

# JUMO Aquis 500 pH Transmitter / Controller

**NEW** pH Transmitter / Controller



JUMO

### Features:

- ◆ Graphics display with background lighting.
- ◆ Simple menu guided 3 point calibration.
- ◆ Full PID controller functionality.
- ◆ 2 analogue (4~20mA / 0~10V) outputs.
- ◆ 2 changeover 3A, 250Vac relay outputs.
- ◆ Wall (IP67) and / or surface (IP65) mount (same unit).
- ◆ Power: 12~24 Vdc +/-15% or 110~230 Vac +/-10%.
- ◆ JUMO Datasheet: 20.2560

[www.intech.co.nz/aquis500ph](http://www.intech.co.nz/aquis500ph)



MODEL	DESCRIPTION	PRICE
<b>Aquis 500 pH</b>	Panel / Wall Mount Instrument: 161 x 149 x 77mm. ◆ Output 1 - Process Value or PID Control 4~20mA. ◆ Output 2 - Changeover Relay for limit or PID control.	\$1692.00
<b>Options</b>	◆ Output 3 - 2nd process Value or PID Control (4~20mA). ◆ Output 4 - 2nd Changeover relay for limit or PID control.	\$315.00 \$178.00

JUMO tecLine electrodes are high-quality combination sensors for professional applications in process and industrial measurement technology. A temperature probe can also be integrated as an option, depending on the type.

Suitable versions are available to meet a wide variety of requirements:

- for industrial and communal water and wastewater engineering
- for measurements in suspensions and varnishes

### Other versions available (see data sheet / web link)

[www.intech.co.nz/tecline](http://www.intech.co.nz/tecline)

- ◆ JUMO Datasheet: 20.1020

JUMO tecLine sensors are state-of-the-art for modern pH and redox electrodes. Each electrode is a quality product and is individually tested as a matter of routine. All standard electrodes are made from FDA-listed materials.

MODEL	DESCRIPTION	PRICE
<b>Tecline</b>	<i>For standard applications.</i> Glass shaft, gel-sealed, zirconium dioxide diaphragm, screw cap, 120mm, salt reserve. (JUMO sales article 20/00300151).	\$408.00
<b>Tecline COAX</b>	5m coaxial cable for Tecline pH probe. (JUMO sales article 20/00082673).	\$130.00
<b>Tecline w/w</b>	<i>For wastewater, heavily polluted media, suspensions &amp; varnishes.</i> Glass shaft, gel-sealed, PTFE diaphragm, Pg 13.5 SMEK screw cap, 120mm, salt reserve, integrated Pt 100. (JUMO sales article 20/00470246).	\$552.00
<b>Tecline w/w COAX</b>	5m coaxial SMEK universal cable for Tecline w/w pH probe. (JUMO sales article 20/00347843).	\$380.00



Tecline

Tecline w/w

### pH Probe Holders Immersion Fittings

[www.intech.co.nz/phif](http://www.intech.co.nz/phif)

Immersion fittings are used for holding electrochemical sensors.

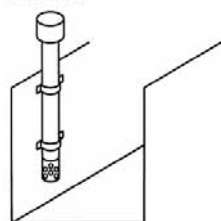
The fittings are mounted in open sluices or containers. They protect the installed sensor from breaking and enable measurement in different immersion depths.

JUMO Datasheet: 20.2820

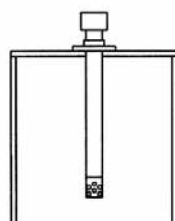
MODEL	DESCRIPTION	PRICES from
<b>PHIF-40</b>	Polypropylene (FPM seals), 500~2000mm lengths.	\$320.00 to \$540.00
<b>PHIF-63</b>	Polypropylene (FPM seals), 500~2000mm lengths. For 1~3 sensors.	\$1125.00 to \$1620.00

