

XYR 6000 Wireless Multi Discrete Input Transmitter

Model STXW500

Up to 3 discrete inputs

34-XY-03-33

February 2010

Specification and Model Selection Guide

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 Honeywell OneWireless system and are ISA100 - ready field devices.

Measurement and information without wires! The XYR 6000 wireless transmitter 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) provides 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 100 transmitters reporting at slower rates. Up to 22 multinodes can be implemented in the same infrastructure. WSG also provides Modbus-TCP data access to wireless data in addition to OPC.

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 Multi Discrete Input Transmitter can be used to convert any measurement device with a contact closure output into a wireless sensor; for example, limit or level measurements. The Multi Discrete Input Transmitter can be used with measurement devices that have Intrinsic Safety approval to make a wireless measurement while retaining the Intrinsic Safety rating.



Figure 1—XYR6000 Multi Discrete Input 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
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	
Ambient Temperature LCD Display visible range	25 ±1	77 ±2	-40 to 85°C -40 to 185°F					
Vibration	Maximum of 4g over 15 to 200Hz.							
Shock	Maximum of 40g.							
Power	Battery powered 3.6V Lithium thionyl chloride (LiSOCl ₂) batteries non rechargeable, size D 24VDC Wired Power (option) - For I.S. Application: 21 V to 25 Vdc Operated with MTL7728P+ barrier (252 Ohms Max. end to end resistance), Max input current 26mA. For Non I.S. application: 11 V to 30 Vdc Input range, Max input current 100mA.							

*24V power option rated 80°C (176°F)

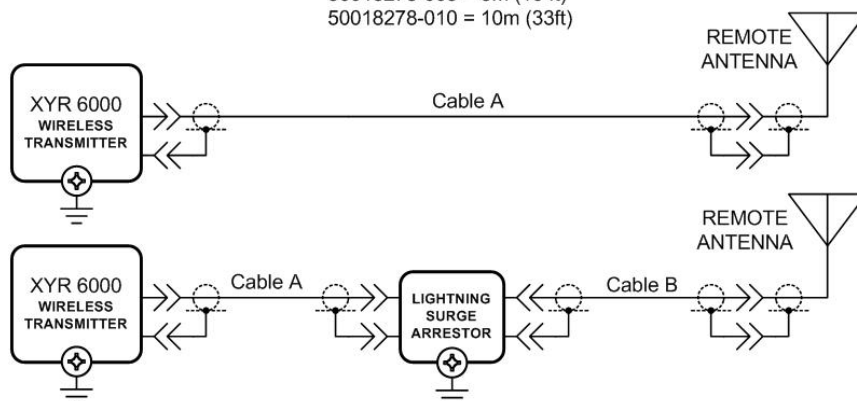
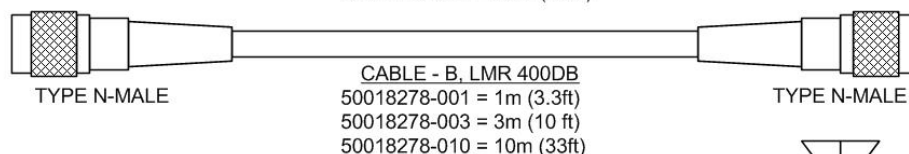
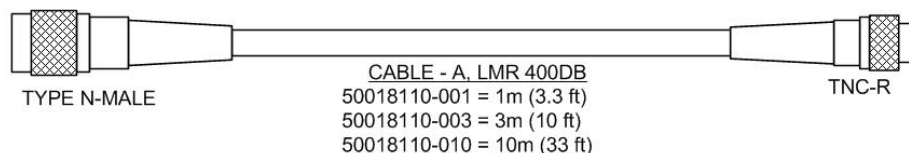
** The Ambient Limits shown are for Ordinary Non-Hazardous locations only. Refer to the appropriate Control Drawing, FM/CSA, ATEX, or IECEx for the Ambient Limits when installed in Hazardous Locations.

