Technical Information

Honeywell

OneWireless Adapter for HART Devices Specifications

Model: OWA 100

34-XY-03-43 June 2011

Introduction

The Honeywell OneWireless™ Adapter (OWA 100) allows you to easily gain access to the information locked in your wired HART devices and bring it into any ISA100.11a compliant control system. Save time and money by avoiding the cost of installing long runs of cable to your installed HART devices by using the OneWireless Adapter. Improve the monitoring capabilities by automating the collection of information from these remote field devices by just adding the adapter to these 2- or 4-wired HART devices that can either be difficult or cost-prohibitive to reach.

The OneWireless Adapter utilizes the proven radio electronics of the XYR 6000 family of transmitters providing a proven and reliable solution for getting the data wirelessly from any HART device.

The OneWireless Adapter adds to the Honeywell OneWireless and XYR 6000 line of wireless products, allowing you to add wireless communications to almost any measurement point. Using the OWA 100 OneWireless Adapter, customers can obtain data to create information from remote and hazardous measurement locations without the need to run wires, where running wire can be cost prohibitive and/or difficult if the measurement is in a hazardous location. The adapter can be installed on an existing 2- or 4-wired HART device and operational in minutes, quickly providing information back to your control system.

The OneWireless Adapter is part of the Honeywell OneWireless system and is ISA100.11a compliant.

Each OneWireless Adapter can scavenge power from the 4-20ma loop in addition to being battery powered by a long-life “D” size lithium battery. The OWA 100 Adapter’s transmission range is 1,000 ft. (305 m) line of site (LOS) under ideal conditions.

The OWA 100 will transmit the HART PV’s and diagnostic data over the Honeywell OneWireless network. The four HART PVs can be viewed using a standard internet browser through the Wireless Device Manager's user interface. This interface is the same user interface used for configuring and viewing the entire OneWireless network.

The diagnostic data is passed from the HART transmitter through the OneWireless network. FDM, AMS, or some similar application running on the user’s process control system is able to read the HART data from the transmitter wirelessly through the OneWireless network.

Figure 1- OneWireless Adapter (OWA 100)

These applications can also configure the HART device over the network.

The Honeywell OneWireless Network ensures reliable and fast transmission of field information into Experion® PKS or any other control system wirelessly via OPC client or Modbus-TCP

Implement the value of wireless technology today:

- Gain wireless access to HART information
- 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
- Increase productivity by eliminating manual field readings of instruments

Operating Conditions

Parameter	Reference Condition		Rated Condition		Operative Limits		Transportation and Storage	
	°C	°F	°C	°F	°C	°F	°C	°F
Ambient Temperature**	25 ±1	77 ±2	-40 to 85	-40 to 185	-40 to 85	-40 to 185	-40 to 85	-40 to 185
Humidity (%RH)	10 to 55		0 to 100		0 to 100		0 to 100	
Vibration	Maximum of 4g over 15 to 200 Hz							
Shock	Maximum of 40g							
Power	Battery powered 3.6V Lithium thionyl chloride (LiSOCl2) battery non-rechargeable, size D Connected into a powered 4-20 mA loop power supply = 7 to 30 Vdc, 25 mA for power scavenging; maximum loop voltage drop due to adapter is 2.52 Vdc over the ambient temperature range across the loop; minimum loop load resistance is 250 Ohms. Battery life @ reference conditions with 30 second publish cycle time set for non-Routing is 3+ years							

** The ambient limits shown are for ordinary non-hazardous locations only. Refer to the appropriate control drawing, FM/CSA, ATEX, or IECEx for the ambient limits when installed in hazardous locations.

