

## XYR 6000 Wireless Transmitter Absolute Pressure Model

34-XY-03-23

8/13/07

## Specification and Model Selection Guide

STAW94L      0 to 500 psia      0 to 35 barA

### Introduction

Building upon the tremendously successful ST 3000 series transmitter line; Honeywell brings simple, safe, and secure wireless technology to its measurement portfolio in the XYR 6000 Series Wireless Transmitters.

The XYR 6000 series measurements are part of the WNSIA (Wireless Network for Secure Industrial Applications) compliant field devices.

Measurement and information without wires! The XYR 6000 wireless transmitters series enable customers to obtain data and create information from remote and hazardous measurement locations without the need to run wires, where running wire is cost prohibitive and/or the measurement is in a hazardous location. Without wires, transmitters can be installed and operational in minutes, quickly providing information back to your system.

XYR 6000 wireless transmitters send information to a multinode or series of multinodes creating a MESH infrastructure. Wireless System Gateways (WSG) provide the path to bring that information into Experion PKS or any other control system wirelessly via OPC client or Modbus-TCP.

Each multinode accepts signals from up to 20 wireless transmitters reporting at 1 second, and up to 400 transmitters reporting at slower rates. Up to 20 multinodes can be implemented in the same infrastructure.

Transmitter power is supplied by two "D" size lithium batteries with an expected lifetime of up to ten years. Transmitter range with the integral antenna is 1000' (305 m) under ideal conditions.

The STAW series Absolute Pressure transmitters can be used in applications in which high accuracy in the vacuum range of pressure is needed. Typical applications include low-pressure measurement in vacuum distillation columns, where energy savings are directly proportional to the vacuum in the column.



Figure 1 —XYR6000 Absolute Pressure Transmitters

Implement the value of wireless technology today:

- Measure remote access points simply, safe and securely
- Obtain and utilize previously inaccessible information due to high wiring cost or hazardous locations.
- Easily meet Regulatory Requirements
- Improve process efficiency
- Enhance Flexibility to monitor applications:
  - that have no access to power
  - that are remote or difficult to reach
  - that may require frequent reconfiguration
  - where manual readings have been required previously.

## Specifications

### Operating Conditions

Parameter	Reference Condition (at zero static)		Rated Condition		Operative Limits		Transportation and Storage	
	°C	°F	°C	°F	°C	°F	°C	°F
<b>Ambient Temperature</b>	25±1	77±2	-25 to 70	-13 to 158	-40 to 85	-40 to 185	-40 to 85	-40 to 185
<b>Meter Body Temperature</b> STAW94L *	25±1	77±2	-25 to 70	-13 to 158	-40 to 80	-40 to 176	-40 to 85	-40 to 185
<b>Humidity</b> %RH	10 to 55		0 to 100		0 to 100		0 to 100	
<b>Vacuum Region - Minimum Pressure</b> STAW94L	Operate within specifications above 25 mmHgA (33 mbarA). Short term exposure (2 hours at 70°C/158°F) to full vacuum will not result in damage.							
<b>Maximum Allowable Working Pressure (MAWP)</b> (XYR6000 products are rated to Maximum Allowable Working Pressure)	STA94L = 750 psia, 52 barA Units can withstand overpressure of 1.5X MAWP without damage.							
<b>Vibration</b>	Maximum of 4g over 15 to 200Hz.							
<b>Shock</b>	Maximum of 40g.							

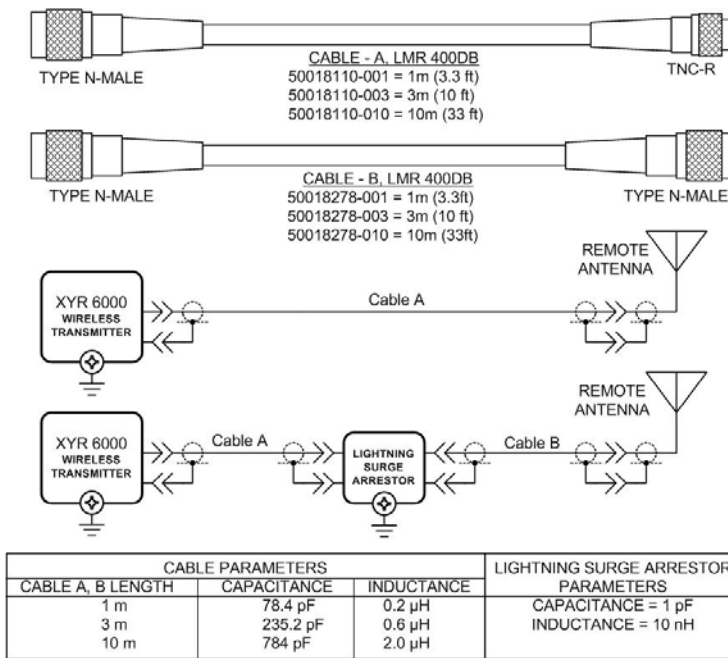
\*STA94L meter body maximum temperature specification is lower than maximum ambient specification

