

# General Specifications

Model OR100  
EXA100 Series  
Panel Mount ORP Analyzer

The EXA100 series is a simple, reliable panel-mount ORP Analyzer providing all the basic functionality required for water treatment applications. It is ideal for cost-sensitive unattended applications where panel space is important.

One analog output and either two or four contact outputs are available along with simple self-diagnostics to help ensure measurement accuracy and equipment reliability.

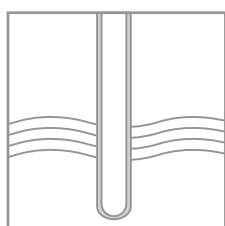
Yokogawa is a leader in process automation and ORP measurement systems, and the Yokogawa brand delivers reliability that you can depend upon.

### Features

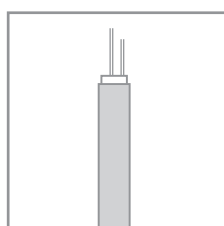
- 96 x 96 mm panel mount design for indoor use
- Easy access to routine maintenance mode
- Practical functions packed in a compact housing
- Large 4-digit display
- One analog output and two/four contact outputs as standard
- Simple one touch automatic calibration
- Self-diagnostics (e.g., calibration failure, measuring range failure, converter failure)



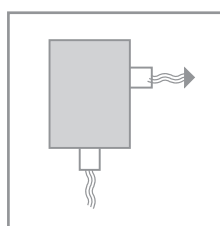
### System Configuration



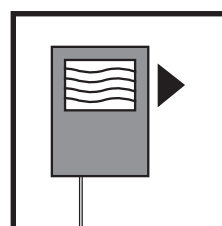
Sensors



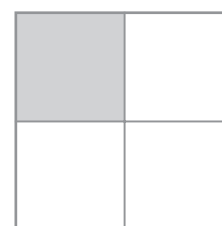
Cables



Fittings



Transmitters



Accessories

## General Specifications

### Panel Mounted ORP Converter

**Model** : OR100

**Measurement** : Oxidation-reduction potential (ORP) of a solution

**Measuring range** : -1500 to 1500 mV  
 Indication  
 Display : Digital (LED)  
 Range : -1500 to 1500 mV  
 Resolution : 1 mV  
 Indication items : ORP reading, setting, status

**Input signal**  
 ORP input range : -1500 to 1500 mV

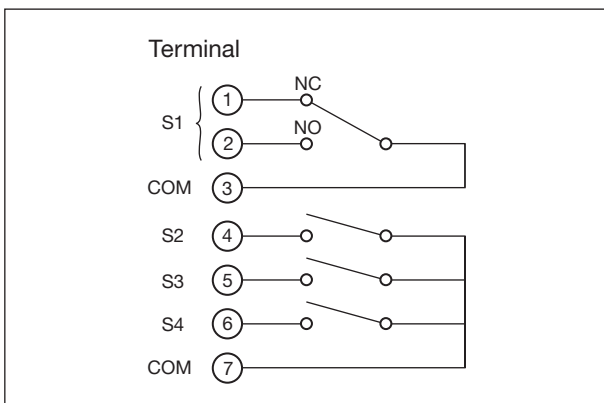
### Transmission signals

Output : 1 output, ORP reading only  
 Output signal : 4 to 20 mA DC, isolated  
 Load resistance : 600Ω or less  
 Transmission signal range : Configurable within measuring range (by 100 mV unit), factory setting: -1500 to 1500 mV,  
 minimum span : 100 mV  
 Maintenance output signal : Output hold "enabled/disabled" selectable  
 Hold output value : Last measured value/preset value (2.0 to 20.8 mA) selectable  
 Fail output signal : Downscale burnout (2 mA) "enabled/disabled" selectable

