g/l
<b>Cleaning System</b>	UltraClean™ ultrasound cleaning system		
<b>SensCheck</b>	Detects optic contamination and failure of cleaning system.		
<b>Ambient Conditions</b>	Operating temperature: 32 - 140 °F (0 - 60 °C); Storage temperature: 23 - 149 °F (-5 - +65 °C)		
<b>Mechanical Components</b>	Measuring window: Sapphire; Sensor body: V4A stainless steel 1.4571; Protection rating: IP 68 SW: Measuring window: Sapphire; Sensor-body: Titanium, POM; Protection rating: IP 68		
<b>Pressure Resistance</b>	Maximum 10 bar (incl. sensor connection cable)		
<b>Power Consumption</b>	1.5 Watt		
<b>Dimensions</b>	14.37 x 1.57 in. (365 x 40 mm, length x diameter), incl. sensor connection cable SACIQ		
<b>Weight</b>	Approx. 2.18 lb (990 g, without cable)		
<b>Warranty</b>	2 years		

\* SW: Sensor in salt water design (with plastic armouring (POM))

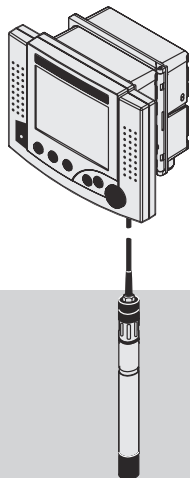
# System Configurations Digital Systems

## IQ SENSORNET System 2020 XT

The 2020 XT SensorNet system is configurable based on the application's needs. Here are just a few configuration examples.

### Example 1 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



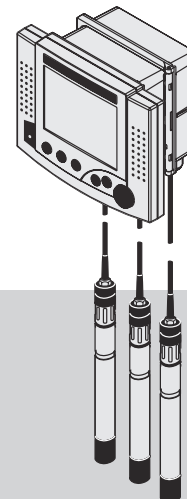
Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensor

Monitor  
with 3 analog outputs and 3 relays, for any parameters

### Example 2 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable



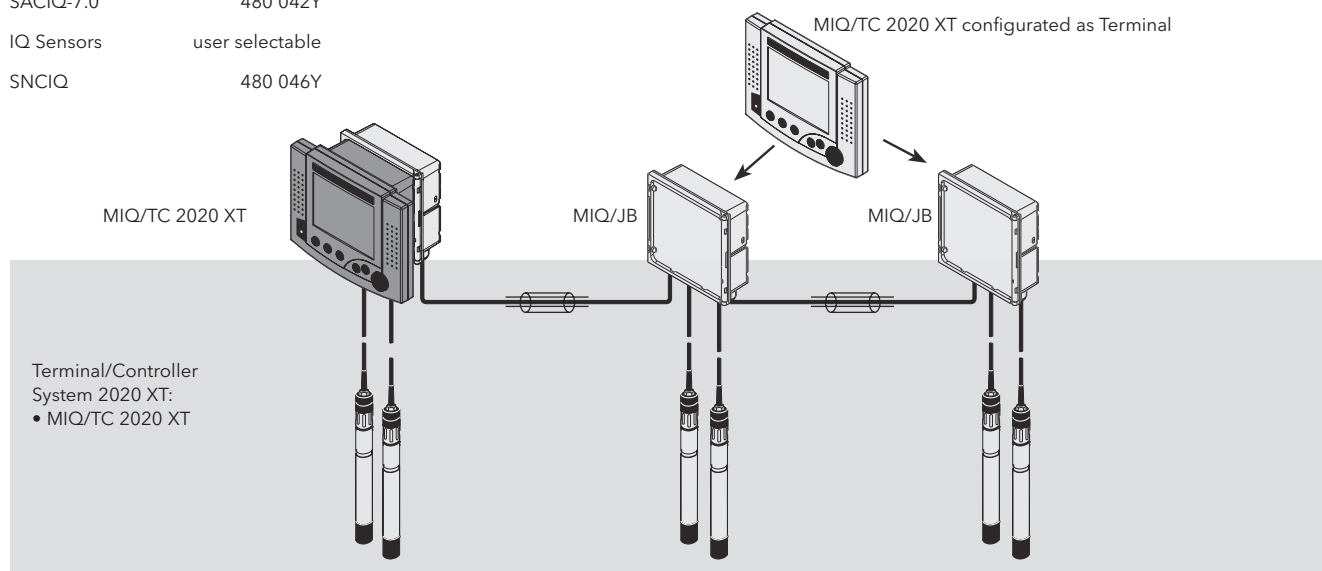
Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x Relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensors

Multi-parameter monitor  
for any 3 parameters, with 3 analog outputs and 3 relays

### Example 3 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT	470 000Y
MIQ/PS	480 004Y
MIQ/C6	480 015Y
MIQ/JB	480 008Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable
SNCIQ	480 046Y



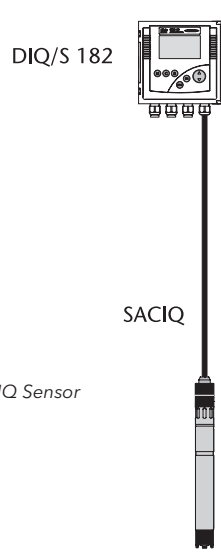
Branched system 2020 XT for up to 20 parameters. System with 6 analog outputs. Second, movable MIQ/TC 2020 XT terminal serves as an additional display unit for easy, on-site calibration with backup controller function.

# System Configurations Digital Systems

## IQ SENSORNET System 182

### Example 1

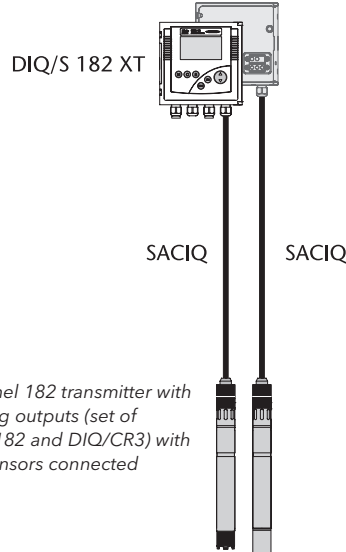
Configuration Example	Order No.
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



182 transmitter with 1 IQ Sensor connected

### Example 2

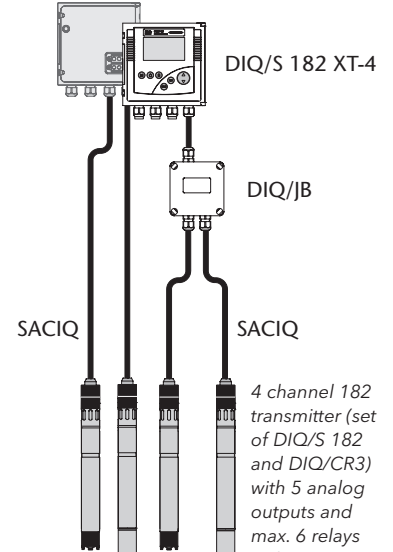
Configuration Example	Order No.
DIQ/S 182 XT	472 001Y
2 x SACIQ-7.0	480 042Y
2 IQ Sensors	user selectable



2 channel 182 transmitter with 4 analog outputs (set of DIQ/S 182 and DIQ/CR3) with 2 IQ Sensors connected

### Example 3

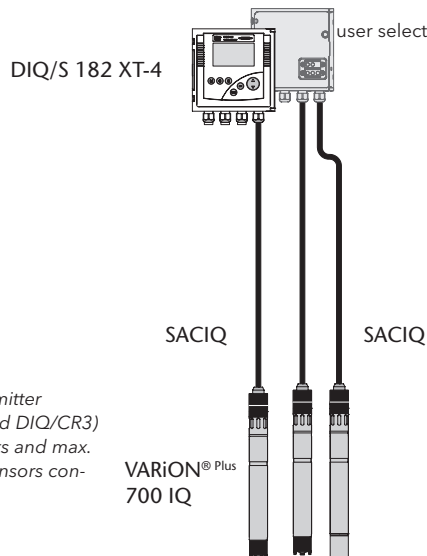
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
4 x SACIQ-7.0	480 042Y
DIQ/JB	472 005Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 4 IQ Sensors connected

### Single measuring point with analog outputs

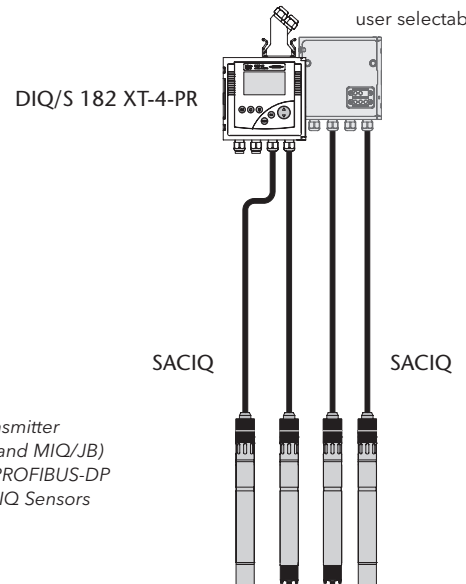
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
3 x SACIQ-7.0	480 042Y
VARION <sup>®</sup> Plus 700 IQ	107 066Y
2 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 3 IQ Sensors connected

### Single measuring point PROFIBUS / MODBUS

Configuration Example	Order No.
DIQ/S 182 XT-4-PR	472 017Y
4 x SACIQ-7.0	480 042Y
4 IQ Sensors	user selectable



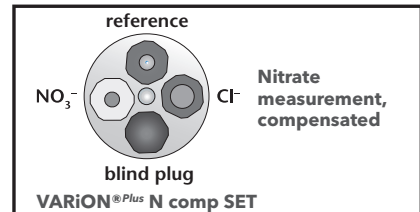
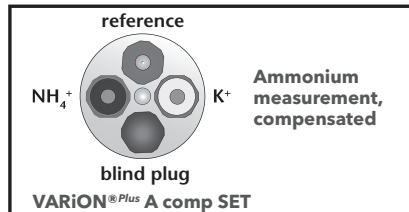
4 channel 182 transmitter (set of DIQ/S 182 and MIQ/JB) with 3 relays and PROFIBUS-DP connection with 4 IQ Sensors connected

# Nitrogen

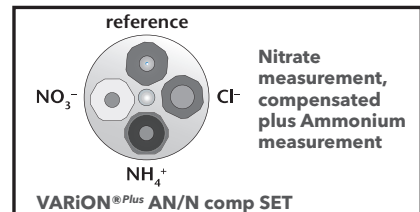
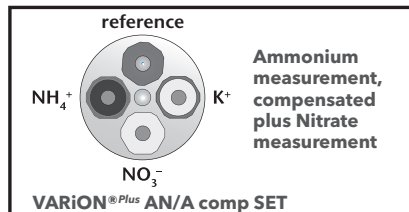
Sensors															
Parameter	TriOxmatic® 700 IQ	FDO® 700 IQ	Sensolyt® 700 IQ	TetraCon® 700 IQ	VisoTurb® 700 IQ	ViSolid® 700 IQ	Ammolyt® Plus 700 IQ	NitraLyt® Plus 700 IQ	VARION® Plus 700 IQ	NitraVis® 700 IQ	CarboVis® 700 IQ	NiCaVis® 700 IQ	NiCaVis® 700 IQ NI	IFL® 700 IQ	P 700 IQ
Usable with System 2020 XT															
Usable with System 182															
Power consumption [W]	0.2	0.7	0.2	0.2	1.5	1.5	0.2	0.2	0.2	8.0	8.0	8.0	8.0	5.5	0.5
Parameter															
<b>Temperature</b>															
<b>TSS</b> (optical)															
<b>Ammonium</b> (ion-selective)															
<b>Nitrate</b> (ion-selective)															
<b>Nitrate</b> (optical/spectral)															
<b>Nitrite</b> (optical/spectral)															
<b>Potassium</b> (ion-selective)															
<b>Chloride</b> (ion-selective)															

**VARION® 700 IQ**  
Possible configurations:

*NH<sub>4</sub> or NO<sub>3</sub>*



*Double sensors*  
*NH<sub>4</sub> & NO<sub>3</sub>*



Model	Description	Order No.
<b>Combination sensor for ammonium and nitrate ISE</b>		
<b>VARiON®Plus sets and standard solution</b>		
<b>VARiON®/ES-1</b>	Multiple standard solution 1 (low concentration) for VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ; Volume: 1000 ml	107050Y
<b>VARiON®/ES-2</b>	Multiple standard solution 2 (high concentration) for VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ; Volume: 1000 ml	107052Y
<b>VARiON®Plus A comp SET NH4</b>	Robust digital probe for ion-selective measurement of ammonium and nitrate (in-situ) for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ, reference electrode VARiON® Ref, ammonium electrode VARiON®Plus NH4 and compensation electrode VARiON®Plus K (potassium). Please order SACIQ cable separately.	107060Y
<b>VARiON®Plus N comp SET NO3</b>	Robust digital probe for ion-selective measurement of ammonium and nitrate (in-situ) for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ, reference electrode VARiON® Ref, nitrate electrode VARiON®Plus NO3 and compensation electrode VARiON®Plus Cl (chloride). Please order SACIQ cable separately.	107062Y
<b>VARiON®Plus AN/A comp SET NH4 &amp; NO3</b>	Robust digital probe for ion-selective measurement of ammonium and nitrate (in-situ) for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ, reference electrode VARiON® Ref, measuring electrodes VARiON®Plus NH4 and VARiON®Plus NO3, compensation electrode VARiON®Plus K (potassium). Please order SACIQ cable separately.	107066Y
<b>VARiON®Plus AN/N comp SET NH4 &amp; NO3</b>	Robust digital probe for ion-selective measurement of ammonium and nitrate (in-situ) for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ, reference electrode VARiON® Ref, measuring electrodes VARiON®Plus NH4 and VARiON®Plus NO3, compensation electrode VARiON®Plus Cl (chloride). Please order SACIQ cable separately.	107068Y
<b>VARiON®Plus separate deliveries</b>		
<b>VARiON®Plus 700 IQ</b>	Robust digital probe for the ion-selective measurement (in-situ) of ammonium and nitrate, for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ with 4 blind plugs, protective device and calibration vessel. Please order electrodes separately.	107040Y
<b>VARiON® Ref</b>	Reference electrode for mounting into VARiON®Plus 700 IQ, NitraLyt® Plus, AmmoLyt® Plus probe	107042Y
<b>VARiON®Plus NH4</b>	Ammonium electrode for VARiON®Plus 700 IQ and AmmoLyt® Plus/AmmoLyt®, measuring range: 0.1 - 1000 mg/l NH4-N	107044Y
<b>VARiON®Plus NO3</b>	Nitrate electrode for VARiON®Plus 700 IQ and NitraLyt®Plus/ NitraLyt®, Measuring range: 0.1 - 1000 mg/l NO3-N	107045Y
<b>VARiON®Plus K</b>	Potassium electrode for VARiON®Plus 700 IQ and for AmmoLyt®Plus, measuring range: 1 - 1000 mg/l K+	107046Y
<b>VARiON®Plus Cl</b>	Chloride electrode for VARiON®Plus 700 IQ and for NitraLyt® Plus, measuring range: 1-1000 mg/l Cl-	107047Y
<b>VARiON®Plus / AmmoLyt®Plus / NitraLyt®Plus Accessories</b>		
<b>VARiON® 700 IQ-SK</b>	Protection device for ISE electrodes, mountable on VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ	107056Y
<b>VARiON®/Epack</b>	Spare part set for VARiON®Plus 700 IQ. Consisting of 1 special box spanner for mounting and dismounting of electrodes, 1 blind plug, 3 spare O-ring seals for electrodes and 1 vessel for wet storage of electrodes.	107057Y
<b>VARiON® Case</b>	Maintenance and calibration case for VARiON®Plus 700 IQ. With special foam inlay for secure storing of the VARiON®Plus 700 IQ, wet storage of the electrodes, transport of the calibration vessel, standard solutions and additional small parts.	107058Y
<b>Ammonium ISE</b>		
<b>AmmoLyt®Plus sets and standard solutions</b>		
<b>VARiON®/ES-1</b>	Multiple standard solution 1 (low concentration) for VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ; Volume: 1000 ml	107050Y
<b>VARiON®/ES-2</b>	Multiple standard solution 2 (high concentration) for VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ; Volume: 1000 ml	107052Y
<b>AmmoLyt® Plus 700 IQ</b>	Robust digital ammonium probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: Electrodes VARiON® Ref, VARiON®Plus NH4, VARiON®Plus K and SACIQ connection cable (Please order separately).	107070Y
<b>AmmoLyt® Plus SET</b>	Robust digital ammonium probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system, delivered with VARiON® Ref and VARiON®Plus NH4 electrodes. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: electrode VARiON®Plus K und SACIQ connection cable. (Please order separately)	107071Y
<b>AmmoLyt® Plus SET/Comp</b>	Robust digital ammonium probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system, delivered with VARiON® Ref, VARiON®Plus NH4 and VARiON®Plus K electrodes. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: SACIQ connection cable (Please order separately).	107072Y

Model	Description	Order No.
<b>AmmoLyt®Plus 700 IQ Accessories</b>		
<b>VARiON® Ref</b>	Reference electrode for mounting into VARiON®Plus 700 IQ, NitraLyt® Plus, AmmoLyt® Plus probe	107042Y
<b>VARiON®Plus NH4</b>	Ammonium electrode for VARiON®Plus 700 IQ and AmmoLyt® Plus/AmmoLyt®, measuring range: 0.1 - 1000 mg/l NH4-N	107044Y
<b>VARiON®Plus K</b>	Potassium electrode for VARiON®Plus 700 IQ and for AmmoLyt®Plus, measuring range: 1 - 1000 mg/l K+	107046Y
<b>Nitrate ISE</b>		
<b>NitraLyt®Plus sets und standard solutions</b>		
<b>VARiON®/ES-1</b>	Multiple standard solution 1 (low concentration) for VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ; Volume: 1000 ml	107050Y
<b>VARiON®/ES-2</b>	Multiple standard solution 2 (high concentration) for VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ; Volume: 1000 ml	107052Y
<b>NitraLyt®Plus 700 IQ</b>	Robust digital nitrate probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: Electrodes VARiON® Ref, VARiON®Plus NO3, VARiON®Plus Cl and SACIQ connection cable (Please order separately).	107080Y
<b>NitraLyt®Plus SET</b>	Robust digital nitrate probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system, delivered with VARiON® Ref and VARiON®Plus NO3 electrodes. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: Electrode VARiON®Plus Cl and SACIQ connection cable (Please order separately).	107081Y
<b>NitraLyt®Plus SET/Comp</b>	Robust digital nitrate probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system, delivered with VARiON® Ref, VARiON®Plus NO3 and VARiON®Plus Cl electrodes. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: SACIQ connection cable (Please order separately).	107082Y
<b>NitraLyt®Plus 700 IQ Accessories</b>		
<b>VARiON® Ref</b>	Reference electrode for mounting into VARiON®Plus 700 IQ, NitraLyt® Plus, AmmoLyt® Plus probe	107042Y
<b>VARiON®Plus NO3</b>	Nitrate electrode for VARiON®Plus 700 IQ and NitraLyt®Plus/ NitraLyt®, Measuring range: 0.1 - 1000 mg/l NO3-N	107045Y
<b>VARiON®Plus Cl</b>	Chloride electrode for VARiON®Plus 700 IQ and for NitraLyt® Plus, measuring range: 1-1000 mg/l Cl-	107047Y
<b>Accessories ISE</b>		
<b>DIQ/CHV</b>	Dual IQ/Cleaning Head Valve for automatic air cleaning controlled by a relay, for system 182 (relay and compressed air supply external)	472007Y
<b>Cleaning Air Box - 115 VAC</b>	Air pressure compressor for online probes. For easy wall mounting, switchable by a relay to provide cleaning systems with air pressure. 115 VAC. No additional CHV PLUS needed.	480017Y
<b>MIQ/CHV PLUS</b>	Module IQ/Cleaning Head Valve, for automatic air cleaning controlled by a relay or the IQ SENSORNET (relay and compressed air supply external)	480018Y
<b>SACIQ-1.5</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-SO</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041VY
<b>SACIQ-7.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-Plug</b>	Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>CH</b>	Cleaning head for on-line sensors with 40 mm diameter. Supplied with 15 m (49 ft) compressed air tube.	900107Y
<b>Nitrate/Nitrite Spectral Probes</b>		
<b>NitraVis® 701 IQ</b>	Optical nitrate probe with spectral processing of UV-VIS range, for measurement in inlet/BNR part of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481044Y
<b>NitraVis® 701 IQ TS</b>	Optical nitrate/TSS probe with spectral processing of UV-VIS range, for in-situ measurement in inlet/ BNR part of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481045Y
<b>NitraVis® 705 IQ</b>	Optical nitrate probe with spectral processing of UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481046Y
<b>NitraVis® 705 IQ TS</b>	Optical nitrate/TSS probe with spectral processing of UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481047Y

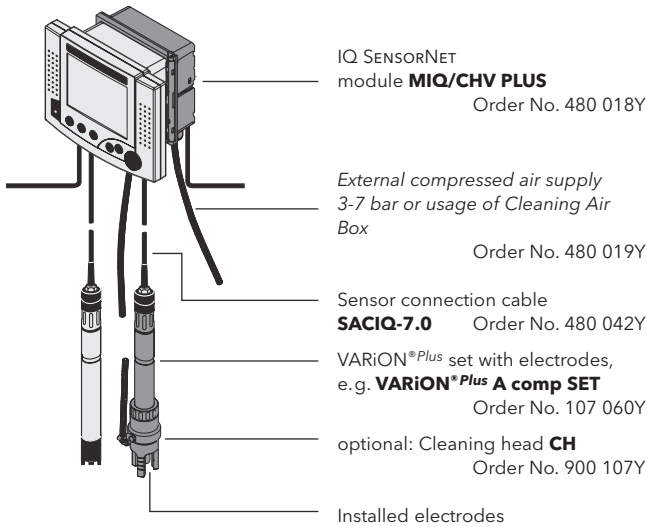
Model		Description	Order No.
<b>NiCaVis® 705 IQ</b>		Optical nitrate and COD/TOC/DOC/BOD/SAC probe, with spectral processing of the UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481052Y
<b>NiCaVis® 701 IQ NI</b>	<i>New</i>	UV Sensor for measurement of Nitrite, Nitrate, CODtotal, CODsoluble, TOC, BOD, DOC, SACtotal, SAC soluble, and UVT254 in the influent, biological tank and effluent of municipal waste water treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately)	481054Y
<b>NiCaVis® 705 IQ NI</b>	<i>New</i>	UV Sensor for measurement of Nitrite, Nitrate, CODtotal, CODsoluble, TOC, BOD, DOC, SACtotal, SACsoluble, and UVT254 in the effluent of municipal waste water treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately)	481055Y
<b>Spectral Probes Accessories (Nitrogen)</b>			
<b>DIQ/CHV</b>		Dual IQ/Cleaning Head Valve for automatic air cleaning controlled by a relay, for system 182 (relay and compressed air supply external)	472007Y
<b>Cleaning Air Box - 115 VAC</b>		Air pressure compressor for online probes. For easy wall mounting, switchable by a relay to provide cleaning systems with air pressure. 115 VAC. No additional CHV PLUS needed.	480017Y
<b>MIQ/CHV PLUS</b>		Module IQ/Cleaning Head Valve, for automatic air cleaning controlled by a relay or the IQ SENSORNET (relay and compressed air supply external)	480018Y
<b>SACIQ-1.5</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-50</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041VY
<b>SACIQ-7.0</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-Plug</b>		Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>VIS FT-1</b>	<i>New</i>	Flow-through measuring cell for spectral UV and UV-VIS sensors, for operation with automatic compressed air cleaning	480080Y
<b>VIS FT-1/RS</b>	<i>New</i>	Spare part set for flow-thru measuring cell VIS FT-1	480081Y
<b>VIS Set Brushes/1mm</b>		Brushes for cleaning of UVVIS sensors, Set with 2 brushes for 1 mm path length	481031Y
<b>VIS Set Brushes/5mm</b>		Brushes for cleaning of UVVIS sensors, Set with 2 brushes for 5 mm path length	481032Y
<b>VIS/CT</b>		Universal cleaning tool for spectral sensors.	481071Y
<b>VIS/CV</b>		Multifunctional slide for spectral sensors.	481074Y
<b>SET/AP</b>		Air pressure cleaning set for spectral sensors: Supplied with 15 m (49 ft) tubing, fittings, without further modules and components.	481075Y
<b>ST-1</b>		Standard with low concentration for 5 mm spectral sensors.	481077Y
<b>ST-2</b>		Standard with high concentration for 1 mm spectral sensors.	481078Y
<b>VIS C/Set</b>		Universal cleaning tool set for cleaning of measuring windows of spectral sensors with cleaning solutions.	481079Y
<b>Spectral Probes Special Mounting Hardware (Nitrogen)</b>			
<b>VIS Set/EH</b>		Supplement kit I for spectral sensors for horizontal mounting of a UV/VIS sensor, with the EH/F 170 swing mounting assembly for use in basins or open channels.	481073Y

# Measuring Point Configurations

## ISE (ion-selective) measuring techniques

### VARiON®Plus

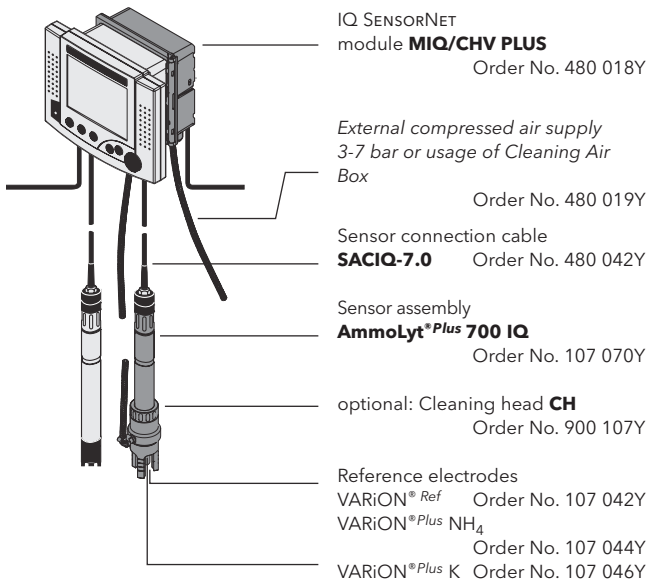
#### VARiON®Plus System:



required components per measuring place: dark shaded

### AmmoLyt®Plus

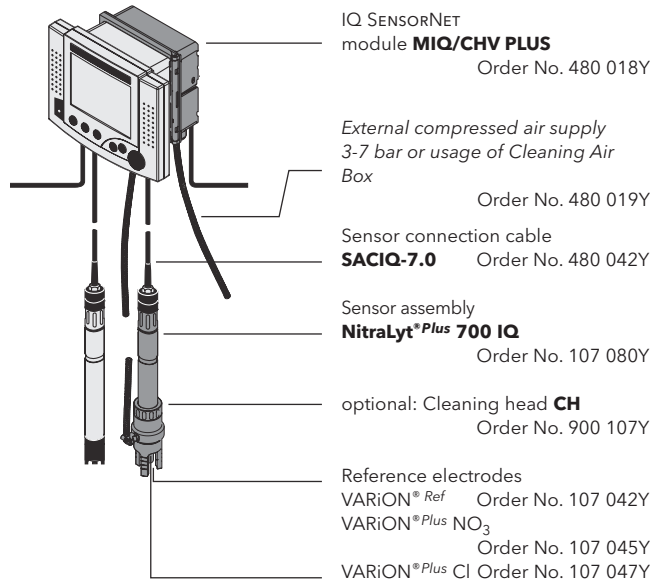
#### AmmoLyt®Plus System:



required components per measuring place: dark shaded

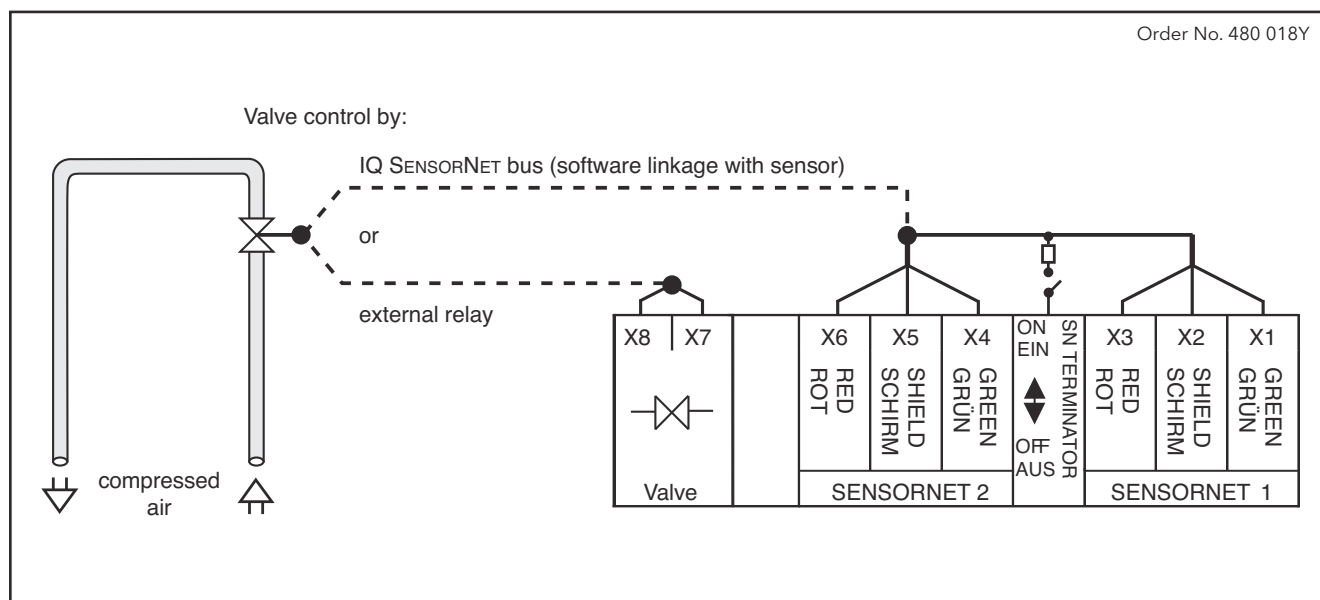
### NitraLyt®Plus

#### NitraLyt®Plus System:



required components per measuring place: dark shaded

## Electrical connections MIQ/CHV PLUS



Technical Data VARiON <sup>®</sup> Plus									
<b>Maximum Configuration</b>	Common reference electrode, two measuring electrodes, one compensation electrode								
	<table border="1" style="width: 100%;"> <thead> <tr> <th>Ammonium Measurement</th> <th>Nitrate Measurement</th> </tr> </thead> <tbody> <tr> <td colspan="2" style="text-align: center;">VARiON<sup>®</sup> Ref</td> </tr> <tr> <td style="text-align: center;">VARiON<sup>®</sup>Plus NH<sub>4</sub></td> <td style="text-align: center;">VARiON<sup>®</sup>Plus NO<sub>3</sub></td> </tr> <tr> <td style="text-align: center;">VARiON<sup>®</sup>Plus K</td> <td style="text-align: center;">VARiON<sup>®</sup>Plus Cl</td> </tr> </tbody> </table>	Ammonium Measurement	Nitrate Measurement	VARiON <sup>®</sup> Ref		VARiON <sup>®</sup> Plus NH <sub>4</sub>	VARiON <sup>®</sup> Plus NO <sub>3</sub>	VARiON <sup>®</sup> Plus K	VARiON <sup>®</sup> Plus Cl
Ammonium Measurement	Nitrate Measurement								
VARiON <sup>®</sup> Ref									
VARiON <sup>®</sup> Plus NH <sub>4</sub>	VARiON <sup>®</sup> Plus NO <sub>3</sub>								
VARiON <sup>®</sup> Plus K	VARiON <sup>®</sup> Plus Cl								
<b>Integrable Electrodes:</b> Reference Electrode Measuring Electrode Compensation Electrode									
<b>Measuring Ranges / Resolution</b>	<table border="1" style="width: 100%;"> <tbody> <tr> <td>NH<sub>4</sub>-N: 1 - 1.000 mg/l / 1 mg/l; 0.1 - 100 mg/l / 0.1 mg/l</td> <td>NO<sub>3</sub>-N: 1 - 1.000 mg/l / 1 mg/l; 0.1 - 100 mg/l / 0.1 mg/l</td> </tr> <tr> <td>NH<sub>4</sub><sup>+</sup>: 1 - 1.290 mg/l / 1 mg/l; 0.1 - 129.0 mg/l / 0.1 mg/l</td> <td>NO<sub>3</sub><sup>-</sup>: 5 - 4.500 mg/l / 1 mg/l; 0.5 - 450.0 mg/l / 0.1 mg/l</td> </tr> <tr> <td>K<sup>+</sup>: 1 - 1.000 mg/l / 1 mg/l</td> <td>Cl<sup>-</sup>: 1 - 1.000 mg/l / 1 mg/l</td> </tr> </tbody> </table>	NH <sub>4</sub> -N: 1 - 1.000 mg/l / 1 mg/l; 0.1 - 100 mg/l / 0.1 mg/l	NO <sub>3</sub> -N: 1 - 1.000 mg/l / 1 mg/l; 0.1 - 100 mg/l / 0.1 mg/l	NH <sub>4</sub> <sup>+</sup> : 1 - 1.290 mg/l / 1 mg/l; 0.1 - 129.0 mg/l / 0.1 mg/l	NO <sub>3</sub> <sup>-</sup> : 5 - 4.500 mg/l / 1 mg/l; 0.5 - 450.0 mg/l / 0.1 mg/l	K <sup>+</sup> : 1 - 1.000 mg/l / 1 mg/l	Cl <sup>-</sup> : 1 - 1.000 mg/l / 1 mg/l		
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K <sup>+</sup> : 1 - 1.000 mg/l / 1 mg/l	Cl <sup>-</sup> : 1 - 1.000 mg/l / 1 mg/l								
<b>Compensation Ranges</b>									
<b>Temperature Measurement and Compensation</b>	Integrated NTC thermistor, Range 32 °F - 104 °F (0 °C - +40 °C), Accuracy ±0.5 K, Resolution 0.1 K, T-95 < 20 s								
<b>Calibration Procedures</b>	2-point-calibration with multiple standard solutions, calibration against any reference value								
<b>Ambient Conditions</b>	Operating temperature: 32 °F - 104 °F (0 °C - +40 °C), storing temperature: 32 °F - 104 °F (0 °C - +40 °C)								
<b>pH Range</b>	pH 4 - pH 8.5   pH 4 ... pH 11								
<b>Measuring Accuracy in laboratory standard solutions</b>	± 5 % of measured value ± 0.2 mg/l in standard solutions								
<b>Working Life (typically)</b>	18 months (in typical application - municipal sewage plants)								
<b>Mechanical</b>	Sensor body: V4A stainless steel 1.4571 Protective cup: POM Temperature sensor: V4A stainless steel 1.4571 Protection rating: IP 68 (0.2 bar, with installed electrodes) Electrode connector: POM								
<b>Max. Pressure</b>	Maximum 0.2 bar (incl. SACIQ sensor connection cable, with installed electrodes)								
<b>Power Consumption</b>	0.2 Watt								
<b>Dimensions</b>	14.45 x 1.57 in. (367 x 40 mm, length x diameter), incl. SACIQ sensor connection cable								
<b>Weight</b>	Approx. 1.76 lb (800 g, without electrodes, without SACIQ sensor connection cable)								
<b>Warranty</b>	VARiON <sup>®</sup> Plus 700 IQ: 2 years / Electrodes: 1 year								