### Wireless Specifications

Parameter	Description
<b>Wireless Communication</b>	2,400 to 2,483.5 MHz (2.4 GHz) Frequency Hopping Spread Spectrum (FHSS) USA – FCC Certified Canada – IC Certified European Union – RTTE/ETSI Conformity
<b>RF Transmitter Power</b>	125 mW (20.9 dBm) maximum per FCC/IC not including antenna, or 400 mW (26.0 dBm) maximum EIRP including antenna for USA and Canadian locations. 100 mW (20.0 dBm) maximum EIRP per RTTE/ETSI including antenna for EU locations.
<b>Data</b>	Rate: 250 Kbps
<b>Antennas</b>	Integral – 2 dBi omnidirectional monopole Remote – 8 dBi omnidirectional monopole with up to 20 m cable and lightning surge arrester. Remote – 14 dBi Directional parabolic with up to 20 m cable and lightning surge arrester.
<b>Signal Range</b>	Nominal 305 m (1,000 feet) between Field Transmitter and Infrastructure Unit (multinode) or Gateway Unit with a clear line of sight.*

\*Actual range will vary depending on antennas, cables and site topography.

Remote antenna cables



Performance Under Rated Conditions\* - Model STAW94L (0 to 500 psia/35 barA)

Parameter	Description
Upper Range Limit psia barA	500 35
Minimum Span psia barA	20 1.4
Zero Suppression	No limit except minimum span within 0 (zero) to +100% URL.
Accuracy (Reference – Includes combined effects of linearity, hysteresis, and repeatability) • Accuracy includes residual error after averaging successive readings.	±0.10% of calibrated span or upper range value (URV), whichever is greater, terminal based. For URV below reference point (20 psia), accuracy equals: ±0.025 + 0.05 $\left(\frac{20 \text{ psia}}{\text{span psia}}\right)$ or ±0.025 + 0.05 $\left(\frac{1.4 \text{ barA}}{\text{span barA}}\right)$ in % of span
Zero Temperature Effect per 28°C (50°F)	±0.15% of span. For URV below reference point (50 psia), effect equals: ±0.15 $\left(\frac{50 \text{ psia}}{\text{span psia}}\right)$ or ±0.15 $\left(\frac{3.5 \text{ barA}}{\text{span barA}}\right)$ in % of span
Combined Zero and Span Temperature Effect per 28°C (50°F)	±0.225% of span. For URV below reference point (50 psia), effect equals: ±0.075 + 0.15 $\left(\frac{50 \text{ psia}}{\text{span psia}}\right)$ or ±0.075 + 0.15 $\left(\frac{3.5 \text{ barA}}{\text{span barA}}\right)$ in % of span

\*Performance specifications are based on reference conditions of 25°C (77°F), 10 to 55% RH, and 316L Stainless Steel barrier diaphragm.

### Performance Under Rated Conditions - General

Parameter	Description
<b>Lightning Surge Arrester (Remote antenna only)</b>	Frequency range: 0 – 3 GHz, 50 Ohms, VSWR = 1:1.3 Max, Insertion Loss = 0.4 dB Connectors Type N Female, Max, Gas Tube Element: 90 V ± 20%, Impulse Breakdown Voltage = 1,000 V ± 20%, Maximum Withstand Current = 5 KA.
<b>CE Conformity</b>	These transmitters are in conformity with the protection requirements of European Council Directives: 89/336/EEC, the EMC Directive and 1999/5/EC, the Telecommunications Directive per EN 300 328 V1.7.1, EN301 893 V1.3.1, EN301 489-17 V1.2.1, EN301 489-1 V1.6.1 and EN61326-1 (1st Edition, 2002-02, Industrial Locations). Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements.
<b>Hazardous Location Certifications</b>	See the Model Selection Guide on page 8.