Wireless Specifications

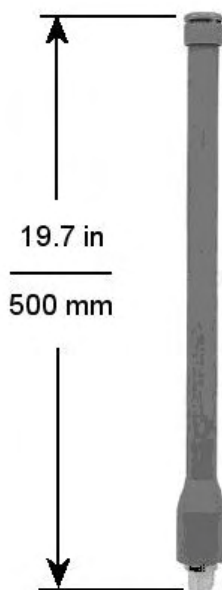
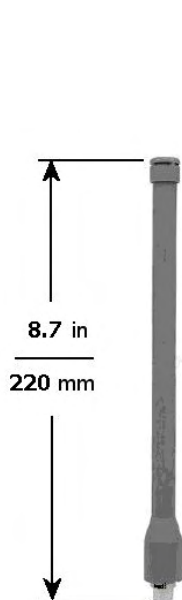
Parameter	Description
Wireless Communication	2,400 to 2,483.5 MHz (2.4 GHz) Industrial, Scientific and Medical (ISM) band FHSS Selection – Frequency Hopping Spread Spectrum DSSS Selection – Discrete Sequential Spread Spectrum per FCC 15.247 / IEEE 802.15.4-2006 Every data packet transmitted in either direction is verified (CRC check) and acknowledged by the receiving device. USA – FCC Certified Canada – IC Certified European Union – RTTE/ETSI Conformity
FHSS 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 – 100 mW (20.0 dBm) maximum EIRP including antenna per RTTE/ETSI for EU locations.
DSSS 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 Publish Cycle Time: Configurable as 1, 5, 10 or 30 seconds Rate: 250 Kbps
Antennas	Integral – 2 dBi omnidirectional monopole Integral – 4 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.
Signal Range	Nominal 305 m (1,000 feet) between Field Transmitter and Infrastructure Unit (Multinode) or Gateway Unit when using 2 dBi Integral antenna with a clear line of sight.*

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

Remote antenna



CABLE PARAMETERS			LIGHTNING SURGE ARRESTOR PARAMETERS
CABLE A, B LENGTH	CAPACITANCE	INDUCTANCE	
1 m	78.4 pF	0.2 μH	CAPACITANCE = 1 pF INDUCTANCE = 10 nH
3 m	235.2 pF	0.6 μH	
10 m	784 pF	2.0 μH	



4 dBi Omnidirectional Antenna

8 dBi Omnidirectional Antenna

14 dBi Directional Antenna

Performance under Rated Conditions

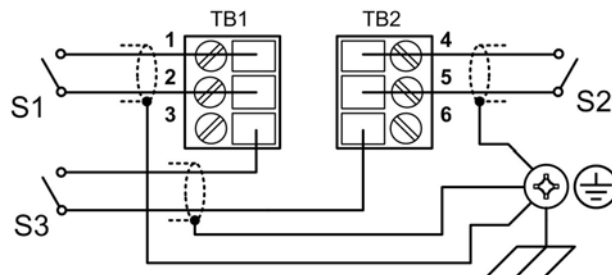
Parameter	Description
Stray Rejection	<i>Common Mode</i> (50 or 60 Hz): 120 dB <i>Normal Mode</i> (50 or 60 Hz): 40 dB
Input	Single SPST dry contacts. To maintain I.S. ratings, contacts must be limited to simple switches only.
Lightning Surge Arrester (Remote antenna only)	Frequency range: 0 – 3 GHz, 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.
CE Conformity	These transmitters conform 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, V1.6.1 (2004-11), EN 300 489-1, V1.6.1 (2005-09), EN 300 489-3, V1.4.1 (2002-08) and EN 61326-1997+A1+A2, Electrical Equipment for Measurement, Control and Laboratory Use – EMC Requirements.
Hazardous Location Certifications	See the Model Selection Guide on page 7.

- Performance specifications are based on reference conditions of 25°C (77°F), zero (0) static pressure, and 10 to 55% RH.