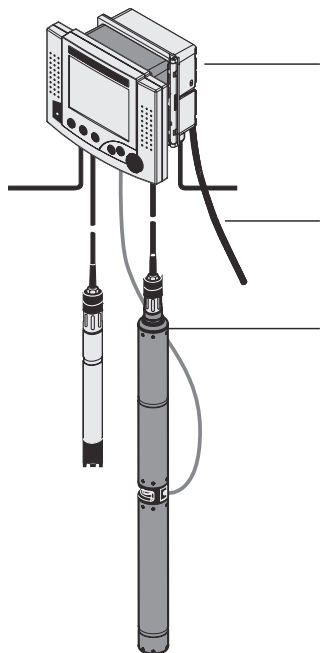
<b>Technical Data AmmoLyt®Plus</b>	
<b>Appropriate Electrode</b>	Reference electrode VARION® Ref, Measuring electrode VARION®Plus NO <sub>3</sub> , Compensation electrode VARION®Plus Cl
<b>Measuring Ranges/Resolution</b>	NH <sub>4</sub> -N: 1 - 1000 mg/l / 1 mg/l; 0.1 - 100 mg/l / 0.1 mg/l
	NH <sub>4</sub> <sup>+</sup> : 1 - 1290 mg/l / 1 mg/l; 0.1 - 129.0 mg/l / 0.1 mg/l
<b>Compensation Range:</b>	K <sup>+</sup> : 1 - 1000 mg/l / 1 mg/l
<b>Temp. Measurement and Compensation</b>	Integrated NTC thermistor Range: 32 - 104 °F (0 - +40 °C), Accuracy ±0.5 K, resolution 0.1 K, T-95 < 20 s
<b>Calibration Procedures</b>	Matrix adjustment against any reference value, 2-point-calibration possible with multiple standard solution
<b>Ambient Conditions</b>	Integrated NTC thermistor Range: 32 - 104 °F (0 - +40 °C), Accuracy ±0.5 K, resolution 0.1 K
<b>pH Range</b>	pH 4 - pH 8.5
<b>Measuring Accuracy</b> in laboratory standard solutions	±5% of measured value ± 0.2 mg/l in standard solutions
<b>Working Life</b> (typically)	18 months (in typical application - municipal sewage plants)
<b>Mechanical</b>	Sensor body: V4A Stainless Steel 1.4571      Protective cap: POM, Temp. sensor: V4A Stainless Steel 1.4571      Protection rating: IP 68 (0.2 bar, with installed electrodes) Electrode connector: POM
<b>Max. Pressure</b>	Maximum 0.2 bar (incl. SACIQ sensor connection cable; with installed electrodes)
<b>Power Consumption</b>	0.2 Watt
<b>Dimensions</b>	15.43 x 1.57 in. (392 x 40 mm, length x diameter), incl. sensor connection cable SACIQ
<b>Weight</b>	Approx. 1.48 lb (670 g, without electrode, without sensor connection cable)
<b>Warranty</b>	AmmoLyt®Plus 700 IQ: 2 years / Electrodes: 1 year

<b>Technical Data NitraLyt®Plus</b>	
<b>Appropriate Electrodes</b>	Reference electrode VARION® Ref, Measuring electrode VARION®Plus NO <sub>3</sub> , Compensation electrode VARION®Plus Cl
<b>Measuring Ranges/ Resolution</b>	NO <sub>3</sub> -N: 1 - 1000 mg/l / 1 mg/l; 0.1 - 100.0 mg/l / 0.1 mg/l
	NO <sub>3</sub> <sup>-</sup> : 5 - 4500 mg/l / 5 mg/l; 0.5 - 450.0 mg/l / 0.5 mg/l
	Cl <sup>-</sup> : 1 - 1000 mg/l / 1 mg/l
<b>Temp. Measurement and Compensation</b>	Integrated NTC thermistor Range: 32 - 104 °F (0 °C - +40 °C), Accuracy ±0.5 K, resolution 0.1 K, T-95 < 20 s
<b>Calibration Procedures</b>	Matrix adjustment against any reference value, 2-point-calibration possible with multiple standard solution
<b>Ambient Conditions</b>	Operating temperature: 32 °F - 104 °F (0 °C - + 40 °C), storing temperature: 32 °F - 104 °F (0 °C - + 40 °C)
<b>pH Range</b>	pH 4 - pH 11
<b>Measuring Accuracy</b> in laboratory standard solutions	±5% of measured value ± 0.2 mg/l in standard solutions
<b>Working Life</b> (typically)	18 months (in typical application - municipal sewage plants)
<b>Mechanical</b>	Sensor body: V4A Stainless Steel 1.4571      Protective cap: POM, Temp. sensor: V4A Stainless Steel 1.4571      Protection rating: IP 68 (0.2 bar, with installed electrodes) Electrode connector: POM
<b>Max. Pressure</b>	Maximum 0.2 bar (incl. SACIQ sensor connection cable; with installed electrodes)
<b>Power Consumption</b>	0.2 Watt
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<b>Weight</b>	Approx. 1.48 lb (670 g, without electrode, without sensor connection cable)
<b>Warranty</b>	NitraLyt®Plus 700 IQ: 2 years / Electrodes: 1 year

# Measuring Point Configuration UV-VIS and UV spectrometric measuring techniques

## NitraVis® / NiCaVis®

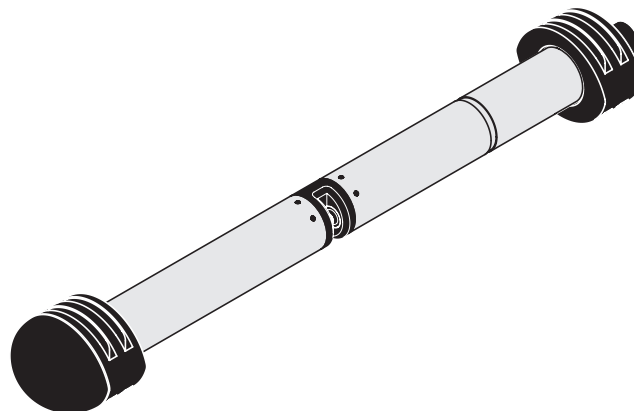
### NitraVis®/NiCaVis® System



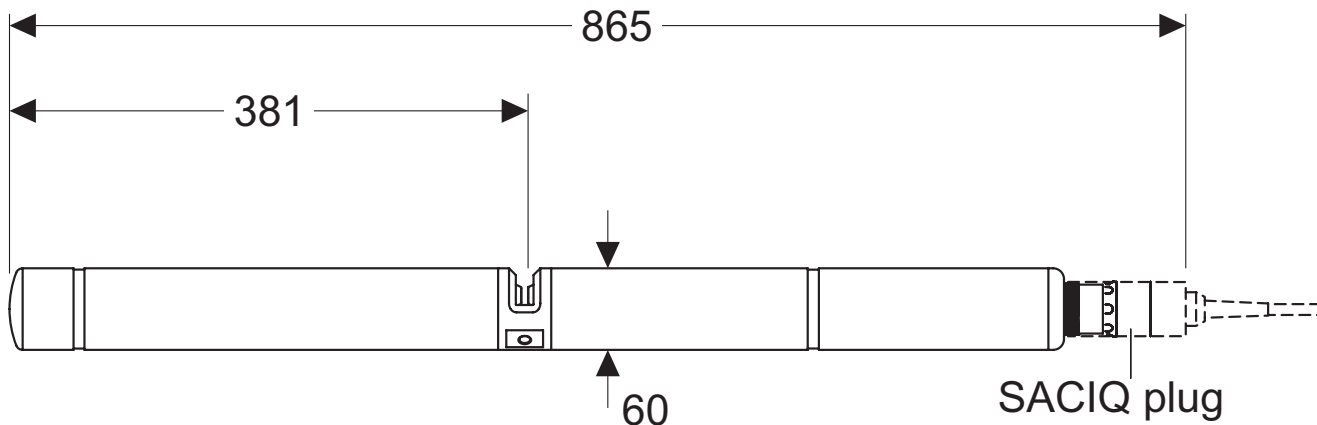
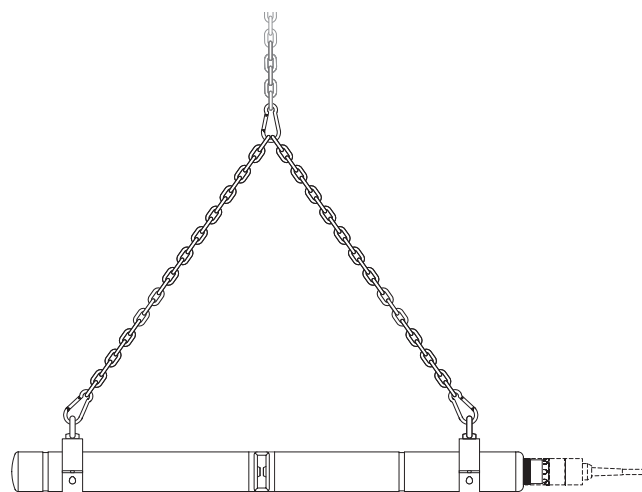
IQ SENSORNET

*Optional air pressure cleaning:  
MIQ/CHV PLUS Order No. 480 018Y  
with external compressed air supply  
3-7 bar or usage of Cleaning Air  
Box Order No. 480 019Y*

- Optical Sensor:**
- **NitraVis® 701/705 IQ**  
Order No. 481 044/481 046Y
  - **NitraVis® 701/705 IQ TS**  
Order No. 481 045/481 047Y
  - **NiCaVis® 705 IQ**  
Order No. 481 052Y
  - **NiCaVis® 701/705 IQ NI**  
Order No. 481 054/481 055Y

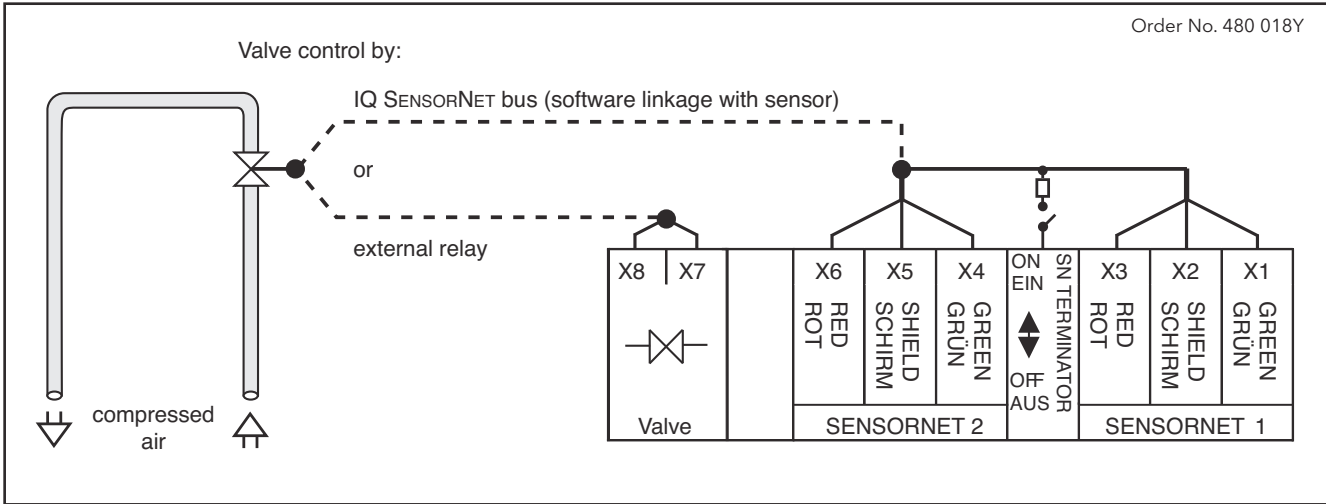


*required components per measu-  
ring place: dark shaded*

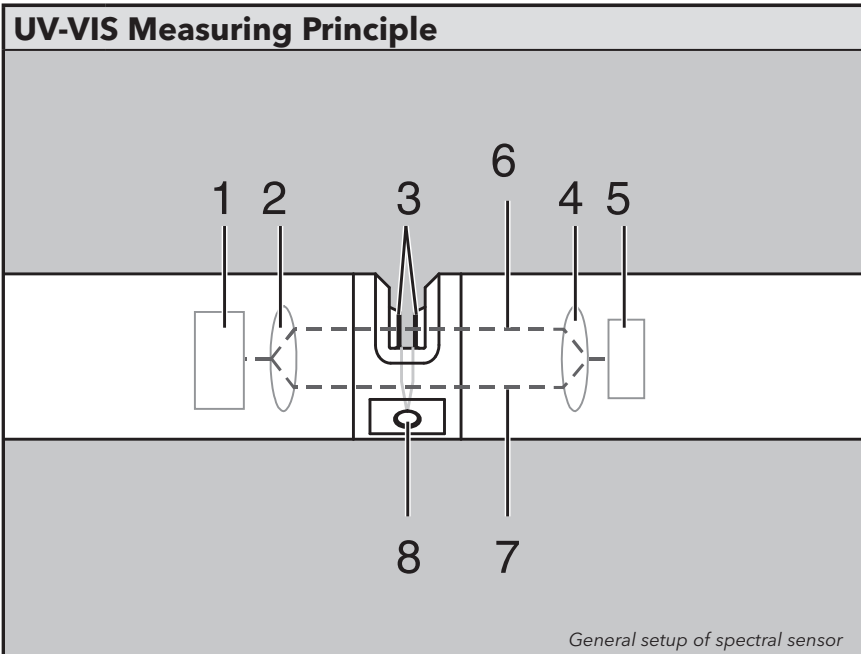


### Electrical connections MIQ/CHV PLUS

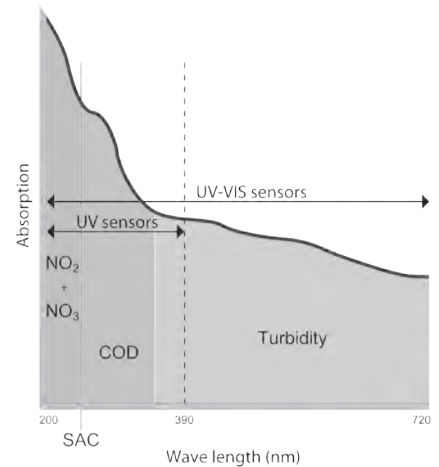
Order No. 480 018Y



### UV-VIS Measuring Principle



1	Light source
2	Sender of the optical system
3	Measuring gap between the measurement windows
4	Receiver of the optical system
5	Detector
6	Measuring beam
7	Reference beam
8	Connector for the optional compressed air cleaning system



Technical Data NitraVis®/NiCaVis®							
<b>Measuring Principle</b>	Spectral Measurement in the UV-VIS Range (200 - 720 nm) / UV Range (200 - 390 nm)						
<b>Applications</b>	Municipal wastewater: inlet, aeration, outlet						
<b>Measuring Range Nitrate Standard</b>		<b>NitraVis® 701 IQ</b>	<b>NitraVis® 705 IQ</b>		<b>NiCaVis® 705 IQ</b>	<b>NiCaVis® 701 IQ NI</b>	<b>NiCaVis® 705 IQ NI</b>
	NO <sub>3</sub> -N:	0.1 - 100.0 mg/l inlet, aeration	0.01 - 25.00 mg/l outlet	NO <sub>3</sub> -N: NO <sub>2</sub> -N: COD	0.01 - 25,00 mg/l – 0.1 - 800,00 mg/l Municipal waste- water: outlet	0.1 - 100 mg/l 0.1 - 25 mg/l 0.5 - 4000,0 mg/l inlet, aeration, outlet	0.01 - 25 mg/l 0.01 - 5 mg/l 0.1 - 800 mg/l outlet
<b>Measuring Range Suspended Solids (Option)</b>	TSS:	0 - 10.00 g/l inlet, aeration	0 - 900.0 mg/l outlet	TSS:	–	–	–
<b>Materials</b>	Housing: Titanium 3.7035, PEEK Window: Sapphire glass						
<b>Pressure Resistance</b>	≤ 1 bar						
<b>Ambient Conditions</b>	Operating temperature:		32 °F - 113 °F (0 °C - +45 °C)				
	Storage temperature:		14 °F - 122 °F (-10 °C - +50 °C)				
<b>Flow velocity</b>	≤ 3 m/s						
<b>pH range</b>	pH 4 - pH 12						
<b>Dimensions</b>	31.57 x 2.36 in. (802 x 59.9 mm; length x diameter)						
<b>Weight</b>	Approx. 8.82 lb (4 kg)						
<b>Warranty</b>	2 years						

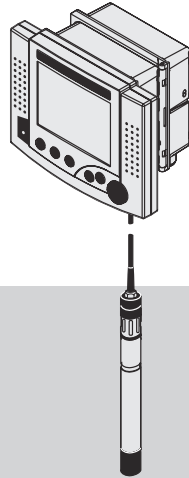
# System Configurations Digital Systems

## IQ SENSORNET System 2020 XT

The 2020 XT SensorNet system is configurable based on the application's needs. Here are just a few configuration examples.

### Example 1 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



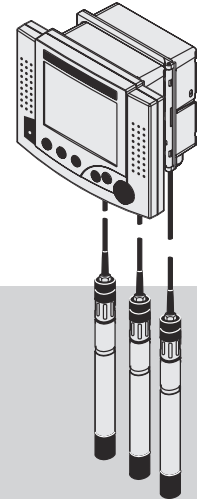
Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensor

Monitor  
with 3 analog outputs and 3 relays, for any parameters

### Example 2 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable



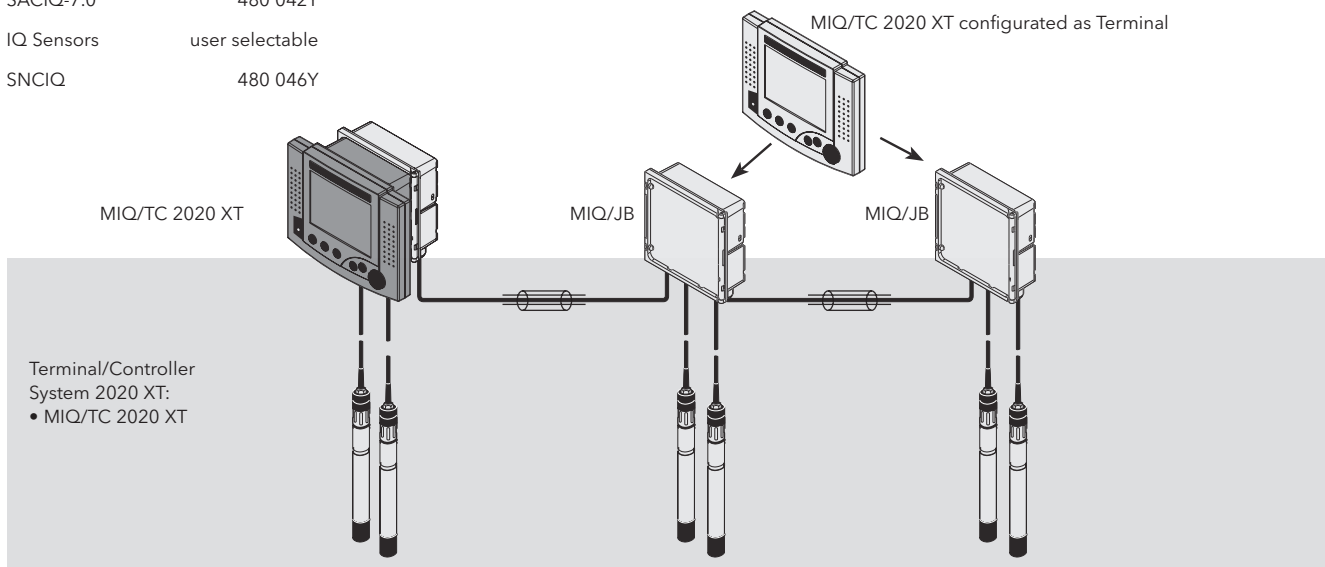
Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x Relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensors

Multi-parameter monitor  
for any 3 parameters, with 3 analog outputs and 3 relays

### Example 3 System 2020 XT

Example configuration	Order No.
MIQ/TC 2020 XT	470 000Y
MIQ/PS	480 004Y
MIQ/C6	480 015Y
MIQ/JB	480 008Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable
SNCIQ	480 046Y



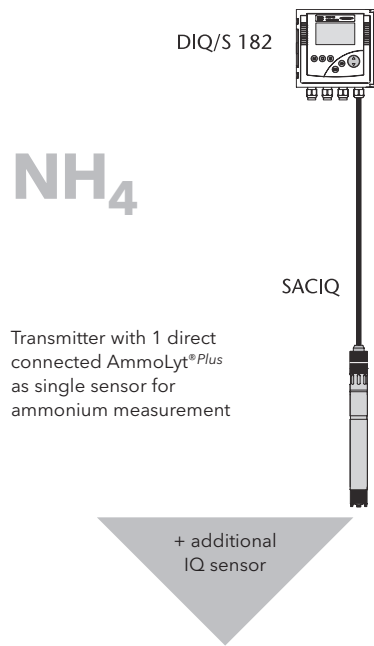
Terminal/Controller  
System 2020 XT:  
• MIQ/TC 2020 XT

Branched system 2020 XT for up to 20 parameters. System with 6 analog outputs. Second, movable MIQ/TC 2020 XT terminal serves as an additional display unit for easy, on-site calibration with backup controller function.

# System Configurations Digital Systems IQ SENSORNET System 182 with VARiON<sup>®</sup>Plus 700 IQ

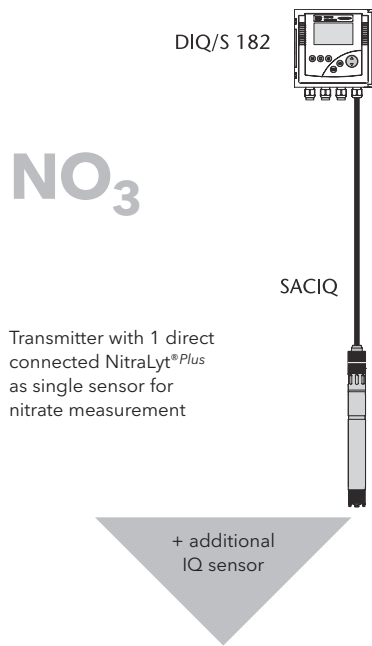
## Example 1

<b>Example configuration</b>	<b>Order No.</b>
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
AmmoLyt <sup>®</sup> Plus 700 IQ with ammonium electrode (possibly including compensation electrode for potassium) 107 072Y	



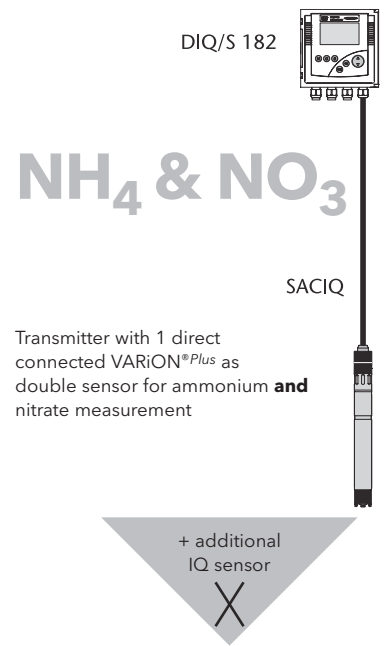
## Example 2

<b>Example configuration</b>	<b>Order No.</b>
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
NitraLyt <sup>®</sup> Plus 700 IQ with nitrate electrode (possibly including compensation electrode for chloride) 107 082Y	



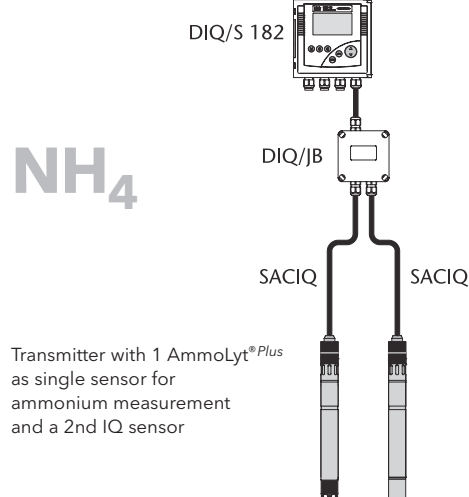
## Example 3

<b>Example configuration</b>	<b>Order No.</b>
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
VARiON <sup>®</sup> Plus 700 IQ with ammonium <b>and</b> nitrate electrode (possibly including compensation electrode for potassium <b>or</b> chloride) 107 066Y	



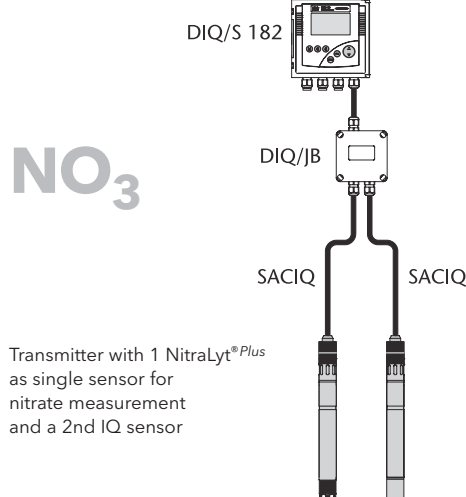
## Example 4

<b>Example configuration</b>	<b>Order No.</b>
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
AmmoLyt <sup>®</sup> Plus 700 IQ with ammonium electrode (possibly including compensation electrode for potassium) IQ Sensor 107 072 user selectable	



## Example 5

<b>Example configuration</b>	<b>Order No.</b>
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
NitraLyt <sup>®</sup> Plus 700 IQ with nitrate electrode (possibly including compensation electrode for chloride) IQ Sensor 107 082Y user selectable	



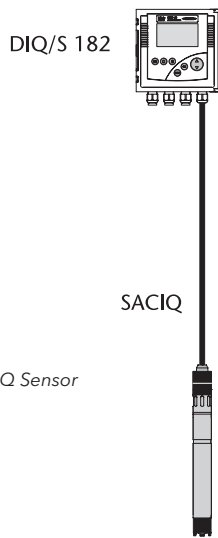
VARiON<sup>®</sup>Plus with two installed measuring electrodes for ammonium and nitrate is a double sensor and needs 2 sensor spaces. Therefore no other additional IQ sensor can be connected.

# System Configurations Digital Systems

## IQ SENSORNET System 182

### Example 1

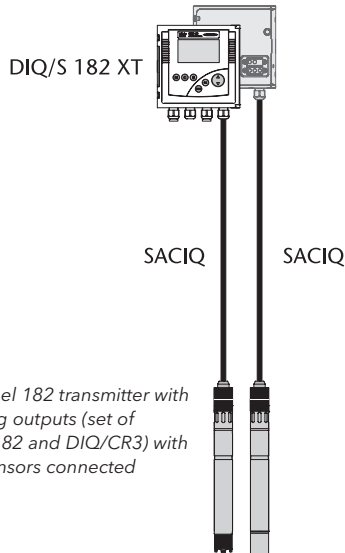
Configuration Example	Order No.
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



182 transmitter with 1 IQ Sensor connected

### Example 2

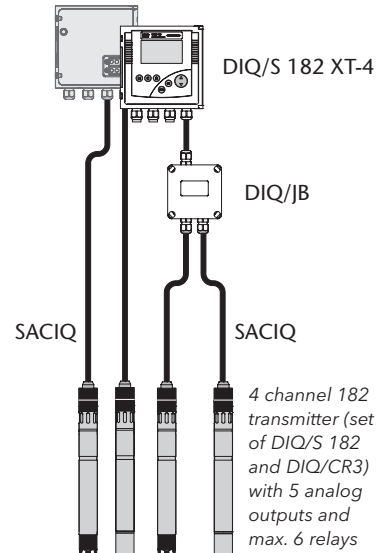
Configuration Example	Order No.
DIQ/S 182 XT	472 001Y
2 x SACIQ-7.0	480 042Y
2 IQ Sensors	user selectable



2 channel 182 transmitter with 4 analog outputs (set of DIQ/S 182 and DIQ/CR3) with 2 IQ Sensors connected

### Example 3

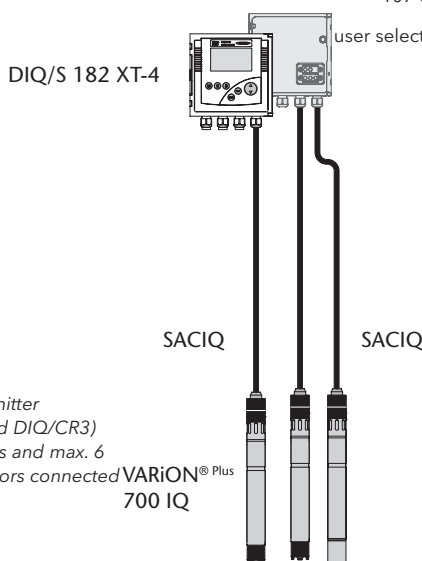
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
4 x SACIQ-7.0	480 042Y
DIQ/JB	472 005Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 4 IQ Sensors connected

### Single measuring point with analog outputs

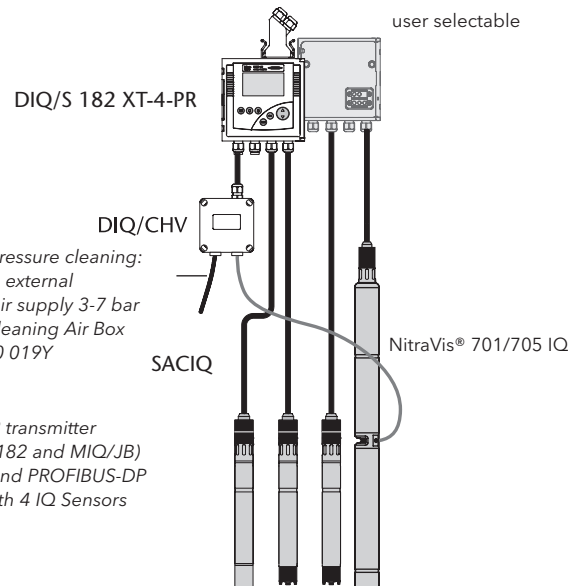
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
3 x SACIQ-7.0	480 042Y
VARION <sup>Plus</sup> 700 IQ	107 066Y
2 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 3 IQ Sensors connected

### Single measuring point PROFIBUS / MODBUS

Configuration Example	Order No.
DIQ/S 182 XT-4-PR	472 017Y
3 x SACIQ-7.0	480 042Y
4 IQ Sensors	user selectable



Optional air pressure cleaning: DIQ/CHV with external compressed air supply 3-7 bar or usage of Cleaning Air Box Order No. 480 019Y

4 channel 182 transmitter (set of DIQ/S 182 and MIQ/JB) with 3 relays and PROFIBUS-DP connection with 4 IQ Sensors connected

