



# JLSX

## Explosion-Proof Liquid Sensor



### APPLICATION

- Produced water
- Refinery effluent
- Offshore platform
- WWTP

### BENEFITS

- Ex ia certified
- Digital communication
- Intelligent sensor
- Submersible and retractable type
- Long-life electrode cartridges

### FEATURES

- Pre-calibrated sensors
- Ex ia certified for zone 0 installations
- Replaceable sensor cartridges
- Different sensor material



## TECHNICAL DATA

### MODEL

### JLSX

Description	smart liquid sensor for use with JLTx explosion-proof universal liquid transmitter
-------------	--


### MEASUREMENT

Measurements	pH, ORP, specific ion (plon), dissolved oxygen, conductivity/resistivity, temperature (see table "measurement ranges")
Accuracy	see table "measurement ranges"

### OPERATION

Ambient temperature	-20 °C...+85 °C
Sample pressure requirement	see table "measurement ranges"

### CONSTRUCTION

Dimensions (W x H x D) probe length	3/4" O.D. x 10", 17", 24", 30", 36"
Weight	1 – 3 kg (2.2 – 6.6 lbs)
Probe glands	3/4" SS316, Ti, Hastelloy®, PVDF, PP or 1" PVDF, PP
Process connection	3/4" MNPT, 1" NPT; others on request
Housing material	standard: 316 stainless steel optional: titanium (T) (FM only), grade 2 / Hastelloy® C-22 (H) / PVDF (K) / polypropylene (P)
O-ring materials	standard: Viton® (VIT) optional: ethylene propylene (EPR) / VITON® 75 (VIT75) / Kalrez® (KLZ) / CV75 (CV)
Sensor cable connector	FM B3X barrier & connector, ATEX/IECEX connector
Retraction valve	1" SS316, Ti, Hastelloy®, PVDF
T-handle	no handle, T-handle with lanyard (std. for valve retraction)
Cable length	standard: 10 ft; optional: lengths in 10 ft increments / detachable cable connection
Protection class	IP68
Area classification	 II 1 G Ex ia IIC T4 Ga Ex ia IIC T4 Ga
Approvals	CE, ATEX, IECEX, FM

## MEASUREMENT RANGES

<b>Electrode: pH</b>	range: 0 to 14 *temperature: 14° to 194 °F (-10° to 90 °C), optional: 32° to 266 °F (0° to 130 °C) pressure range: 0 – 100 psig at 194 °F (90 °C) temp. comp.: 32° to 212 °F (0 – 100 °C) (Auto), ± 0.36 °F (0.2 °C)
<b>Electrode: ORP</b>	range: -2000 mV to +2000 mV *temperature: 14° to 176 °F (-10° to 80 °C) pressure range: 0 – 100 psig at 194 °F (90 °C) temp. comp.: 32° to 212 °F (0 – 100 °C) (Auto), ± 0.36 °F (0.2 °C)
<b>Electrode: DO</b>	range: 0 to 20 ppm, 0 to 150 % SAT *temperature: 14° to 176 °F (-10° to 80 °C) pressure range: 0-65 psig at 194 °F (90 °C) temp. comp.: 32° to 212 °F (0 – 100 °C) (Auto), ± 0.36 °F (0.2 °C)
<b>Conductivity &amp; resistivity</b>	range: 1µS to 50µS, 0 – 20 Mohm *temperature: 23° to 212 °F (-5° to 100 °C); optional: 23° to 302 °F (-5° to 150 °C) pressure range: 0 – 100 psig at 194 °F (90 °C) temp. comp.: 32° to 212 °F (0 – 100 °C) (Auto), ± 0.36 °F (0.2 °C)
<b>Electrode: pION</b>	range: see sensor data sheet, ppb, ppm & ppt *temperature: see sensor data sheet pressure range: 0 – 100 psig at 194 °F (90 °C) temp. comp.: 32° to 212 °F (0 – 100 °C) (Auto), ± 0.36 °F (0.2 °C)