Physical Specifications

Parameter	Description
Mounting Bracket	Carbon Steel (Zinc-plated) or Stainless Steel angle bracket or Carbon Steel flat bracket available (standard options).
Terminal Assembly wiring gauge range	28 to 16
Electronic Housing	Epoxy-Polyester hybrid paint. Low Copper-Aluminum. Meets NEMA 4X (hosedown and corrosion resistant), IP 66/67 (hosedown and submersible to 1m).
Stainless Steel Housing (option)	316 SS Electronics Housing - with M20 Conduit Connections 316 SS Housing with 1/2" NPT Conduit Connection 316 SS or Grade CF8M, the casting equivalent of 316 SS with M20 or 1/2" NPT Conduit Connection. If ordered with the Remote Antenna options, the antenna parts are not SS or Marine type cables; the integral antenna uses SS parts.
Mounting	Can be mounted in virtually any position using the standard mounting bracket. Mounting should result in the antenna being vertically oriented. Bracket is designed to mount on 2-inch (50 mm) vertical or horizontal pipe. See Figure 3.
Dimensions	See Figure 4.
Net Weight	Approximately 9 pounds (4.1 Kg)

Wiring



Three DI (Switch) Connections

Mounting

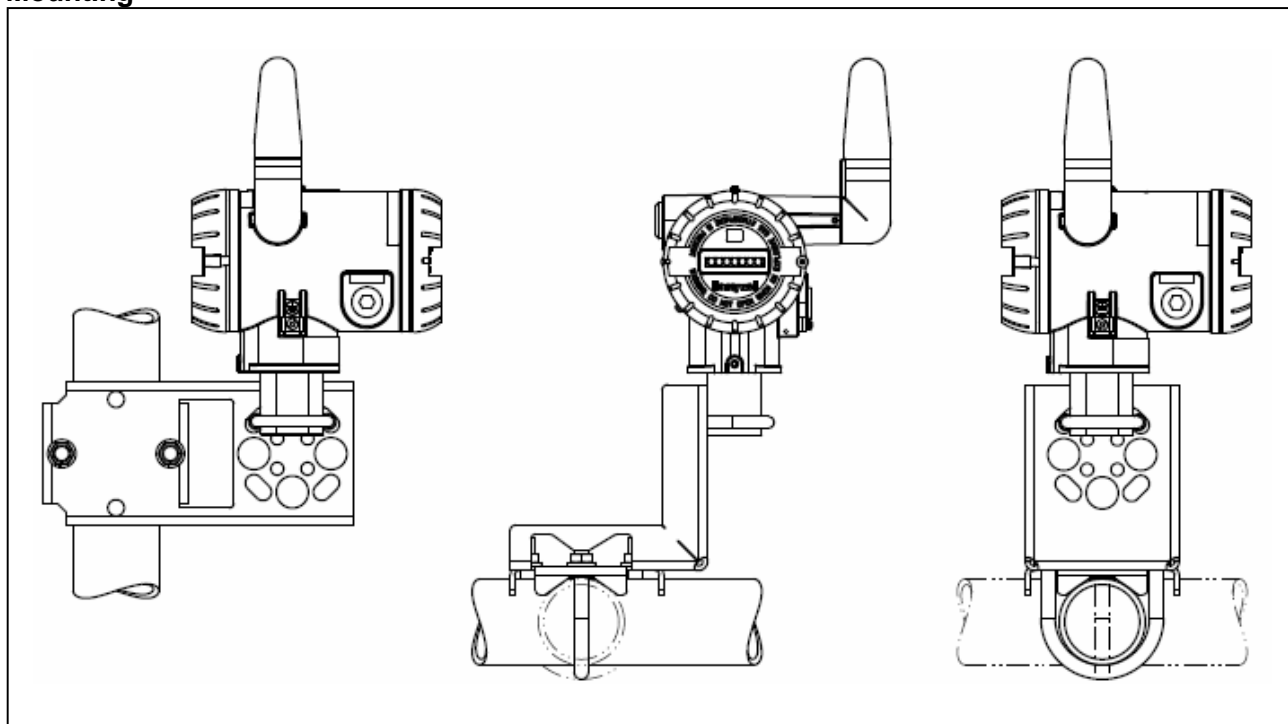


Figure 3—Examples of typical mounting positions

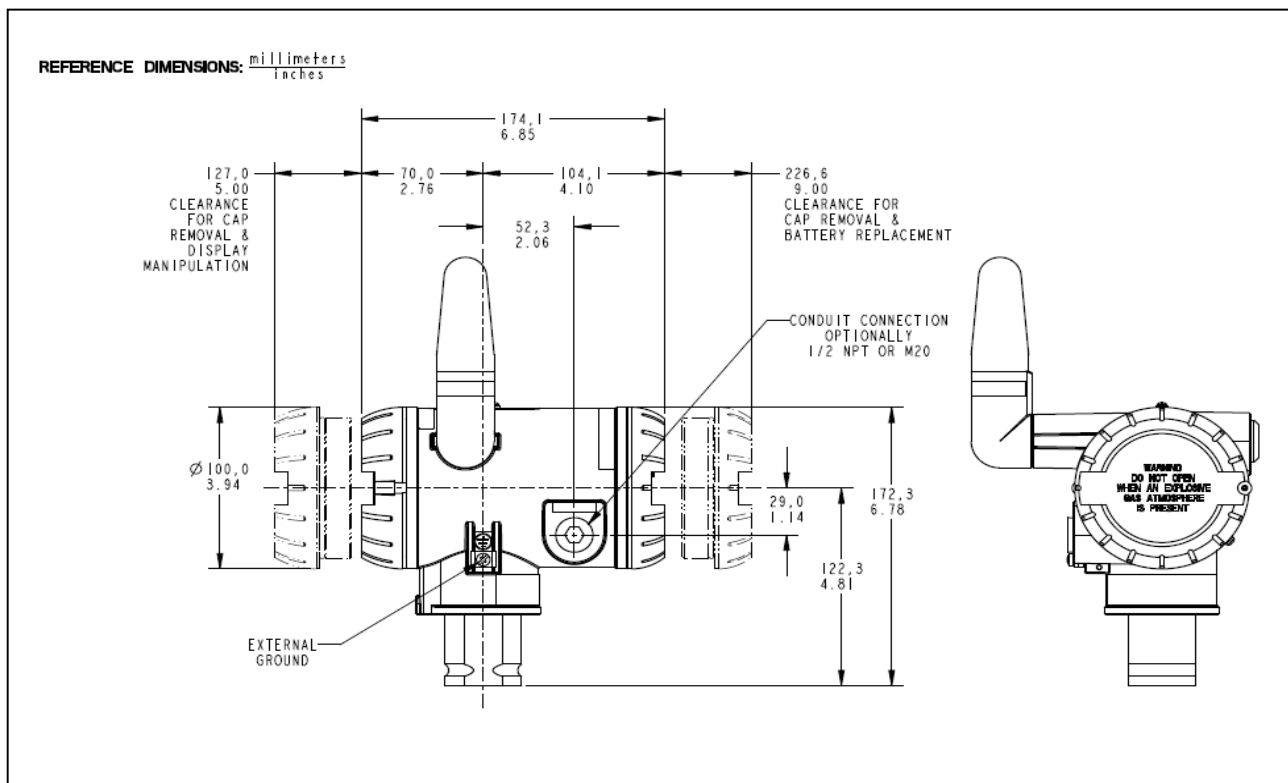


Figure 4—Typical mounting dimensions for reference.