## Carbon: COD/TOC/DOC/SAC/BOD

Parameter	Sensors														
	TriOxmatic® 700 IQ	FDO® 700 IQ	SensoLyt® 700 IQ	TetraCon® 700 IQ	VisoTurb® 700 IQ	ViSolid® 700 IQ	AmmoLyt® Plus 700 IQ	NitraLyt® Plus 700 IQ	VARiON® Plus 700 IQ	NitraVis® 700 IQ	CarboVis® 700 IQ	NiCaVis® 700 IQ	NiCaVis® 700 IQ NI	IFL® 700 IQ	P 700 IQ
Usable with System 2020 XT	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Usable with System 182	●	●	●	●	●	●	●	●	●	●	●	●	●		
Power consumption [W]	0.2	0.7	0.2	0.2	1.5	1.5	0.2	0.2	0.2	8.0	8.0	8.0	8.0	5.5	0.5
Parameter															
<b>TSS</b> (optical)						●				●	●				
<b>Nitrate</b> (optical/spectral)										●		●	●		
<b>Nitrite</b> (optical/spectral)													●		
<b>COD</b> (optical/spectral)											●	●	●		
<b>BOD</b> (optical/spectral)											●	●	●		
<b>TOC</b> (optical/spectral)											●	●	●		
<b>DOC</b> (optical/spectral)											●	●	●		
<b>SAC</b> (optical/spectral)											●	●	●		
<b>UVT-254</b> (optical/spectral)											●	●	●		

Model	Description	Order No.
<b>Spectral Probes Carbon</b>		
<b>CarboVis® 701 IQ</b>	Optical CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble and UVT 254 probe with spectral processing of the UV-VIS range, for measurement in the inlet/effluent/BNR (depending on the parameter) part of municipal wastewater treatment plants, with integrated integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481048Y
<b>CarboVis® 701 IQ TS</b>	Optical CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble/UVT 254 and TSS probe with spectral processing of the UV-VIS range, for measurement in the inlet/effluent/BNR (depending on the parameter) part of municipal wastewater treatment plants with integrated integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481049Y
<b>CarboVis® 705 IQ</b>	Optical CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble and UVT 254 probe with spectral processing of the UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481050Y
<b>CarboVis® 705 IQ TS</b>	Optical CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble/UVT 254 and TSS probe with spectral processing of the UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481051Y
<b>NiCaVis® 705 IQ</b>	Optical nitrate and CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble and UVT 254 probe, with spectral processing of the UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481052Y
<b>NiCaVis® 701 IQ NI</b>	New UV Sensor for measurement of Nitrite, Nitrate, CODtotal, CODsoluble, TOC, BOD, DOC, SACtotal, and UVT254 in the influent, biological tank and effluent of municipal waste water treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately)	481054Y
<b>NiCaVis® 705 IQ NI</b>	New UV Sensor for measurement of Nitrite, Nitrate, CODtotal, CODsoluble, TOC, BOD, DOC, SACtotal, and UVT254 in the effluent of municipal waste water treatment plants, with integrated ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately)	481055Y
<b>Spectral Probes Accessories (Carbon)</b>		
<b>DIQ/CHV</b>	Dual IQ/Cleaning Head Valve for automatic air cleaning controlled by a relay, for system 182 (relay and compressed air supply external)	472007Y
<b>Cleaning Air Box - 115 VAC</b>	Air pressure compressor for online probes. For easy wall mounting, switchable by a relay to provide cleaning systems with air pressure. 115 VAC. No additional CHV PLUS needed.	480017Y
<b>MIQ/CHV PLUS</b>	Module IQ/Cleaning Head Valve, for automatic air cleaning controlled by a relay or the IQ SENSORNET (relay and compressed air supply external)	480018Y
<b>SACIQ-1.5</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-SO</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041VY
<b>SACIQ-7.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>	Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-Plug</b>	Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>VIS FT-1</b>	New Flow-through measuring cell for spectral UV and UV-VIS sensors, for operation with automatic compressed air cleaning	480080Y
<b>VIS FT-1/RS</b>	New Spare part set for flow-thru measuring cell VIS FT-1	480081Y
<b>VIS Set Brushes/1mm</b>	Brushes for cleaning of UVVIS sensors, Set with 2 brushes for 1 mm path length	481031Y
<b>VIS Set Brushes/5mm</b>	Brushes for cleaning of UVVIS sensors, Set with 2 brushes for 5 mm path length	481032Y
<b>VIS/CT</b>	Universal cleaning tool for spectral sensors.	481071Y
<b>VIS/CV</b>	Multifunctional slide for spectral sensors.	481074Y
<b>SET/AP</b>	Air pressure cleaning set for spectral sensors: Supplied with 15 m (49 ft) tubing, fittings, without further modules and components.	481075Y
<b>ST-1</b>	Standard with low concentration for 5 mm spectral sensors.	481077Y
<b>ST-2</b>	Standard with high concentration for 1 mm spectral sensors.	481078Y
<b>VIS C/Set</b>	Universal cleaning tool set for cleaning of measuring windows of spectral sensors with cleaning solutions.	481079Y
<b>Spectral Probes Special Mounting Hardware (Carbon)</b>		
<b>VIS Set/EH</b>	Supplement kit I for spectral sensors for horizontal mounting of a UV/VIS sensor, with the EH/F 170 swing mounting assembly for use in basins or open channels.	481073Y

# Measuring Point Configuration

## CarboVis® / NiCaVis®

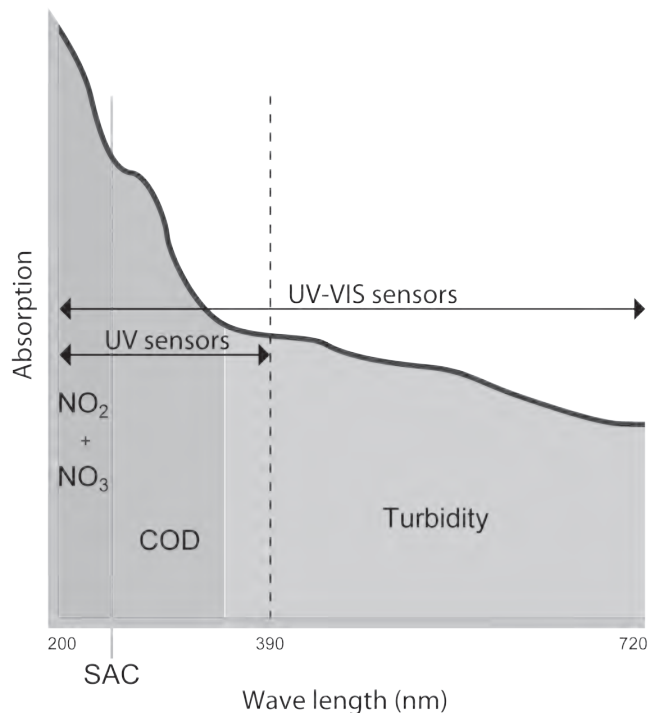
### CarboVis®/NiCaVis® System



IQ SENSORNET

Optional air pressure cleaning:  
MIQ/CHV PLUS Order No. 480 018Y  
with external compressed air supply  
3-7 bar or usage of Cleaning Air  
Box Order No. 480 019Y

- Optical Sensor:**
- CarboVis® 701/705 IQ  
Order No. 481 048/481 050Y
  - CarboVis® 701/705 IQ TS  
Order No. 481 049/481 051Y
  - NiCaVis® 705 IQ  
Order No. 481 052Y
  - NiCaVis® 701/705 IQ NI  
Order No. 481 054/481 055Y



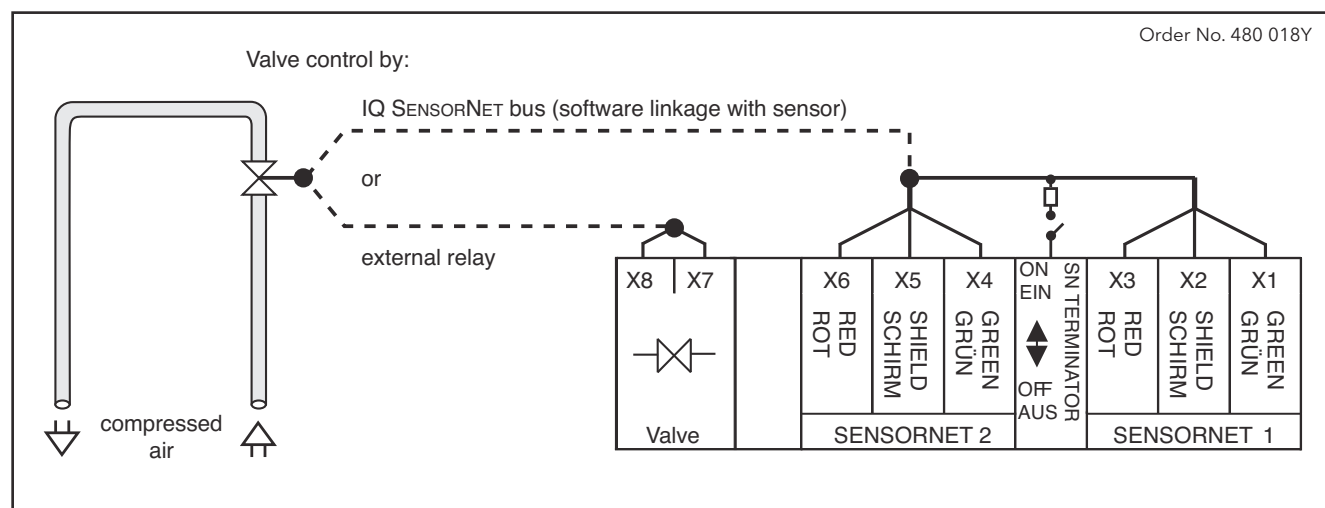
required components per measur-  
ing place: dark shaded

### UV-VIS Measuring Principle

The diagram shows a cross-section of the sensor's optical system. A light source (1) emits a beam through a sender (2) into a measuring gap (3) between two measurement windows. A measuring beam (6) passes through the gap. A reference beam (7) is also shown. The beam then passes through a receiver (4) to a detector (5). A connector (8) is shown for an optional compressed air cleaning system.

General setup of spectral sensor	
1	Light source
2	Sender of the optical system
3	Measuring gap between the measurement windows
4	Receiver of the optical system
5	Detector
6	Measuring beam
7	Reference beam
8	Connector for the optional compressed air cleaning system

## Electrical connections MIQ/CHV PLUS



Technical Data CarboVis®/NiCaVis®					
Measuring Principle	Spectral measurement in the UV-VIS range (200 - 720 nm) / UV range (200 - 390 nm)				
	CarboVis® 705 IQ	CarboVis® 701 IQ	NiCaVis® 705 IQ	NiCaVis 701 IQ NI	NiCaVis 705 IQ NI
<b>Applications</b>	Municipal wastewater: effluent	Municipal wastewater: inlet, aeration, effluent	Municipal wastewater: effluent	Municipal wastewater: effluent: inlet, aeration, effluent	Municipal wastewater: effluent
<b>Measuring Ranges in Standard Solution (potassium-hydrogenphthalate)</b>	COD: 0.1 - 800.0 mg/l TOC: 1 - 500.0 mg/l SAC: 0.1 - 600.0 1/m	COD: 0.5 - 4000.0 mg/l TOC: 5 - 2500.0 mg/l SAC: 0.5 - 3000.0 1/m	COD: 0.1 - 800.0 mg/l TOC: 1 - 500.0 mg/l SAC: 0.1 - 600.0 1/m NO <sub>3</sub> -N: 0.01 - 25.00 mg/l	NO <sub>2</sub> -N: 0.1 - 25 mg/l NO <sub>3</sub> -N: 0.1 - 100 mg/l COD: 0.5 - 4000,0 mg/l	NO <sub>2</sub> -N: 0.01 - 5 mg/l NO <sub>3</sub> -N: 0.01 - 25 mg/l COD: 0.1 - 800 mg/l
<b>Measuring Ranges TSS (Option)</b>	Inlet: 0 - 3000 mg/l TS Effluent: 0.0 - 900.0 mg/l TS	Inlet: 0 - 15 g/l TS Effluent: 0 - 4.5 g/l TS	-	-	-
<b>Materials</b>	Housing: Titanium 3.7035, PEEK Window: Saphirglas				
<b>Pressure Resistance</b>	≤1 bar				
<b>Ambient Conditions</b>	Operating temperature: 32 °F - 113 °F (0 °C - +45 °C) Storage temperature: 14 °F - 122 °F (-10 °C - +50 °C)				
<b>Flow Velocity</b>	≤ 3 m/s				
<b>pH Range</b>	pH 4 - pH 12				
<b>Salt Content of Medium</b>	< 5000 mg/l (Chloride)				
<b>Dimensions</b>	31.57 x 2.36 in. (802 x 59.9 mm; length x diameter)				
<b>Weight</b>	Approx. 8.82 lb (4 kg)				

# System Configurations Digital Systems

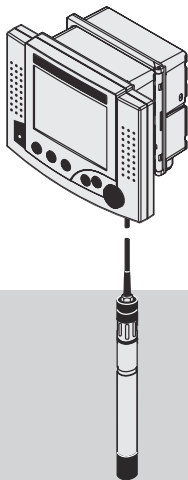
## IQ SENSORNET System 2020 XT

The 2020 XT SensorNet system is configurable based on the application's needs. Here are just a few configuration examples.

### Example 1 System 2020 XT

**Example configuration**    **Order No.**

MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

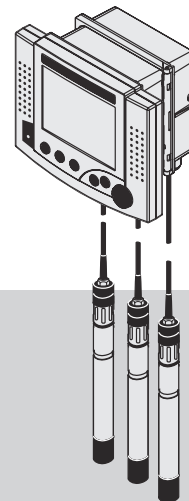
- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensor

Monitor  
with 3 analog outputs and 3 relays, for any parameters

### Example 2 System 2020 XT

**Example configuration**    **Order No.**

MIQ/TC 2020 XT-H3	470 016Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable



Starter Set  
MIQ/TC 2020 XT-H3  
consisting of:

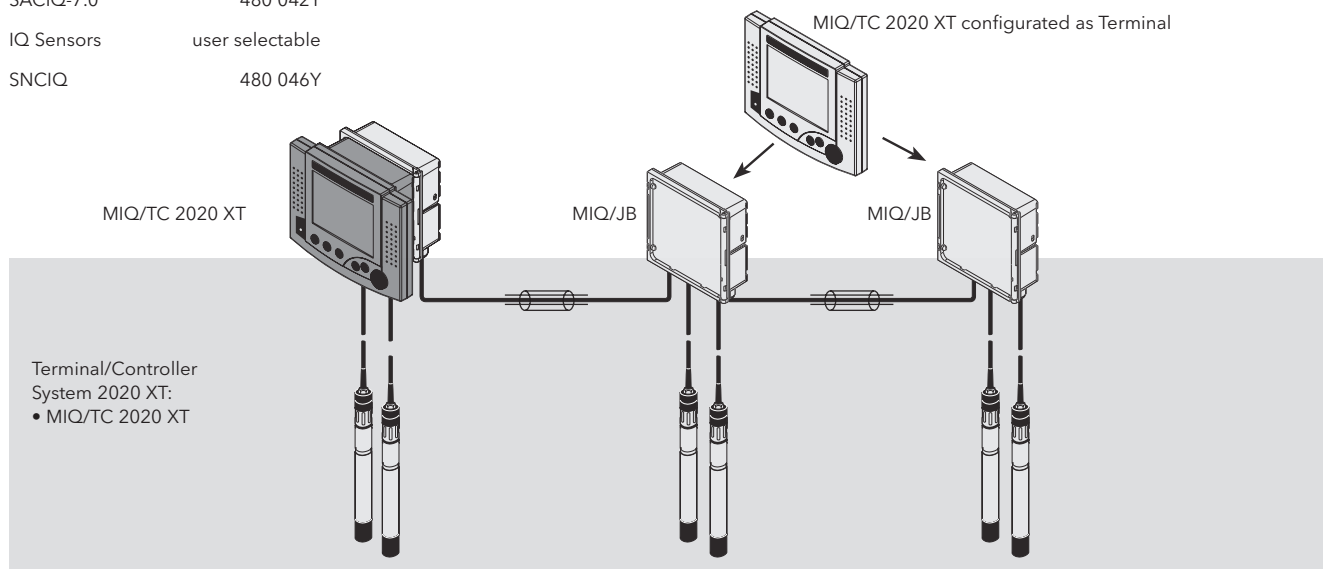
- MIQ/TC 2020 XT (Terminal/Controller)
- MIQ/CR3 (3 x mA, 3 x Relays)
- MIQ/PS (power supply)
- SACIQ (Sensor connection cable)
- IQ sensors

Multi-parameter monitor  
for any 3 parameters, with 3 analog outputs and 3 relays

### Example 3 System 2020 XT

**Example configuration**    **Order No.**

MIQ/TC 2020 XT	470 000Y
MIQ/PS	480 004Y
MIQ/C6	480 015Y
MIQ/JB	480 008Y
SACIQ-7.0	480 042Y
IQ Sensors	user selectable
SNCIQ	480 046Y



Terminal/Controller  
System 2020 XT:  
• MIQ/TC 2020 XT

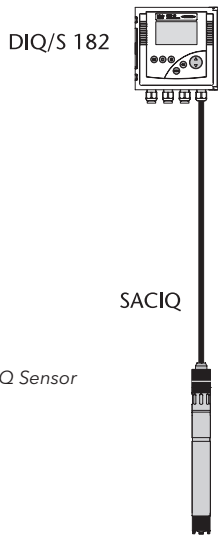
Branched system 2020 XT for up to 20 parameters. System with 6 analog outputs. Second, movable MIQ/TC 2020 XT terminal serves as an additional display unit for easy, on-site calibration with backup controller function.

# System Configurations Digital Systems

## IQ SENSORNET System 182

### Example 1

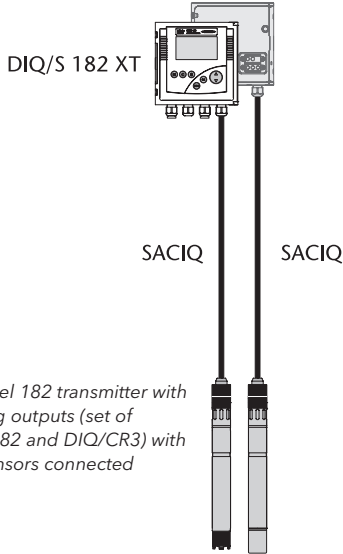
Configuration Example	Order No.
DIQ/S 182	472 000Y
SACIQ-7.0	480 042Y
IQ Sensor	user selectable



182 transmitter with 1 IQ Sensor connected

### Example 2

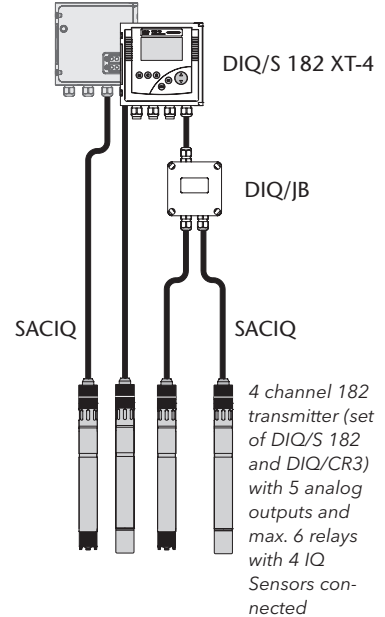
Configuration Example	Order No.
DIQ/S 182 XT	472 001Y
2 x SACIQ-7.0	480 042Y
2 IQ Sensors	user selectable



2 channel 182 transmitter with 4 analog outputs (set of DIQ/S 182 and DIQ/CR3) with 2 IQ Sensors connected

### Example 3

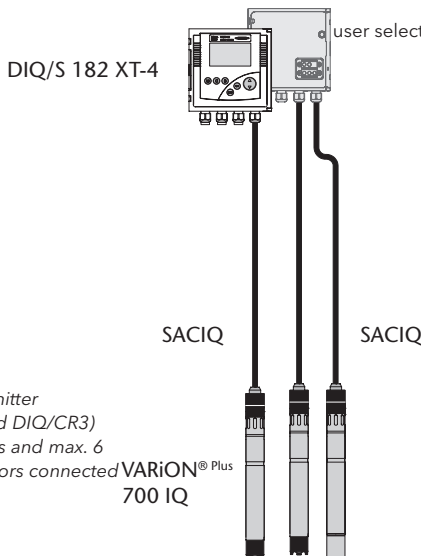
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
4 x SACIQ-7.0	480 042Y
DIQ/JB	472 005Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 4 IQ Sensors connected

### Single measuring point with analog outputs

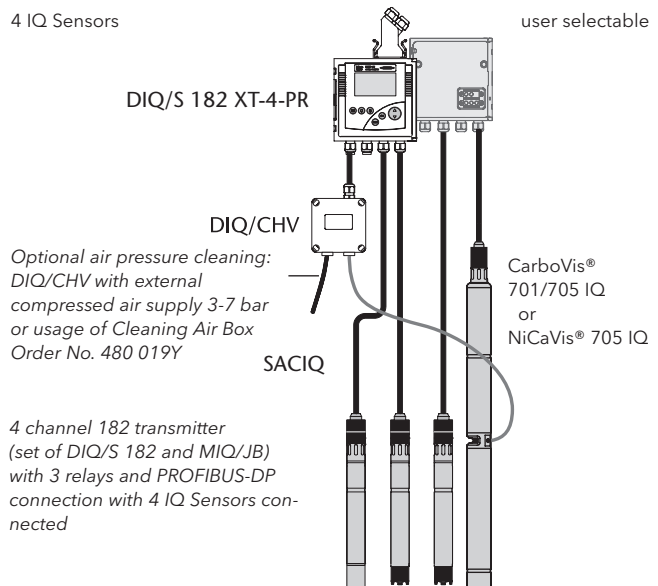
Configuration Example	Order No.
DIQ/S 182 XT-4	472 015Y
3 x SACIQ-7.0	480 042Y
VARION <sup>Plus</sup> 700 IQ	107 066Y
2 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and DIQ/CR3) with 5 analog outputs and max. 6 relays with 3 IQ Sensors connected

### Single measuring point PROFIBUS / MODBUS

Configuration Example	Order No.
DIQ/S 182 XT-4-PR	472 017Y
3 x SACIQ-7.0	480 042Y
4 IQ Sensors	user selectable



4 channel 182 transmitter (set of DIQ/S 182 and MIQ/JB) with 3 relays and PROFIBUS-DP connection with 4 IQ Sensors connected



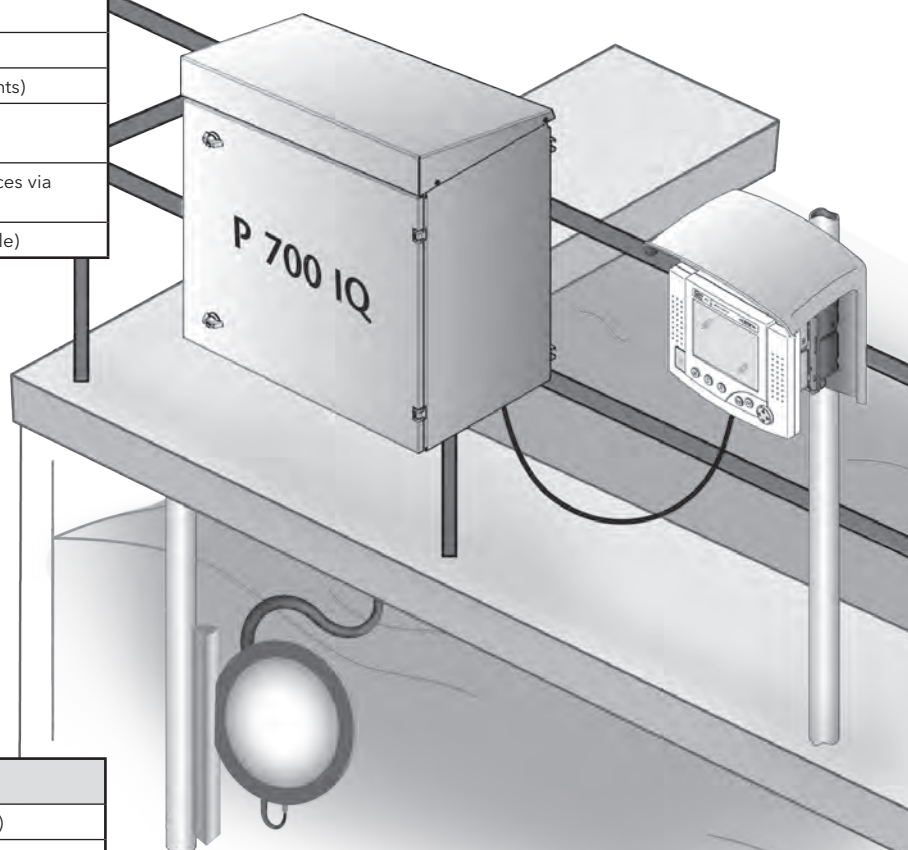
Model	Description	Order No.
<b>P 700 IQ Orthophosphate</b>		
<b>P 700 IQ-I115</b>	New Orthophosphate Analyzer P 700 IQ for the IQ SENSORNET, indoor, 115V. Scope of delivery: Indoor Orthophosphate analyzer, without power cable (MIQ/TC 2020 XT, connection cable SNCIQ: please order separately)	8P-000Y
<b>P 700 IQ-O115</b>	New Orthophosphate Analyzer P 700 IQ for the IQ SENSORNET outdoor, 115V. Scope of delivery: Onsite Orthophosphate analyzer, without power cable (MIQ/TC 2020 XT, connection cable SNCIQ: please order separately)	8P-001Y
<b>P 700 IQ-PI115</b>	New Orthophosphate Analyzer P 700 IQ for the IQ SENSORNET with integrated permeate pump for filtration, indoor, 115V. Scope of delivery: Indoor Orthophosphate analyzer with integrated permeate pump, without power cable (MIQ/TC 2020 XT, connection cable SNCIQ: please order separately)	8P-010Y
<b>P 700 IQ-PO115</b>	New Orthophosphate Analyzer P 700 IQ for the IQ SENSORNET with integrated permeate pump for filtration, outdoor, 115V. Scope of delivery: Onsite Orthophosphate analyzer with integrated permeate pump, without power cable (MIQ/TC 2020 XT, connection cable SNCIQ: please order separately)	8P-011Y
<b>P 700 IQ Filtration</b>		
<b>Filter</b>	New Set of 2 filter membranes for filter membrane module FM and module case FM-Case	821972Y
<b>FM-Case</b>	New Module case for filter membranes. Included: Module case without filter membranes (Please order filter membranes separately)	821973Y
<b>RL 2</b>	New Permeate return line, unheated, 2 m (6.5 ft)	821974Y
<b>RL 115-2</b>	New Permeate return line, heated, 115 VAC, 2 m (6.5 ft)	821975Y
<b>RL 230-2</b>	New Permeate return line, heated, 230 VAC, 2 m (6.5 ft)	821976Y
<b>SL 10</b>	New Suction tube with slide, unheated, 10 m (33 ft)	821977Y
<b>SL 5</b>	New Suction tube with slide, unheated, 5 m (16.2 ft)	821978Y
<b>SL 115-10</b>	New Suction tube with slide, heated 115 VAC, 10 m (33 ft)	821979Y
<b>SL 230-10</b>	New Suction tube with slide, heated, 230 VAC, 10 m (33 ft)	821980Y
<b>SL 115-5</b>	New Suction tube with slide, heated 115 VAC, 5 m (16.2 ft)	821981Y
<b>SL 230-5</b>	New Suction tube with slide, heated, 230 VAC, 5 m (16.2 ft)	821982Y
<b>FM-Adapter</b>	New Adapter for horizontal mounting of filter membrane module FM	821983Y
<b>Filter-CL</b>	New Cleaning case for filter membranes	821984Y
<b>M-EXT 1.5</b>	New Extension for attachment M 1.5. Included: Extension 1.5 m, chain, bracket	821985Y
<b>M 1.5</b>	New Attachment for filtration. Included: Rail 1.5 m (4.9 ft), chain, bracket	821986Y
<b>FM</b>	New Filter membrane module with premounted membrane	821987Y
<b>P 700 IQ Accessories</b>		
<b>ST-BT</b>	New Bottle top with tube for standards	821970Y
<b>ST 0.0</b>	New Standard solution 0.0 mg/l PO4-P (zeroing) for P 700 IQ (1.0 l)	821971Y
<b>RM</b>	New Rail mount for P 700 IQ	821988Y
<b>WM</b>	New Wall mount for P 700 IQ	821989Y
<b>LED</b>	New Replacement LED for photometer unit	821990Y
<b>SM</b>	New Stand mount for P 700 IQ	821991Y
<b>T SET</b>	New Set of replacement parts (fittings and spare tubes) for P 700 IQ	821992Y
<b>PT</b>	New Replacement pump tube	821993Y
<b>PM</b>	New Replacement pump motor for peristaltic pump	821994Y
<b>ST 20.0</b>	New Standard solution 20.0 mg/l PO4-P for P 700 IQ (1.0 l)	821995Y
<b>ST 8.0</b>	New Standard solution 8.0 mg/l PO4-P for P 700 IQ (1.0 l)	821996Y
<b>ST 1.6</b>	New Standard solution 1.6 mg/l PO4-P for P 700 IQ (1.0 l)	821997Y
<b>CL 1.0</b>	New Cleaning solution for P 700 IQ (1.0 l)	821998Y
<b>RE 2.5</b>	New Reagent for P 700 IQ for orthophosphate measurement (2.5 l)	821999Y

### Technical Data P 700 IQ

<b>Measuring method</b>	Molybdate-vanadate
<b>Measuring range</b>	Measuring range A: 0.05 - 15.00 mg/l PO <sub>4</sub> -P Measuring range B: 1 - 50 mg/l PO <sub>4</sub> -P
<b>Resolution</b>	Measuring range A: 0.05 mg/l PO <sub>4</sub> -P Measuring range B: 1 mg/l PO <sub>4</sub> -P
<b>Accuracy</b>	Measuring range A: ± 2 %, ± 0.05 mg/l Measuring range B: ± 2 %, ± 1 mg/l
<b>Response time T-90</b>	< 5 min
<b>Detection limit</b>	Measuring range A: 0.05 mg/l PO <sub>4</sub> -P Measuring range B: 1 mg/l PO <sub>4</sub> -P
<b>pH range</b>	5 - 9
<b>Sample temperature</b>	39.2 - 113 °F (4 - 45 °C)
<b>Measuring interval</b>	< 5 min (adjustable)
<b>Operating temperature</b>	-4 - 104 °F (-20 - 40 °C)
<b>Storage temperature</b>	-4 - 122 °F (-20 - 50 °C)
<b>Reagent consumption</b>	2500 ml container for 8 months at a measuring range (A) at a 10 min measurement interval 2500 ml container for 4 months at a measuring range (B) at a 10 min measurement interval
<b>Cleaning Solution</b>	1000 ml for 4 months with daily cleaning
<b>Conformity</b>	CE
<b>Equipment safety</b>	EN 61010-1, UL 3111-1, CAN/CSA C22.2 No. 1010.1)
<b>Climate control</b>	Heater and fan
<b>Power supply</b>	115/230 VAC
<b>Weight</b>	~66 lb (~30 kg; without reagents)
<b>Dimensions</b>	~26.69 x 30.71 x 15.55 in. (~678 x 780 x 395 )mm
<b>Outputs</b>	Relays, analog outputs, interfaces via System 2020 XT
<b>Calibration</b>	Manual or automatic (adjustable)



**IQ**  
SENSOR NET<sup>XT</sup>



### Technical Data P 700 IQ Filtration

<b>Membrane area:</b>	155.00 in <sup>2</sup> (1.000 cm <sup>2</sup> )
<b>Maximum operating temperature:</b>	113 °F (45 °C)
<b>Maximum operating overpressure</b> (Raw water to permeate side):	2.0 bar at 68 °F (20 °C)
<b>Operating under pressure</b> (permeate side):	approx. 0.5 bar at 68 °F (20 °C)
<b>Materials:</b>	Housing: PVC Seals: NBR Screws: Stainless steel

Parameter	Sensors														
	TriOxmatic® 700 IQ	FDO® 700 IQ	SensoLyt® 700 IQ	TetraCon® 700 IQ	VisoTurb® 700 IQ	ViSolid® 700 IQ	Ammolyt® Plus 700 IQ	NitraLyt® Plus 700 IQ	VARION® Plus 700 IQ	NitraVis® 700 IQ	CarboVis® 700 IQ	NiCaVis® 700 IQ	NiCaVis® 700 IQ NI	IFL® 700 IQ	P 700 IQ
Usable with System 2020 XT	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Usable with System 182	●	●	●	●	●	●	●	●	●	●	●	●	●		
Power consumption [W]	0.2	0.7	0.2	0.2	1.5	1.5	0.2	0.2	0.2	8.0	8.0	8.0	8.0	5.5	0.5
Parameter															
<b>Sludge Level</b>														●	

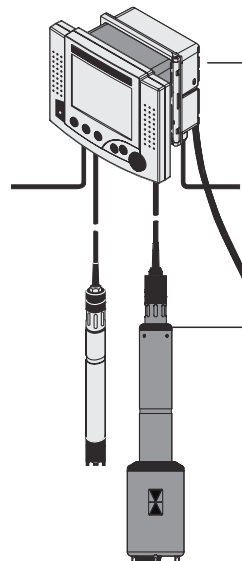
Model		Description	Order No.
<b>Sludge Level Sensors</b>			
<b>IFL 700 IQ</b>	New	Digital ultrasonic sensor with automatic cleaning for interface level detection. Included: Sensor without sensor connection cable (please order SACIQ separately)	481200Y
<b>IFL 701 IQ</b>	New	Digital ultrasonic sensor for interface level detection. Included: Sensor without sensor connection cable (please order SACIQ separately)	481201Y
<b>Sludge Level Accessories</b>			
<b>EH/W 171</b>	New	Pivot wall mount for IQ sensors to pipes with 30 mm (1.18 in) diameter (EH/WT-D30, EH/WB please order separately)	109360Y
<b>EH/WB</b>	New	Sensor holder for sensor with 60 mm (2.36 in) diameter for attachment to pipes with 30 mm (1.18 in) diameter	109362Y
<b>SACIQ-1.5</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-SO</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041Y
<b>SACIQ-7.0</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-Plug</b>		Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>IFL-D</b>	New	Deflector armature for IFL 700 IQ and IFL 701 IQ for application with surface skimmers	481205Y
<b>IFL-RM</b>	New	Rail mount for interface level sensors IFL 700 IQ and IFL 701 IQ in combination with deflector armature IFL-D. (EH/WT-D30, EH/WT-D40, IFL-D please order separately)	481207Y

# Measuring Point Configuration

## Sludge Level



Application of the folding fitting IFL D in conjunction with the railing installation IFL RM for moving surface scrapers.  
View:  
sensor in maintenance position (lockable)



### IFL 700 IQ

IQ SENSORNET

Sludge level sensor can only be used with system 2020 XT.