### Installation options

Standard

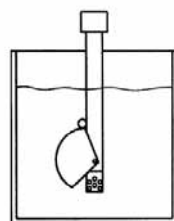


Fixing with pipe clips in the inlet channel

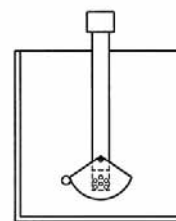


Fixing with a flange on a container

Use of a wetting cup



with the container filled



with empty container (residual liquid in the cup prevents the sensor from running dry)



## Controllers

### SR90 Series - Digital controllers.

- ◆ Autotuning controller with PID.
- ◆ Inputs: Thermocouple, RTD, Current, Voltage.
- ◆ Outputs: Current, SSR drive, Voltage, Relay.
- ◆ Optional power supply of 24Vac or 24Vdc.
- ◆ Retransmission of process value or set value.
- ◆ Set value bias by digital input.
- ◆ Alarms, Event output, Heater break alarm.
- ◆ Manual control, SV limit, PV filter, Output limit.
- ◆ Comms: RS232C, RS485 Modbus/Shimaden.
- ◆ Front panel IP66.
- ◆ Heating cooling outputs.



[www.intech.co.nz/sr90](http://www.intech.co.nz/sr90)

MODEL	SIZE	BASE PRICE Includes Alarms.	OPTIONS	ADD PRICE
SR91	48 x 48	\$315.00	Control output 2	\$100.00
SR92	72 x 72	\$342.00	Set value bias / DI	\$63.00
SR93	96 x 96	\$355.00	Retransmission	\$100.00
SR94	48 x 96	\$335.00	Comms RS232, RS485 Modbus/Shimaden	\$160.00
			24Vac/dc power supply	\$80.00

### MR13 - 3 Input/Output Controller.



- ◆ 3-channel controller, 3-channel input#, 3-channel setting and simultaneous 3-channel display are possible.
- ◆ Accuracy:  $\pm(0.3\% \text{ FS} + 1 \text{ digit})$ .
- ◆ Programmable 1 pattern with 9-step function.
- ◆ PID Auto tune.
- ◆ Comms: RS232C, RS485.

# Input type must be the same for 3 channels.

MODEL	SIZE	BASE PRICE	OPTIONS	ADD PRICE
MR13	96 X 96	\$960.00	Program Function	\$160.00
			Events	\$120.00
			Remote Input/ Digital Input	\$60.00
			Retransmission	\$120.00
			Comms RS232, RS485	\$200.00

[www.intech.co.nz/mr13](http://www.intech.co.nz/mr13)

### SR253 - Digital controller.

- ◆ Autotuning controller with expert PID processing.
- ◆ Inputs: Thermocouple, RTD, Current, Voltage.
- ◆ Outputs: Current, SSR drive, Voltage, Relay.
- ◆ Remote setting, analogue or digital.
- ◆ Timer functions.
- ◆ Ramp control (10 steps).
- ◆ Event output, Heater break alarm.

- ◆ Comms: RS232C, RS422A, RS485.
- ◆ Communicates with Intech software.
- ◆ Retransmission of process value or set value.
- ◆ Set value bias by digital input.
- ◆ High and low alarms.

MODEL	SIZE	BASE PRICE	OPTIONS	ADD PRICE
SR253	96 x 96	\$1310.00	Event outputs	\$180.00
			Retransmission	\$225.00
			Comms	\$270.00
			Second output	\$135.00



[www.intech.co.nz/sr253](http://www.intech.co.nz/sr253)

### FP93 - Programmable ramp controller.

- ◆ Autotuning controller with expert PID processing.
- ◆ Inputs: Thermocouple, RTD, Current, Voltage.
- ◆ Outputs: Current, SSR drive, Voltage, Relay.
- ◆ Remote setting, analogue or digital.
- ◆ Timer functions.
- ◆ Set value bias by digital input.
- ◆ Ramp control, 10 steps per pattern.
- ◆ 4 Patterns.

- ◆ Comms: RS232C, RS485.
- ◆ Communicates with Intech software.
- ◆ Retransmission of process value or set value.
- ◆ High and low alarms.
- ◆ Event output, Heater break alarm.