Physical Specifications

Parameter	Description
Mounting	½" NPT or M20 316 Stainless Steel fitting that allows the adapter to be attached directly to the conduit entry of any 2 or 4-wire HART device (standard options). Mounting should result in the antenna being vertically oriented. An optional Remote Mounting Kit is available.
Housing	Molded Polycarbonate UL rating of f1 for outdoor use, UV stabilized and V-0 rating. Meets Type 4X (hosedown and corrosion resistant), IP 66 (dust-tight/hosedown).
Dimensions	See **Figure 5**
Net Weight	Approximately 1.0lb/(0.45Kg)

Specifications

Parameter	Description
Input	Any 2 or 4-wire HART device
Wireless Communication	ISA100.11a Compliant 2,400 to 2,4835 GHz (2.4 GHz) Industrial, Scientific and Medical (ISM) band per FCC 15.247 / IEEE 802.15.4–2006. Every data packet transmitted in either direction is verified (CRC check) and acknowledged by the receiving device. USA – FCC Certified; Canada – IC Certified; European Union – RTTE/ETSI Conformity
RF Transmitter Power	NA Selection – 125 mW (20.9 dBm) maximum transmit power not including antenna per FCC/IC, or 400 mW (26.0 dBm) maximum EIRP including antenna for USA and Canadian locations EU Selection – 10 mW (10.0 dBm) maximum EIRP including antenna per RTTE/ETSI for EU locations.
Data	PV Data Publish Cycle Time: Configurable from 5 seconds to 1 minute, (HART PV every 5 seconds minimum) Rate: 250 Kbps ISA100.11a Compliant output
Antenna	Integral – 2.5 dBi omnidirectional monopole
Signal Range*	OWA 100 Adapter to FDAP: Nominal 305 m (1,000 feet) with a clear line of sight Two OWA's both having TX Power set to 14 dBm with a clear line of site nominal signal range is 240 m (790ft.) An XYR 6000 transmitter having TX Power set to 16 dBm and an OWA with TX Power set to 14 dBm with a clear line of site nominal signal range is 170 m (560ft.)

Parameter Routing vs. non-Routing"	Specification - Unit can be set as a Field Routing or non-Field Routing device; the number of routing devices is set by the system manager. Using the device as a routing device will impact battery life, the more messages routed through a device, the greater the impact on battery life.
CE Conformity	These transmitters conform with the protection requirements of European Council Directives: 2004/108/EC, the EMC Directive and 1999/5/EC, the Radio & Telecommunications Directive per EN 300 328, V1.7.1 (2004-11), EN 300 489-1, V1.6.1 (2005-09), EN 300 489-17, V1.2.1 (2002-08), EN 301 893 V1.4.1 and EN 61326-1:2005, Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements

* Actual range can vary depending on site topography.

Hazardous Location Certifications	**c CSA us - Intrinsic Safety - Entity** CL I, II, III, Div 1, GPs A-G; T4 Ta = 85°C; Ex ia IIB; T4; Ex tb IIIC T90°C IP66 Amb Temp: –40°C ≤ Ta ≤ +70°C; Encl: Type 4x/ IP46 **c CSA us - Non Incendive -** CL I, Div 2, GPs CD; CL II, Div 2, GPs F & G; Suitable for CL III, Div 2; T4; CL I, Zone 2 AEx nA IIB, T4; Amb Temp: –40°C ≤ Ta ≤ +85°C Encl: Type 4x/ IP46 **IECEx - DEKRA- Intrinsic Safety** Ex ia IIB; T4; Ex tb IIIC T90°C, IP66; Amb Temp: –40°C ≤ Ta ≤ +70°C; Encl: IP66 **IECEx -DEKRA- Non Sparking** Ex nA IIB T4, Gc; Zone 22, Ex tb IIIC T90°C IP66, Dc; –40°C ≤ Ta ≤ +85°C; Encl: IP66
	ATEX - DEKRA- Intrinsic Safety  II 1 G Ex ia IIB T4 ; II 1 D Ex tb IIIC T90°C, IP66 ; Amb Temp: –40°C ≤ Ta ≤ +70°C ; Encl: IP66 **ATEX - DEKRA- Non Sparking**  II 3 G Ex nA IIB T4 ; II 3 D Ex tb IIIC T90°C IP66 ; –40°C ≤ Ta ≤ +85°C ; Encl: IP66