For data transfer in combination with moving surface scrapers using wireless transmission with the MIQ/ Blue PS SET is recommended

Order No. 480 021Y

### Sludge Level Sensor

- IFL 700 IQ Order No. 481 200Y

- IFL 701 IQ Order No. 481 201Y

required components per measuring place: dark shaded



Technical Data IFL 700 IQ	
<b>Measuring method</b>	Ultrasound echo measurement
<b>Measuring range</b>	0.4 m - 15 m
<b>Resolution</b>	0.01 m
<b>Accuracy</b>	0.1 m
<b>Signal filters</b>	Yes
<b>Flow speed</b>	Max. 4 m/s
<b>Physical dimensions</b>	Length 442 mm (17.40 in.); max. diameter 105 mm (4.13 in.)
<b>Weight</b>	Approx. 3.6 kg (7 lb)
<b>Immersion depth</b>	min. 5 cm; max. 3 m
<b>Protection class</b>	Sensor with SACIQ cable connected: IP 68; 0.3 bar
<b>Pressure resistance</b>	The sensor with connected SACIQ cable complies with the requirements of article 3(3), 97/23/EU guideline.
<b>Permitted pH range of medium</b>	4 - 12
<b>Permitted temperature range</b>	Medium: > 0 °- +50 °C, Storage and transport: -5° - +50°C
<b>Materials</b>	Shaft and baseplate: stainless steel 1.4571 Plug head and transition unit: POM Ultrasound unit: PVC-C Cleaning system: Grade 2 Titanium (shaft), Grivory
<b>Equipment safety, Standards</b>	EN 61010-1; UL 61010-1; CAN/CSA C22.2#61010-1
<b>Electric data</b>	Nominal voltage 24 VDC, provided via the IQ SENSORNET System
<b>Power consumption</b>	5.5 W, operating with MIQ / Blue PS: 3.0W; without a purification system (P 701 IQ): 3.0 W
<b>Certifications</b>	CE, cETL, ETL
<b>Usabel System</b>	IQ SENSORNET System 2020 XT

# IQ SENSORNET

Parameter	Sensors														
	TriOxmatic® 700 IQ	FDO® 700 IQ	SensoLyt® 700 IQ	TetraCon® 700 IQ	VisoTurb® 700 IQ	ViSolid® 700 IQ	AmmoLyt® Plus 700 IQ	NitraLyt® Plus 700 IQ	VARION® Plus 700 IQ	NitraVis® 700 IQ	CarboVis® 700 IQ	NiCaVis® 700 IQ	NiCaVis® 700 IQ NI	IFL® 700 IQ	P 700 IQ
Usable with System 2020 XT	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Usable with System 182	●	●	●	●	●	●	●	●	●	●	●	●	●		
Power consumption [W]	0.2	0.7	0.2	0.2	1.5	1.5	0.2	0.2	0.2	8.0	8.0	8.0	8.0	5.5	0.5
Parameter															
<b>Temperature</b>	●	●	●	●			●	●	●						
<b>Dissolved Oxygen</b> (electrochemical)	●														
<b>Dissolved Oxygen</b> (optical)		●													
<b>pH</b>			●												
<b>ORP</b>			●												
<b>Conductivity</b>				●											
<b>Salinity</b>				●											
<b>TDS</b>				●											
<b>Turbidity</b> (optical)					●										
<b>TSS</b> (optical)						●				●	●				
<b>Sludge Level</b>														●	
<b>Ammonium</b> (ion-selective)							●		●						
<b>Nitrate</b> (ion-selective)								●	●						
<b>Nitrate</b> (optical/spectral)										●		●	●		
<b>Nitrite</b> (optical/spectral)													●		
<b>Potassium</b> (ion-selective)							●		●						
<b>Chloride</b> (ion-selective)								●	●						
<b>COD</b> (optical/spectral)											●	●	●		
<b>BOD</b> (optical/spectral)											●	●	●		
<b>TOC</b> (optical/spectral)											●	●	●		
<b>DOC</b> (optical/spectral)											●	●	●		
<b>SAC</b> (optical/spectral)											●	●	●		
<b>Ortho-Phosphate</b> (optical)															●

Model	Description	Order No.
<b>IQ Sensors for Systems 182 and 2020 XT, Connection Cables</b>		
<b>Dissolved Oxygen</b>		
<b>TriOxmatic® 700 IQ</b>	Universal digital D.O. sensor for monitoring/controlling O <sub>2</sub> input in wastewater treatment plants for use with IQ SENSORNET. Supplied with accessory kit (ZBK 600) comprising: 2 exchange membrane heads (WP 600/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1x cathode cleaner (SF 300), without connection cable (SACIQ order separately)	201640Y
<b>TriOxmatic® 700 IQ SW</b>	Universal digital D.O. sensor for monitoring/controlling the O <sub>2</sub> input, in saltwater design, for use with IQ SENSORNET. Supplied with accessory kit (ZBK 600) comprising: 2 exchange membrane heads (WP 600/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1 x cathode cleaner (SF 300), without connection cable (SACIQ order separately)	201641Y
<b>TriOxmatic® 701 IQ</b>	Fast response time digital D.O. sensor for use in wastewater treatment plants, e.g. denitrification, for use with IQ SENSORNET. Supplied with accessory kit (ZBK 25i) comprising: 2 exchange membrane heads (WP 25i/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1x cathode cleaner (SF 300), without connection cable (SACIQ order separately)	201644Y
<b>TriOxmatic® 702 IQ</b>	Digital D.O. sensor for trace level measurements in the ppb range, e.g. ultrapure water/boiler feed water, for use with IQ SENSORNET. Supplied with accessory kit (ZBK 25i) comprising: 2 exchange membrane heads (WP 25i/2), 50 ml electrolyte solution (ELY/A), 50 ml cleaning solution (RL-AG/Oxi), 1x cathode cleaner (SF 300), without connection cable (SACIQ order separately)	201646Y
<b>FDO® 700 IQ</b>	Digital calibration free optical D.O. sensor (universal use). Optimized for monitoring/controlling the O <sub>2</sub> input in wastewater treatment plants, for use with IQ SENSORNET. Factory calibrated system composed of sensor FDO® 700 IQ and membrane cap SC-FDO® 700, without connection cable (SACIQ order separately)	201650Y
<b>FDO® 700 IQ SW</b>	Digital calibration free optical D.O. sensor (universal use). Optimized for measuring and controlling the O <sub>2</sub> input in saltwater applications, for use with IQ SENSORNET. Factory calibrated system composed of sensor FDO® 700 IQ SW, membrane cap SC-FDO® 700 and protective cap MSK FDO®, without connection cable (SACIQ order separately).	201652Y
<b>FDO® 701 IQ SW</b>	Digital calibration free optical D.O. sensor with fast response time (universal use). Optimized for measuring/controlling the O <sub>2</sub> input in saltwater applications, for use with IQ SENSORNET. Factory calibrated system composed of sensor FDO® 700 IQ SW, membrane cap SC-FDO® 701 and protective cap MSK FDO®, without connection cable (SACIQ order separately)	201653Y
<b>FDO® 701 IQ</b>	Digital calibration free optical D.O. sensor with fast response time (universal use). Optimized for monitoring/controlling the O <sub>2</sub> input in waste water treatment plants, for use with IQ SENSORNET. Factory calibrated system composed of sensor FDO® 700 IQ and membrane cap SC-FDO® 701, without connection cable (SACIQ order separately).	201660Y
<b>pH/ORP</b>		
<b>SensoLyt® SEA</b>	pH combination electrode especially suited for measurements in heavily polluted wastewater, with armoring for use in SensoLyt® armatures. With watertight S7 plug head (IP 67)	109115Y
<b>SensoLyt® ECA</b>	pH combination electrode esp. suited for normally polluted wastewater (e.g. municipal wastewater) with armoring for use in SensoLyt® armatures. With watertight S7 plug head (IP 67)	109117Y
<b>SensoLyt® SEA-HP</b>	pH combination electrode with optimized armoring for use under high pressure/temperature conditions, for installation in SensoLyt® armatures. With watertight S7 plug head (IP 67)	109118Y
<b>SensoLyt® DWA</b>	pH combination electrode especially for drinking water applications, for installation in armatures of SensoLyt® 650/690/700 (IQ) series. With watertight S7 plug head (IP 67)	109119Y
<b>SensoLyt® PtA</b>	ORP combination electrode especially suited for measurements in heavily polluted wastewater, for installation in SensoLyt® armatures. With watertight S7 plug head (IP 67)	109125Y
<b>SensoLyt® 700 IQ</b>	Robust digital pH/ORP sensor for pH/ORP electrodes SensoLyt® SEA/DWA/ECA/PtA for use with the IQ SENSORNET. With built-in pre-amplifier and temperature sensor (NTC), with SensCheck function, without connection cable (please order SACIQ separately)	109170Y
<b>SensoLyt® 700 IQ SW</b>	Robust digital pH/ORP sensor for SensoLyt® SEA/ DWA/ECA/PtA pH/ORP electrodes, in saltwater design, for use with the IQ SENSORNET. With built-in pre-amplifier and temperature sensor (NTC), with SensCheck function, without connection cable (please order SACIQ separately)	109171Y
<b>Conductivity</b>		
<b>TetraCon® 700 IQ</b>	Digital 4 electrode conductivity cell, especially for heavily polluted wastewater, for use with the IQ SENSORNET System. With integrated temperature sensor, without cable (Please order SACIQ separately)	302500Y
<b>TetraCon® 700 IQ SW</b>	Digital 4 electrode conductivity cell, in saltwater design, suited for heavily polluted water, for use with the IQ SENSORNET. With integrated temperature sensor, without cable (Please order SACIQ separately)	302501Y
<b>Turbidity/Suspended Solids</b>		
<b>VisoTurb® 700 IQ</b>	Digital turbidity sensor for drinking water/water and wastewater (UltraClean™ ultrasonic cleaning) for use with the IQ SENSORNET system. Please order connection cable SACIQ separately.	600010Y

Model	Description	Order No.
<b>VisoTurb® 700 IQ SW</b>	Digital turbidity sensor for industrial and saltwater applications (UltraClean™ ultrasonic cleaning) for use with the IQ SENSORNET system. Please order connection cable separately.	600011Y
<b>ViSolid® 700 IQ</b>	Digital suspended solids sensor for water/wastewater/sludge (UltraClean™ ultrasonic cleaning) for use with the IQ SENSORNET system. Please order connection cable SACIQ separately.	600012Y
<b>ViSolid® 700 IQ SW</b>	Digital suspended solids sensor for industrial and saltwater applications (UltraClean™ ultrasonic cleaning) for use with the IQ SENSORNET system. Please order connection cable separately.	600013Y
<b>Combination sensor for ammonium and nitrate ISE</b>		
<b>VARiON®/ES-1</b>	Multiple standard solution 1 (low concentration) for VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ; Volume: 1000 ml	107050Y
<b>VARiON®/ES-2</b>	Multiple standard solution 2 (high concentration) for VARiON®Plus 700 IQ/ AmmoLyt®Plus 700 IQ/NitraLyt®Plus 700 IQ; Volume: 1000 ml	107052Y
<b>VARiON®Plus A comp SET NH4</b>	Robust digital probe for ion-selective measurement of ammonium and nitrate (in-situ) for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ, reference electrode VARiON® Ref, ammonium electrode VARiON®Plus NH4 and compensation electrode VARiON®Plus K (potassium). Please order SACIQ cable separately.	107060Y
<b>VARiON®Plus N comp SET NO3</b>	Robust digital probe for ion-selective measurement of ammonium and nitrate (in-situ) for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ, reference electrode VARiON® Ref, nitrate electrode VARiON®Plus NO3 and compensation electrode VARiON®Plus Cl (chloride). Please order SACIQ cable separately.	107062Y
<b>VARiON®Plus AN/A comp SET NH4 &amp; NO3</b>	Robust digital probe for ion-selective measurement of ammonium and nitrate (in-situ) for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ, reference electrode VARiON® Ref, measuring electrodes VARiON®Plus NH4 and VARiON®Plus NO3, compensation electrode VARiON®Plus K (potassium). Please order SACIQ cable separately.	107066Y
<b>VARiON®Plus AN/N comp SET NH4 &amp; NO3</b>	Robust digital probe for ion-selective measurement of ammonium and nitrate (in-situ) for use with the IQ SENSORNET system. Supplied with: Probe VARiON®Plus 700 IQ, reference electrode VARiON® Ref, measuring electrodes VARiON®Plus NH4 and VARiON®Plus NO3, compensation electrode VARiON®Plus Cl (chloride). Please order SACIQ cable separately.	107068Y
<b>Ammonium (ISE)</b>		
<b>AmmoLyt® Plus 700 IQ</b>	Robust digital ammonium probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: Electrodes VARiON® Ref, VARiON®Plus NH4, VARiON®Plus K and SACIQ connection cable (Please order separately).	107070Y
<b>AmmoLyt® Plus SET</b>	Robust digital ammonium probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system, delivered with VARiON® Ref and VARiON®Plus NH4 electrodes. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: electrode VARiON®Plus K und SACIQ connection cable. (Please order separately)	107071Y
<b>AmmoLyt® Plus SET/Comp</b>	Robust digital ammonium probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system, delivered with VARiON® Ref, VARiON®Plus NH4 and VARiON®Plus K electrodes. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: SACIQ connection cable (Please order separately).	107072Y
<b>Nitrate (ISE)</b>		
<b>NitraLyt®Plus 700 IQ</b>	Robust digital nitrate probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: Electrodes VARiON® Ref, VARiON®Plus NO3, VARiON®Plus Cl and SACIQ connection cable (Please order separately).	107080Y
<b>NitraLyt®Plus SET</b>	Robust digital nitrate probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system, delivered with VARiON® Ref and VARiON®Plus NO3 electrodes. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: Electrode VARiON®Plus Cl and SACIQ connection cable (Please order separately).	107081Y
<b>NitraLyt®Plus SET/Comp</b>	Robust digital nitrate probe for ion-selective electrodes (in-situ measuring), for use with the IQ SENSORNET system, delivered with VARiON® Ref, VARiON®Plus NO3 and VARiON®Plus Cl electrodes. With built-in lightning protection, pre-amplifier and temperature sensor. Not included: SACIQ connection cable (Please order separately).	107082Y
<b>Nitrate/Nitrite (UVVIS)</b>		
<b>NitraVis® 701 IQ</b>	Optical nitrate probe with spectral processing of UV-VIS range, for measurement in inlet/BNR part of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481044Y
<b>NitraVis® 701 IQ TS</b>	Optical nitrate/TSS probe with spectral processing of UV-VIS range, for in-situ measurement in inlet/ BNR part of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481045Y
<b>NitraVis® 705 IQ</b>	Optical nitrate probe with spectral processing of UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481046Y

Model		Description	Order No.
<b>NitraVis® 705 IQ TS</b>		Optical nitrate/TSS probe with spectral processing of UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481047Y
<b>NiCaVis® 705 IQ</b>		Optical nitrate and CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble and UVT 254 probe, with spectral processing of the UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481052Y
<b>NiCaVis® 701 IQ NI</b>	New	UV Sensor for measurement of Nitrite, Nitrate, CODtotal, CODsoluble, TOC, BOD, DOC, SACtotal, and UVT254 in the influent, biological tank and effluent of municipal waste water treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately)	481054Y
<b>NiCaVis® 705 IQ NI</b>	New	UV Sensor for measurement of Nitrite, Nitrate, CODtotal, CODsoluble, TOC, BOD, DOC, SACtotal, SACsoluble, and UVT254 in the effluent of municipal waste water treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately)	481055Y
<b>Carbon (UVVIS)</b>			
<b>CarboVis® 701 IQ</b>		Optical CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble and UVT 254 probe with spectral processing of the UV-VIS range, for measurement in the inlet/effluent/BNR (depending on the parameter) part of municipal wastewater treatment plants, with integrated integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481048Y
<b>CarboVis® 701 IQ TS</b>		Optical CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble/UVT 254 and TSS probe with spectral processing of the UV-VIS range, for measurement in the inlet/effluent/BNR (depending on the parameter) part of municipal wastewater treatment plants with integrated integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481049Y
<b>CarboVis® 705 IQ</b>		Optical CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble and UVT 254 probe with spectral processing of the UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481050Y
<b>CarboVis® 705 IQ TS</b>		Optical CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble/UVT 254 and TSS probe with spectral processing of the UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481051Y
<b>NiCaVis® 705 IQ</b>		Optical nitrate and CODtotal/CODsoluble/TOC/DOC/BOD/SACtotal/SACsoluble and UVT 254 probe, with spectral processing of the UV-VIS range, for measurement in the effluent of municipal wastewater treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately).	481052Y
<b>NiCaVis® 701 IQ NI</b>	New	UV Sensor for measurement of Nitrite, Nitrate, CODtotal, CODsoluble, TOC, BOD, DOC, SACtotal, and UVT254 in the influent, biological tank and effluent of municipal waste water treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately)	481054Y
<b>NiCaVis® 705 IQ NI</b>	New	UV Sensor for measurement of Nitrite, Nitrate, CODtotal, CODsoluble, TOC, BOD, DOC, SACtotal, SACsoluble, and UVT254 in the effluent of municipal waste water treatment plants, with integrated UltraClean™ ultrasonic cleaning. Supplied with multifunctional slide and Shock-Absorption-Rings, without connection cable (SACIQ order separately)	481055Y
<b>Sludge Level</b>			
<b>IFL 700 IQ</b>	New	Digital ultrasonic sensor with automatic cleaning for interface level detection. Included: Sensor without sensor connection cable (please order SACIQ separately)	481200Y
<b>IFL 701 IQ</b>	New	Digital ultrasonic sensor for interface level detection. Included: Sensor without sensor connection cable (please order SACIQ separately)	481201Y
<b>Sensor Connection Cable</b>			
<b>SACIQ-1.5</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 1.5 m (4.9 ft)	480040Y
<b>SACIQ-50</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft)	480041VY
<b>SACIQ-7.0</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 7 m (23 ft)	480042Y
<b>SACIQ-15.0</b>		Sensor adapter cable for all IQ sensors, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 15 m (49 ft)	480044Y
<b>SACIQ-20.0 SW</b>		Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 20 m (65 ft), with screwable SACIQ-Plug	480045Y

Model	Description	Order No.
<b>SACIQ-50.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 50 m (162 ft), with screwable SACIQ-Plug	480060Y
<b>SACIQ-100.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length 100 m (330 ft), with screwable SACIQ-Plug	480062Y
<b>SACIQ-50 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Customized cable length up to 100 m (330 ft), with screwable SACIQ-Plug	480064VY
<b>SACIQ-Plug</b>	Screwable plug for all SACIQ sensor adapter cables for IQ sensors	480065Y
<b>SACIQ-25.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 25 m (82 ft), with screwable SACIQ-Plug	480066Y
<b>SACIQ-75.0 SW</b>	Sensor adapter cable for all IQ sensors, in saltwater design, with IP 68 waterproof connection to the IQ SENSORNET system. Cable length: 75 m (243 ft), with screwable SACIQ-Plug	480067Y

<b>Systems 182 and 2020 XT</b>				
	<b>System 182</b>		<b>System 2020 XT</b>	
<b>Max. Number of Sensors*</b>	<b>4</b>		<b>20</b>	
<b>Output Signals</b>	<b>ANALOG:</b>	<b>DIGITAL:</b>	<b>ANALOG:</b>	<b>DIGITAL:</b>
	Analog outputs (0/4 - 20 mA), Relays	<ul style="list-style-type: none"> <li>• RS 485</li> <li>• Profibus DP</li> <li>• Modbus RTU</li> </ul>	Analog outputs (0/4 - 20 mA), Relays	<ul style="list-style-type: none"> <li>• via RS 232 - PC software terminal and data server function</li> <li>• RS 232-modem</li> <li>• RS 485</li> <li>• Profibus DP</li> <li>• Modbus RTU</li> </ul>
			(digital parallel to analog possible)	
<b>Knowledge of Special Automation Technology Required</b>	Principally no, in PROFIBUS/Modbus systems yes		Principally no, in PROFIBUS/Modbus systems yes	
<b>Additional Options</b>				
<b>Additional Displays</b>	No		Yes	
<b>Redundant Controller</b>	No		Yes	
<b>Datalogger</b>	No		Yes, enhanced performance	
<b>Modem-capable Interface (Fixed Line Telephone and Mobile Network)</b>	No		Yes Alarms and measured values - MIQ/TC 2020 XT: via SMS - MIQ/MC2 family: via e-mail and web browser	
<b>Bluetooth</b>	Yes		Yes	

\* The double sensors VARiON®Plus 700 IQ, NitraVis® 700/x IQ TS, CarboVis® 700/5 IQ TS and NiCaVis® 700/5 IQ need 2 sensor spaces.

The IQ SENSORNET System consists of a variable number of system components with different functions.

<b>The individual components and their primary functions are:</b>		
Controller and terminal	Controller	Controls all communication within the system
	Terminal	Display of measurements, operation and system configuration ("Human Machine Interface")
Modules	Power supply modules	Power supply for system components
	Combined output module	Transmission of measured data or message/alarm functions (mA/relays)
	Branching modules	System branching and sensor connection
Sensors	IQ sensors and connection modules for passive sensors	Measurement of parameters
Cables	Sensor connection cable	Cables for connecting sensors to modules
	Module connection cable	Cables for connecting modules to remote measuring points
	Module connection cable, ground installation	Cables for connecting modules to remote measuring points, specifically for the ground installation.

## Systems in detail

Modules	MIQ/PS	MIQ/24V	MIQ/C6	MIQ/R6	MIQ/CR3	MIQ/IC2	MIQ/2-MOD	MIQ/2-PR	MIQ/JB	MIQ/JBR	MIQ/Blue PS SET	MIQ/TC2020XT	MIQ/MC2	MIQ/MC2-MOD	MIQ/MC2-PR	Cleaning Air Box - 230 VAC	Cleaning Air Box - 115 VAC	MIQ/CHV PLUS
Usable with System 2020 XT	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●	●
Usable with System 182	●		●	●	●	●			●		●					●	●	●
Available IQSN connectors	3	3	2	2	2	2	2	2	4	4	3	×	2	2	2	×	×	2
Electrical current	*	*	3.0	1.5	3.0	0.2	1.6	2.0	0.0	0.2	0.6	3.0	1.6	1.6	2.0	**	**	1.0
Module features																		
<b>Power supply</b>																		
100 - 240 V AC	●																	
24 V AC/DC	●																	
<b>Analog outputs/relays</b>																		
6 x 0/4 - 20 mA			●															
6 x relays				●														
3 x 0/4 - 20 mA, 3 x relays					●													
<b>Analog inputs</b>																		
2 x 0/4 - 20 mA						●												
<b>Interfaces</b>																		
MODBUS							●							●				
PROFIBUS								●								●		
USB							●	●					●	●	●			
Ethernet/LAN													●	●	●			
<b>Intra-system connectivity</b>																		
4 available IQSN connectors									●									
4 available IQSN connectors, including signal amplification for large distances										●								
Radio transmission											●							
<b>Controller</b>																		
Controller/Terminal (with Display)												●						
Controller in standard IQ module without display													●	●	●			
<b>Compensation</b>																		
Air-pressure compensation for D.O. measurement							●	●					●	●	●			
<b>Compressed air cleaning</b>																		
Air compressor 230 VAC																●		
Air compressor 115 VAC																	●	
Valve for automatic cleaning																		●

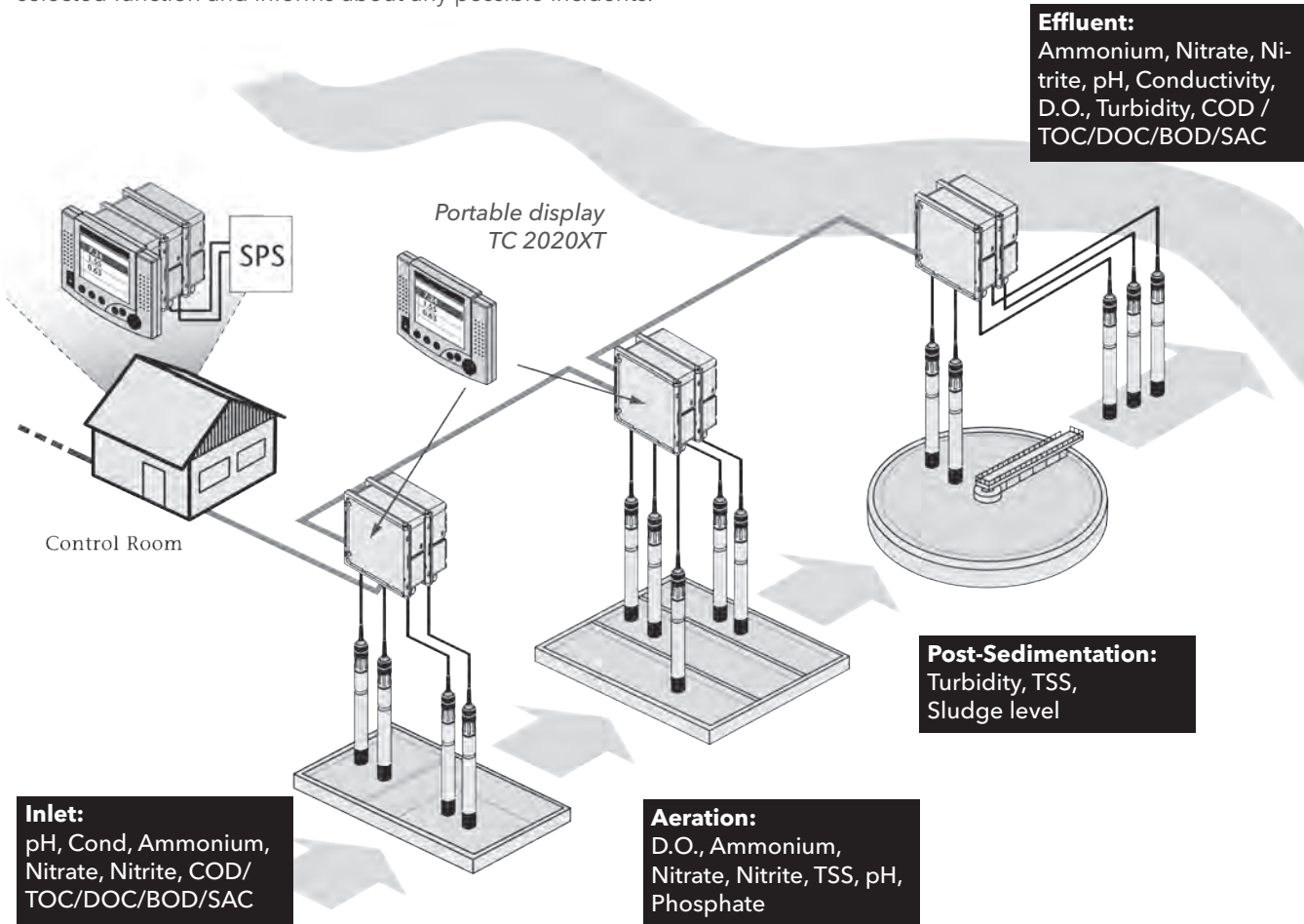
\* Power supply 18 W  
\*\* Integrated power supply

USB-interface only for software update

# The System 2020 XT

## System architecture 2020 XT

The terminal/controller MIQ/TC 2020 XT can be operated as either controller (permanently installed with the system) as also as mobile terminal. This function can be configured with the software by each user. The status LED indicates the selected function and informs about any possible incidents.



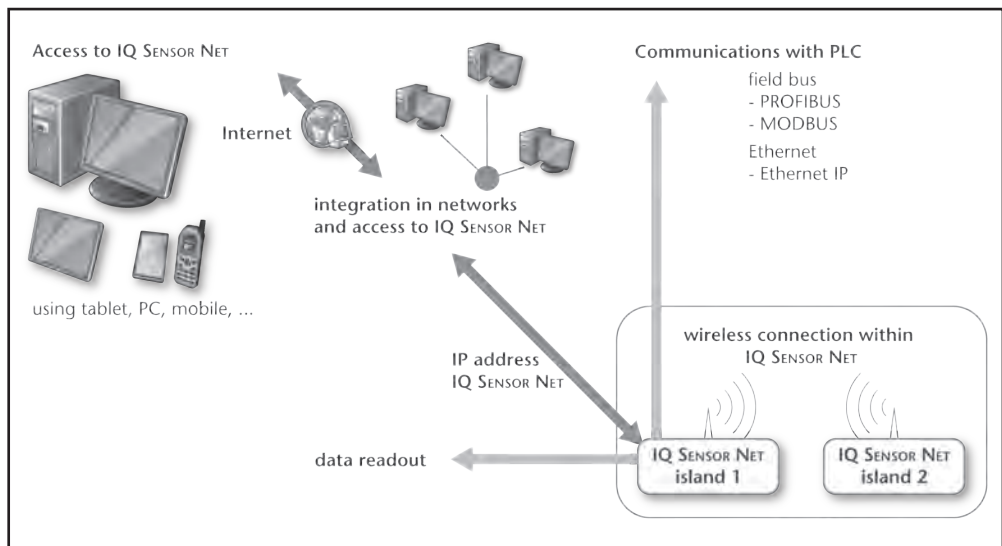
## Digital communication with the IQ Net

**MIQ/2-PR modul IQ**  
with PROFIBUS-DP connection

**MIQ/2-MOD modul IQ**  
with MODBUS RTU/RS 485 connection

**MIQ/Blue PS**  
for wireless connection and linking with the IQ SENSORNET System

Additional IQ SENSORNET islands possible.