MODEL	SIZE	BASE PRICE Includes Events	OPTIONS	PRICE
FP93	96 x 96	\$630.00	Retransmission	\$100.00
			Comms	\$160.00
			24Vac/dc Power Supply	\$90.00
			Status Output	\$80.00



[www.intech.co.nz/fp93](http://www.intech.co.nz/fp93)

## Controllers / Shimaden Lite software

### EM51 - Servo controller.



- ◆ Inputs: Current or Voltage.
- ◆ Plug-in to DIN rail mount base.
- ◆ Outputs: SSR drive or Relay.
- ◆ Feedback resistance: 100 to 2000 ohms. 3 wire.

MODEL	SIZE	PRICE
EM51	80 x 50	\$425.00

[www.intech.co.nz/em51](http://www.intech.co.nz/em51)

### EM70 - Intelligent Servo controller.



- ◆ Inputs: Current, Voltage or Potentiometer.
- ◆ Panel mount.
- ◆ Outputs: SSR drive or Relay.
- ◆ Feedback resistance: 100 to 2000 ohms. 3 wire.
- ◆ Remote setting by digital inputs.

MODEL	SIZE	PRICE
EM70	96 x 96	\$990.00

[www.intech.co.nz/em70](http://www.intech.co.nz/em70)

## Shimaden Lite software



[www.intech.co.nz/shimaden-lite](http://www.intech.co.nz/shimaden-lite)

## FREE DOWNLOAD

### Features:

- ◆ User friendly controller configuration from computer.
- ◆ Auto seek - Finds controllers automatically.
- ◆ Auto configuration: Shimaden Lite automatically adopts controller configuration.
- ◆ Password protection.
- ◆ Trend graph of process value and set value.
- ◆ Trend graph has last 100 scans.
- ◆ Scan settings 1 sec, 15 sec, 1 min.
- ◆ Controller identification label.

Shimaden Controllers/Indicators	
RS485 or RS232	RS422 or RS232
SR90 Series	FP21
SD16A	SR25
SR80 Series	SD20
FP93	SR253
SR23	SR73A
FP23	
SRS10 Series	
MR13	

**Notes:**

- ◆ The MR13 has no set value (SV) facility from the computer.
- ◆ 2100-IS / 2100-NS not required when using RS232.
- ◆ RS232 will connect to one controller only.

### Shimaden Lite - connection example



### SD16A - Digital Indicator.

- ◆ Microprocessor based. 4 digit display.
- ◆ Inputs: Thermocouple, RTD, Current, Voltage.
- ◆ Display accuracy of  $\pm(0.3\% \text{ FS} + 1 \text{ digit})$ .
- ◆ Analogue output.

- ◆ Two alarm relay outputs SPST.
- ◆ Comms: RS232C, RS485 Modbus/Shimaden.
- ◆ IP66 front panel.
- ◆ LED display with 20mm high digits.
- ◆ Optional power supply of 24Vac/dc.

MODEL	SIZE	BASE PRICE	OPTIONS	ADD PRICE
SD16A	96 x 48	\$279.00	Alarms	\$60.00
			Retransmission (with Alarms) OR Sensor Supply 24Vdc 25mA	\$160.00
			Retransmission (without Alarms) OR Sensor Supply 24Vdc 25mA	\$100.00
			24Vac/dc power supply	\$50.00
			Comms RS232, RS485 Modbus/Shimaden	\$120.00

**Notes:**

Specify 4~20mA when ordering.  
Can have either Retransmission  
OR Sensor supply (not both).



[www.intech.co.nz/sd16a](http://www.intech.co.nz/sd16a)

### NEW SD24 - High Accuracy Digital Indicator.

- ◆ Microprocessor based. 5 digit display.
- ◆ Inputs: Thermocouple, RTD, Current, Voltage.
- ◆ High display accuracy of  $\pm(0.1\% \text{ FS} + 1 \text{ digit})$ .
- ◆ 3 Display modes: Peak hold, Bottom hold, Display hold.
- ◆ External control input (2 points) standard.

