

PH / ORP Analyzers

MODEL OPM223/253



DESCRIPTION

The model 223pH / ORP Transmitter is ideal for use where economy and reliability are the prime considerations. The basic transmitter is available with either a 115VAC, 220VAC or 24V AC/DC power supply, linear isolated current output and one alarm. Features include the addition of a second output for temperature and up to four alarms which may be configured for on-off control functions, alarm limits, timer for cleaning or PID control functions. The PS version adds the diagnostic functions Sensor Check and Live Check as well as a non-linear programmable current output. Sensor Check provides pH glass electrode and reference cell diagnostics and Live Check signals an alarm when the sensor signal does not change over a defined period. The PS version features an acid, caustic neutralization control function that combines direct and reverse P(ID) controllers having a single set point.

FEATURES

- Available in Panel Mount or NEMA 4X/IP65 Rated Field Mount Housing
- Simple Calibration with Automatic Buffer Recognition
- Sensor Check pH Glass Electrode and Reference Cell Diagnostics
- Live Check Continuously Monitors Sensor Performance
- Automatic Sensor Cleaning
- Up to Four Alarm Contacts Including Temperature
- Dedicated Fault Alarm
- NAMUR Fault Current Alarm
- PID Controller
- 2nd Current Output for Temperature

APPLICATIONS

- Water & Wastewater Treatment
- Coagulation & Flocculation
- Acid / Caustic Neutralization



WedgeWood Analytical Inc.
Liquid Analytical Measurement & Control Specialists

MODEL OPM 223/253 PH/ORP ANALYZERS

PH / ORP Analyzers

MODEL OPM223/253

DESCRIPTION

Base Transmitter (PR Version)	Plus Package (PS)
Measurement, display and calibration of the Variable (PV) and temperature Isolated current output (Code 0) Temperature output (Code 1) One alarm (Code 05) * On - Off Dedicated fault alarm (Standard) NAMUR fault current (Standard) * 2.4 or 22.0 mA	Sensor Check pH glass and reference diagnostics. Live Check sensor signal monitoring and alarm. Programmable non-linear current output.
Code 10	Additional Features
Two Alarm Contacts for PV and Temperature * On - Off * Timer for cleaning * P(ID) Controller	Neutralization controller Automatic Cleaning initiated by an internal alarm or limit violation
Code 16	Additional Features
Four Alarm Contacts for PV and Temperature * On - Off * Timer for cleaning * P(ID) Controller	Cleaning initiated externally or automatically by an internal alarm or limit violation

SPECIFICATIONS

pH Measurement	
Measuring Range	0 to 14 pH
Resolution	0.01 pH
Repeatability	0.03 pH
Deviation, Output/ Input	0.1 pH
Zero	Glass ; 5.0 to 9.0 pH (nominal 7.0 pH) Antimony ; 1.0 to 3.0 pH (nominal 1.0 pH)
Slope	Glass ; 38.0 to 65.0 mV / pH Antimony ; 25.0 to 65.0 mV/pH (Nominal 59.16 mV/pH)
Input Impedence	> 1 x 10 ¹² Ohms
Reference Temperature	25°C(77°F)
Maximum Cable Length	50 meters
Sensor to Transmitter	(164 feet)



Wedgewood Analytical Inc.
Liquid Analytical Measurement & Control Specialists

MODEL OPM 223/253 PH/ORP ANALYZERS

PH / ORP Analyzers

MODEL OPM223/253

SPECIFICATIONS

ORP(REDOX) Measurement	
Measuring Range	-1500mV to +1500mV or 0 to 100%
Resolution	1.0 mV / 0.1%
Repeatability	0.2% of Measuring Range
Signal Input	> 1 x 10 ¹² Ohm

Temperature Measurement	
Temperature Sensor	Pt 100
Measuring Range	-20°C to 150°C (-4 to 302°F)
Resolution	0.1°C
Repeatability	0.2% of Measuring Range

Digital Inputs 1 and 2	
Voltage	10 to 50V
Power Consumption	Max 10mA

Current Output	
Range	Selectable 0 to 20mA or 4 to 20mA
NAMUR Fault Current	2.4 or 22.0 mA
Maximum Load	500 Ohms
Output Scale Expansion	10% to 100%
Output Isolation	Max. 350V rms/ 500VDC
Over Voltage Protection	EN 610005 : 1995

Alarms	
Programmable	PH,ORP,Temperature
Alarm Delay	0 to 2000 sec
Contacts	Dry, SPDT, NO/NC
Resistive Load, Current Rating	2.0 Amps
Inductive Load, Current Rating	2.0 Amps
Voltage Rating	250VAC, 30 VDC
Resistive Load, Power Rating	1250 VA AC, 150 Watts DC
Inductive Load, Power Rating	500 VA AC, 90 Watts DC