Model		Description	Order No.
<b>System 2020 XT</b>			
<b>Terminal / Controller</b>			
<b>MIQ/TC 2020 XT</b>		Module IQ Terminal/Controller, configurable as controller (permanently installed) or as terminal with redundant controller function for system 2020 XT, with USB interface, for coupling to any IQ SENSORNET module	470000Y
<b>MIQ/TC 2020 XT-H3</b>		Multi-parameter measuring converter, for connecting up to 20 IQ sensors. Scope of supply: MIQ/TC 2020 XT Terminal/Controller, MIQ/CR3 with 3 analog outputs (0/4-20 mA) and 3 relays, MIQ/PS wide-range power supply	470016Y
<b>MIQ/TC 2020 XT-H3 C6</b>		Multi-parameter measuring converter, for connecting up to 20 IQ sensors. Scope of supply: MIQ/TC 2020 XT Terminal/Controller, MIQ/C6 with 6 analog outputs (0/4-20 mA), MIQ/PS wide-range power supply	470017Y
<b>Power Supply</b>			
<b>MIQ/PS</b>		Module IQ/Power Supply, wide-range power supply for system 2020 XT and 182, power output max. 18 W, 3 idle IQ SENSORNET connections	480004Y
<b>MIQ/24V</b>		Module IQ/24V, power supply for 24 VAC / 24 VDC input voltage, for system 2020 XT, power output max. 18 W, 3 idle IQ SENSORNET connections	480006Y
<b>Outputs, Inputs and Communication</b>			
<b>MIQ/2-MOD</b>	<i>New</i>	Module IQ with MODBUS connection and automatic air pressure compensation (can be used only with MIQ/TC 2020 XT)	471018Y
<b>MIQ/2-PR</b>	<i>New</i>	Module IQ with PROFIBUS connection and automatic air pressure compensation (can be used only with MIQ/TC 2020 XT)	471019Y
<b>MIQ/R6</b>		Module IQ/Relais 6, for system 2020 XT and 182, with 6 relay outputs (240 VAC/2 A)	480013Y
<b>MIQ/CR3</b>		Module IQ/Current Relais 3, for System 2020 XT and 182, with 3 analog (0/4-20 mA) and 3 relay outputs (250 VAC/5 A)	480014Y
<b>MIQ/C6</b>		Module IQ/Current 6, for system 2020 XT and 182, with 6 analog outputs (0/4-20 mA)	480015Y
<b>MIQ/IC2</b>		Module IQ/input current with 2 inputs (0/4-20 mA), for system 2020 XT and 182	480016Y
<b>System Extension</b>			
<b>MIQ/JB</b>		Module IQ/Junction Box for system 2020 XT and 182, 4 idle IQ SENSORNET connections	480008Y
<b>MIQ/JBR</b>		Module IQ/Junction Box Repeater for system 2020 XT, with integrated bidirectional signal amplifier (repeater)	480010Y
<b>MIQ/Blue PS SET</b>		Module IQ/Bluetooth, for wireless connection within the IQ SENSORNET system, for system 182, 184 XT and 2020 XT	480021Y
<b>Controller (no Terminal)</b>			
<b>MIQ/MC2</b>	<i>New</i>	Module IQ/microcontroller for system 2020 XT, for up to 20 IQ sensors, in module housing, with automatic air pressure compensation, USB interface (IP67), Ethernet RJ45 interface (IP 67)	471015Y
<b>MIQ/MC2-MOD</b>	<i>New</i>	Module IQ/microcontroller for system 2020 XT, for up to 20 IQ sensors, with MODBUS connection, automatic air pressure compensation as well as USB interface (IP 67) and Ethernet interface (IP 67)	471016Y
<b>MIQ/MC2-PR</b>	<i>New</i>	Module IQ/microcontroller for system 2020 XT, for up to 20 IQ sensors, with PROFIBUS connection, automatic air pressure compensation as well as USB interface (IP 67) and Ethernet interface (IP 67)	471017Y
<b>Others</b>			
<b>MIQ/CHV PLUS</b>		Module IQ/Cleaning Head Valve, for automatic air cleaning controlled by a relay or the IQ SENSORNET (relay and compressed air supply external)	480018Y
<b>MIQ/EKB</b>		IQ Cable Junction Box for underground use	505096Y
<b>ADA/D-SUB</b>		D-SUB connection for Profibus and Modbus connections for the IQ 2020 and 182 systems.	902888Y

Model	Description	Order No.
<b>Connection Cables and Mounting Material for Systems 2020 XT and 182</b>		
<b>SD/K 170</b>	Sun shield for outdoor installation of junction boxes (e.g. junction box KI/pH 170) or an IQ SENSORNET module	109284Y
<b>MR/SD 170</b>	Mounting kit for attaching of sun shields to pipes	109286Y
<b>SD/M 170-D</b>	Stainless steel double sun shield for mounting of 2 monitors to a Vario mounting stand (BE/ST 170-X)	109287Y
<b>SSH/IQ</b>	Sun shield for mounting of IQ SENSORNET modules and series 171/170 monitors to mounting stands	109295Y
<b>SNCIQ</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system. Please indicate cable length in m when ordering (unit: m)	480046Y
<b>SNCIQ/UG</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system, esp. for use in underground Please indicate cable length in m when ordering (unit: m)	480047Y
<b>PMS/IQ</b>	Kit for panel mounting of IQ SENSORNET modules	480048Y
<b>THS/IQ</b>	Kit for top hat rail mounting of IQ SENSORNET modules	480050Y
<b>WMS/IQ</b>	Kit for wall mounting of IQ SENSORNET modules	480052Y
<b>SNCIQ-250</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system. Cable reel with 250 m (273 yds)	480070Y
<b>SNCIQ-500</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system. Cable reel with 500 m (547 yds).	480072Y
<b>SNCIQ-1000</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system. Cable reel with 1000 m (1094 yds).	480074Y
<b>SNCIQ/UG-250</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system, esp. for use in underground. Cable reel with 250 m (273 yds).	480075Y
<b>SNCIQ/UG-500</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system, esp. for use in underground. Cable reel with 500 m (547 yds).	480077Y
<b>SNCIQ/UG-1000</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system, esp. for use in underground. Cable reel with 1000 m (1094 yds).	480079Y
<b>MIQ/TM/SET</b>	Adapter Set USB/RS232 for MIQ/TC 2020 XT to realize remote connections.	902887Y

<b>General Technical Data System 2020 XT</b>		
<b>System</b>		
<b>Certifications</b>	ETL, cETL (conforms with relevant UL and Canadian standards), CE	
<b>Electromagnetic Compatibility</b>	EN 61326, Class B; FCC Class A, EMC for indispensable operation	
<b>Integrated Lightning Protection</b>	According to EN 61326 enhanced overvoltage protection for the entire system, implemented in each component	
<b>Connection Medium Cable</b>	IQ SENSORNET cable SNCIQ or SNCIQ/UG (underground cable with additional PVC coating): 2-wire with shield; 2 x 0.75 mm <sup>2</sup> ; Filler cord for easy connection of shield: 0.75 mm <sup>2</sup> ; pressure resistant to 10 bar	
<b>Connection Characteristics</b>	Power supply and data transmission on these wires; resistant to polarity reversal with respect to switched shield and inner conductor (no damage); comprehensive EMC shield control; cable topology within IQ SensorNet system as required, e.g. in the form of a line, tree, star, multiple star Total cable length: max. 1.000 m/1094 yds (without signal amplifying), with signal amplifying module MIQ/JBR additional 1.000 m/1094 yds	
<b>Connection Medium Radio</b>	Radio transmission Class 1 with a range of 100 m/109 yds (max. 300 m/328 yds)	
<b>Connection Characteristics</b>	Data transmission, separate power supply necessary for each island	
<b>Controller</b>	<b>Terminal/Controller MIQ/TC 2020 XT</b>	<b>Controller MIQ/MC2</b>
<b>MIQ Module Coupling at Rear</b>	Combined mechanical and electrical connection, for rapid coupling to MIQ modules	
<b>USB interface</b>	USB-A (host)	USB-A
<b>Ethernet port</b>	-	RJ45 socket or LSA terminal strip can be used
<b>Display</b>	Graphic display; resolution: 320 x 240 pixel; visible area: 4.49 x 3.39 in. (114 x 86 mm), black/white, backlit	
<b>Control Functions/Function Keys</b>	5 operating keys: 3 master keys for functions: Measurement (M), calibration (C), set/system settings (S), 2 keys for: confirmation/switching menu O.K. (OK), Escape (ESC)  4-directional button for rapid selection of software functions and input of alphanumeric values	
<b>Datalogger</b>	MIQ/TC 2020 XT: Data memory for up to 525,600 data sets; MIQ/MC 43.000 data sets	
<b>Electric Supply</b>	Directly via the IQ SENSORNET when coupled to MIQ module	
<b>Ambient Conditions</b>	Operating temperature: -4 °F - 131 °F (-20 °C - +55 °C) Storage temperature: -13 °F - 149 °F (-25 °C - +65 °C)	
<b>Housing Material</b>	ASA (Acrylonitrile-Styrene-Acryloesterpolymer)	
<b>Protection Rating</b>	IP 66 / equivalent to NEMA 4X (not suitable for conduit connection)	
<b>Dimensions (W x H x D)</b>	8.27 x 6.69 x 1.57 in. (210 x 170 x 40 mm)	5.67 x 6.81 x 2.05 in. (144 x 173 x 52 mm)
<b>Weight</b>	Approx. 1.54 pounds (0.7 kg)	
<b>Warranty</b>	3 years	
<b>Modules</b>		
<b>MIQ Module Coupling at Front</b>	Combined mechanical and electrical connection for rapid docking and removal of the MIQ/T2020 (PLUS) Terminal/Controller (configured as Terminal) and for docking additional modules	
<b>MIQ Module Coupling at Rear</b>	Combined mechanical and electrical connection for docking additional modules, a total of 3 modules as a stack mounted unit	
<b>Cable Feeds</b>	4 screw cable glands M 16 x 1.5	
<b>Terminal Connections</b>	Screw terminal strips Terminal area for solid conductors: 0.2 - 4.0 mm <sup>2</sup> Terminal area for flexible conductors: 0.2 - 2.5 mm <sup>2</sup> accessible by opening cover	
<b>IQ SENSORNET Terminal Connections</b>	Terminal connections for the IQ SENSORNET are available on each module and can be used as required: - for connecting sensors - as an input/output or for looping through/branching of the IQ SENSORNET cable	
<b>Other Functions</b>	Two LEDs, yellow and red, for monitoring the operating voltage of the IQ SENSORNET; IQ SENSORNET connection, resistant to reversed polarity; Integrated local identity function; Integrated switchable terminal resistor (SN terminator)	
<b>Electric Supply</b>	Directly via the IQ SENSORNET	
<b>Ambient Conditions</b>	Operating temperature: -4 - 131 °F (-20 - +55 °C); Storage temperature: -13 - 149 °F (-25 - +65 °C)	
<b>Housing Material</b>	PC - 20 % GF (polycarbonate with 20 % fiberglass)	
<b>Protection Rating</b>	IP 66 / equivalent to NEMA 4X (not suitable for conduit connection)	
<b>Dimensions (W x H x D)</b>	5.67 x 5.67 x 2.05 in. (144 x 144 x 52 mm)	
<b>Weight</b>	Approx. 1.1 pounds (0.5 kg)	
<b>Warranty</b>	3 years	
<b>Sensors</b>		
<b>Mechanical Connections for Accessories</b>	Connection slot; Connection screw thread G 1"	
<b>IQ Sensor Connection Cable</b>	Combined mechanical and electrical connection for rapid attachment and exchange of sensors. Consists of jack plug and pressure-resistant screw connection. Cable lengths: 1.64 - 7.66 - 16.40 yds (1.5 - 7.0 - 15.0 m)/ 21.87 - 54.68 - 109.36 yds (20, 25, 50, 75 - 100 m) in salt water design available. Storage temperature: -13 °F - 149 °F (-25 °C - +65 °C) Operating temperature: -4 °F - +131 °F (-20 °C - +55 °C)	

<b>System components and functions</b>			
<b>Terminal/Controller</b>			
	<b>Model</b>	<b>Function</b>	<b>Order No.</b>
<b>Central Control Unit</b>	TC 2020 XT (Operation in MODBUS: terminal/controller)*	Central terminal/controller unit: is required to be installed once at any point, remains in the system, cannot be removed. Operation mode is shown through LED.	470 000Y
	MIQ/TC 2020 XT-H3	Multi-parameter measuring converter, consisting of the components MIQ/TC 2020 XT + MIQ/CR3 + MIQ/PS, 100 - 240 VAC main voltage, 3 analog outputs (0/4-20 mA) and 3 relay outputs, up to 20 free selectable IQ sensors can be connected	470 016Y
	MIQ/TC 2020 XT-H3 C6	Multi-parameter measuring converter, consisting of the components MIQ/TC 2020 XT + MIQ/C6 + MIQ/PS, 100 - 240 VAC main voltage, 6 analog outputs (0/4-20 mA) up to 20 free selectable IQ sensors can be connected	470 017Y
<b>Controller</b>			
	MIQ/MC2	Module IQ/Micro Controller; is required to be installed once at any point; with fully automatic air-pressure compensation and USB + LAN interface	471 015Y
	MIQ/MC2-MOD	Module IQ/Micro Controller with fully automatic air-pressure compensation and MODBUS RTU / RS 485 connection and USB + LAN interface	471 016Y
	MIQ/MC2-PR	Module IQ/Micro Controller with fully automatic air-pressure compensation and PROFIBUS-DP connection and USB + LAN interface	471 017Y
<b>MIQ Modules</b>			
	<b>Model</b>	<b>Function</b>	<b>Order No.</b>
<b>Power Supply</b>	MIQ/PS for 100 - 240 VAC	Depending on the power consumption up to 6 modules can be installed in the system.	480 004Y
	MIQ/24V for 24 VAC/24 VDC		480 006Y
<b>Output Modules (analog)</b>	MIQ/CR3 with 3 analog (0/4-20 mA) and 3 relay outputs	With any combination	480 014Y
	MIQ/C6 with 6 analog outputs (0/4-20 mA)		480 015Y
	MIQ/R6 with 6 relay outputs		480 013Y
<b>Output Modules (digital)</b>	MIQ/2-MOD	Module IQ with fully automatic air-pressure compensation and MODBUS RTU / RS 485 connection	471 018Y
	MIQ/2-PR	Module IQ with fully automatic air-pressure compensation and PROFIBUS-DP connection	471 019Y
<b>Magnetic valve module</b>	MIQ/CHV PLUS	Magnetic valve module for automatic controlled cleaning via compressed air	480 018Y
<b>Linking modules</b>	MIQ/JB	MIQ/JB with 4 connections (for IQ Net or IQ sensors)	480 008Y
	MIQ/JBR	MIQ/JBR, same as MIQ/JB additionally with amplifier signal for long cable distances (>1 km total length)	480 010Y
<b>Connecting module Power input</b>	MIQ/IC2	MIQ/IC2 with 2 inputs for 0/4-20 mA signals Enables the connection of separate measuring transmitters and analyzers to the IQ Net	480 016Y
<b>Radio communication module</b>	MIQ/Blue PS	For wireless connection and linking within the IQ SENSORNET system	480 021Y

Configuration and Performance Data				
IQ Sensors				
Type	Description		System 2020 XT Number min/max	Power Consumption/ Output / W
Sensolyt® 700 IQ (SW)	pH/ORP assembly		1/20***	0.2
TriOxmatic® 700 IQ (SW)	D.O. sensor			0.2
TriOxmatic® 701 IQ	D.O. sensor			0.2
TriOxmatic® 702 IQ	D.O. sensor			0.2
FDO® 700 IQ (SW)	Optical D.O. sensor			0.7
TetraCon® 700 IQ (SW)	Conductivity sensor			0.2
VisoTurb® 700 IQ (SW)	Turbidity sensor			1.5
ViSolid® 700 IQ (SW)	Suspended solids sensor			1.5
VARION®Plus 700 IQ	Double sensor ammonium and nitrate (ISE)			0.2
AmmoLyt®Plus 700 IQ	Ammonium assembly (ISE)			0.2
NitraLyt®Plus 700 IQ	Nitrate assembly (ISE)			0.2
NitraVis® 70X IQ (TS)	Optical nitrate sensor			8.0
CarboVis® 70X IQ (TS)	Optical sensor for the measurement of COD/TOC/DOC/BOD/SAC/UVT <sub>254</sub>			8.0
NiCaVis® 705 IQ	Optical sensor for the measurement of nitrate and COD/TOC/DOC/BOD/SAC/UVT <sub>254</sub>			8.0
NiCaVis® 70X IQ NI	Optical sensor for the measurement of nitrate, nitrite and COD/TOC/DOC/BOD/SAC/UVT <sub>254</sub>			8.0
P 700 IQ	Orthophosphate analyzer			0.5
IFL 700 IQ	Sludge level sensor with integrated scraper			5.5**
IFL 701 IQ	Sludge level sensor without scraper		3.0	
Output modules analog <span style="float: right;">with numbers ② of IQ SENSORNET terminal connections</span>				
			<b>In total there are 48 output channels/ system available</b>	
	<b>Each mA-output, each relays with one module is considered as 1 channel.</b>		<b>Number of occupied output channels</b>	
MIQ/CR3	IQ / current relay 3 module. with 3 analog outputs and 3 relay outputs each	②	6	3.0
MIQ/C6	IQ / current 6 module with 6 analog outputs	②	6	3.0
MIQ/R6	Module IQ/ Relais 6 with 6 analog outputs	②	6	1.5
MIQ/CHV PLUS	Module IQ/ Cleaning Head Valve for automatically controlled cleaning	②	1	1.0
Output modules digital				
MIQ/2 PR	Module IQ with PROFIBUS-DP connection	②		2.0
MIQ/2 MOD	Module IQ with MODBUS RTU / RS 485 connection	②		1.6
MIQ/Blue PS	Module IQ for wireless connection within the IQ SENSORNET system	③	1/10	0.6
MIQ/IF232	IQ / software terminal module	③	1/2	0.2
Power input connection module mA				
MIQ/IC2***	IQ / input current 2, module with 2 inputs for 0 / 4 - 20 mA signals	②	each occupied current input is counted as IQ sensor	0.2*
MIQ/JB	IQ / junction box module	④	0/25	0.0 (non-active module)
MIQ/JBR	IQ / junction box repeater module	④	0/2	0.2
Terminal-Controller				
MIQ/TC 2020 XT	Terminal / controller for system 2020 XT		In total 3 units per system possible, whereby 1 is installed constantly to the station (terminal / controller function) and 2 are removable or replaceable (terminal function)	3.0
Controller				
MIQ/MC2	Module IQ/Micro Controller	②		1.6
MIQ/MC2-PR	Module IQ/Micro Controller with PROFIBUS-DP connection	②		2.0
MIQ/MC2-MOD	Module IQ/Micro Controller with MODBUS RTU / RS-485 connection	②		1.6
Power supply modules				
MIQ/PS	IQ / power supply module for input power with wide range power supply unit for 100 - 240 VAC input voltage	③	1/6	18
MIQ/24V	IQ / 24 V module for input power with 24 VAC or 24 VDC input voltage	③		18

**Attention: Please consider power consumption of SNCIQ cable: 1 W per 100 m/109 yds (for cable lengths above 400 m/437 yds)**

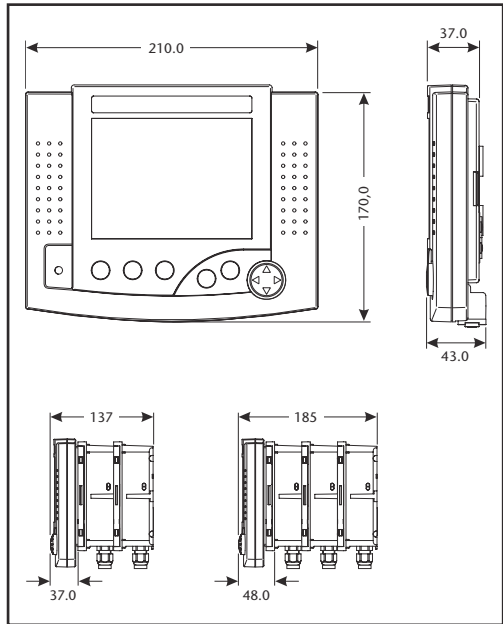
**\*(+2.2 W per connected power supply/isolator)**

\*\* operating with MIQ/Blue PS: 3,0 W

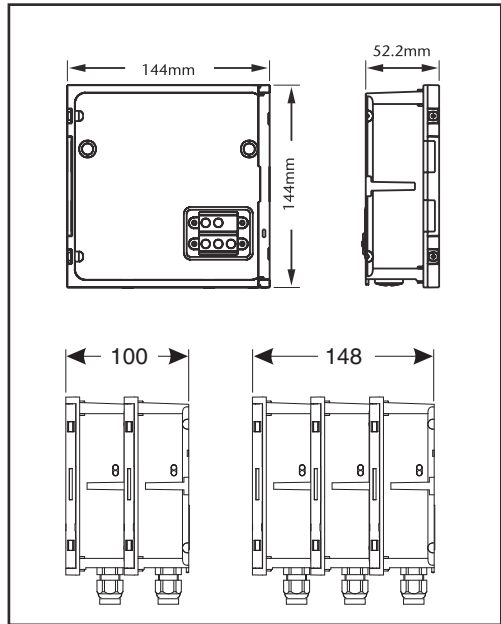
\*\*\* each occupied current input is counted as IQ sensor

# Dimension Terminal/Controller Components for System 2020 XT

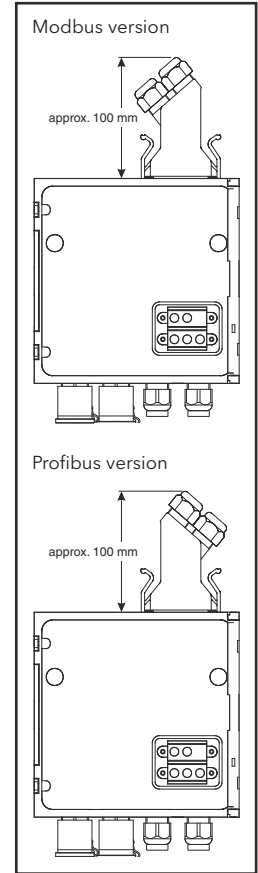
## MIQ/TC 2020 XT



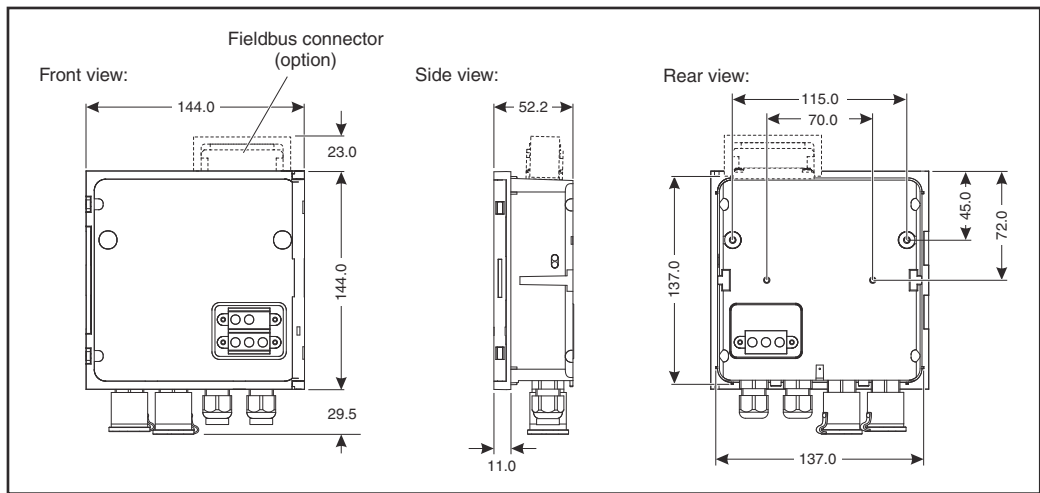
## MIQ Modules



## Connection variants

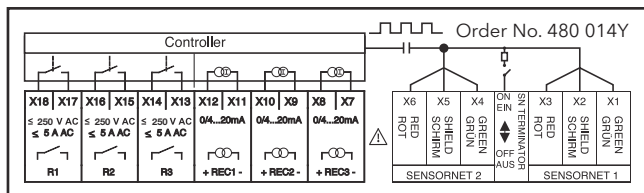


## MIQ/MC2

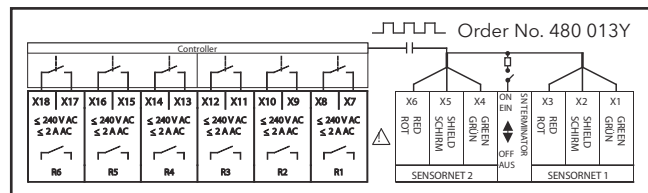


# Electrical Connections MIQ/Modules for System 2020 XT

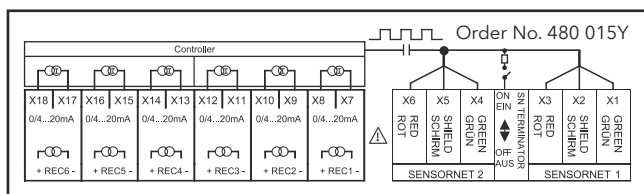
## MIQ/CR3



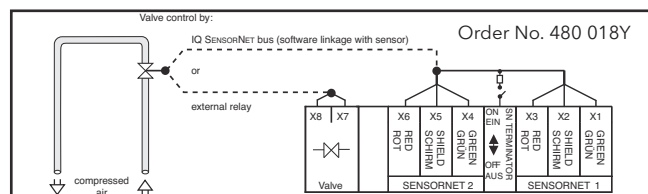
## MIQ/R6



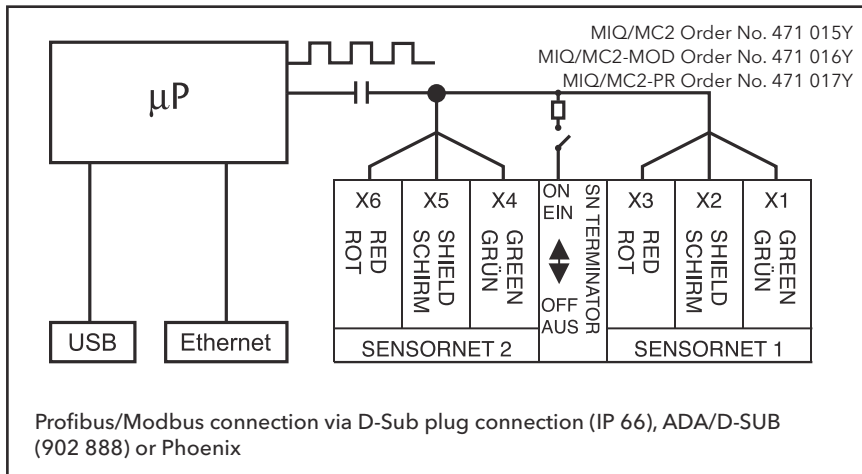
## MIQ/C6



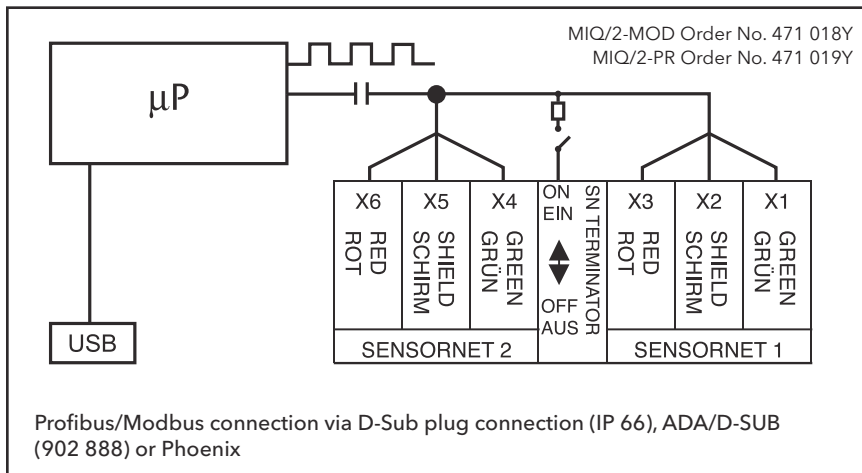
## MIQ/CHV PLUS



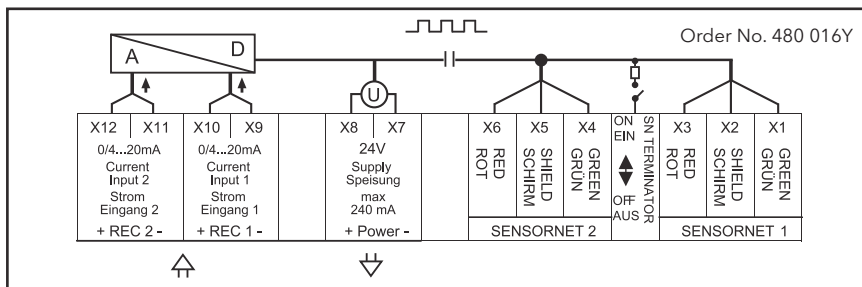
**MIQ/MC2, MIQ/MC2-PR and MIQ/MC2-MOD**



**MIQ/2-PR and MIQ/2-MOD**



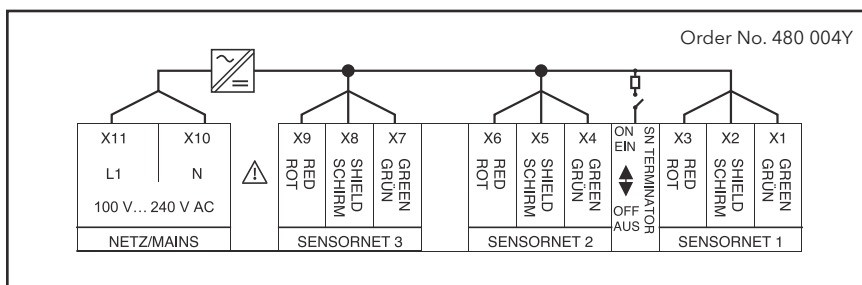
**MIQ/IC2**



**Explanation**

Signal amplification is bidirectional between Sections A and B. The weakened signals of Section A are amplified and transmitted to Section B and vice-versa. The power supply of both Sections A and B is electrically connected.

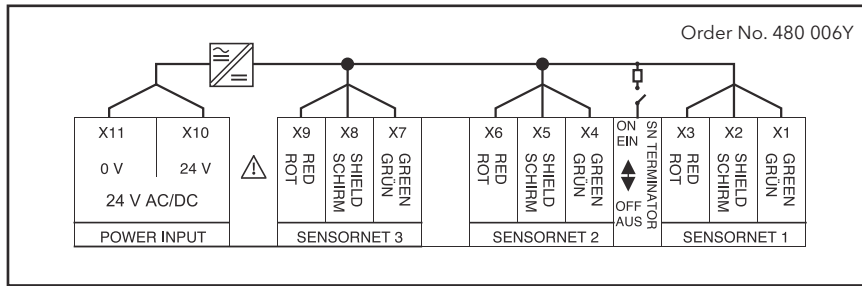
**MIQ/PS**



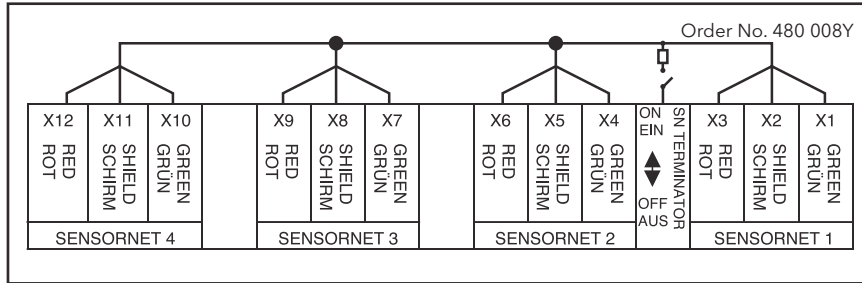
**Special characteristics**

The MIQ module couplings at the front and back are connected with Section A for stack mounting (important for the ID function).