### Physical Specifications

Parameter	Description
<b>Barrier Diaphragms Material</b>	316L SS, Hastelloy C-276
<b>Process Head Material</b>	316 SS
<b>Mounting Bracket</b>	Carbon Steel (zinc-plated) or Stainless Steel angle bracket or Carbon Steel flat bracket available.
<b>Fill Fluid</b>	Silicone DC 200 oil or CTFE (Chlorotrifluoroethylene) Note that DC 704 is available – Please contact Product Marketing.
<b>Electronic Housing</b>	Epoxy-Polyester hybrid paint. Low Copper-Aluminum. Meets NEMA 4X (hosedown and corrosion resistant), IP 66/67 (hosedown and submersible to 1m)
<b>Process Connections</b>	1/2-inch F-NPT, 1/2 inch M-NPT, 9/16 AMINCO, DIN 19213
<b>Mounting</b>	Can be mounted in virtually any position using the standard mounting bracket. Bracket is designed to mount on 2-inch (50 mm) vertical or horizontal pipe. See Figure 2.
<b>Dimensions</b>	See Figure 3 and Figure 4.
<b>Net Weight</b>	7 pounds (3.2 kg)

**NOTE:** Pressure transmitters that are part of safety equipment for the protection of piping (systems) or vessel(s) from exceeding allowable pressure limits, (equipment with safety functions in accordance with Pressure Equipment Directive 97/23/EC article 1, 2.1.3), require separate examination.