- ◆ 2 or 4 Relays for events.
- ◆ Comms: RS232C, RS485 Modbus/Shimaden.
- ◆ IP66 front panel.
- ◆ LED display with 14.3mm high digits.
- ◆ Optional power supply of 24Vac/dc.

MODEL	SIZE	BASE PRICE	OPTIONS	ADD PRICE
SD24	96 x 48	\$430.00	Alarms x2	\$60.00
			Alarms x4	\$90.00
			Retransmission	\$100.00
			24Vac/dc power supply	\$50.00
			Comms RS232, RS485 Modbus/Shimaden	\$120.00

**Note:**

Can have either Retransmission  
OR Comms (not both).



[www.intech.co.nz/sd24](http://www.intech.co.nz/sd24)

### KR16 - Selector switch.

- ◆ Six way selector.
- ◆ Two pole push button switches.
- ◆ Panel mount.
- ◆ Ideal for use with the SD16A or SD24 digital indicators.

MODEL	SIZE	PRICE
KR16	96 x 48	\$400.00



[www.intech.co.nz/kr16](http://www.intech.co.nz/kr16)

## Controllers

### SR23 - High Accuracy Digital Controller



[www.intech.co.nz/sr23](http://www.intech.co.nz/sr23)

#### 2 Channel Control (Option).

#### (Independent Dual Loop Control).

**High resolution:** 1/1000°C \*at Pt100 : 0.001 to 30.000°C.

**High accuracy:** 0.1% FS.

#### Universal input.

**Various display:** LED & 128 x 32 DOT LCD Screen.

#### Easy operation and maintenance:

Infrared Communication.

Parameter setting software.

#### Versatile communication function:

Modbus communication protocol.

Shimaden protocol.

#### Versatile external control:

DI: Digital input 10 points max.

DO: Digital output 13 points max.

#### Proven control stability & reliability:

Shimaden Expert PID.

MODEL	SIZE	BASE PRICE	OPTIONS	ADD PRICE
SR23	96 X 96	\$1050.00	Control output No 2	\$100.00
			Isolated remote set point	\$390.00
			Retransmission 1	\$80.00
			Retransmission 2	\$160.00
			Comms RS232, RS485 Modbus/Shimaden	\$80.00
			Ext control DI 10 points/DO 9 points	\$160.00
			Ext control DI 13 points/DO 9 points	\$200.00

#### 2 Channel Control (Option).

#### (Independent Dual Loop Control).

**High resolution:** 1/1000°C \*at Pt100 : 0.001 to 30.000°C.

**High accuracy:** 0.1% FS.

#### Max. 400 flexible step program.

**Max. up to 20 patterns** (Total steps not to exceed 400).

#### Universal input.

**Various display:** LED & 128 x 32 DOT LCD Screen.

#### Easy operation and maintenance:

Infrared Communication.

Parameter setting software.

#### Versatile communication function:

Modbus communication protocol.

Shimaden protocol.

#### Versatile external control:

DI: Digital input 10 points max.

DO: Digital output 13 points max.

#### Proven control stability & reliability:

Shimaden Expert PID.

MODEL	SIZE	BASE PRICE	OPTIONS	ADD PRICE
FP23	96 X 96	\$1440.00	2nd output	\$100.00
			Heater break 30/50 amps	POA
			Retransmission 1	\$80.00
			Retransmission 2	\$80.00
			Comms RS232, RS485 Modbus/Shimaden	\$80.00
			Ext control DI 10 points/DO 9 points	\$160.00
			Ext control DI 13 points/DO 9 points	\$200.00

### FP23 - High Accuracy Programmable Controller



[www.intech.co.nz/fp23](http://www.intech.co.nz/fp23)

**Controllers**

**BTC-9300 Digital controller**



- ◆ Autotuning controller with fuzzy logic + PID processing.
- ◆ Hi-speed processor: 10 samples per second.
- ◆ Configurable input: Thermocouple, RTD, mA, mV.
- ◆ Output: mA, mV, SSR drive, Relay.
- ◆ Remote setting of 4~20mA.
- ◆ Timer function and ramp rate function.
- ◆ High and low alarms. Heating/cooling control.
- ◆ Power supply: 90~264Vac.
- ◆ RS485 or 4~20mA retransmission.
- ◆ 4 digit display.
- ◆ IP65 front panel.
- ◆ Built in pressure/pump control algorithm.