Options	Ordering Information
<p>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.</p> <p>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.</p> <p>Transmitter Configuration All configurable parameters are accessible via the OneWireless network via READ/WRITE transactions.</p>	<p>Contact your nearest Honeywell sales office, or</p> <p>In the U.S.:</p> <p style="padding-left: 40px;">Honeywell Process Solutions 1860 West Rose Garden Lane Phoenix, AZ 85053 1-800-423-9883</p> <p>In Canada:</p> <p style="padding-left: 40px;">The Honeywell Centre 155 Gordon Baker Rd. North York, Ontario M2H 3N7 1-800-461-0013</p> <p>In Latin America:</p> <p style="padding-left: 40px;">Honeywell Inc. 480 Sawgrass Corporate Parkway, Suite 200 Sunrise, FL 33325 (954) 845-2600</p> <p>In Europe and Africa:</p> <p style="padding-left: 40px;">Honeywell S. A. Avenue du Bourget 1 1140 Brussels, Belgium</p> <p>In Eastern Europe:</p> <p style="padding-left: 40px;">Honeywell Praha, s.r.o. Budejovicka 1 140 21 Prague 4, Czech Republic</p> <p>In the Middle East:</p> <p style="padding-left: 40px;">Honeywell Middle East Ltd. Khalifa Street, Sheikh Faisal Building Abu Dhabi, U. A. E.</p> <p>In Asia:</p> <p style="padding-left: 40px;">Honeywell Asia Pacific Inc. Honeywell Building, 17 Changi Business Park Central 1 Singapore 486073 Republic of Singapore</p> <p>In the Pacific:</p> <p style="padding-left: 40px;">Honeywell Pty Ltd. 5 Thomas Holt Drive North Ryde NSW Australia 2113 (61 2) 9353 7000</p> <p>In Japan:</p> <p style="padding-left: 40px;">Honeywell K.K. 14-6 Shibaura 1-chrome Minato-ku, Tokyo, Japan 105-0023</p>
<p><i>Specifications are subject to change without notice.</i></p>	<p>Or, visit Honeywell on the World Wide Web at: www.honeywell.com/ps</p>

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-16-57)



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XYR 6000 Wireless Multi Discrete Input Transmitter Series 500

Model Selection Guide

Instructions

- Choose availability column based on mounting configuration.
- A (*) dot denotes unrestricted availability. A letter denotes restricted availability.
- Blank denotes unavailable - choose alternate mounting. Restrictions follow Table V.
- Select the desired Key Number based on the desired communications protocol.
- Select options and approvals from Tables.



Key Number I II III IV V

_____ - 000 - 0000 - _____ - _____ - _____

Key Number	Description	Selection	Availability
	Wireless Transmitter with Three Discrete Inputs	STXW500	↓

TABLE I

No selection		000	•
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TABLE II

No selection		0000	•
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TABLE III - ANTENNA OPTIONS

Antennas	Integral Right-angle, vertical, 2dBi	V _____	d
	Integral Straight, horizontal, 2dBi	S _____	d
	Integral Right-angle, vertical 4dBi	R _____	d
	Remote Omnidirectional, 8 dBi	M _____	e
	Remote Directional, 14 dBi	D _____	e
Cable A for Remote Antenna	None	_ 0 0 _ _	•
	1.0m remote Cable A, Type TNC (Req'd to connect to XYR 6000)	_ 0 1 _ _	f
	3.0m remote Cable A, Type TNC (Req'd to connect to XYR 6000)	_ 0 3 _ _	f
	10.0m remote Cable A, Type TNC (Req'd to connect to XYR 6000)	_ 1 0 _ _	f
	1.0m remote Cable A, Type N (Req'd to connect to XYR 6000)	_ 2 1 _ _	k
	3.0m remote Cable A, Type N (Req'd to connect to XYR 6000)	_ 2 3 _ _	k
Cable B for Remote Antenna w/Accessories*	None	_ _ _ 0 0	•
	Accessory + 1.0m Cable B to Antenna, N - N	_ _ _ 0 1	•
	Accessory + 3.0m Cable B to Antenna, N - N	_ _ _ 0 3	•
	Accessory + 10.0m Cable B to Antenna, N - N	_ _ _ 1 0	•