### Contact output

Type : Relay contact output  
 Number of contacts : 2 or 4 outputs (must be specified when ordering)  
 Contact action : On/Off  
 Contact functions : Selectable: High, low, high-high, low-low, high-high/low-low limit alarms, FAIL  
 Alarm setting resolution : 10 mV  
 Contact output hysteresis : 0 to 1000 mV (configurable)  
 Contact output delay time : 0 to 200 seconds (configurable)  
 Contact rating : In case of 2 contact outputs  
 S1 : 240 VAC 3A or 30 VDC 3A (resistance load), Form C (NC/NO/COM, 3 terminals)  
 S2 : 240 VAC 3A or 30 VDC 3A (resistance load), Form A (NO/COM, 2 terminals) In case of 4 contact outputs  
 S1 : 240 VAC 3A or 30 VDC 3A (resistance load), Form C (NC/NO/COM, 3 terminals)  
 S2, S3, S4 : 240 VAC 3A or 30 VDC 3A (resistance load), Form A, shared common Maximum load current on common is 3A.

### Contact status:



Contact	Function selected						
		H, L, HH, LL, HH/LL limit alarms			FAIL		
		Power off	Power on		Power off	Power on	
		No alarm	Alarm		No alarm	Alarm	
S1	NO-COM	Open	Open	Closed	Open	Closed	Open
	NC-COM	Closed	Closed	Open	Closed	Open	Closed
S2		Open	Open	Closed	Open	Closed	Open
S3 when specified		Open	Open	Closed	Open	Closed	Open
S4 when specified		Open	Open	Closed	Open	Closed	Open

**Note:** When a contact is activated, the LED on display panel turns on.

T01E.EPS

## Operation Specifications

**A. Ambient temperature:** -5 to 45°C

**B. Installation altitude** : 2000 m or less above sea level

**C. Storage temperature:** -25 to 70°C

**D. Ambient humidity** : 10 to 90% RH, non-condensing

### E. Safety and Regulatory Compliance

Safety : CSA, UL, CE pending  
 EMC : to be acquired  
 Construction : Front panel: Dust-proof and drip-proof construction IP55  
                   IP65 (when "/65" option specified)  
 Materials : ABS resin and polycarbonate  
 Case color : Black

**F. Power supply** : Rated voltage 100 to 240 VAC  
 (±10%), 50/60 Hz

**G. Power consumption** : Max. 9 VA

### H. Shipping details

Weight : Approx. 600g  
 Dimensions : 96 (W) x 96 (H) x 120 (D) mm

**I. Mounting** : Panel mount  
 Panel cutout dimensions: 92 (W) x 92 (H) mm  
 Wiring : M3.5 screw terminal  
 Grounding : Ground to earth  
 (grounding resistance 100 or less)

### J. Functional specifications

Calibration function : Manual shift calibration (one point calibration at specified setpoint)  
 Zero shift range: -500 to 500 mV  
 Self-diagnostics function : FAIL output: ORP measuring range failure and converter failure  
 Error indication: Zero shift failure, standard solution measuring range failure

### K. Converter performance

: under normal operating conditions  
 Linearity : ±3 mV  
 Repeatability : ±2 mV