Measurement	Range	pH Range Required	Temperature Range	Sentinel Diagn.
Ammonium	0.05 to 18,000 ppm	2 to 8 pH	32° to 104 °F (0° to 40 °C)	Y
Bromide	1 to 80,000 ppm	1 to 12 pH	32° to 176 °F (0° to 80 °C)	Y
Cadmium	0.1 to 11,200 ppm	3 to 9 pH	32° to 176 °F (0° to 80 °C)	Y
Calcium	0.1 to 40,000 ppm	3 to 11 pH	32° to 104 °F (0° to 40 °C)	Y
Chloride	2 to 30,000 ppm	1 to 12 pH	32° to 176 °F (0° to 80 °C)	Y
Copper	1 to 6,300 ppm	2 to 6 pH	32° to 176 °F (0° to 80 °C)	Y
Cyanide	0.1 to 260 ppm	10 to 14 pH	32° to 176 °F (0° to 80 °C)	Y
Dissolved O2 (ppb)	0.01 to 20 ppm	no limitation	14° to 176 °F (-10° to 80 °C)	N
Dissolved O2 (std.)	1 to 20 ppm	no limitation	14° to 176 °F (-10° to 80 °C)	N
Fluoride	0.02 to 2,000 ppm	2 to 8 pH	32° to 176 °F (0° to 80 °C)	Y
*High Temp. pH	0 to 14	no limitation	32° to 266 °F (0° to 130 °C)	Y
Lead	2 to 20,700 ppm	4 to 8 pH	32° to 176 °F (0° to 80 °C)	Y
Nitrate	0.1 to 14,000 ppm	3 to 11 pH	32° to 104 °F (0° to 40 °C)	Y
ORP	-1,500 mV kto + 1,500 mV	no limitation	14° to 176 °F (-10° to 80 °C)	Y
Potassium	0.1 to 40,000 ppm	2.5 to 11 pH	32° to 104 °F (0° to 40 °C)	Y
Silver	0.1 to 107,000 ppm	1 to 12 pH	32° to 176 °F (0° to 80 °C)	Y
Sodium	0.2 to 23,000 ppm	6 to 12 pH	32° to 176 °F (0° to 80 °C)	Y
Standard pH	0 to 14	no limitation	14° to 194 °F (-10° to 90 °C)	Y
Sulfide	0.01 to 32,000 ppm	11 to 14 pH	32° to 176 °F (0° to 80 °C)	Y