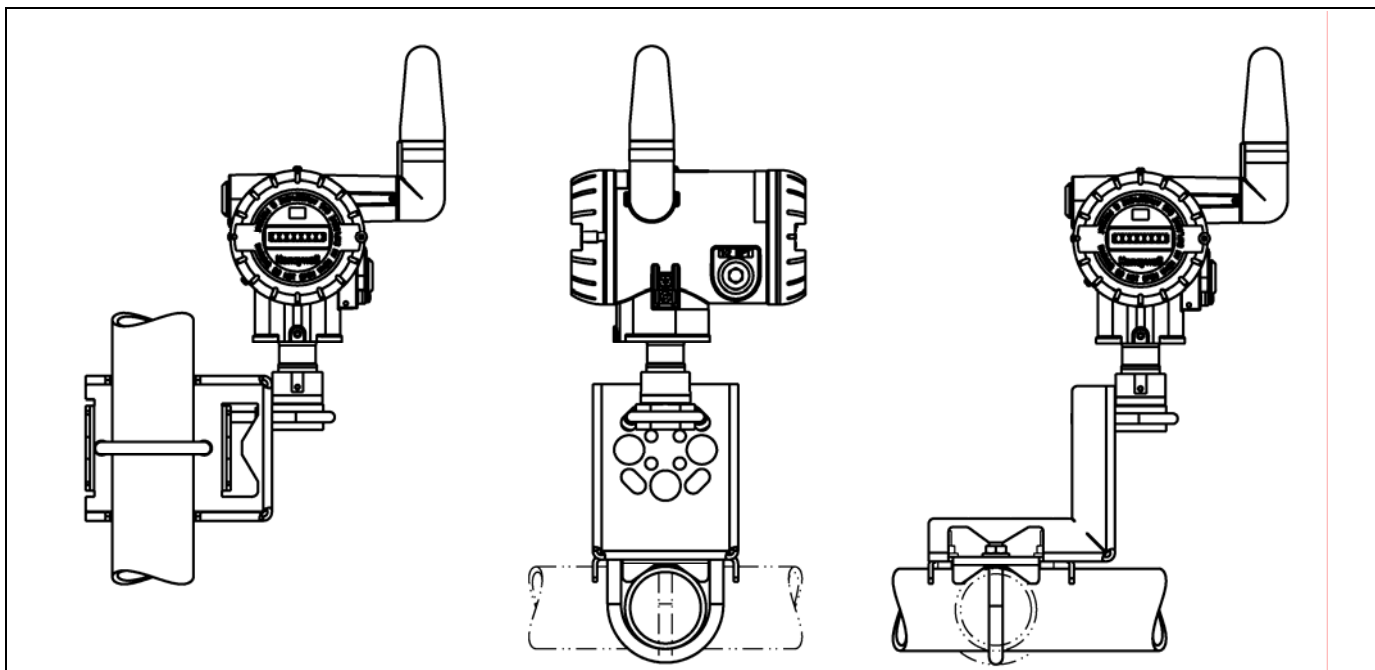


Figure 2 Examples of typical mounting positions

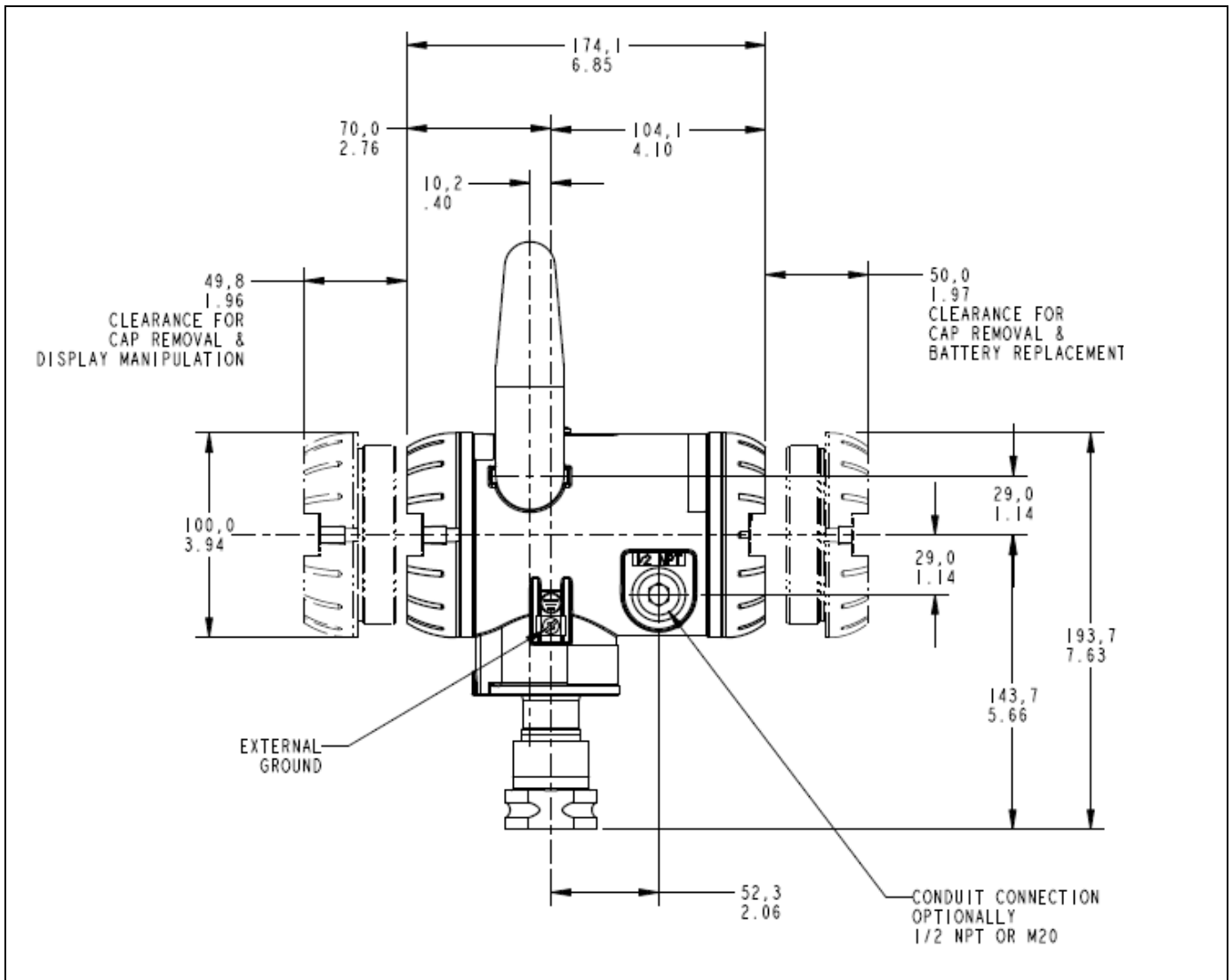


Figure 3 - Typical mounting dimensions for in-line models (side view)