Wiring

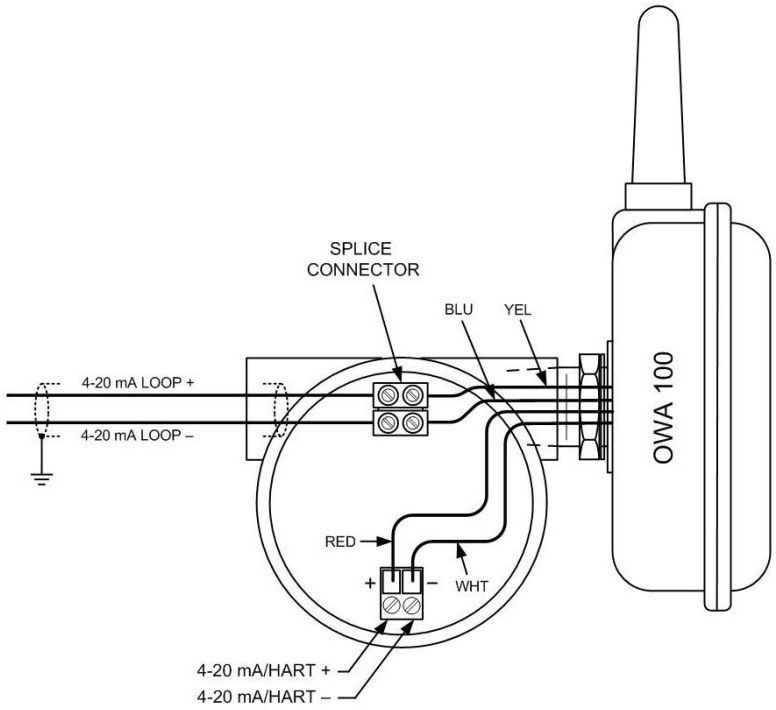

Figure 2 - OWA 100 – TWO-WIRE CONFIGURATION HART DEVICE

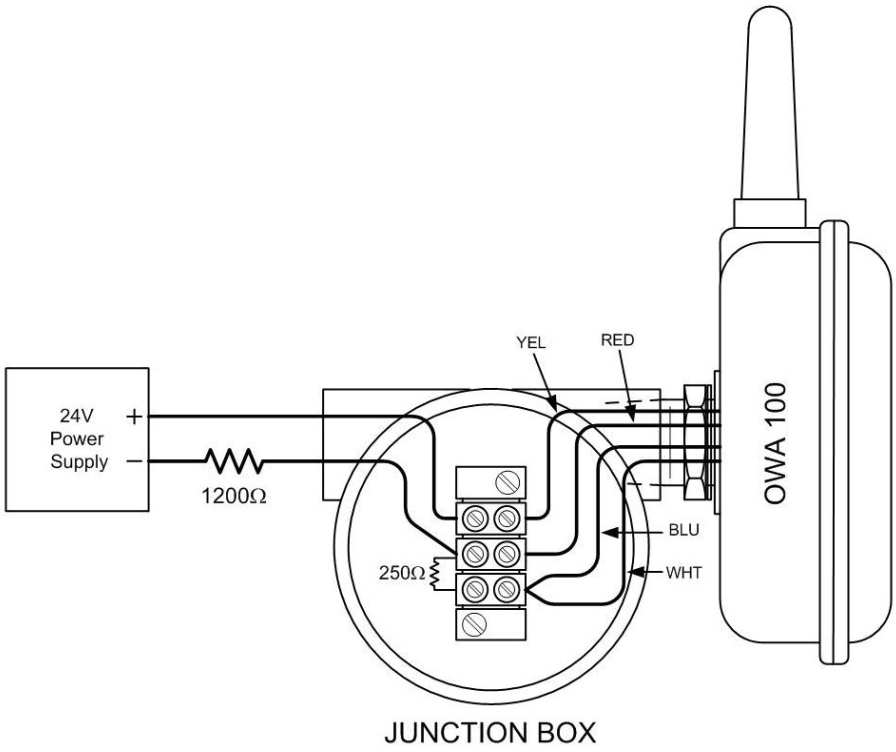