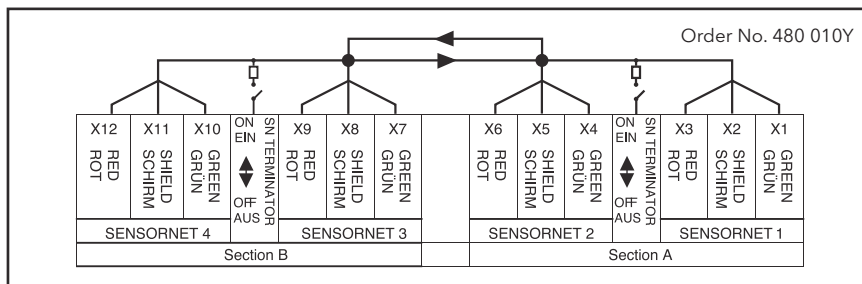
**MIQ/24V**



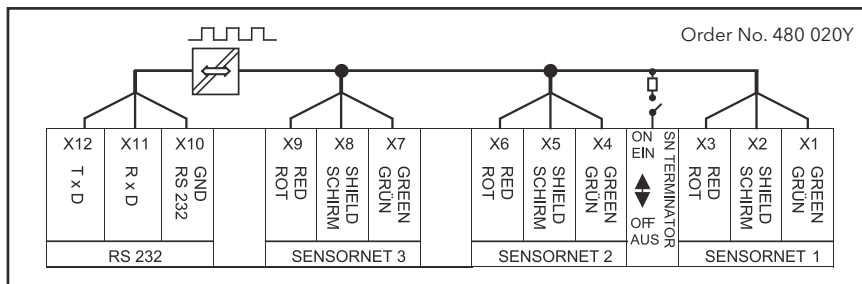
**MIQ/JB**



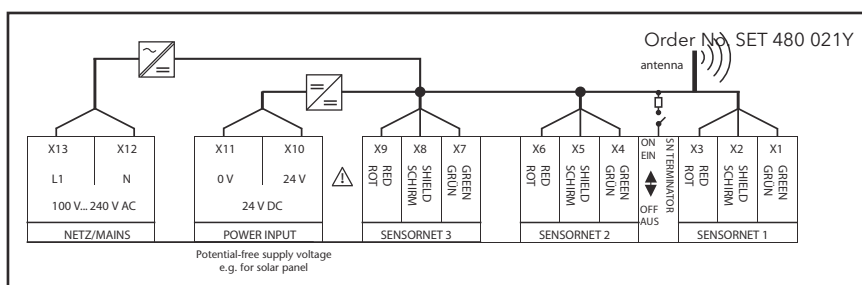
**MIQ/JBR**



**MIQ/IF 232**



**MIQ/Blue PS SET**






# The System 182

Model	Description	Order No.
<b>System 182</b>		
<b>Monitors for up to 2 digital sensors</b>		
<b>DIQ/S 182</b>	Dual IQ/System 182, Universal Transmitter for connection of 2 digital IQ sensors, with 2 analog outputs (0/4-20 mA) and 3 relays	472000Y
<b>DIQ/S 182 XT</b>	Dual IQ/System 182, Universal Transmitter for connection of 2 digital IQ sensors, with 4 analog outputs (0/4-20 mA) and 5 relays. Supply: DIQ/S 182 with DIQ/CR3	472001Y
<b>DIQ/S 182-PR</b>	Dual IQ/System 182, Universal Transmitter for connection of 2 digital IQ sensors, with 3 relays und PROFIBUS-DP connection	472002Y
<b>DIQ/S 182-MOD</b>	Dual IQ/System 182, Universal Transmitter for connection of 2 digital IQ sensors, with 3 relays and MODBUS RTU/RS 485 connection	472003Y
<b>DIQ/S 182/24V</b>	Dual IQ/System 182, Universal Transmitter for connection of 2 digital IQ sensors, with 2 analog outputs (0/4-20 mA) and 3 relays, for 24 V AC/DC power supply	472010Y
<b>DIQ/S 182 XT/24V</b>	Dual IQ/System 182, Universal Transmitter for connection of 2 digital IQ sensors, with 4 analog outputs (0/4-20 mA) and 5 relays, for 24 V AC/DC power supply. Supply: DIQ/S 182/24V with DIQ/CR3	472011Y
<b>DIQ/S 182-PR/24V</b>	Dual IQ/System 182, Universal Transmitter for connection of 2 digital IQ sensors, with 3 relays und PROFIBUS-DP connection, for 24 V AC/DC power supply	472012Y
<b>DIQ/S 182-MOD/24V</b>	Dual IQ/System 182, Universal Transmitter for connection of 2 digital IQ sensors, with 3 relays and MODBUS RTU/RS 485 connection, for 24 V AC/DC power supply	472013Y
<b>Monitors for up to 4 digital sensors</b>		
<b>DIQ/S 182 XT-4</b>	Dual IQ/System 182 XT-4 for connecting of 4 digital IQ sensors with 5 analog outputs (0/4-20 mA) and max. 6 relays. Scope of supply: DIQ/S 182 with DIQ/CR3. When connecting 4 sensors an additional DIQ/JB Junction Box is needed. Please order separately.	472015Y
<b>DIQ/S 182 XT-4-PR</b>	Dual IQ/System 182 XT-4 for connecting of 4 digital IQ sensors with 3 relays and PROFIBUS-DP connection. Scope of supply: DIQ/S 182 with MIQ/JB junction box	472017Y
<b>DIQ/S 182 XT-4-MOD</b>	Dual IQ/System 182 XT-4 for connecting of 4 digital IQ sensors with 3 relays and MODBUS RTU / RS 485 connection. Scope of supply: DIQ/S 182 with MIQ/JB junction box	472019Y
<b>DIQ/S 182 XT-4/24V</b>	Dual IQ/System 182 XT-4 for connecting of 4 digital IQ sensors with 5 analog outputs (0/4-20 mA) and max. 6 relays for 24 V AC/DC power supply. Scope of supply: DIQ/S 182 with DIQ/CR3. When connecting 4 sensors an additional DIQ/JB Junction Box is needed.	472021Y
<b>DIQ/S 182 XT-4-PR/24V</b>	Dual IQ/System 182 XT-4 for connecting of 4 digital IQ sensors with 3 relays and PROFIBUS-DP connection for 24 V AC/DC power supply. Scope of supply: DIQ/S 182/24V with MIQ/JB junction box	472023Y
<b>DIQ/S 182 XT-4-MOD/24V</b>	Dual IQ/System 182 XT-4 for connecting of 4 digital IQ sensors with 3 relays and MODBUS RTU / RS 485 connection for 24 V AC/DC power supply. Scope of supply: DIQ/S 182/24V with MIQ/JB junction box	472024Y
<b>DIQ Module</b>		
<b>DIQ/JB</b>	Dual IQ/Junction box for connection of a second or an IQ sensor in bigger distance to the Universal Transmitter DIQ/S 182 (system 182)	472005Y
<b>DIQ/CHV</b>	Dual IQ/Cleaning Head Valve for automatic air cleaning controlled by a relay, for system 182 (relay and compressed air supply external)	472007Y
<b>MS/DIQ</b>	Mounting plate for up to 2 DIQ modules (DIQ/CHV and DIQ/JB)	472009Y
<b>MIQ Modules and Cables for System Supplement</b>		
<b>MIQ/PS</b>	Module IQ/Power Supply, wide-range power supply for system 2020 XT and 182, power output max. 18 W, 3 idle IQ SENSORNET connections	480004Y
<b>MIQ/24V</b>	Module IQ/24V, power supply for 24 VAC / 24 VDC input voltage, for system 2020 XT, power output max. 18 W, 3 idle IQ SENSORNET connections	480006Y
<b>MIQ/JB</b>	Module IQ/Junction Box for system 2020 XT and 182, 4 idle IQ SENSORNET connections	480008Y
<b>MIQ/R6</b>	Module IQ/Relais 6, for system 2020 XT and 182, with 6 relay outputs (240 VAC/2 A)	480013Y
<b>MIQ/CR3</b>	Module IQ/Current Relais 3, for System 2020 XT and 182, with 3 analog (0/4-20 mA) and 3 relay outputs (250 VAC/5 A)	480014Y
<b>MIQ/C6</b>	Module IQ/Current 6, for system 2020 XT and 182, with 6 analog outputs (0/4-20 mA)	480015Y
<b>MIQ/IC2</b>	Module IQ/input current with 2 inputs (0/4-20 mA), for system 2020 XT and 182	480016Y
<b>MIQ/CHV PLUS</b>	Module IQ/Cleaning Head Valve, for automatic air cleaning controlled by a relay or the IQ SENSORNET (relay and compressed air supply external)	480018Y
<b>MIQ/Blue PS SET</b>	Module IQ/Bluetooth, for wireless connection within the IQ SENSORNET system, for system 182, 184 XT and 2020 XT	480021Y
<b>SNCIQ</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system. Please indicate cable length in m when ordering (unit: m)	480046Y

Model	Description	Order No.
<b>SNCIQ/UG</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system, esp. for use in underground Please indicate cable length in m when ordering (unit: m)	480047Y
<b>SNCIQ-250</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system. Cable reel with 250 m (273 yds)	480070Y
<b>SNCIQ-500</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system. Cable reel with 500 m (547 yds).	480072Y
<b>SNCIQ-1000</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system. Cable reel with 1000 m (1094 yds).	480074Y
<b>SNCIQ/UG-250</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system, esp. for use in underground. Cable reel with 250 m (273 yds).	480075Y
<b>SNCIQ/UG-500</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system, esp. for use in underground. Cable reel with 500 m (547 yds).	480077Y
<b>SNCIQ/UG-1000</b>	Specific two-wire IQ SENSORNET cable with shield for safe power/information transfer within the IQ SENSORNET system, esp. for use in underground. Cable reel with 1000 m (1094 yds).	480079Y
<b>ADA/D-SUB</b>	D-SUB connection for Profibus and Modbus connections for the IQ 2020 and 182 systems.	902888Y

<b>General Technical Data System 182</b>	
<b>System</b>	
<b>Certifications</b>	ETL, cETL (conforms with relevant UL and Canadian standards), CE
<b>Electromagnetic Compatibility</b>	EN 61326, Emission: Class B, EMC for indispensable operation, FCC Class A
<b>Integrated Lightning Protection</b>	According to EN 61326 enhanced overvoltage protection for the entire system
<b>Connection Medium Cable</b>	IQ SENSORNET cable SNCIQ or SNCIQ/UG (underground cable with additional PVC coating): 2-wire with shield; 2 x 0.75 mm <sup>2</sup> ; filler cord for easy connection of shield: 0.75 mm <sup>2</sup> ; pressure resistant to 10 bar
<b>Connection Characteristics</b>	Power supply and data transmission on these wires; resistant to polarity reversal with respect to switched shield and inner conductor (no damage); comprehensive EMC shield control; Cable topology within the IQ SENSORNET system as required, e.g. in the form of a line, tree, star; total cable length max. 250 m (273 yds)
<b>Connection Medium Radio</b>	Radio transmission with a range of 100 m (109 yds) (max. 300 m (328 yds))
<b>Connection Characteristics</b>	Data transmission, separate power supply necessary for each island
<b>Monitors</b>	
<b>Display</b>	Graphic display; resolution: 128 x 64 pixel; visible area: 72 x 40 mm (2.83 x 1.57 in.), black/white, backlit
<b>Control Functions/Function Keys</b>	5 operating keys:    3 master keys for functions: measurement (M), calibration (C), set/system settings (S), 2 keys for: confirmation/switching menu O.K. (OK), escape (ESC) 2 knobs for rapid selection of software functions and input of alpha-numeric values (up), (down)
<b>Electric Supply</b>	100 - 240 VAC (50/60 Hz), 24 V AC/DC
<b>MIQ Module Coupling at Rear</b>	Combined mechanical and electrical connection for docking additional modules, additionally max. 2 modules as stack mounted unit
<b>Cable Feeds</b>	4 screw cable glands M 16 x 1.5
<b>Terminal Connections</b>	Screw terminal strips Terminal area for solid conductors:    0.2 - 4.0 mm <sup>2</sup> Terminal area for flexible conductors: 0.2 - 2.5 mm <sup>2</sup> accessible by opening cover
<b>IQ SENSORNET Terminal Connections</b>	Terminal connections for the IQ SENSORNET for connecting sensors
<b>Ambient Conditions</b>	Operating temperature:                    -20 °C - +55 °C (-4 °F - 131 °F); Storage temperature:                    -25 °C - +65 °C (-13 °F - 149 °F)
<b>Housing Material</b>	PC - 20 % GF (polycarbonate with 20 % fiberglass)
<b>Protection Rating</b>	IP 66 / equivalent to NEMA 4X (not suitable for conduit connection)
<b>Dimensions (W x H x D)</b>	144 x 144 x 95 mm (5.67 x 5.67 x 3.74 in.) (DIQ/S 182 XT: 144 x 144 x 143 mm / 5.67 x 5.67 x 5.63 in.)/ DIQ modules: 95 x 95 x 58 mm (3.74 x 3.74 x 2.28 in.)
<b>Weight</b>	DIQ 182:    approx. 1 kg (2.2 pounds) DIQ/S 182 XT and DIQ/S 182 XT-4:    approx. 1.5 kg (3.31 pounds)
<b>Warranty</b>	3 years
<b>Sensors</b>	
<b>Mechanical Connections for Accessories</b>	Connection slot; connection screw thread G 1"
<b>IQ Sensor Connection Cable</b>	Combined mechanical and electrical connection for rapide attachment and exchange of sensors. Consists of jack plug and pressure-resistant screw connection. Cable lengths:                                1.5 - 7.0 - 15.0 m (1.64 - 7.66 - 16.40 yds)/ 20 - 50 - 100 m (21.87 - 54.68 - 109.36 yds) in salt water design available. Storage temperature:                    -25 °C - +65 °C (-13 °F - 149 °F) Operating temperature:                -20 °C - +55 °C (-4 °F - +131 °F)

Module	DIQ/S 182	DIQ/S 182 XT	DIQ/S 182 XT-4
			
<b>Max. number of sensors</b>	2	2	4
<b>Plug connection for Bus</b>	Plug connection for Bus 2 x mA (0) 4 - 20 mA 3 x relay	DIQ/S 182 XT 4 x mA (0) 4 - 20 mA 5 x relay	DIQ/S 182 XT-4 5 x mA (0) 4 - 20 mA 6 x relay
<b>Models with digital output PROFIBUS</b>	DIQ/S 182 PR Plug connection for Bus 3 x relay	–	DIQ/S 182 XT-4/ PR Plug connection for Bus 3 x relay
<b>Models with digital output MODBUS</b>	DIQ/S 182 PR Plug connection for Bus 3 x relay	–	DIQ/S 182 XT-4/ PR Plug connection for Bus 3 x relay

### Configuration and Performance Data

Type	Description		System182 Number min/max	Power Consumption/ W
<b>IQ Sensors</b>				
<b>SensoLyt® 700 IQ (SW)</b>	pH/ORP assembly		1/2	0.2
<b>TriOxmatic® 700 IQ (SW)</b>	D.O. sensor		System 182 XT-4 1/4	0.2
<b>TriOxmatic® 701 IQ</b>	D.O. sensor			0.2
<b>TriOxmatic® 702 IQ</b>	D.O. sensor			0.2
<b>FDO® 700 IQ (SW)</b>	Optical D.O. sensor			0.7
<b>TetraCon® 700 IQ (SW)</b>	Conductivity sensor			0.2
<b>VisoTurb® 700 IQ</b>	Turbidity sensor			1.5
<b>ViSolid® 700 IQ</b>	Suspended solids sensor			1.5
<b>VARiON®Plus 700 IQ</b>	Double sensor ammonium and nitrate (ISE)			0.2
<b>AmmoLyt®Plus 700 IQ</b>	Ammonium assembly (ISE)			0.2
<b>NitraLyt®Plus 700 IQ</b>	Nitrate assembly (ISE)			0.2
<b>NitraVis® 70X IQ (TS)</b>	Optical nitrate probe			8.0
<b>CarboVis® 70X IQ (TS)</b>	Optical COD/TOC/DOC/BOD/SAC probe			8.0
<b>NiCaVis® 705 IQ</b>	Optical probe for measurement of nitrate and COD/ TOC/DOC/BOD/SAC			8.0
<b>Output modules analog</b> with ⊗ numbers of IQ SENSORNET terminal connections				
			<b>Number of occupied output channels</b>	
<b>MIQ/CHV PLUS</b>	Module IQ/ Cleaning Head Valve for automatically controlled cleaning	②	1/4	1.0
<b>Output modules digital</b>				
<b>MIQ/Blue PS SET</b>	Module IQ for wireless connection within the IQ SENSORNET system	③	1/10	0.6
<b>MIQ/IF232</b>	IQ / software terminal module	③	1/1	0.2
<b>Power input connection module mA</b>				
<b>MIQ/IC2**</b>	IQ / input current 2, module with 2 inputs for 0 / 4 - 20 mA signals	②	0/2	0.2*
<b>MIQ/JB</b>	IQ / junction box module	④	0/25	0.0 (non-active module)
<b>Total power requirement P System 182</b>				
<b>Power requirement P</b>		<b>Number of additional MIQ power supply modules</b>		
<b>P ≤ 4,5 W</b>		<b>0</b>		
<b>P ≥ 4,5 W</b>		<b>1</b>		

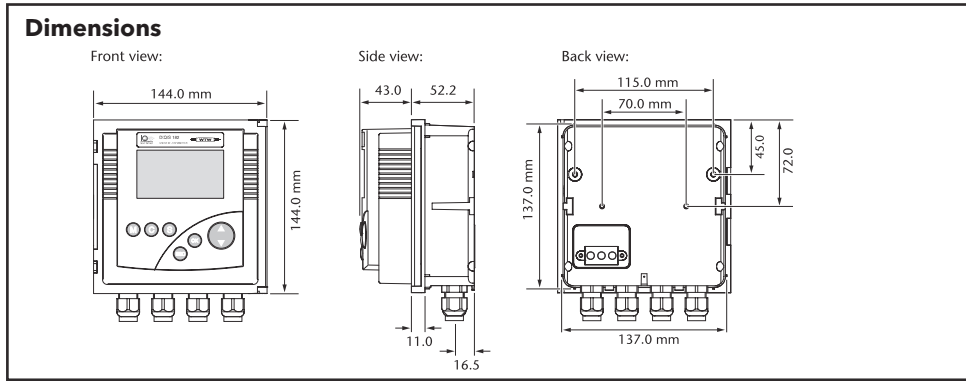
Attention: Please consider power consumption of SNCIQ cable: 1 W per 100 m/109 yds (for cable lengths above 400 m/437 yds)

\*(+2.2 W per connected power supply/isolator)

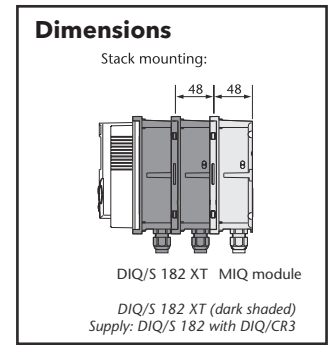
\*\*each occupied current input is counted as IQ sensor

# Monitors System 182

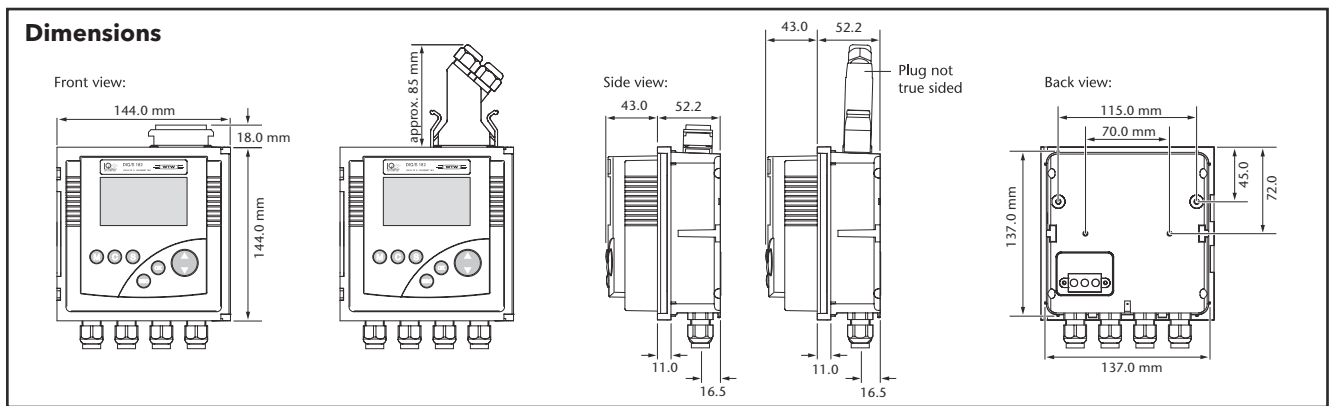
## DIQ/S 182, DIQ/S 182/24V



## DIQ/S 182 XT and 182 XT-4 with additional MIQ module



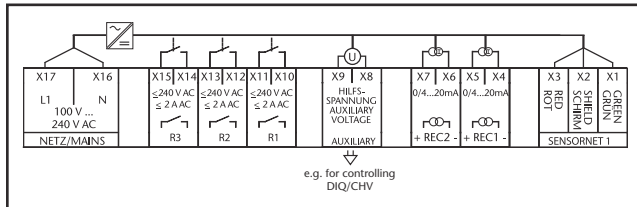
## DIQ/S 182-PR (-MOD), DIQ/S 182-PR (-MOD)/24V



# Electrical Connections Monitors System 182

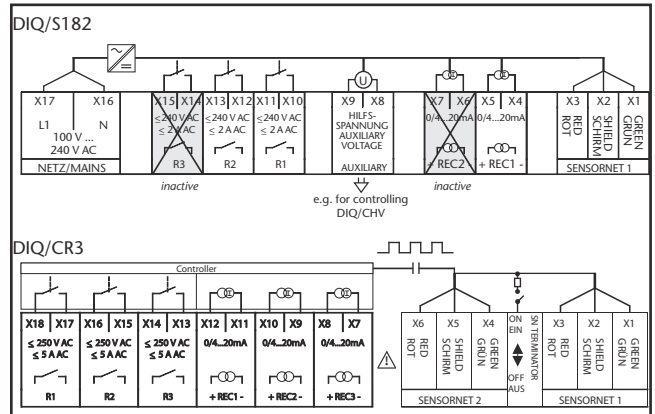
## DIQ/S182

Order No. 472 000Y



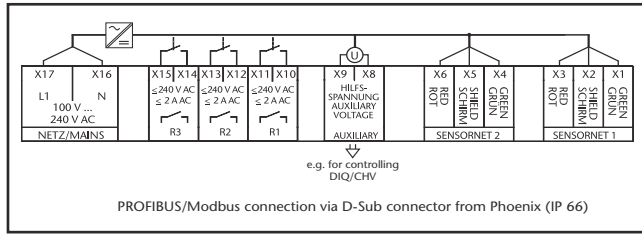
## DIQ/S182 XT

Order No. 472 001Y



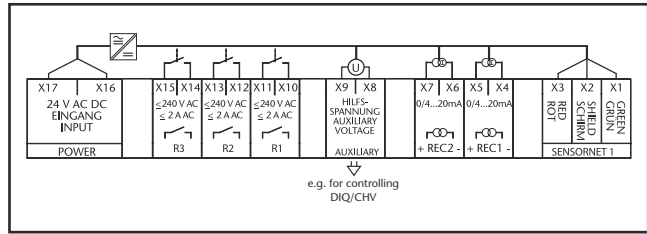
**DIQ/S182-PR**  
**DIQ/S182-MOD**

Order No. 472 002Y  
Order No. 472 003Y



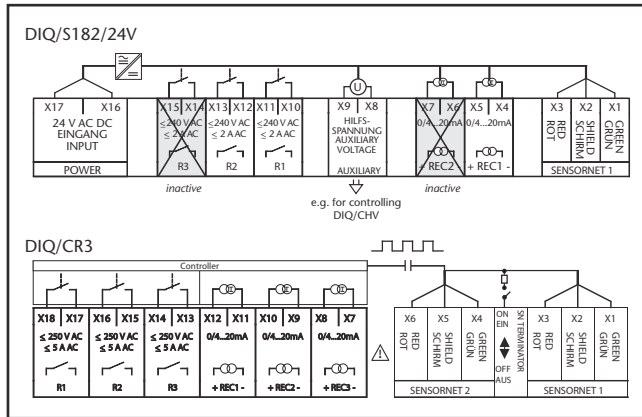
**DIQ/S182/24V**

Order No. 472 010Y



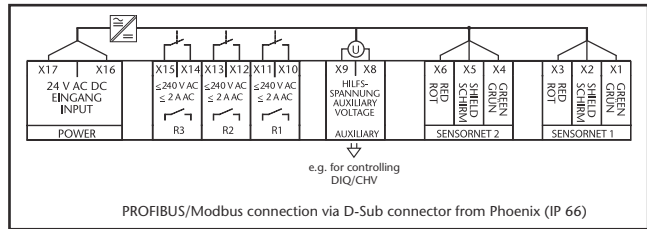
**DIQ/S182 XT/24V**

Order No. 472 011Y



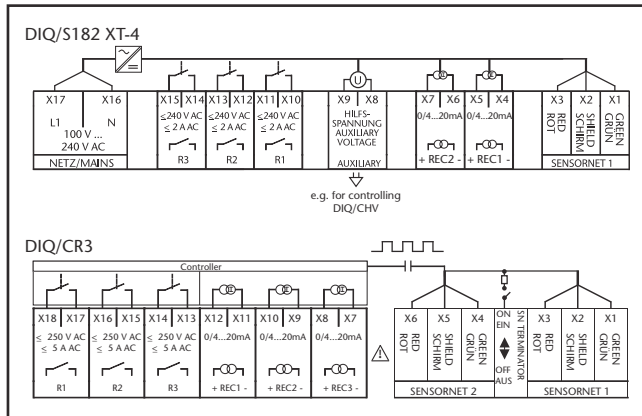
**DIQ/S182-PR/24V**  
**DIQ/S182-MOD/24V**

Order No. 472 012Y  
Order No. 472 013Y



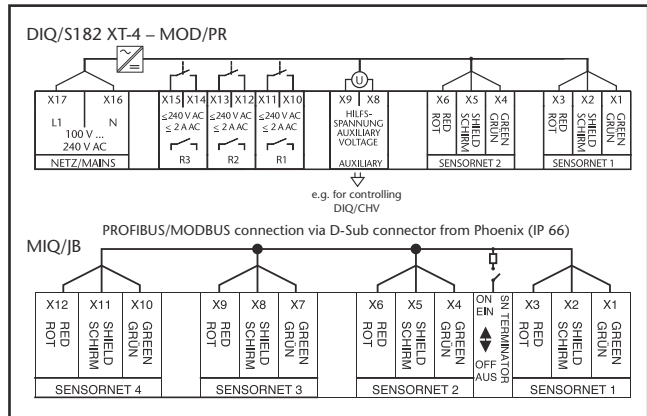
**DIQ/S182 XT-4**

Order No. 472 015Y



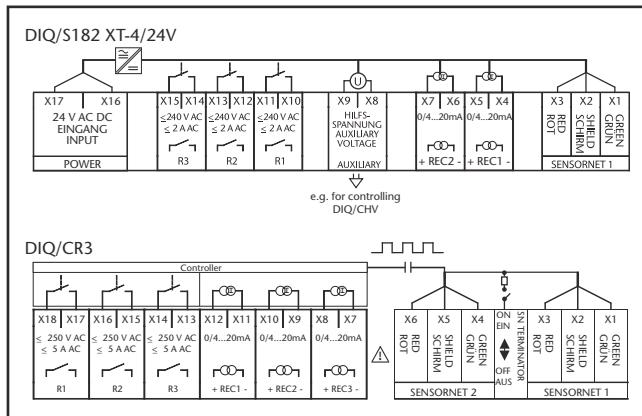
**DIQ/S182 XT-4-PR**  
**DIQ/S182 XT-4-MOD**

Order No. 472 017Y  
Order No. 472 019Y



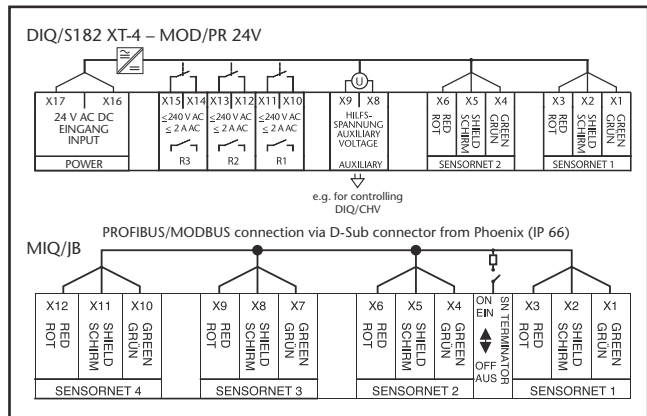
**DIQ/S182 XT-4/24V**

Order No. 472 021Y



**DIQ/S182 XT-4-PR/24V**  
**DIQ/S182 XT-4-MOD/24V**

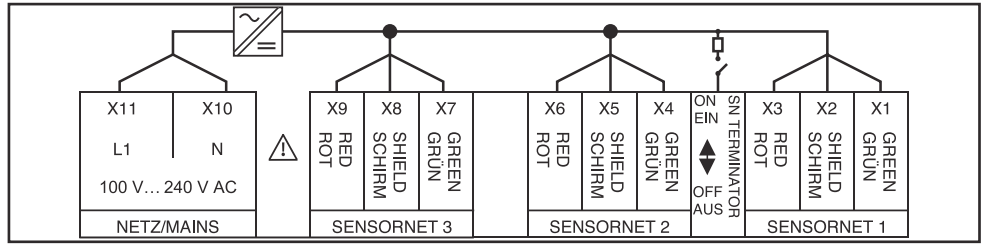
Order No. 472 023Y  
Order No. 472 024Y



# Electrical Connections MIQ/Modules for System Supplement

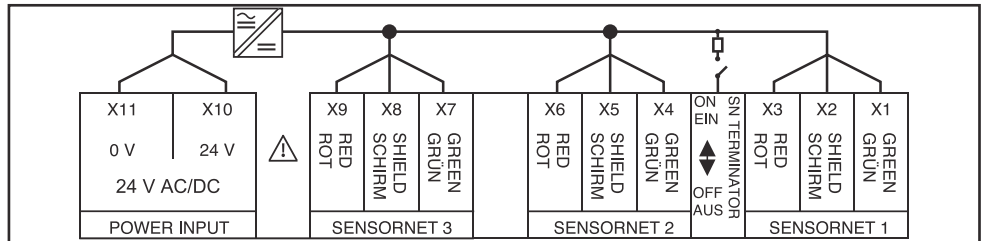
## MIQ/PS

Order No. 480 004Y



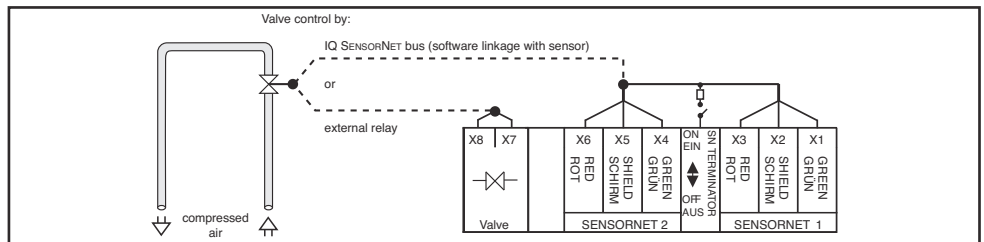
## MIQ/24V

Order No. 480 006Y



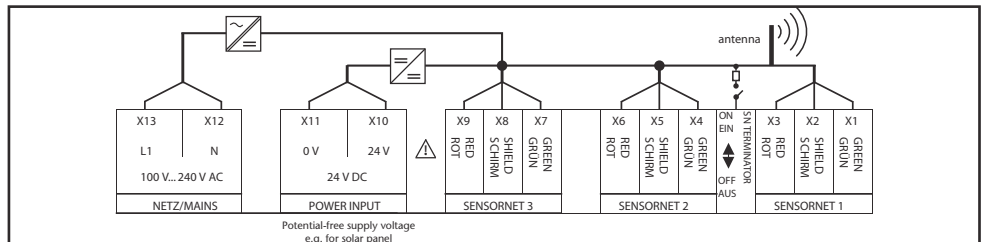
## MIQ/CHV PLUS

Order No. 480 018Y



## MIQ/Blue PS SET

Order No. 480 021Y



# Accessories

Model	Description	Order No.
<b>Sensor Extensions, Sensor Holders</b>		
<b>UA 55</b>	Universal extension assembly (incl. handle and set of seals) for mounting of sensors 70X IQ, length without sensor: 317 mm (12.48 in)	109260Y
<b>UA 130</b>	Universal extension assembly (incl. handle and set of seals) for mounting of sensors 70X IQ, length without sensor: 1067 mm (42.01 in)	109261Y
<b>UA-SO Armatur**</b>	Universal extension assembly (incl. handle and set of seals) for mounting of sensors of series 70X IQ, length without sensor: selectable between 240 - 2600 mm (9.45 - 102.36 in)	109263VY
<b>UA/DS</b>	Spare set of O-ring seals for UA sensor extensions of all lengths	109265Y
<b>EH/SW</b>	Single electrode holder in seawater design for direct mounting of series 70X IQ (SW) sensors	109317Y
<b>EH/U 170</b>	Sensor holder for direct mounting of series 70X IQ sensors to a swing mounting assembly	109320Y
<b>EH2/U 170</b>	Twin sensor holder for WTW sensors of series 70X IQ	109323Y
<b>EH3/U 170</b>	Triple sensor holder for WTW sensors of series 70X IQ	109325Y

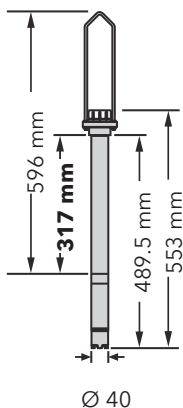
## Sensor Extensions

Sensors not included with assemblies.

### UA 55

Order No. 109 260Y

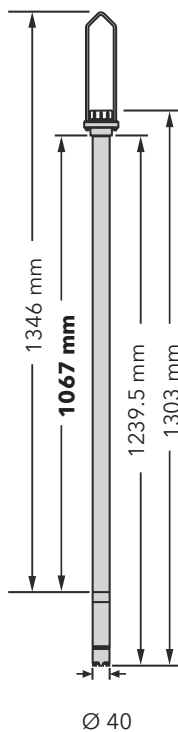
Equipped with oxygen sensor TriOxmatic® 700



### UA 130

Order No. 109 261Y

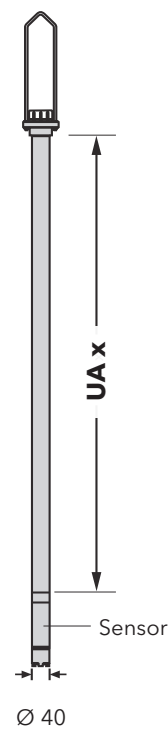
Equipped with oxygen sensor TriOxmatic® 700



### UA-SO

Order No. 109 263VY\*\*

Equipped with oxygen sensor TriOxmatic® 700



\*\* UA-SO Sensor extension assembly with user-defined length.