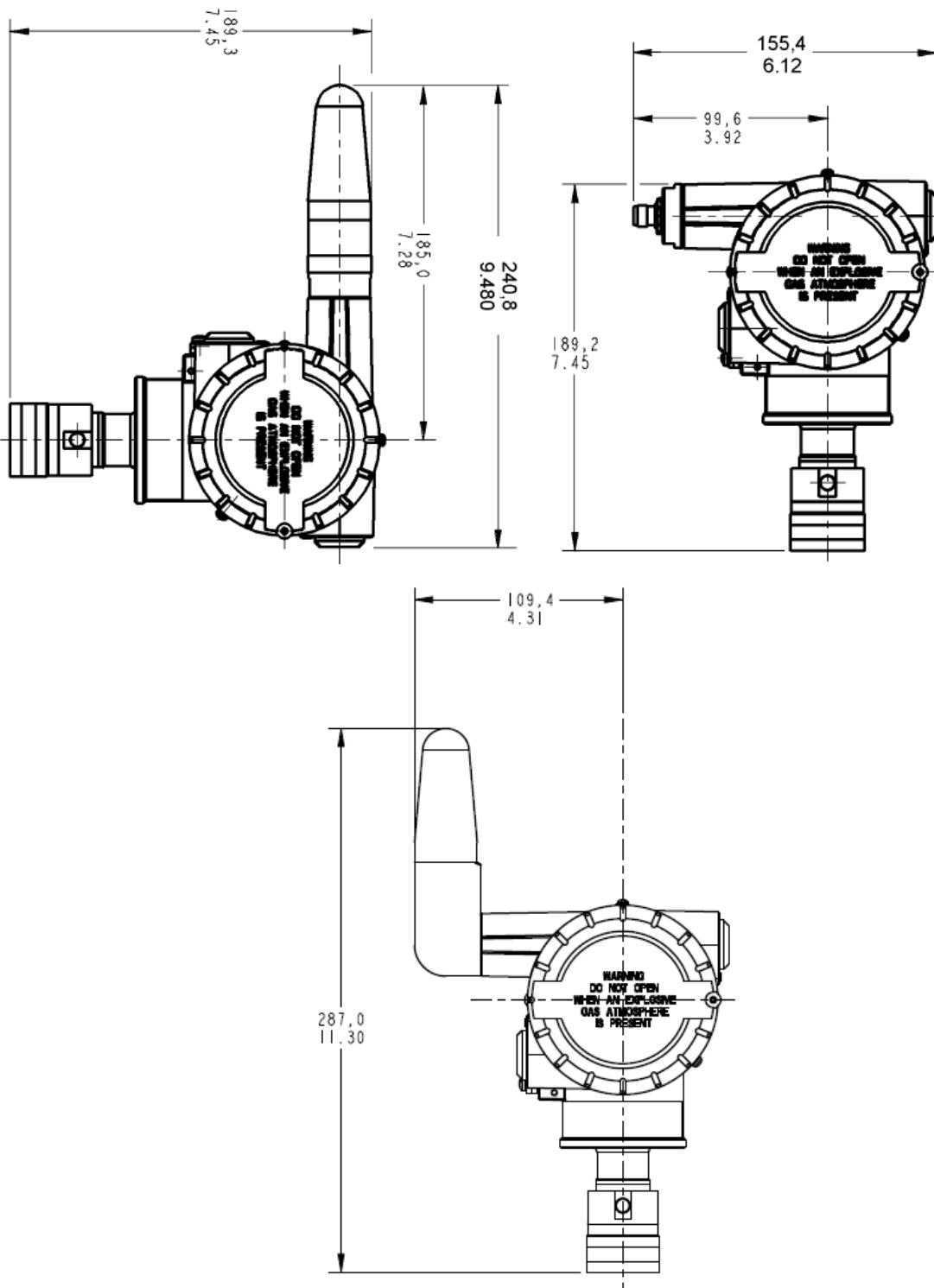


Figure 4 - Typical mounting dimensions for in-line models (rear view)

## Options

### **Mounting Bracket**

The angle mounting bracket is available in either zinc-plated carbon steel or stainless steel and is suitable for horizontal or vertical mounting on a two inch (50 millimeter) pipe, as well as wall mounting. An optional flat mounting bracket is also available in carbon steel for two inch (50 millimeter) pipe mounting.

### **Tagging (Option TG)**

Up to 30 characters can be added on the stainless steel nameplate mounted on the transmitter's electronics housing at no extra cost. A stainless steel wired on tag with additional data of up to 4 lines of 28 characters is also available. The number of characters for tagging includes spaces.

### **Transmitter Configuration**

All configurable parameters are accessible via the WNSIA network via READ/WRITE transactions.