Figure 3 OWA 100 – AS A ROUTER, NO WIRED DEVICE

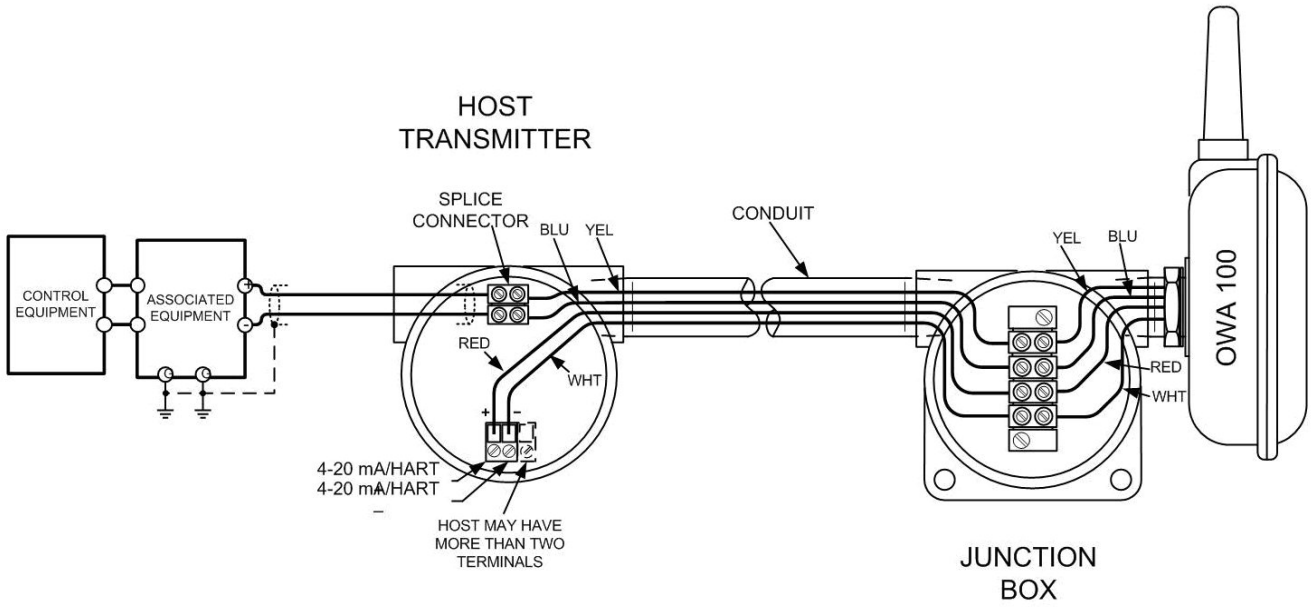

Figure 4 REMOTE INSTALLATION

Dimensions (mm/inches)