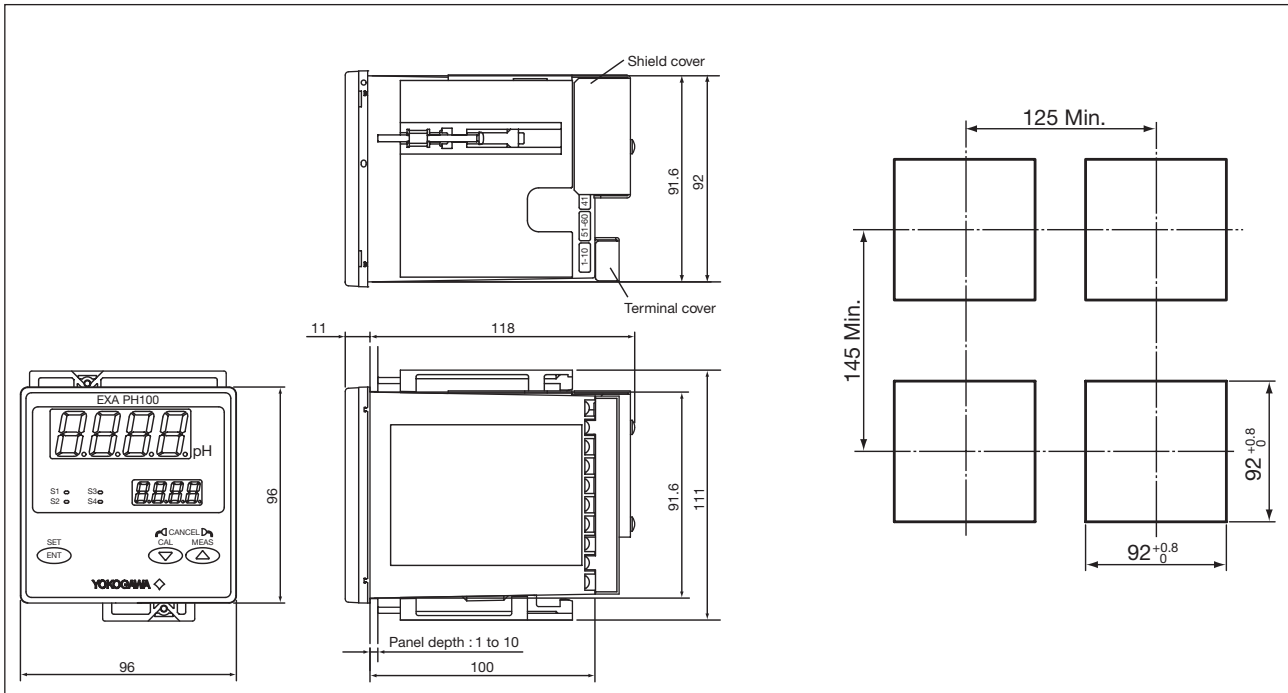
## Model and Suffix Codes

OR100 Panel Mounted ORP Converter

Model	Suffix code	Option code	Description
OR100			Panel mounted ORPconverter
_____	-A		Always -A
Label language	-E		English
Contact output	-21		2 contact outputs
	-41		4 contact outputs
_____	-NN		Always -NN
Option	Construction	/65	with sealing for IP65 (front only)

## Dimensions

OR100 Panel Mounted ORP Converter  
Panel Cutout Dimensions



### YOKOGAWA HEADQUARTERS

9-32, Nakacho 2-chome,  
Musashinoshi  
Tokyo 180  
Japan  
Tel. (81)-422-52-5535  
Fax (81)-422-55-1202  
E-mail: webinfo@mls.yokogawa.co.jp  
www.yokogawa.com

### YOKOGAWA EUROPE B.V.

Databankweg 20  
3821 AL AMERSFOORT  
The Netherlands  
Tel. +31-33-4641 611  
Fax +31-33-4641 610  
E-mail: info@nl.yokogawa.com  
www.yokogawa.com/eu

### YOKOGAWA CORPORATION OF AMERICA

2 Dart Road  
Newnan GA 30265  
United States  
Tel. (1)-770-253-7000  
Fax (1)-770-251-2088  
E-mail: info@yca.com  
www.yokogawa.com/us

### YOKOGAWA ELECTRIC ASIA Pte. Ltd.

5 Bedok South Road  
Singapore 469270  
Singapore  
Tel. (65)-241-9933  
Fax (65)-241-2606  
E-mail: webinfo@yas.com.sg  
www.yokogawa.com/sg

Yokogawa has an extensive sales and distribution network. Please refer to the European website ([www.yokogawa.com/eu](http://www.yokogawa.com/eu)) to contact your nearest representative.



YOKOGAWA ◆

GS 12C11A01-01E-E

Subject to change without notice  
Copyright©

Printed in The Netherlands, 03-705 (A) I