## Ordering Information

Contact your nearest Honeywell sales office, or

In the U.S.:

Honeywell  
Industrial Automation & Control  
2500 W. Union Hills Ave  
Phoenix, AZ 85053  
1-800-288-7491

In Canada:

The Honeywell Centre  
155 Gordon Baker Rd.  
North York, Ontario M2H 3N7  
1-800-461-0013

In Latin America:

Honeywell Inc.  
480 Sawgrass Corporate Parkway,  
Suite 200  
Sunrise, FL 33325  
(954) 845-2600

In Europe and Africa:

Honeywell S. A.  
Avenue du Bourget 1  
1140 Brussels, Belgium

In Eastern Europe:

Honeywell Praha,  
s.r.o. Budejovicka 1  
140 21 Prague 4,  
Czech Republic

In the Middle East:

Honeywell Middle East Ltd.  
Khalifa Street,  
Sheikh Faisal Building  
Abu Dhabi, U. A. E.

In Asia:

Honeywell Asia Pacific Inc.  
Honeywell Building,  
17 Changi Business Park Central 1  
Singapore 486073  
Republic of Singapore

In the Pacific:

Honeywell Pty Ltd.  
5 Thomas Holt Drive  
North Ryde NSW Australia 2113  
(61 2) 9353 7000

In Japan:

Honeywell K.K.  
14-6 Shibaura 1-chrome  
Minato-ku, Tokyo, Japan 105-0023

Or, visit Honeywell on the World Wide  
Web at: <http://www.honeywell.com>

*Specifications are subject to change without notice.*

*(Note that specifications may differ slightly for transmitters manufactured before October 30, 1995.)*





TABLE IV - OPTIONS	Selection	Availability ↓
None	00	•
<b>Transmitter Housing &amp; Electronics Options</b>		
Custom Calibration and I.D. in Memory	CC	•
Transmitter Configuration and ID in Memory	TC	•
M20 Conduit Thread (1/2" NPT is standard)	A1	• b
1/2" NPT to 3/4" NPT 316 SS Conduit Adapter	A2	• b
Stainless Steel Customer Wired-On Tag (4 lines, 28 characters per line, customer supplied information)	TG	•
Stainless Steel Customer Wired-On Tag (blank)	TB	•
End Cap Warning Label in Spanish	SP	• b
End Cap Warning Label in Portuguese	PG	• b
End Cap Warning Label in Italian	TL	•
End Cap Warning Label in German	GE	•
<b>Transmitter Mounting Brackets Options</b>		
Mounting Bracket - Carbon Steel	MB	• b
Mounting Bracket - 304 SS	SB	• b
Flat Mounting Bracket - Carbon Steel	FB	•
<b>Services/Calibration/Conformance Options</b>		
User's Manual Paper Copy	UM	•
Clean Transmitter for Oxygen or Chlorine Service with Certificate	0X	h
Over-Pressure Leak Test with F3392 Certificate	TP	•
Calibration Test Report and Certificate of Conformance (F3399)	F1	• b
Certificate of Conformance (F3391)	F3	• b
<b>Certificate Options</b>		
Certificate of Origin (F0195)	F5	•
NACE Certificate (F0198)	F7	•
<b>Warranty Options</b>		
Additional Warranty - 1 year	W1	• b
Additional Warranty - 2 years	W2	•

Approval Body	Approval Type	Location or Classification		
No hazardous location approvals			9X	•
CSA cus	Nonincendive	Nonincendive, CL I, Div 2, Groups A,B,C & D, CL II & III, Div 2, Groups F & G, T4 Ta = 85°C	2N	• b
	Non-Sparking	Class I, Ex/AEx nC IIC; T4, Ta ≤ 85°C, Zone 2; IP 66		
ATEX	Non-Sparking	Ex II 3 GD; Ex nL IIC; T4, Ta ≤ 85°C, Zone 2; IP 66/67	3N	•

**WARNING** – Division 2 / Zone 2 apparatus may only be connected to processes classified as non-hazardous or Division 2 / Zone 2. Connection to hazardous (flammable or ignition capable) Division 1 / Zone 0, or 1 process is not permitted.

TABLE V

Factory Identification	XXXX	•
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**RESTRICTIONS**

Restriction Letters	Available Only With		Not Available With	
	Table	Selection	Table	Selection
a	Approvals Pending			
b	Select only one option from this group			
d	III	_ 00 _ , _ _ 00		
e			III	_ 00 _
h	I	_ 2 _		

**Notes:** See ST-89 for Published Specials with pricing.  
See ST-95 and User's Manual for part numbers.  
To request a quotation for a non-published "special", fax RFQ to 602-313-6155 or email to ace@honeywell.com

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