



# TX300™

## Explosion-proof Transmitter

(IMPERIAL AND METRIC UNITS)

United Electric Controls is  
ISO 9001:2015 certified



TX300-B 01

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## GLOSSARY OF TERMS

<b>Proof Pressure</b>	The maximum pressure that may be occasionally applied without causing damage.
<b>Burst Pressure</b>	Pressure which may cause failure of the pressure element, resulting in permanent damage.

Use the following pages to determine the best device for your application then build your part number.

# Building a Part Number

EXAMPLE: **TX300 T 11 S 2 N M446**

Type \_\_\_\_\_

Output \_\_\_\_\_

<b>T</b>	4-20 mA
<b>H</b>	4-20 mA, HART (pending)
<b>D</b>	1-5 VDC
<b>P</b>	0-10 VDC

Pressure Range & Reference \_\_\_\_\_

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Wetted Material\* \_\_\_\_\_

<b>S</b>	Welded, Stainless Steel
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\* See page 3 for specific material availability.

Pressure Connection\*\* \_\_\_\_\_

<b>1</b>	¼" NPT F (female)
<b>2</b>	½" NPT F (female)
<b>3</b>	½" NPT M (male) x ¼" NPT F (female)
<b>4</b>	HF4 ¼" female, high-pressure autoclave
<b>5</b>	HF6 ¾" female, high-pressure autoclave
<b>6</b>	7/16-20 SAE F (female)

\*\* See page 7 for dimensions and range availability

Electrical Connection \_\_\_\_\_

<b>N</b>	½" NPT M (male)
<b>M</b>	M20 metric thread

Options \_\_\_\_\_

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# Specifications

PERFORMANCE	
Full Scale Pressure Range (FSPR)	0 to 5 psig (0 to 0,07 bar) through 0 to 30,000 psig (0 to 2000 bar) 0-15 psia (0-1,0 bara) to 0-300 psia (0-20,7 bara)
Non-linearity (L) Hysteresis (H)	< 0.1%
Accuracy (L, H, R)	< 0.25% FSPR
Full Scale Output (FSO)	16 mA (4 - 20 mA), 4 VDC (1-5 VDC), 10 VDC (0-10 VDC)
Resolution	Voltage/Current: Infinite
Output Signal	Voltage/Current: 4-20 mA or 1-5 VDC or 0-10 VDC
Response Time	Voltage/Current: 10 ms (typical 90% final value)
Temperature Effect on Zero	±0.5% per 100 °F (55 °C) - < 0.01% 1 °C
Temperature Effect on Span	±0.5% per 100 °F (55 °C) - < 0.01% 1 °C
Compensated Temp. Range	0 °F to + 185 °F (-18 °C to 85 °C)
Media Temperature	-40 °F to 176 °F (-40 °C to 80 °C)
Operating Temperature	-40 °F to 185 °F (-40 °C to 85 °C)

ELECTRICAL	
Supply Voltage	10 to 30 VDC for 4-20 mA output 10 to 30 VDC for 1-5 VDC output 12 to 30 VDC for 0-10 VDC output
Load Impedance	4-20 mA output: 952 ohms max. at 30 VDC or 667 ohms max. at 24 VDC 1-5 VDC or 0-10 VDC output: 1000 ohms min. Min. load impedance (ohms) for communication = 250 ohms
Circuit Protection	The TX300 is protected against transient surges using TVS transient voltage suppressor technology and against transient surges using a gas discharge tube. All models are reverse polarity protected
Electrical Connection	1/2" NPT or optional M20 metric (male), 72", 18 AWG, color coded leadwires
Wiring	Red: +VDC Black: -VDC Green: Earth Ground Blue: 1-5 V or 0-10 V output (Voltage only)