\* contact factory for this application

## ORDER CODES

Part No.	Description
70.00210	JLSX Explosion-proof liquid sensor

### Available Features

<b>A</b> Measurement type	(mV) JLSX Digital sensor, pH, ORP, pION measurement	0
	(DO) JLSX Digital sensor, dissolved oxygen measurement	1
	(CR) JLSX Digital sensor, contacting conductivity, 1 μS to 50 mS	2
	(MVD) Diagnostic JLSX digital sensor, pH, ORP, pION measurement	5
	(DO PPB) JLSX Digital sensor, PPB dissolved oxygen measurement	6
	(RES) JLSX Digital sensor, resistivity, 0.00 – 50 MΩ	7
	<b>B</b> Sensor style	(I) Insertion style
(V) Valve retractable style with flanged blow out protector		1
<b>C</b> Housing material and Housing length	(X10) 316 SST – 10" length, ¾" O.D. (standard – insertion)	00
	(X17) 316 SST – 17" length, ¾" O.D. (standard – valve retractable)	01
	(X24) 316 SST – 24" length, ¾" O.D.	02
	(X30) 316 SST – 30" length, ¾" O.D.	03
	(X36) 316 SST – 36" length, ¾" O.D.	04
	(TX10) Titanium – 10" length, ¾" O.D. *no ATEX/IECEx approvals	10
	(TX17) Titanium – 17" length, ¾" O.D. *no ATEX/IECEx approvals	11
	(TX24) Titanium – 24" length, ¾" O.D. *no ATEX/IECEx approvals	12
	(TX30) Titanium – 30" length, ¾" O.D. *no ATEX/IECEx approvals	13
	(TX36) Titanium – 36" length, ¾" O.D. *no ATEX/IECEx approvals	14
	(HX10) Hastelloy® – 10" length, ¾" O.D.	20
	(HX17) Hastelloy® – 17" length, ¾" O.D.	21
	(HX24) Hastelloy® – 24" length, ¾" O.D.	22
	(HX30) Hastelloy® – 30" length, ¾" O.D.	23
	(HX36) Hastelloy® – 36" length, ¾" O.D.	24
	(PX10) Polypropylene – 10" length, 1" O.D. (SS solution ground)	50
	(PX17) Polypropylene – 17" length, 1" O.D. (SS solution ground)	51
	(PX24) Polypropylene – 24" length, 1" O.D. (SS solution ground)	52
	(PX30) Polypropylene – 30" length, 1" O.D. (SS solution ground)	53
	(PX36) Polypropylene – 36" length, 1" O.D. (SS solution ground)	54
For other materials/lengths consult factory	XX	
<b>D</b> Process Connection	Threaded fittings (no o-rings required)	
	(75) ¾" MNPT, 316 SS gland fitting, nylon ferrule	00
	(75HT) ¾" MNPT, 316 SS gland fitting, Teflon ferrule	01
	(75SF) ¾" MNPT, 316 SS gland fitting, SS ferrule	02
	(75HC) ¾" MNPT, Hastelloy® gland fitting, Teflon ferrule	03
	(75TT) ¾" MNPT, titanium gland fitting, Teflon ferrule	04
	(75PP) ¾" MNPT, all polypropylene gland fitting	05
	(75K) ¾" MNPT, all Kynar gland fitting	06
	(75TFE) ¾" MNPT, all teflon gland fitting	07
	(75V) ¾" MNPT fitting set for 1" ball valve	08
	(100N) 1" MNPT, all nylon gland fitting	09
	(100P) 1" MNPT, all polypropylene gland fitting	10
	(100P) 1" MNPT, All Polypropylene gland fitting	11
	(100K) 1" MNPT, all KYNAR gland fitting	12
	(100HT) 1" MNPT, 316 SS gland fitting, nylon ferrule for ¾" sensor	14
	(100HTF) 1" gland fitting, SS w/ Teflon ferrule for ¾" sensor (70.92000086)	15
	(175) 1" fitting x ¾" tube, SS w/ nylon ferrule (70.92000085.HT2)	16
	(75KV) ¾" fitting, Kynar for ball valve (70.92000147)	17
	(100KV75) 1" x ¾" fitting, Kynar ball valve (70.92000146)	18
	For other fittings consult factory	29
	Valve assemblies (includes "T"-handle)	
	(VSS)* 1" NPT 316 SS valve retraction assembly, nylon ferrule	30
	(VSSHT)* 1" NPT 316 SS valve retraction assembly, Teflon ferrule	31
	(VSE)* 1" NPT 316 SS valve retr. assemb. f. induc. cond. sensors	32
	(VHC)* 1" NPT Hastelloy® valve retraction assembly	33
	(VTT)* 1" NPT Titanium valve retraction assembly	34
	(VKY)* 1" NPT All Kynar valve retraction assembly	40
	(VPP)* 1" NPT All polypropylene valve retraction assembly	42
	For other valve assemblies consult factory	59
	(SSFC) SS flange – flow cell	65
(PVCFC) PVC flange – flow cell	66	
Sanitary flange assemblies		
(SF) 1/1.5" Sanitary flange, 316 SS, Viton® o-rings, nylon ferrule	80	
(SF2) 2" Sanitary flange, 316 SS, Viton® o-rings, nylon ferrule	81	
(SF25) 2½" Sanitary flange, 316 SS, Viton® o-rings, nylon ferrule	82	
For other flange fittings consult factory	99	

\* 30 – 42 Valve retraction assemblies supplied with "T"-handle and lanyards