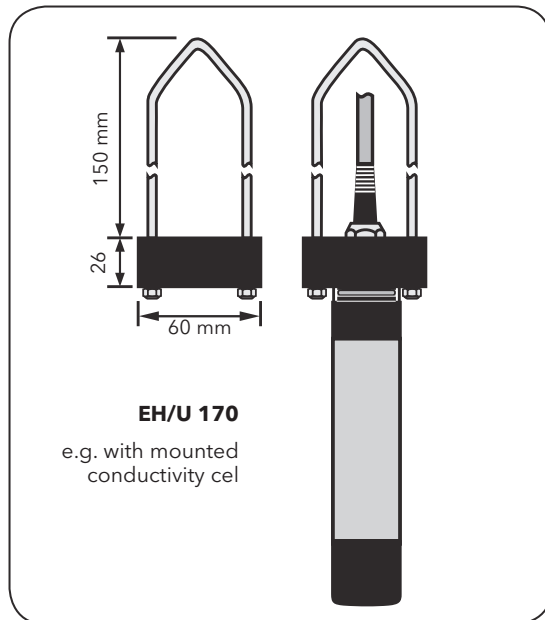
# Sensor Holders

## EH/U 170

Order No. 109 320Y

Single sensor holder

Material: POM and stainless steel (1.4571)

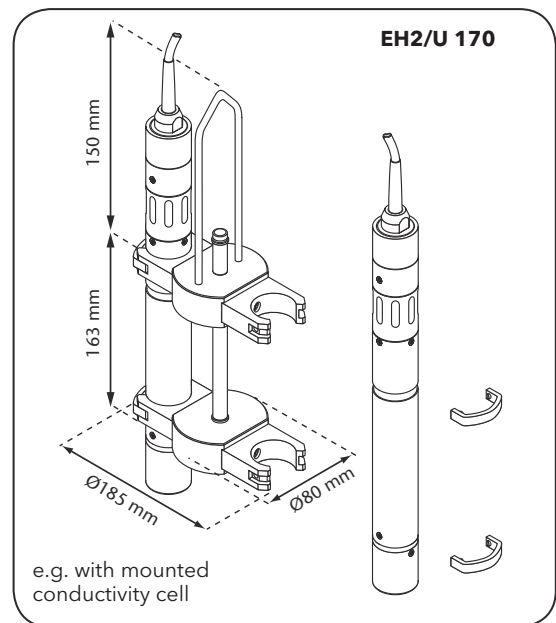


## EH2/U 170

Order No. 109 323Y

Twin sensor holder

Material: POM and stainless steel (1.4571)

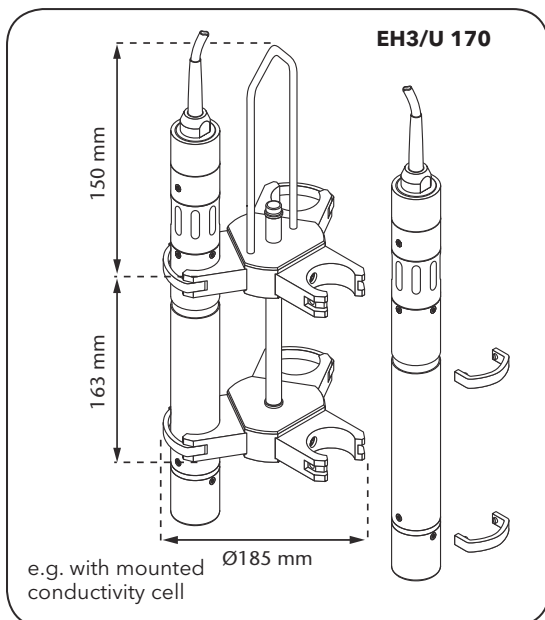


## EH3/U 170

Order No. 109 325Y

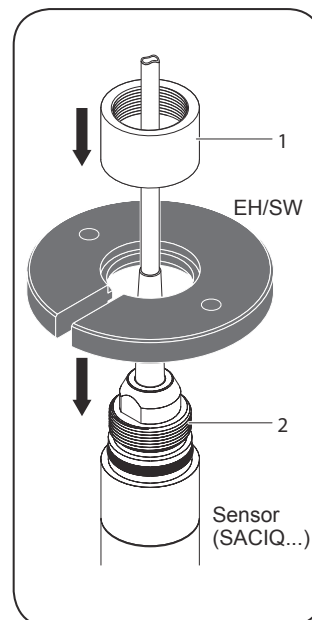
Triple sensor holder

Material: POM and stainless steel (1.4571)



## EH/SW

Order No. 109 312Y



## EH2/U 170, equipped with pH- and oxygen sensor



Model	Description	Order No.
<b>Mounting Hardware</b>		
<b>S 200</b>	Float with pendulum mounting assembly for on-line sensors with 40 mm (1.57 in) shaft diameter with UA 55 extension assembly.	108540Y
<b>S 200/2</b>	Float with pendulum mounting assembly for 2 on-line sensors with 40 mm (1.57 in) shaft diameter with UA 55 extension assembly.	108542Y
<b>S 200/4</b>	Float with pendulum mounting assembly for 4 on-line sensors with 40 mm (1.57 in) shaft diameter with UA 55 extension assembly.	108544Y
<b>GWA</b>	Weight ring for S 200 float	109232Y
<b>EH/P 170</b>	SensoClean pendulum mounting assembly for installation of on-line sensors with 40 mm (1.57 in) shaft diameter and UA armatures. Supplied with adjustable boom (620 mm/24.4 in), pendulum mounting assembly (stainless steel 1.4301), movable counterweight for fine adjustment	109270Y
<b>EH/R 170</b>	Sensor holder for mounting of on-line sensors with 40 mm (1.57 in) shaft diameter, in a fixed distance to a rail. Supplied with pendulum head (POM) and 1580 mm (62.2 in) long outrigger pipe (stainless steel 1.4301). Without clamp set fixture (Please order BE/R 170 separately)	109271Y
<b>EH/F 170-1.5</b>	SensoClean swing mounting assembly for installation of on-line sensors with 40 mm shaft diameter and UA armatures. Supplied with plastic chain (4 m/13 ft) for use in wastewater and 1.5 m/4.9 ft boom (stainless steel 1.4301)	109272Y
<b>EH/F 170-2.5</b>	SensoClean swing mounting assembly for installation of on-line sensors with 40 mm shaft diameter and UA armatures. Supplied with plastic chain (5 m/16 ft) for use in wastewater and 2.5 m/8.1 ft boom (stainless steel 1.4301)	109273Y
<b>EH/W 170</b>	Electrode fixture assembly for direct wall mounting of UA armatures and sensors of series 650/690/70X and 70X IQ	109274Y
<b>BE/M 170-D</b>	Pivoting wall mounting for direct installation of swing or pendulum holder directly at the basin edge or on top of a wall	109275Y
<b>BE/M 170</b>	Masonry fixture installation of EH-F 170 swing or EH/P 170 pendulum mounting assembly directly on the basin edge or on top of a wall	109276Y
<b>BE/R 170</b>	Pipe fixture for installation of EH-F 170 swing or EH/P 170 pendulum mounting assembly directly to a pipe (e.g. basin railing)	109278Y
<b>BE/R 170-D</b>	Swivel/pivot clamp fixture for mounting of a swing or pendulum mounting assembly directly to a pipe (e.g. basin railing)	109279Y
<b>BE/ST 170</b>	Robust Vario floor mounting stand for installation on a concrete base etc. Supplied with joint-locking fixture to accommodate a swing or pendulum mounting assembly and 2 brackets for attaching a sun shield, incl. aluminium diecast base, wallplugs and screws	109280Y
<b>BE/ST 170-R</b>	Vario pipe mounting stand. Supplied with joint-locking fixture to accommodate a swing or pendulum mounting assembly and 2 brackets for attaching a sun shield	109281Y
<b>BE/ST 170-M</b>	Vario wall mounting stand. Supplied with joint-locking fixture to accommodate a swing or pendulum mounting assembly and 2 brackets for attaching a sun shield	109283Y
<b>SD/K 170</b>	Sun shield for outdoor installation of junction boxes (e.g. junction box Kl/pH 170) or an IQ SENSORNET module	109284Y
<b>MR/SD 170</b>	Mounting kit for attaching of sun shields to pipes	109286Y
<b>SD/M 170-D</b>	Stainless steel double sun shield for mounting of 2 monitors to a Vario mounting stand (BE/ST 170-X)	109287Y
<b>MS/SD 170</b>	Mounting kit for SSH/IQ sun shield to a mounting stand	109288Y
<b>MS/RKH 170</b>	Pipe bracket for installation of a second sensor to a EH/P 170 pendulum mounting assembly (2 pieces required)	109289Y
<b>MS/KK 170</b>	Double junction clamp for mounting of additional EH/F 170 swing or EH/P 170 pendulum mounting assembly to a Vario mounting stand BE/ST 170-X	109290Y
<b>CHS</b>	New Chain slide for EH/F 170-1.5 and EH/F 170-2.5	109291Y
<b>SSH/IQ</b>	Sun shield for mounting of IQ SENSORNET modules and series 171/170 monitors to mounting stands	109295Y
<b>IN/SET1</b>	Installation set for mounting of one on-line sensor. Supplied with: Single sensor holder EH/U 170; SensorClean swing mounting EH/F 170-1.5; Vario floor mounting stand BE/ST 170; Sun shield SSH/IQ	109304Y
<b>IN/SET2</b>	Installation set for mounting of up to two on-line sensors. Supplied with: Twin sensor holder EH2/U 170; SensorClean swing mounting EH/F 170-1.5; Vario floor mounting stand BE/ST 170; Sun shield SSH/IQ	109305Y
<b>IN/SET3</b>	Installation set for mounting of up to three on-line sensors. Supplied with: Tripple sensor holder EH3/U 170; SensorClean swing mounting EH/F 170-1.5; Vario floor mounting stand BE/ST 170; Sun shield SSH/IQ	109306Y
<b>EH/W 171</b>	New Pivot wall mount for IQ sensors to pipes with 30 mm (1.18 in) diameter (EH/WT-D30, EH/WB please order separately)	109360Y
<b>EH/W 172</b>	New Fixed wall mount for IQ sensors to pipes with 30 mm (1.18 in) diameter (EH/WT-D30, EH/WB please order separately)	109361Y
<b>EH/WB</b>	New Sensor holder for sensor with 60 mm (2.36 in) diameter for attachment to pipes with 30 mm (1.18 in) diameter	109362Y
<b>VIS Set/EH</b>	Supplement kit I for spectral sensors for horizontal mounting of a UV/VIS sensor, with the EH/F 170 swing mounting assembly for use in basins or open channels.	481073Y
<b>S/CH</b>	Shackle for chain fitting	505123Y
<b>CH/1</b>	Chain per meter	505124Y

## Fixtures

### BE/R 170

Order No.: 109 278Y

With the BE/R 170 clamp set, a swing or pendulum mounting assembly can be fixed directly to a pipe; e.g. a handrail.

<b>Material</b>	Stainless steel 1.4301/diecast Al/POM
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### BE/R 170-D

Order No.: 109 279Y

The swivel/pivot clamp fixture provides secure connection of a swing or pendulum mounting assembly to a horizontal pipe rail.

<b>Material</b>	Stainless steel 1.4301/diecast aluminum
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### MR/SD 170

Order No.: 109 286Y

Mounting kit for sun shields, suitable for horizontal or vertical pipe rails with diameters of 0.98 to 2.36 in. (25 - 60 mm). Sun shield not included.

<b>Material</b>	Stainless steel 1.4301
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### BE/M 170

Order No.: 109 276Y

With the BE/M 170, a swing or pendulum mounting assembly can be inexpensively installed directly at the basin edge or on top of a wall. It consists of a flange clamp with a clamping lever and a bolt-on base plate.

<b>Material</b>	Stainless steel 1.4301/diecast Al/POM
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### BE/M 170 D

Order No.: 109 275Y

Wall mounting similar model BE/M 170, but pivoting version.

<b>Material</b>	Stainless steel 1.4301/diecast Al
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## Sun Shields

### SD/M 170-D

Order No.: 109 287Y

Stainless steel double sun shield for parallel mounting of 2 series 171, 170 measuring transducers and IQ SENSORNET.

<b>Dimensions</b>	10.55 x 21.42 x 5.91 in. (268 x 544 x 150 mm) (H x W x D)
<b>Material</b>	Stainless steel, 1.4301

### SD/K 170

Order No.: 109 284Y

Sun shield for mounting a junction box or an IQ SENSOR NET module in the open air. Mounting kit MR/SD 170 is additionally required for attachment to vertical or horizontal pipes.

<b>Dimensions</b>	5.59 x 9.06 x 3.43 in. (142 x 230 x 87 mm) (H x W x D)
<b>Material</b>	Stainless steel, 1.4301

### SSH/IQ

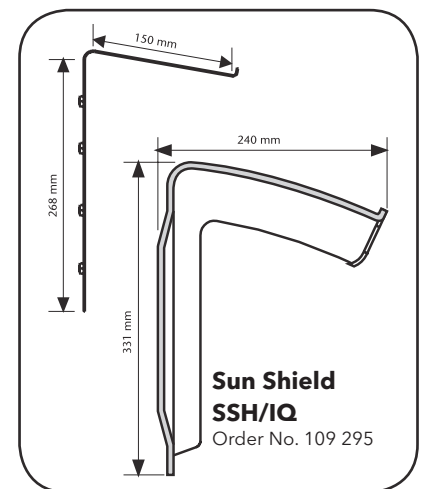
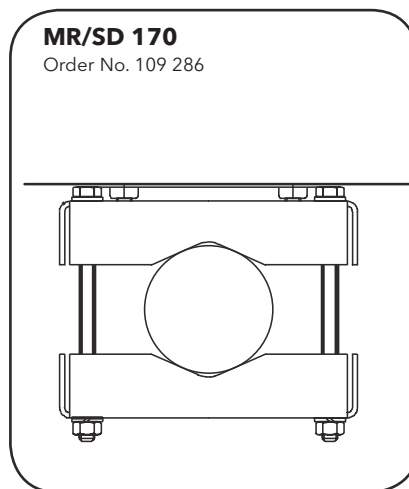
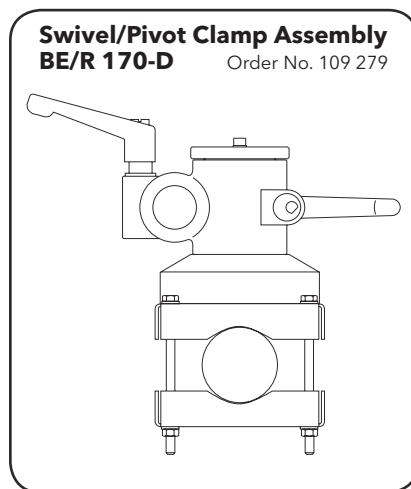
Order No.: 109 295Y

Sunshield for mounting series 171, 170 and IQ SENSORNET monitors on a Vario Mounting Stand.

<b>Dimensions</b>	13.03 x 13.54 x 9.45 in. (331 x 344 x 240 mm) (H x W x D)
<b>Material</b>	ASA (Dust gray color)



*IQ SENSOR NET under sun shield SSH/IQ*



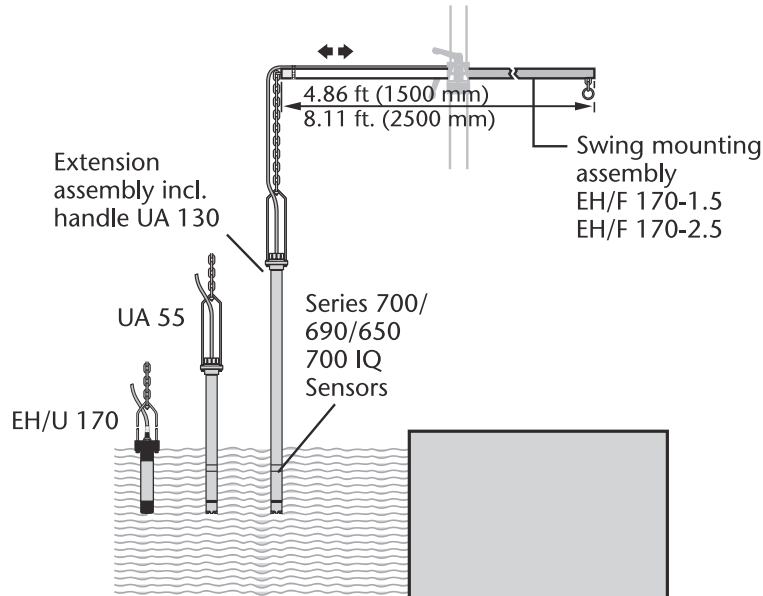
# Sensor Options

## Installation in Basins

Recommended sensor mount:

### Swing mounting assembly

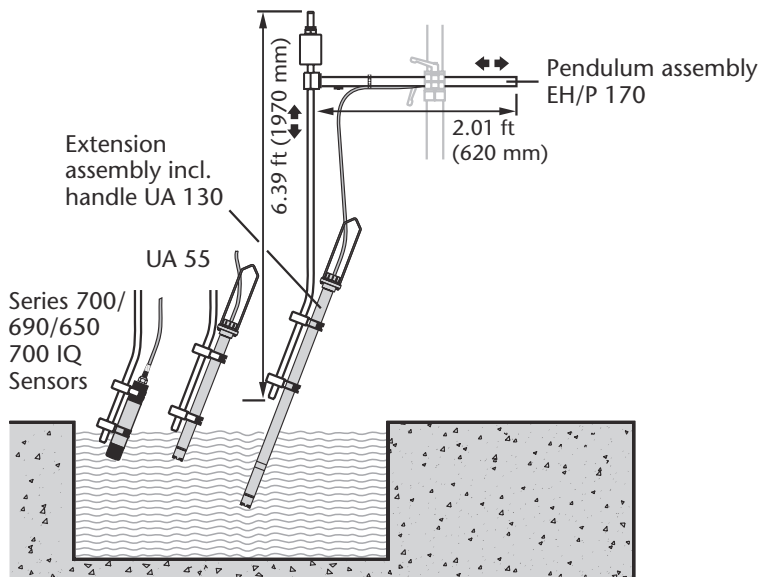
Multiple YSI options offer tailor-made solutions for each application.



## Installation in Open Channels

Recommended sensor mount:

### Pendulum assembly

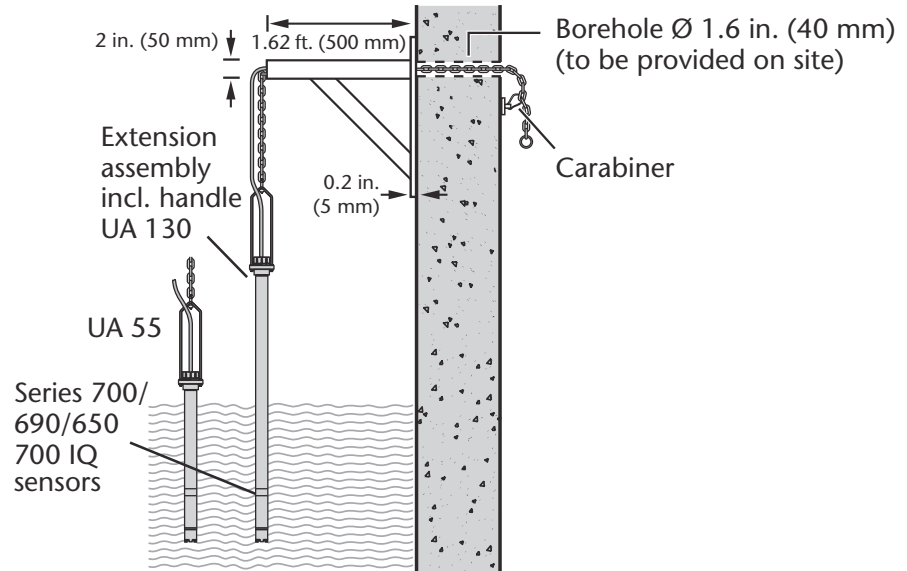


Pendulum rod shown 90° rotated

# Sensor Options

## Installation in Round Basins:

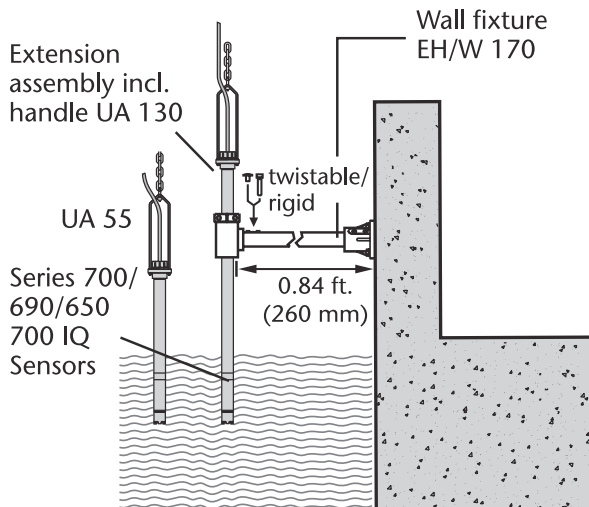
Sensor holder



## Installation in Basins or in Open Channels

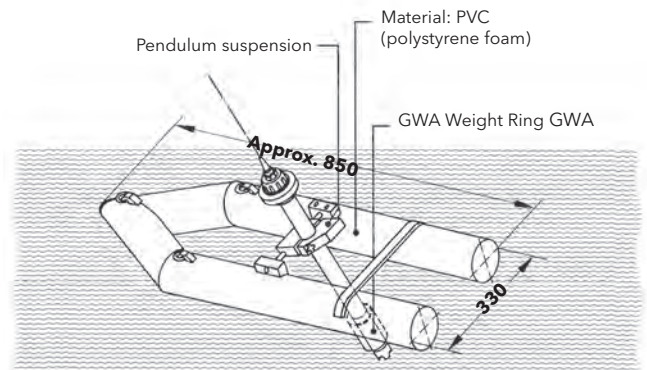
### Wall mounting

for universal extension assemblies UA 55/ UA 130



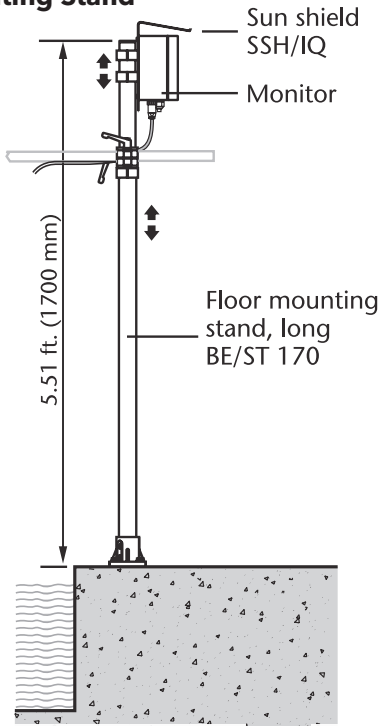
## Installation in applications with variable water levels or in rivers, lakes, etc.

### Sensor Float S 200

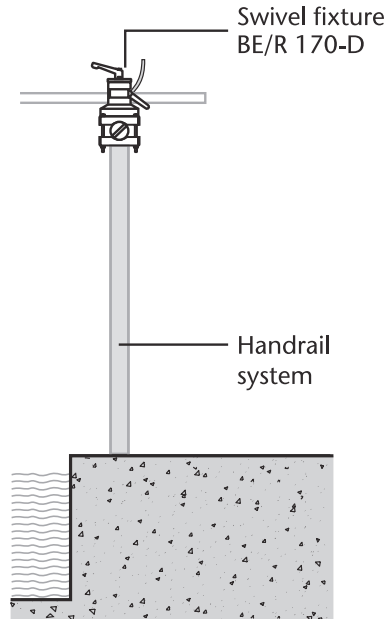


# Mounting Stands and Fixtures for Sensor Mounts, Terminal/Controllers and Modules

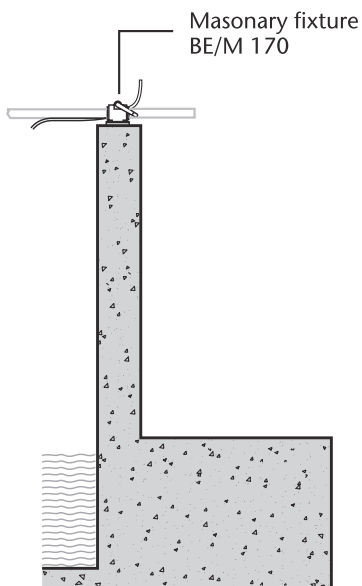
## Floor Mounting Stand



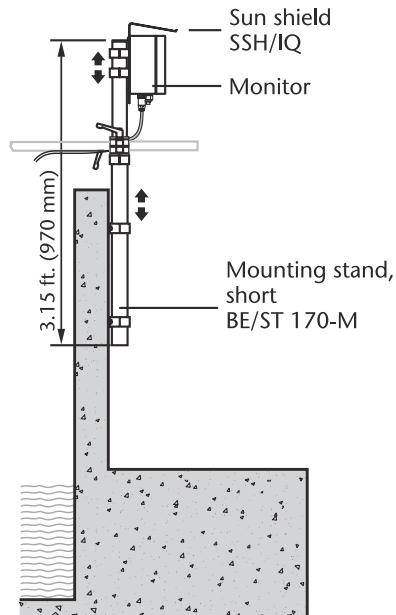
## Handrail Mounting (swivel-mounted)



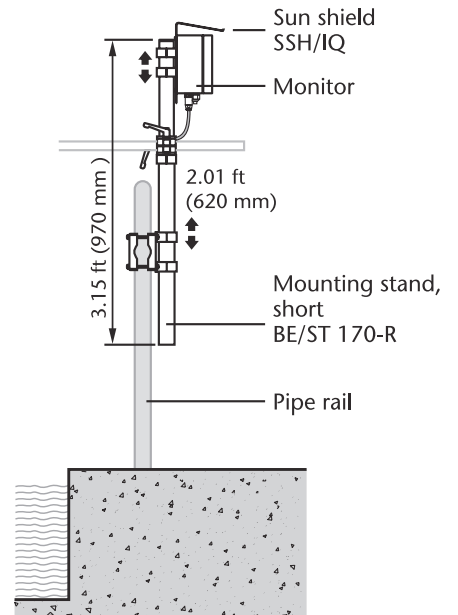
## Top-of-Wall Mounting



## Wall Mounting



## Pipe Mounting



## Sensor Mounting Devices

### EH/F 170

Order No.: 109 272, 109 273Y

The SensoClean swing mounting assembly consists of a 4.86 ft. or 8.11 ft. (1.5 or 2.5 m) long boom and a 13 ft. (4 m) long plastic chain for height adjustment of the sensor. It may also hold sensor extension assemblies. Particularly in turbulent flows, the freely swinging suspension produces a self-cleaning effect of the sensor, making the swing mounting especially suitable for operation in basins; e.g. in the aeration tank of a wastewater treatment plant.

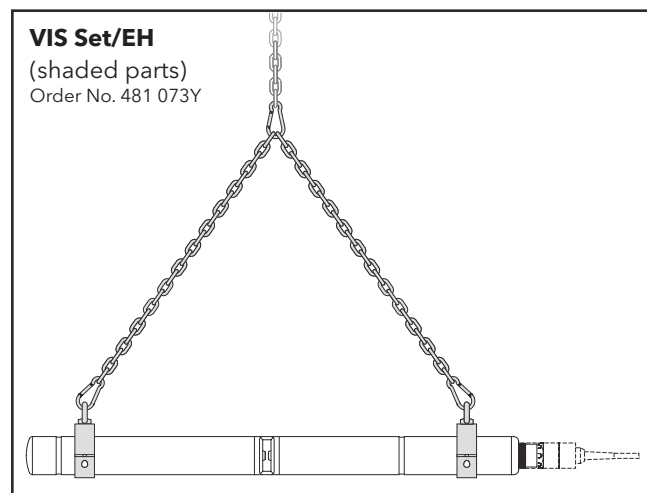
<b>Boom length</b>	4.86 ft. or 8.11 ft. (1.5 or 2.5 m)
<b>Material</b>	Stainless steel 1.4301
<b>Chain material</b>	Polyethylene

### VIS Set/EH

Order No.: 481 073Y

Supplement kit I for horizontal mounting of UV(-VIS) sensors (NitraVis®, CarboVis®, NiCaVis®) with the EH/F 170 swing mounting assembly for use in basings or open channels.

<b>Chain made of</b>	PE
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### EH/P 170

Order No.: 109 270Y

The SensoClean pendulum mounting assembly consists of a boom with a pendulum head and an angled pendulum rod. It is fitted at the top end with a movable counterweight for fine adjustment. The sensor or the extension assembly is fastened to the pendulum rod by two pipe clamps.

<b>Boom</b>	Length 2.01 ft. (620 mm), stainless steel 1.4301
<b>Pendulum rod</b>	Length 6.39 ft. (1970 mm), stainless steel 1.4301
<b>Pendulum head, clamp</b>	POM/Polyethylene

### EH/W 170

Order No.: 109 274Y

The EH/W 170 mounting assembly is designed for direct fastening to a wall of a basin. It can be set for pendulous or rigid operation, and it is suitable for extension assemblies. The immersion depth is adjusted by means of a fixing ring. Includes mounting plate with appropriate wall anchors and screws.

<b>Boom</b>	Length 0.84 ft. (260 mm), stainless steel 1.4301
<b>Pendulum head</b>	POM
<b>Mounting plate</b>	Diecast aluminum

### S 200

Order No.: 108 540Y

The float with pendulum mounting assembly is available for use in flowing water or where the water level fluctuates considerably. The fixture is designed for extension assembly UA 55. A GWA weight ring is also required.

<b>Dimensions</b>	2.76 x 1.07 ft. (850 x 330 mm) (L x W)
<b>Material</b>	PVC

### VIS Set-F

Order No.: 481 080Y

Supplemental kit for horizontal mounting of a UV(-VIS) sensor (NitraVis®, CarboVis®, NiCaVis®). Particularly suitable for heavily fluctuating water levels in combination with the S 200 electrode float.

<b>Material</b>	PVC/POM
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## Vario Mounting Stand

### BE/ST 170

Order No.: 109 280Y

Robust floor mounted stand made of stainless steel, with joint-locking fixture to accommodate a swing or pendulum mounting assembly and 2 pipe brackets for attaching a sun shield. With diecast aluminum baseplate, wall plugs and screws.

<b>Stand</b>	Length 5.51 ft. (1700 mm), diameter 1.97 in. (50 mm)
<b>Material</b>	Stainless steel 1.4301
<b>Brackets</b>	Polypropylene

### BE/ST 170-M

Order No.: 109 283Y

Mounting stand similar to model BE/ST 170, but shorter version for wall mounting. Wall mounting material is included instead of the baseplate.

<b>Stand</b>	Length 3.15 ft. (970 mm), diameter 1.97 in. (50 mm)
<b>Material</b>	Stainless steel 1.4301

### BE/ST 170-R

Order No.: 109 281Y

This stand is similar to model BE/ST 170, but with hardware for fastening of the stand to a vertical or horizontal pipe rail.

<b>Stand</b>	Length 3.15 ft. (970 mm), diameter 1.97 in. (50 mm)
<b>Material</b>	Stainless steel 1.4301

Model	Description	Order No.
<b>Flow-thru Armatures</b>		
<b>EBS 700-DU/N</b>	Mounting set for measurements in pipes, for all sensors of the 650/690/700(IQ)/701(IQ) series. Consisting of a bonded sleeve for standard 45° PVC T-piece (d 63 DN 50), O-ring seals and union nut. Please order suitable sensor flange separately	203751Y
<b>EBST 700-DU/N</b>	Flow-thru adapter for measurements in pipelines, for all sensors of the 650/690/700(IQ)/701(IQ) series. Consisting of a 45° PVC T-piece (d 63 DN 50) with bonded sleeve. O-ring seals and union nut. Please order suitable sensor flange separately	203753Y
<b>EBST 700-DU/ND</b>	Flow-thru adapter for measurements in pipelines with air pressure cleaning connection for use with sensors 70X, 70X IQ (pre-pressure max. 0.5 m water column) consisting of a PVC 45° T piece (d 63 DN 50) with bonded sleeve, O-ring seals and union nut, 2 x 180° shifted pressure cleaning injector with centric air-pressure connector 4/6 mm (max 6 bar). Please order suitable sensor adapter separately	203754Y
<b>ESS 700 VA/N</b>	Stainless steel (1.4571) weld-in socket, for measurements in pipelines, for use with all sensors of 650/690/700(IQ)/701(IQ) series. Please order suitable sensor flange separately	203755Y
<b>ESS 700 VA/10</b>	Stainless steel weld-in socket, for measurements in pipelines with up to 10 bar pressure, useable for all series 650/690/700(IQ)/701(IQ) sensors. Please order suitable sensor flange separately	203757Y
<b>BPV</b>	Check-valve for mounting into Cleaning Air Box or in flow-thru adapter EBST-700 DU/ND.	480029Y
<b>Flow-thru Armatures for Saltwater</b>		
<b>EBST/SW</b>	Flow-thru adapter for measurements in pipelines, for all sensors in saltwater design of the 700 IQ SW / 701IQ SW series. Consisting of a 45° PVC T-piece (d 110 DN 90) with bonded sleeve O-ring seals and union nut. Please order suitable sensor adapter separately.	203758Y
<b>EBST-D/SW</b>	Flow-thru adapter for measurements in pipelines with air pressure cleaning connection for use of all sensors in saltwater design of the 700 IQ SW / 701IQ SW series (pre-pressure max. 0.5 m water column). Consisting of a PVC 45° T piece (d 110 DN 90) with bonded sleeve, O-ring seals and union nut, 2 x 180° shifted pressure-cleaning injector with centric air-pressure connector 4/6 mm (max 6 bar). Please order suitable sensor adapter separately	203759Y

## Flow-thru Adapters

### EBST 700-DU/N and EBST 700-DU/ND

Order No.: 203 753Y  
Order No.: 203 754Y

Flow-thru adapter for measurements in pipelines, consisting of a 45° PVC T-piece (d 63 DN 50) with bonded sleeve, O-ring seals and union nut. The adapter must be completed by the selection of a suitable sensor flange from the table on page 88 and can then be used for measurement of pH, oxygen, temperature and conductivity with all current WTW sensors.

EBST 700-DU/ND additionally features a compressed-air connection for cleaning installed sensors. Selection of sensors acc. table on page 88.

<b>Max. pressure</b>	3 bar (EBST 700-DU/N) or 0.2 bar (EBST 700-DU/ND)
<b>Max. temperature</b>	122 °F (50 °C)
<b>Material</b>	PVC/POM

### EBS 700-DU/N

Order No.: 203 751Y

Mounting set for flow-thru measurements, consisting of a bonded sleeve for standard 45° PVC T-pieces (d 63 DN 50) or other suitable pipeline systems, one R 2" union nut and the necessary O-ring seals. Please select an adapter from the table on page 88.

<b>Max. pressure</b>	3 bar
<b>Max. temperature</b>	122 °F (50 °C)
<b>Material</b>	PVC/POM

**ESS 700 VA/N**

Order No.: 203 755Y

Stainless steel weld-in socket, for measurements in pipe-lines. Please select an adapter from the table on page 88.