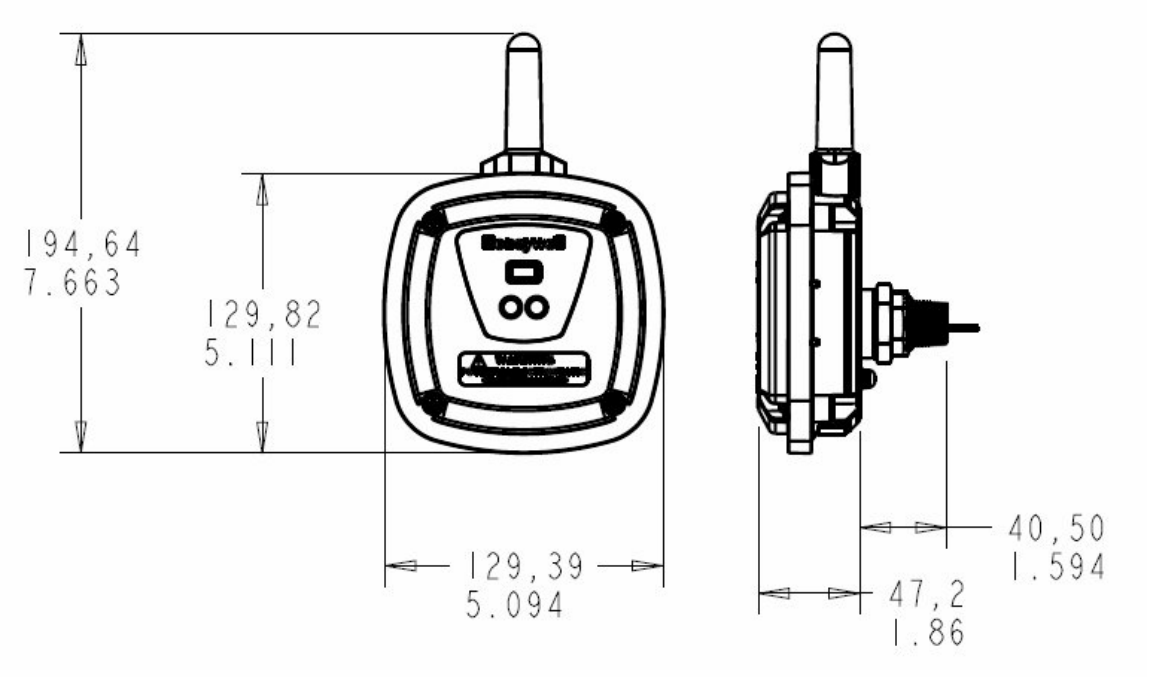

Figure 5 —Example of typical mounting position
Typical mounting dimensions for reference only

Model Selection Guides are subject to change and are inserted into the specifications as guidance only.
Prior to specifying or ordering a model check for the latest revision Model Selection Guides which are published at:
http://hpsweb.honeywell.com/Cultures/en-US/Products/Instrumentation/ProductModelSelectionGuides/default.htm

Model Selection Guide (34-XY-16-93)

Honeywell

Section 13
Issue 1
Page 1 of 1

OneWireless Adapter OWA 100

Model Selection Guide

Model Selection Guide
34-XY-16-93 Issue 1

Instructions

- Select key number.
- Make one selection from each table, I and II, using the column below the proper arrow.
- A (•) denotes unrestricted availability. A letter denotes restricted availability.

Key Number	I	II	III
WA100 -	_ _ _ _ _ _ -	_ -	_ _ _

KEY NUMBER **Availability**

Description		Selection	↓
OneWireless Adapter		WA100	

Table I Options

Housing & Electronics Options			
M20 316 SS Conduit Adaptor		1 _ _ _ _ _	•
1/2" NPT 316 SS Conduit Adapter		2 _ _ _ _ _	•
Battery Option			
Battery Holder Only - No Battery Included		_ 0 _ _ _ _	•
Battery Power		_ 1 _ _ _ _	•
Approvals	**Location or Classification (see listing below)**		
No approvals		_ _ 0 _ _ _	•
CSA cus, IECEx & ATEX		_ _ 1 _ _ _	•
Factory Mutual		_ _ 2 _ _ _	
No Selection			
No Selection		_ _ _ 0 _ _	•
Manual Option			
User Manual (CD)		_ _ _ _ C _	•
User Manual (Paper Copy)		_ _ _ _ P _	•
Certificate Options			
None		_ _ _ _ _ 0	•
Certificate of Conformance (F3391)		_ _ _ _ _ 1	•
Certificate of Origin (F0195)		_ _ _ _ _ 2	•
Certificate of Origin (F0195) & Conformance (F3391)		_ _ _ _ _ 3	•

Table II - Country Code

Description			
North America, Canada		A	•
European Union		E	•

Table III - Factory Use

Description			
Factory Identification		000	•

RESTRICTIONS

Restriction Letter	Available Only With		Not Available With	
	Table	Selection	Table	Selection

For More Information

Learn more about how Honeywell's OWA 100 OneWireless Adapter can increase performance, reduce downtime and decrease configuration costs, visit our website www.honeywell.com/ps/wireless or contact your Honeywell account manager.

Honeywell Process Solutions
1860 West Rose Garden Lane
Phoenix, Arizona 85027
Tel: 1-800-423-9883 or 1-800-343-0228
www.honeywell.com/ps/hfs

34-XY-03-43
June 2011