* See Supplemental Accessories

STXW500

TABLE IV - OPTIONS

	Selection		
Radio Options (Must Choose a Radio Option)			
2.4 GHz Frequency Hopping Spread Spectrum (FHSS)	XF	•	b
2.4 GHz Direct Sequence Spread Spectrum (802.15.4 DSSS)	XD	•	
Power Option (Must Choose Power Option)			
Battery Holder Only - No Battery Included	00	•	b
Battery Power	BA	•	
24VDC	DC	j	
Transmitter Housing & Electronics Options			
M20 Conduit Thread (1/2" NPT is standard)	A1	f	b
1/2" NPT to 3/4" NPT 316 SS Conduit Adapter	A2	g	
1/2" NPT to 3/4" NPT 316 SS Conduit Adapter (Quantity of 2 for 24VDC Option)	A4	h	b
316 SS ^{1,2} Electronics Housing - with M20 Conduit Connections	SH	•	
316 SS ^{1,2} Housing with 1/2" NPT Conduit Connection	A3	•	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	•	b
End Cap Warning Label in Spanish	SP	•	
End Cap Warning Label in Portuguese	PG	•	b
End Cap Warning Label in Italian	TL	•	
End Cap-Warning Label in German	GE	•	
Transmitter Mounting Brackets Options			
Mounting Bracket - Carbon Steel	MB	•	b
Mounting Bracket - 304 SS	SB	•	
Flat Mounting Bracket - Carbon Steel	FB	•	
Services/Calibration/Conformance Options			
User's Manual Paper Copy	UM	•	b
Calibration Test Report and Certificate of Conformance (F3399)	F1	•	
Certificate of Conformance (F3391)	F3	•	
Certificate Options			
Certificate of Origin (F0195)	F5	•	
Warranty Options			
Additional Warranty - 1 year	W1	•	b
Additional Warranty - 2 years	W2	•	

Note: Chosen Operator's Manuals and chosen Certificates are automatically shipped with unit.

See 13:STT-OE pages for additional manuals and alternate shipping.

¹ Supplied as 316 SS or as Grade CF8M, the casting equivalent of 316 SS.

² If ordered with Remote Antenna option, Table III Selection M _____ or D _____, antenna parts are not SS or Marine type cables

			STXW500 Selection	
Certificate	Approval Type	Location or Classification		
No hazardous location approvals			9X	•
FM	Intrinsically Safe	Class I, II, III, Div. 1, Groups A,B,C,D,E,F,G; T4, Ta ≤ 85°C; Type 4X Class I, AEx ia IIC; T4, Ta ≤ 85°C, Zone 0; IP66	1C	•
	Explosion-proof	Class I, Div. 1, Groups A,B,C,D; CI II, Div. 1, Groups E, F & G; CI III, Div. 1, T4, Ta ≤ 85°C; Type 4X Class I, AEx d IIC; T4, Ta ≤ 85°C, Zone 1; IP66		
	Nonincendive	Class I, Div. 2, Groups A,B,C,D; T4, Ta ≤ 85°C; Type 4X		
	Non-Sparking	Class I, AEx nA IIC; T4, Ta ≤ 85°C, Zone 2; IP66		
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	•
	Non-Sparking	Class I, Ex/AEx nA IIC; T4, Ta ≤ 85°C, Zone 2; IP66		
	Intrinsically Safe	Class I, Div. 1, Gp A,B,C,D; Class II, Div 1, Gp E,F,G; Class III, Div 1; T4, Ta ≤ 85°C; Type 4X Class I, Ex/AEx ia IIC; T4, Ta ≤ 85°C, Zone 0; IP66	2C	•
	Explosion-proof	Class I, Div. 1, Groups A,B,C,D; Class II, Div. 1, Groups E, F & G; Class III, Div. 1, T4, Ta ≤ 85°C; Type 4X Class I, Ex/AEx d IIC; T4, Ta ≤ 85°C, Zone 1; IP66		
	Nonincendive	Class I, Div. 2, Groups A,B,C,D; T4, Ta ≤ 85°C; Type 4X		
	Non-Sparking	Class I, Ex/AEx nA IIC; T4, Ta ≤ 85°C, Zone 2; IP66		
ATEX	Intrinsically Safe	Ex II 1 GD; Ex ia IIB; T4, Ta ≤ 70°C, Zone 0; IP66 Ex tD A20 IP66 T90°C	3U	•
	Flameproof	Ex II 2 GD; Ex d [ia] IIB; T4, Ta ≤ 70°C, Zone 1; IP66 Ex tD A21 IP66 T90°C	3B	•
	Non-Sparking	Ex II 3 GD; Ex nA [nL] IIC; T4, Ta ≤ 84°C, Zone 2 Ex tD A22 IP66 T90°C	3Y	•
	Intrinsically Safe	Ex II 1 GD; Ex ia IIB; T4, Ta ≤ 70°C, Zone 0; IP66 Ex tD A20 IP66 T90°C	3C*	•
	Flameproof	Ex II 2 GD; Ex d [ia] IIB; T4, Ta ≤ 70°C, Zone 1; IP66 Ex tD A21 IP66 T90°C		
	Non-Sparking	Ex II 3 GD; Ex nA [nL] IIC; T4, Ta ≤ 84°C, Zone 2 Ex tD A22 IP66 T90°C		
IECEX Australia & New Zealand	Intrinsically Safe	Ex ia IIB; T4, Ta ≤ 70°C, Zone 0; IP66 Ex tD A20 IP66 T90°C	CU	•
	Flameproof	Ex d [ia] IIB; T4, Ta ≤ 70°C, Zone 1; IP66 Ex tD A21 IP66 T90°C	CB	•
	Non-Sparking	Ex nA [nL] IIC; T4, Ta ≤ 84°C, Zone 2; IP66 Ex tD A22 IP66 T90°C	CY	•
	Intrinsically Safe	Ex ia IIB; T4, Ta ≤ 70°C, Zone 0; IP66 Ex tD A20 IP66 T90°C	C1*	•
	Flameproof	Ex d [ia] IIB; T4, Ta ≤ 70°C, Zone 1; IP66 Ex tD A21 IP66 T90°C		
	Non-Sparking	Ex nA [nL] IIC; T4, Ta ≤ 84°C, Zone 2; IP66 Ex tD A22 IP66 T90°C		
SAEx South Africa	Intrinsically Safe	Ex ia IIB; T4, Ta ≤ 70°C, Zone 0; IP66 Ex tD A20 IP66 T90°C	ZU	•
	Flameproof	Ex d [ia] IIB; T4, Ta ≤ 70°C, Zone 1; IP66 Ex tD A21 IP66 T90°C	ZB	•
	Non-Sparking	Ex nA [nL] IIC; T4, Ta ≤ 84°C, Zone 2; IP66 Ex tD A22 IP66 T90°C	ZY	•
	Intrinsically Safe	Ex ia IIB; T4, Ta ≤ 70°C, Zone 0; IP66 Ex tD A20 IP66 T90°C	ZC*	•
	Flameproof	Ex d [ia] IIB; T4, Ta ≤ 70°C, Zone 1; IP66 Ex tD A21 IP66 T90°C		
	Non-Sparking	Ex nA [nL] IIC; T4, Ta ≤ 84°C, Zone 2; IP66 Ex tD A22 IP66 T90°C		