MODEL	SIZE	BASE PRICE
<b>BTC-9300</b>	48 x 48	\$420.00
<b>Options</b>		<b>Add Price</b>
<b>Retransmission</b>	4~20mA	\$95.00
<b>Comms</b>		\$95.00
<b>Low Volt Power Supply</b>	11~26Vdc	\$60.00

**BTC-C21/C91 Low Cost Digital controller**



- ◆ Autotuning controller with fuzzy logic + PID processing.
- ◆ Configurable input: Thermocouple or RTD.
- ◆ Outputs: mA, SSR drive, Relay (Please specify when ordering).
- ◆ Selectable alarm modes.
- ◆ 1 alarm relay.
- ◆ Power supply: 90~240Vac.
- ◆ Soft start ramp and dwell timer.
- ◆ 4 digit display.
- ◆ IP65 front panel C21. IP30 front panel C91.

MODEL	SIZE	PRICE
<b>BTC-C21</b>	48 x 24	\$235.00
<b>BTC-C91</b>	48 x 48	\$235.00

**L91 Limit controller**

The limit control **Limitrol L91** is an over temperature protection or a high limit safety device with a latching output for shutting down the power in an abnormal condition.

- ◆ High limit, low limit and high/low limit control, programmable.
- ◆ Input: Thermocouple, RTD, mV, mA, available.
- ◆ Output: SSR drive, Relay.
- ◆ Sensor break detection.
- ◆ IP30 front panel.



MODEL	SIZE	PRICE
<b>L91</b>	48 x 48	\$220.00

**BTC-4300**

**Digital controller**

- ◆ Autotuning controller with fuzzy logic + PID processing.
- ◆ Hi-speed processor: 10 samples per second.
- ◆ Configurable input: Thermocouple, RTD, mA, mV.
- ◆ Output: mA, mV, SSR drive, Relay.
- ◆ Remote setting of 4~20mA.
- ◆ Timer function and ramp rate function.
- ◆ High and low alarms. Heating/cooling control.
- ◆ RS485 or 4~20mA retransmission.
- ◆ 4 digit display.
- ◆ IP65 front panel.
- ◆ Built in pressure/pump control algorithm.



MODEL	SIZE	BASE PRICE
<b>BTC-4300</b>	96 x 96	\$530.00
<b>Options</b>		<b>Add Price</b>
<b>Retransmission</b>	4~20mA	\$95.00
<b>Comms</b>		\$95.00

**BTC-704**

**Digital / analogue controller**

- ◆ On/off or proportional control, selectable.
- ◆ Input: Thermocouple or RTD, available.
- ◆ Output: SSR drive, Relay.
- ◆ Compact size, only 65 mm deep.
- ◆ Wide selection of ranges.
- ◆ Deviation alarm  $\pm 10\%$  of span.



MODEL	SIZE	PRICE
<b>BTC-704</b>	72 x 72	\$265.00

**BTC-404**

**Digital / analogue controller**

- ◆ On/off or proportional control, selectable.
- ◆ Input: Thermocouple or RTD, available.
- ◆ Output: SSR drive, Relay.
- ◆ Compact size, only 53 mm deep.
- ◆ Wide selection of ranges.
- ◆ Deviation alarm  $\pm 10\%$  of span.



MODEL	SIZE	PRICE
<b>BTC-404</b>	96 x 96	\$265.00

**BTC-901**

**Analogue controller**

- ◆ On/off or proportional control, selectable.
- ◆ Input: Thermocouple or RTD, available.
- ◆ Output: SSR drive, Relay.
- ◆ Compact size, only 86 mm deep.



MODEL	SIZE	PRICE
<b>BTC-901</b>	48 x 48	\$145.00