WedgeWood Analytical Inc.
Liquid Analytical Measurement & Control Specialists

MODEL OPM 223/253 PH/ORP ANALYZERS

PH / ORP Analyzers

MODEL OPM223/253

SPECIFICATIONS

Controllers

Pulse Length	Solenoid Valves
Pulse Frequency	Solenoid Operated Metering Pumps
Control Functions	P ,PI ,PD , PID
Proportional Gain (P)	0.01 to 20.00
Integral (I)	0.0 to 999.0 min
Derivation (D)	0.0 to 999.0 min
Period Pulse Length Controller	0.5 to 999.9 sec
Frequency for Pulse Frequency Controller	60 to 180 min⁻¹

Physical Specifications

Dimension of Panel-Mount Unit (H x W x D)	96 x 96 x 145 mm (3.8 x 3.8 x 5.7 inch)
Dimension of Field Housing (HxWxD)	247 x 170 x 115 mm
Weight of Panel Mount Unit	Max. 0.7kg (1.54 lbs)
Weight with Field Housing	Max. 2.3kg (5.0 lbs)
Display	LC display, 2-lines, 5 and 9 digits
Materials of Housing	Panel Mount Unit - Polycarbonate
Front Membrane	Polyester, UV-resistant
Field Housing	ABS

Ambient Conditions

Ambient Temperature	-10 to 55 °C (14 to 131°F)
Storage and Transport	-25 to 65 °C (-13 to 149 °F)
Relative Humidity	10 to 95%, non-condensing
Protection Class of Panel-Mount Unit	IP54(front), IP30 (housing)Max. 2.3kg (5.0 lbs)
Protection Class of Field Housing	IP65, NEMA 4X
EMI / RFI	EN 61326-1 : 1997

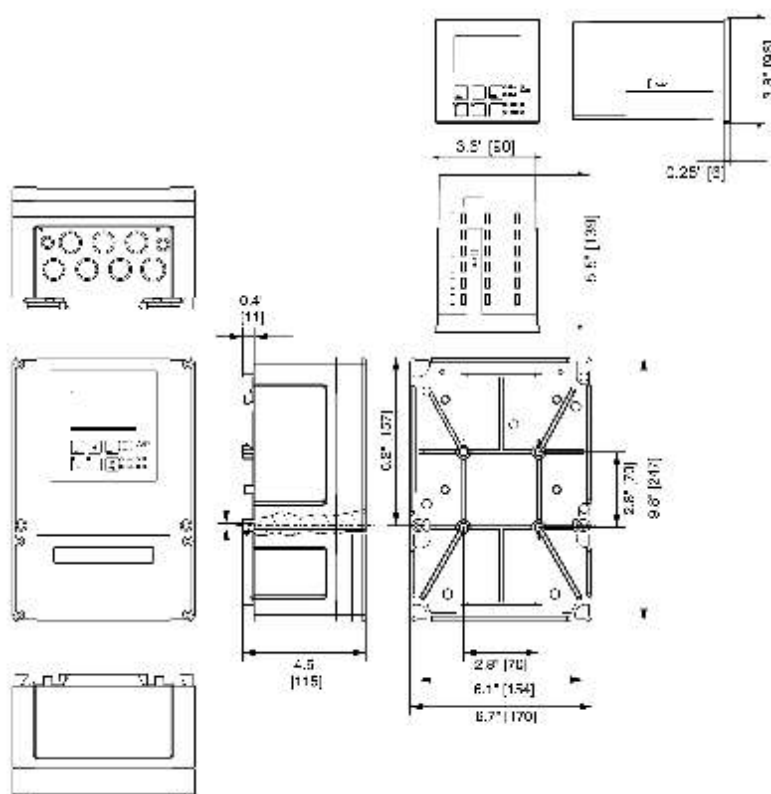
Power Requirements

Supply voltage	100/115/230V AC +10%, 48...62 Hz, 24V AC/DC +20 / -15%
Power consumption	Max. 7.5 VA
Fuse protection	250V / 3.15A

PH / ORP Analyzers

MODEL OPM223/253

OUTLINE & MOUNTING DIMENSIONS



ORDERING INFORMATION

Model	Description
OPM-223-PR OPM-223-PS OPM-253-	pH/ORP Transmitter pH/ORP Transmitter with Plus Package NEMA4X, Field Housing
Code	Description
0	230V AC 50/60 Hz Power
1	115 VAC, 230V AC 50/60 Hz Power
8	24VAC or VDC Power
Code	Description
0	pH/ORP Current Output
1	pH/ORP and Temperature Output
Code	Description
05	One Alarm
10	Two Alarms
16	Four Alarms
M-223-PR-1-1-10	Order Number Example