* The user must determine the type of protection required for installation of the equipment. The user shall then check the box [v] adjacent to the type of protection used on the equipment certification nameplate. Once a type of protection has been checked on the nameplate, subsequently the equipment shall not be reinstalled using any of the other certification types.

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.

Country	(Must Choose a Country Code)	Country Code	Availability
North America, Canada		NA00	•
European Union		EU00	•
Japan		JP00	

RESTRICTIONS

Restriction Letter	Available Only With		Not Available With	
	Table	Selection	Table	Selection
b	Select only one option from this group			
d	III	_ 00 _ _ , _ _ _ 00		
e			III	_ 00 _ _
f			IV	SH, A3
g			IV	DC, SH, A1
h			IV	BA, SH, A1
j			IV	3U,3B, 3Y,3C ⁺ , ZU,ZB,ZY,ZC ⁺
k	IV	SH, A3		

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Supplemental Accessories & Kits

Description	Part Number
1/2 NPT Socket Plug (ZN Plated CS)	50021832-001
1/2 NPT Certified Conduit Plug (SS)	50021832-002
M20 Certified Conduit Plug (SS)	50000547-001
M20 Conduit Plug (ZN Plated CS)	50000547-002
Surge Diverter*	50018279-090
Lithium Thionyl Chloride Batteries (Qty 2)	50026010-501
Lithium Thionyl Chloride Batteries (Qty 4)	50026010-502
Lithium Thionyl Chloride Batteries (Qty 10)	50026010-503

* Surge Diverter Accessory supplied with Table III, Selections XXX01, XXX03, XXX10

OneWireless and XYR are trademarks and Experion is a registered trademark of Honeywell International Inc.



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