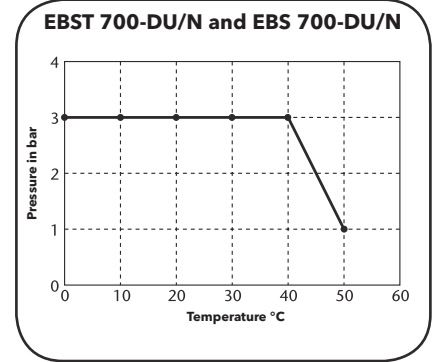
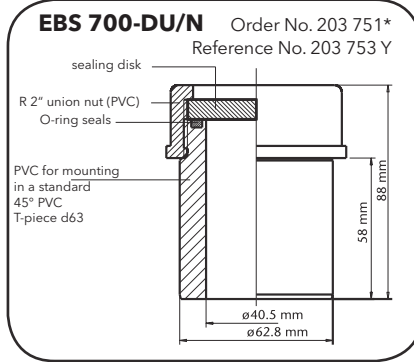
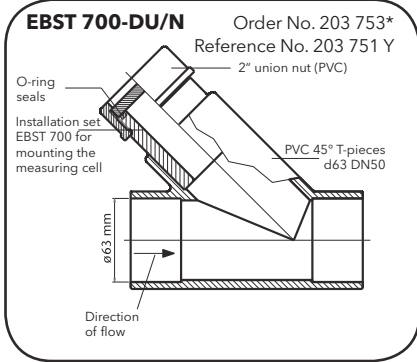
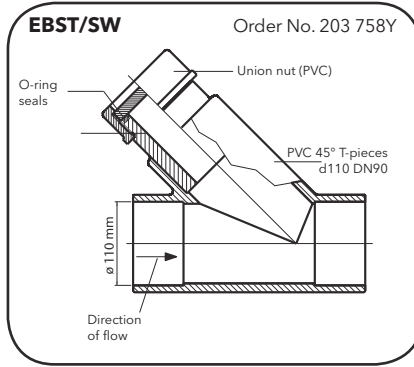
<b>Max. pressure</b>	3 bar
<b>Max. temperature</b>	122 °F (50 °C)
<b>Material</b>	
Weld-in socket	V4A stainless steel 1.4571
Union nut	PVC/-U
<b>Total length</b>	5.59 in. (142 mm)
<b>Outside diameter</b>	2.36 in. (60 mm)

**ESS 700 VA/10**

Order No.: 203 757Y

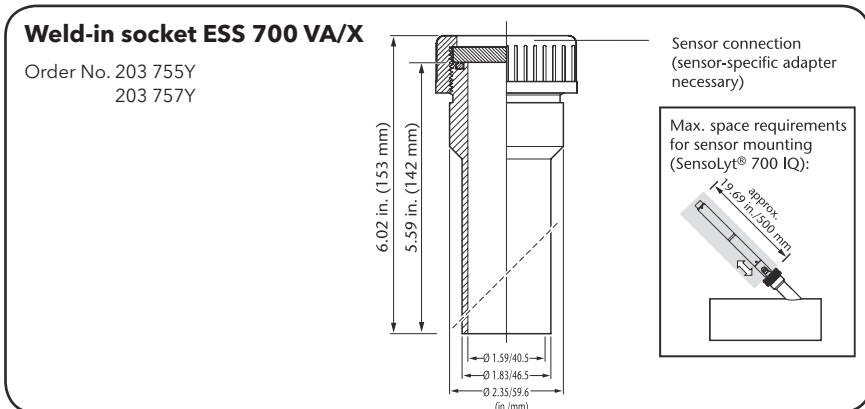
Stainless steel weld-in socket, for measurements in pipe-lines. Please select an adapter from the table on page 88.

<b>Max. pressure</b>	10 bar
<b>Max. temperature</b>	140 °F (60 °C)
<b>Material</b>	
Weld-in socket	V4A stainless steel 1.4571
Union nut	V4A stainless steel 1.4571
<b>Total length</b>	5.59 in. (142 mm)
<b>Outside diameter</b>	2.36 in. (60 mm)



\* Also available for 2 inch PVC pipes

Configuration of the adapter according to table: flow-thru adapters.



ESS 700 VA/10

Model	Description	Order No.
<b>Flow-thru Systems</b>		
<b>DFS/VisoTurb®/TW</b>	Flow-thru System for Turbidity Sensors (VisoTurb® 700 IQ), for use in pure water (drinking water rejecting measuring method), with EBST 700 DU/N, measuring section 0.5 m (19.7 in) PVC pipe and pressure hose spouts	505521
<b>MT/IQ 2+1</b>	Flow-thru system for 2+1 MIQ sensors with sample bypass and drain. Unit ready to use, installed on PVC-mounting panel. In-/outlet connection prepared for ¾" (ID 19 mm) tube. Dimensions: (WxHxD) approx. 59.1 x 23.6 x 7.9 in. (1500 x 600 x 200 mm). Sensor adapters, e.g. ADA-DF9 are not included.	505527
<b>DFS/VisoTurb®</b>	Flow-thru System for Turbidity Sensors on PVC panel mounted ready for operation. Including: 1 x EBST 700-DU Flow-thru vessel 45°, Bypass pipeline, Closing Valves and and complete tubing out of hard PVC. Dimensions: approx. 43.3 x 11.8 in. (1100 x 300 mm) (fitting adapter is not included in delivery)	505537
<b>MT/IQ 4+1</b>	Flow-thru system for 4+1 MIQ sensors with sample bypass and drain. Unit ready to use, installed on PVC-mounting panel. In-/outlet connection prepared for ¾" (ID 19 mm) tube. Dimensions: (WxHxD) approx. 59.1 x 23.6 x 7.9 in. (1500 x 600 x 200 mm). Sensor adapters, e.g. ADA-DF9 are not included.	505550
<b>MT/IQ 1+1/vert</b>	Vertical flow-thru system for 1+1 MIQ sensors with sample bypass and drain. Unit ready to use, installed on PVC-mounting panel.	505551
<b>MT/IQ 4+1/vert</b>	Vertical flow-thru system for 4+1 MIQ sensors with sample bypass and drain. Unit ready to use, installed on PVC-mounting panel.	505553
<b>Flow-thru Vessels</b>		
<b>D 700/N</b>	Flow-thru vessel for multiparameter measurements, for use with: TriOxmatic® 690/700(IQ)/701(IQ), SensoLyt® SE/DW/EC/Pt, TetraCon® 325 and TFK 325. Please order suitable sensor flange separately	203745
<b>D 702/N</b>	Flow-thru cell for continuous oxygen measurement, primarily for measurements in the ppb range with TriOxmatic® 702 (IQ). Also useable for TriOxmatic® 690/700/700 IN/701 (IQ). Please order suitable sensor flange separately	203747
<b>DMS/N</b>	Universal flow-thru vessel for multiparameter measurements with up to four sensors, e.g. for use in the discharge of a waste water treatment plant. Please order suitable sensor flange separately	203749

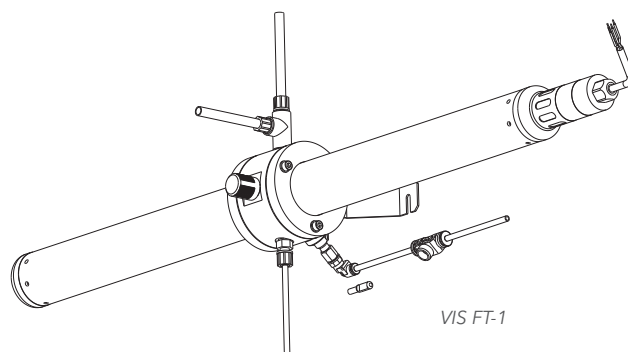
## Flow-thru Vessels

### UV-VIS sensors in flow-thru measurement

#### VIS FT-1

Order No.: 480 080Y

Flow-thru cell for UV/VIS sensors NitraVis®/CarboVis® and NiCaVis® 700 IQ (TS). The sensor can be cleaned automatically in mounted state by means of compressed air.



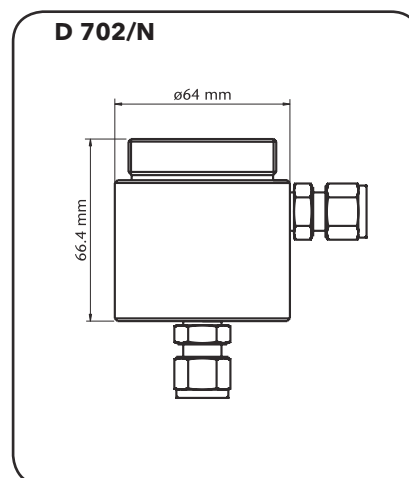
### Oxygen Flow-Thru Measurement

#### D 702/N

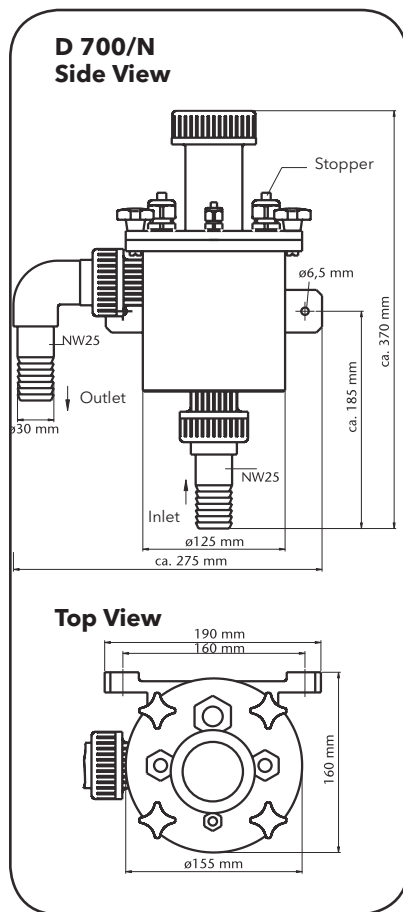
Order No. 203 747

In principle the flow-thru vessel D 702/N for continuous oxygen measurement can be fitted with all TriOxmatic® sensors of the 690/700/701 (IQ) series. However, it is primarily intended for oxygen measurements in the ppb range (TriOxmatic® 702 IQ), e.g. boiler feed water. In this application the flow-thru vessel is usually installed in the bypass of a water circulation system. Please select an adapter from the selection table.

Cell volume:	Approx. 120 ml
Min. flow rate:	100 ml/min
Max. pressure:	145 psi (10 bar)
Max. temperature:	122 °F (50 °C)
Inlet/outlet:	Hose clamp connection, 0.31 in. (8 mm)
Material:	
Flow-thru vessel:	Stainless steel, V4A, 1.4571
Union nut:	POM
Dimensions:	2.60 x 2.52 in. (66 x 64 mm) (L x D)



## Multiparameter Measurement



### D 700/N

Order No. 203 745Y

PVC flow-thru vessel for unpressurized measurements with various sensors. The D 700/N can accommodate up to the following number of sensors: 1 D.O. sensor TriOxmatic® 690/700/701/CellOx® 700 (IQ) (central bore; dia. 40,5 mm), pH/ORP electrodes type SensoLyt® SE/DW/EC/Pt (M20 x 1.5; clamping range 7-13 mm), 1 conductivity cell e.g. TetraCon® 325 (M25 x 1.5; clamping range 9-13 mm), 1 temperature sensor e.g. TFK 325 (M12 x 1.5; clamping range 3-7 mm). Instead of the TriOxmatic® sensor a conductivity sensor type TetraCon® 700 (IQ) can also be mounted.

Configuration of the adapter according to table: flow-thru adapters

Vessel volume:	Approx. 1100 ml
Min. flow rate:	2 - 7 l/min. (depending on sensor)
Max. flow rate:	30 l/min.
Max. pressure:	< 15 psi (< 1 bar)
Inlet/Outlet:	Hose connection; nominal dia. 1.18 in. (30 mm)
Material:	PVC
Dimensions:	14.57 x 10.83 x 6.30 in. (370 x 275 x 160 mm, H x W x D, incl. connectors)

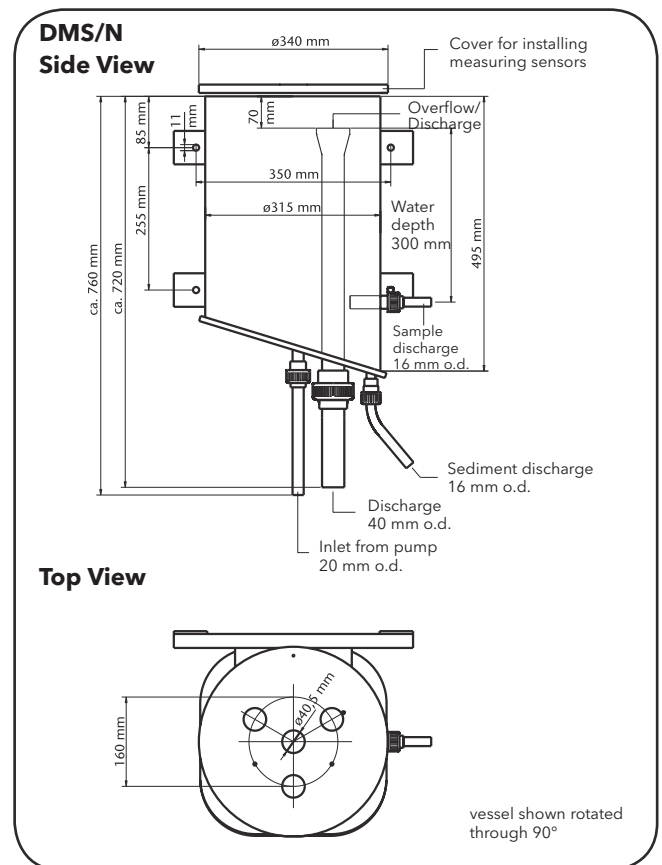
### DMS/N

Order No. 203 749Y

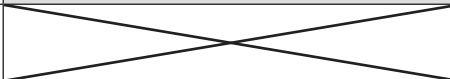
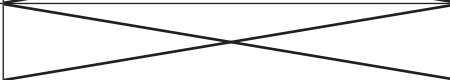


The DMS/N flow-thru vessel was designed specifically for use in monitoring stations. Up to 4 sensors, each with a diameter of 40 mm, can be mounted in the lid of the vessel for measurement of oxygen, pH/ORP, conductivity and/or turbidity. The sample flow is continuously supplied to the vessel by a small submersible pump (not included), and exits through an overflow. If in addition analyzers are installed in the station, they can be supplied with samples from the flow-thru vessel.



Vessel volume:	Approx. 27 l
Min. flow rate:	150 - 200 l/hr
Max. flow rate:	Approx. 1500 l/hr
Max. pressure:	< 15 psi (< 1 bar)
Inlet/outlet:	Hose connection Ø 0.79 resp. 1.57 in. (20 mm resp. 40 mm)
Material:	PVC
Dimensions:	Approx. 19.49 x 15.39 in. (495 x 340 mm, H x W, without connectors)

Configuration of the adapter according to table: flow-thru adapters



Model	Description	Order No.
<b>Flow-thru Adapters</b>		
<b>ADA-DF 1</b>	Adapter for mounting IQ sensors for measuring of pH/ORP, conductivity and D.O. in D 700/N or DMS/N flow-thru vessels	203761Y
<b>ADA-DF 4</b>	Adapter for mounting D.O. sensors TriOxmatic® 702 and TriOxmatic® 702 IQ in D 702/N flow-thru vessel	203767Y
<b>ADA-DF 6</b>	Adapter for mounting D.O. sensor TriOxmatic® 702 IQ in flow-thru vessel D 702/N	203771Y
<b>ADA-DF 7</b>	Adapter for mounting turbidity sensor VisoTurb® 700 IQ in DMS/N flow-thru vessel	203773Y
<b>ADA-DF 9</b>	Adapter for mounting IQ sensors for pH/ORP, D.O., conductivity, turbidity and suspended solids in flow-thru vessels EBS(T)700-DU/N or ESS 700-VA/N	203777Y
<b>ADA-DF 11</b>	Adapter for mounting IQ sensors for pH/ORP, D.O., conductivity, turbidity and suspended solids in ESS 700 VA/10 weld-in socket	203781Y
<b>ADA-DF 14</b>	Adapter for mounting IQ sensor FDO®700 IQ in flow-thru vessel D 700/N	203787Y
<b>ADA-DF 15</b>	Adapter for mounting IQ sensor FDO®700 IQ in flow-thru vessels EBS 700-DU/N, EBST 700-DU/N and ESS 700 VA/N	203789Y
<b>ADA-DF9/SW</b>	Adapter for mounting IQ sensors in saltwater design in the Flow-thru adapters EBST/SW or EBST-D/SW	203790Y

<b>Flow-thru Adapters SW</b>		
	<b>Flow-thru Vessels</b>	
	<b>EBST/SW</b> Flow-thru adapter  Order No. 203 758	<b>EBST-D/SW</b> Flow-thru adapter  Order No. 203 759
<b>VisoTurb® 700 IQ SW</b>	ADA-DF9/SW 203 790	ADA-DF9/SW 203 790
<b>ViSolid® 700 IQ SW</b>	ADA-DF9/SW 203 790	ADA-DF9/SW 203 790
<b>TetraCon® 700 IQ SW</b>	ADA-DF9/SW 203 790	
<b>SensoLyt® 700 IQ SW</b>	ADA-DF9/SW 203 790	
<b>TriOxmatic® 700 IQ SW</b>	ADA-DF9/SW 203 790	
<b>FDO® 700 IQ SW</b>	ADA-DF9/SW 203 790	

ADA-DFX	Configuration recommended
	Configuration possible (check sensor specs and application)
	Configuration not intended

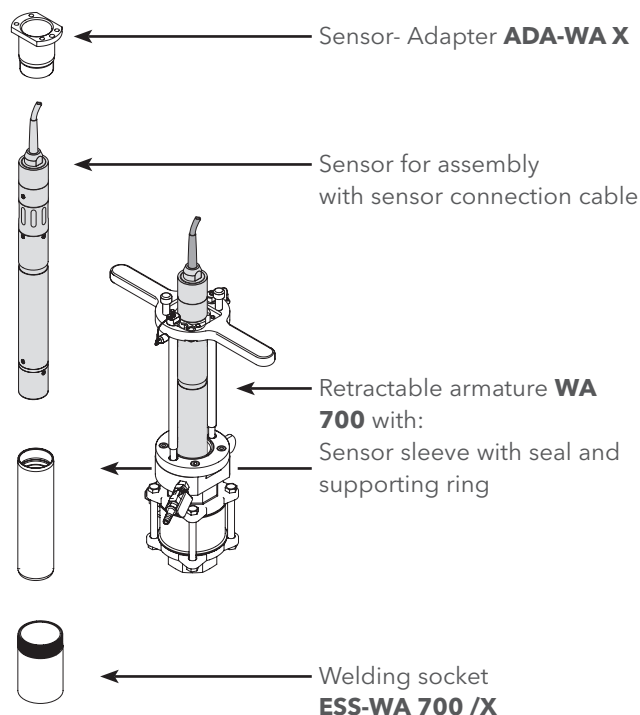
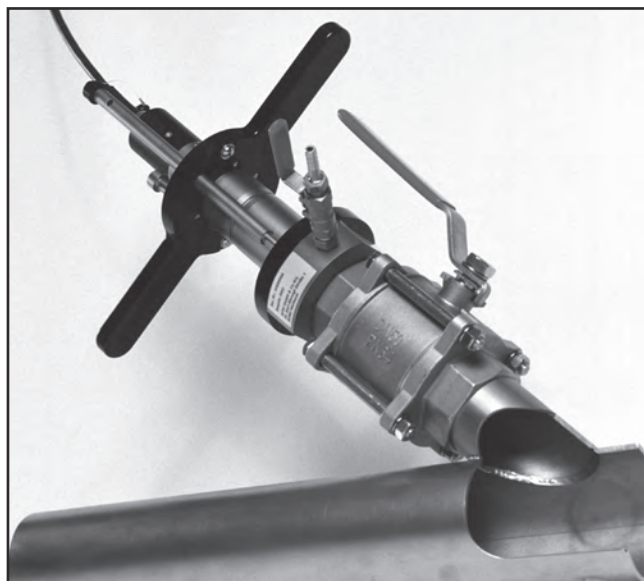
Flow-thru Adapters											
	Flow-thru Vessels										
	D 700/N Flow-thru vessel Order No. 203 745Y	D 702/N Flow-thru vessel Order No. 203 747Y	DMS/N Flow-thru vessel Order No. 203 749Y	EB5 700-DU/N Flow-thru adapter Order No. 203 751Y (metric) Order No. 203 751USY (imperial)	EBST 700-DU/N Flow-thru adapter Order No. 203 753Y (metric) Order No. 203 753USY (imperial)	EBST 700-DU/ND Flow-thru adapter Order No. 203 754Y	ESS 700 VA/N Welding socket Order No. 203 755Y	ESS 700 VA/10 * Welding socket Order No. 203 757Y	WA 700/2 Retractable armature Order No. 480 102Y	WA 700/10 * Retractable armature Order No. 480 100Y	
<b>VisoTurb® 700 IQ</b>			ADA-DF7 203 773	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X  ADA-WA1 480 108	ESS-WA 700/X 480 10X  ADA-WA1 480 108	
<b>ViSolid® 700 IQ</b>			ADA-DF7 203 773	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X  ADA-WA1 480 108	ESS-WA 700/X 480 10X  ADA-WA1 480 108	
<b>TetraCon® 700 IQ</b>	ADA-DF1 203 761		ADA-DF1 203 761	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X  ADA-WA1 480 108	ESS-WA 700/X 480 10X  ADA-WA1 480 108	
<b>SensoLyt® 700 IQ</b>	ADA-DF1 203 761		ADA-DF1 203 761	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11* 203 781	ESS-WA 700/X 480 10X  ADA-WA1 480 108	ESS-WA 700/X 480 10X  ADA-WA1* 480 108	
<b>TriOxmatic® 700 IQ/701 IQ</b>	ADA-DF1 203 761	ADA-DF6 203 771	ADA-DF1 203 761	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X  ADA-WA1 480 108	ESS-WA 700/X 480 10X  ADA-WA1 480 108	
<b>TriOxmatic® 702 IQ</b>		ADA-DF6 203 771		ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF9 203 777	ADA-DF11 203 781	ESS-WA 700/X 480 10X  ADA-WA1 480 108	ESS-WA 700/X 480 10X  ADA-WA1 480 108	
<b>FDO® 700 IQ</b>	ADA-DF14 203 787		ADA-DF1 203 761	ADA-DF15 203 789	ADA-DF15 203 789	ADA-DF15 203 789	ADA-DF15 203 789	ADA-DF11 203 781	ESS-WA 700/X 480 10X  ADA-WA4 480 114	ESS-WA 700/X 480 10X  ADA-WA4 480 114	
<b>AmmoLyt® Plus 700 IQ</b> <b>NitraLyt® Plus 700 IQ</b> <b>VARiON® Plus 700 IQ</b>	ADA-DF1 203 761 wenn < 0,2 bar eingehalten wird		ADA-DF1 203 761 if < 0,2 bar is meet	ADA-DF9 203 777 if < 0,2 bar is meet	ADA-DF9 203 777 if < 0,2 bar is meet	ADA-DF9 203 777 if < 0,2 bar is meet	ADA-DF9 203 777 if < 0,2 bar is meet				

ADA-DFX	Configuration recommended
	Configuration possible (check sensor specs and application)
	Configuration not intended

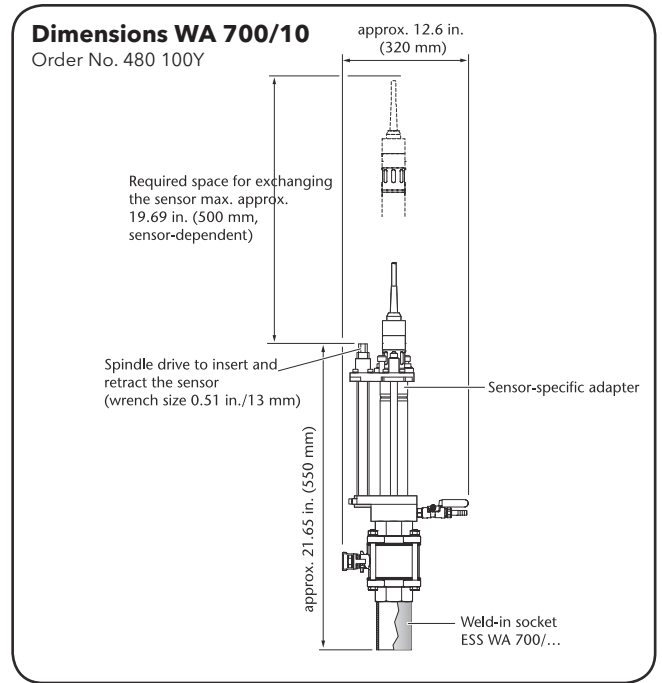
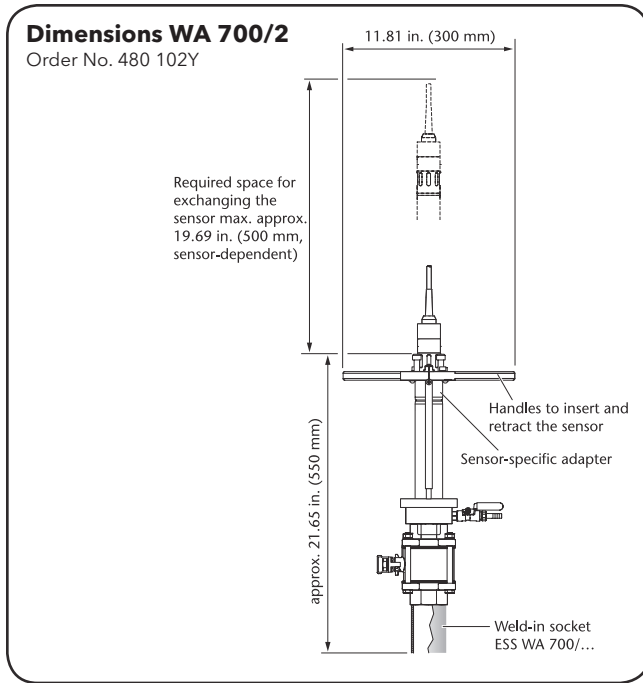
\* with electrode SensoLyt® SEA-HP  
\*\* only for flow-thru vessel D 702/N

Model	Description	Order No.
<b>Retractable Armatures</b>		
<b>WA 700/10</b>	Retractable armature for measurements in pipelines, with up to 10 bar overpressure, for use with all series 650/ 690/700(IQ)/701(IQ) sensors. Consisting of a pre-assembled armature with ball valve, mounting aid up to 10 bar, rinsing connectors and a sensor sleeve with sealings and retainer rings. Please order suitable sensor adapter separately.	480100Y
<b>WA 700/2</b>	Retractable armature for measurements in pipelines, with up to 2 bar overpressure, for use with all series 650/ 690/700(IQ)/701(IQ) sensors. Consisting of a pre-assembled armature with ball valve, mounting aid up to 2 bar, rinsing connectors and a sensor sleeve with sealings and retainer rings. Please order suitable sensor adapter separately.	480102Y
<b>ESS-WA 700/ST</b>	Steel (St 33) weld-in socket for WA 700/2 und WA 700/10 retractable armatures	480104Y
<b>ESS-WA 700/VA</b>	Stainless steel (1.4571) weld-in socket for WA 700/2 und WA 700/10 retractable armatures	480106Y
<b>ADA-WA 1</b>	Adapter for mounting of IQ sensors for pH/ORP, conductivity, D.O., turbidity and TSS into WA 700/2 and WA 700/10 retractable armatures	480108Y
<b>ADA-WA 4</b>	Adapter for mounting of IQ sensor FDO®700 IQ into WA 700/2 and WA 700/10 retractable armatures	480114Y
<b>WA/BV</b>	Blind plug for weld-in socket fittings ESS-WA 700/ST and ESS-WA 700/VA	480116Y
<b>WA/Epac</b>	Spare set of O-ring seals for retractable armatures WA 700/2 and WA 700/10	480118Y

## Retractable Armatures



Technical Data Retractable Armatures		
	WA 700/2	WA 700/10
<b>Max. Pressure</b>	2 bar (overpressure)	10 bar (overpressure)
<b>Max. Temperatur</b>	140 °F (60 °C)	
<b>Material</b>	Wetted parts: Stainless steel (1.4571 or 1.4408) O-rings: FPM (Viton) Seals ball valve: PTFE (Teflon)	
<b>Total Length</b>	21.26 in. (540 mm)	
<b>Outer Diameter</b>	Incl. mounting aid: 11.81/12.60 in. (300/320 mm)	



Model	Description	Order No.
<b>Cleaning System</b>		
<b>DIQ/CHV</b>	Dual IQ/Cleaning Head Valve for automatic air cleaning controlled by a relay, for system 182 (relay and compressed air supply external)	472007Y
<b>Cleaning Air Box - 115 VAC</b>	Air pressure compressor for online probes. For easy wall mounting, switchable by a relay to provide cleaning systems with air pressure. 115 VAC. No additional CHV PLUS needed.	480017Y
<b>MIQ/CHV PLUS</b>	Module IQ/Cleaning Head Valve, for automatic air cleaning controlled by a relay or the IQ SENSORNET (relay and compressed air supply external)	480018Y
<b>AF/Cleaning Air Box</b>	Air intake filter for Cleaning Air Box. For the removal of particles to maintain the compressor.	480026Y
<b>RM/Cleaning Air Box</b>	Replacement membrane for compressor in Cleaning Air Box. The membrane should be replaced after 5000 h of operation time or after 5 years.	480027Y
<b>BPV</b>	Check-valve for mounting into Cleaning Air Box or in flow-thru adapter EBST-700 DU/ND.	480029Y
<b>CH</b>	Cleaning head for on-line sensors with 40 mm diameter. Supplied with 15 m (49 ft) compressed air tube.	900107Y
<b>CH/Epack</b>	Spare part set for cleaning head	900111Y

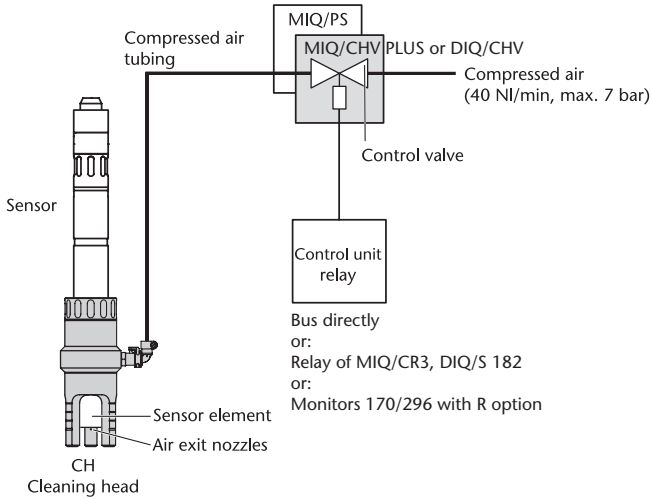
# Cleaning System

For a continuous compressed-air cleaning system there are two options:

## Option 1:

Compressed-air supply is provided at the plant. You require the following components

- Cleaning head CH
- Valve module (MIQ/CHV PLUS or DIQ/CHV with MIQ/PS)



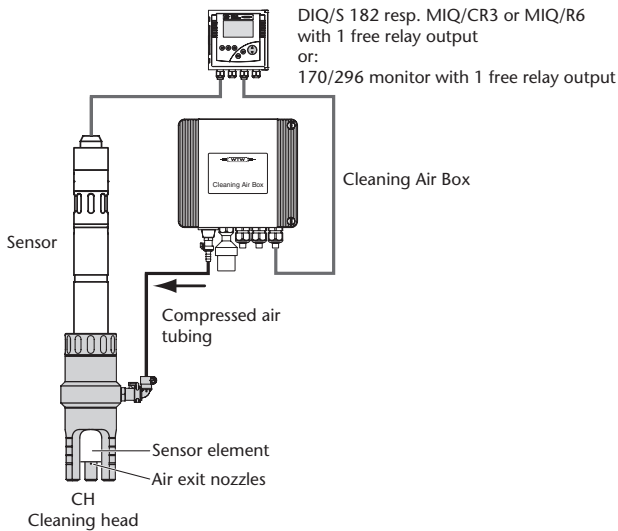
## Efficient compressed air cleaning put into practice:



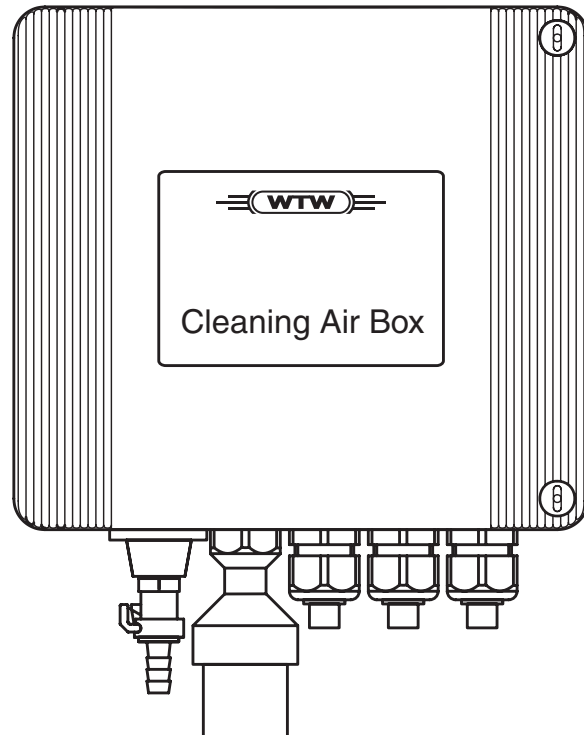
## Option 2:

Compressed-air supply is not provided at the plant. You require the following components

- Cleaning head CH
- Cleaning Air Box
- Monitor with relay output



## Cleaning Air Box



# Additional Products

Model	Description	Order No.
<b>Specific Accessories for Spectral Probes (Former Models)</b>		
<b>VIS Flow-thru/Epac</b>	Spare part set for flow-thru vessel VIS Flow-thru	480061
<b>VIS Set O-rings</b>	Set with 2 O-rings for multifunctional slide of all UV-VIS sensors CarboVis®/ NitraVis® and NiCaVis®	481030

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YSI  
1700/1725 Brannum Lane  
Yellow Springs, Ohio 45387  
+1 937.767.7241  
800.765.4974 (US)  
[environmental@ysi.com](mailto:environmental@ysi.com)  
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