MECHANICAL	
Wetted Materials	Ranges 03 to 26: 316 Stainless Steel Ranges 27 to 30: 316L & 17-4 Stainless Steel Consult UE for alternative materials
Sensors	Models 03-07, 11-26: welded diaphragm, micro-machined piezo-resistive strain gauge silicon element, 0.25 mL silicon oil fill Models 27-30: thin film strain gauge
Proof Pressure	See model chart on page 4
Burst Pressure	See model chart on page 4
Shock	100 g, 11 ms
Vibration	5 g, 50-2,000 Hz per IEC 60068-2-6
Enclosure	316 Stainless Steel
Enclosure Classification	Certified to IP66 requirements and Type 4X.
Weight	Approx. 1 lbs (0,33 kg)

# Pressure Ranges

## Absolute Pressure Ranges

CODE	PRESSURE RANGE & REFERENCE *			PROOF PRESSURE		BURST PRESSURE**	
	Low (psia)	High (psia)	High (bara)	(psia)	(bara)	(psia)	(bara)
03	0	15	1,0	45	3,1	8500	586,2
04	0	30	2,1	90	6,2	8500	586,2
05	0	50	3,4	150	10,3	8500	586,2
06	0	100	6,9	300	20,7	8500	586,2
07	0	300	20,7	900	62,1	8500	586,2

## Gauge Pressure Ranges

CODE	PRESSURE RANGE & REFERENCE *			PROOF PRESSURE		BURST PRESSURE**	
	Low (psia)	High (psig)	High (barg)	(psig)	(barg)	(psig)	(barg)
11	0	5	0,3	15	1	900	62,1
12	0	15	1	45	3,1	900	62,1
13	0	30	2,1	90	6,2	900	62,1
14	0	50	3,4	150	10,3	900	62,1
15	0	100	6,9	300	20,7	900	62,1
16	0	300	20,7	900	62,1	900	62,1
17	0	500	34,5	1,500	103,4	8500	586,2
18	0	750	51,7	2,250	155,2	8500	586,2
19	0	1000	69	3,000	206,9	8500	586,2
20	0	1500	103,4	4,500	310,3	8500	586,2
21	0	2000	137,9	6,000	413,8	8500	586,2
22	0	2500	172,4	7,500	517,2	8500	586,2
23	0	3000	206,9	8,500	583,2	8500	586,2
24	0	5000	344,8	15,000	1034,5	26,000	1793,1
25	0	7500	517,2	17,000	1172,4	26,000	1793,1
26	0	10,000	689,7	17,000	1172,4	26,000	1793,1
27	0	15,000	1034,5	30,000	2069	66,000	4551,7
28	0	20,000	1379,3	40,000	2758,6	66,000	4551,7
29	0	25,000	1724,1	50,000	3448,3	66,000	4551,7
30	0	30,000	2069	43,000	3000	66,000	4551,7

\* Consult UE for special range configurations

\*\* Burst pressure tested to UL 61010-1

# Pressure Connections\*

	Pressure range (psig)	1/4"NPT (Female)	1/2" NPT (Female)	1/2" x 1/4" NPT	HF4	HF6	7/16-20 SAE (Female)
03	15	●	●	●			●
04	30	●	●	●			●
05	50	●	●	●			●
06	100	●	●	●			●
07	300	●	●	●			●
11	5	●	●	●			●
12	15	●	●	●			●
13	30	●	●	●			●
14	50	●	●	●			●
15	100	●	●	●			●
16	300	●	●	●			●
17	500	●	●	●			●
18	750	●	●	●			●
19	1000	●	●	●			●
20	1500	●	●	●			●
21	2000	●	●	●			●
22	2500	●	●	●			●
23	3000	●	●	●			●
24	5000	●	●	●	●	●	●
25	7500	●	●	●	●	●	●
26	10,000	●			●	●	●
27	15,000	●			●	●	
28	20,000				●	●	
29	25,000				●	●	
30	30,000				●	●	

● Available

\* Consult UE for alternative pressure connections

# Common Options

Option	Description
M276	Pressure range markings in bar
M277	Pressure range markings in kPa/mPa
M278	Pressure range markings in kg/cm <sup>2</sup>
M438	EN 10204 Type 2.1 material compliance
M439	EN 10204 Type 3.1 material compliance
M444	Paper ID tag
M446	Stainless steel ID tag
M460	External ground screw



**OPTION M460**  
**EXTERNAL GROUNDING SCREW**

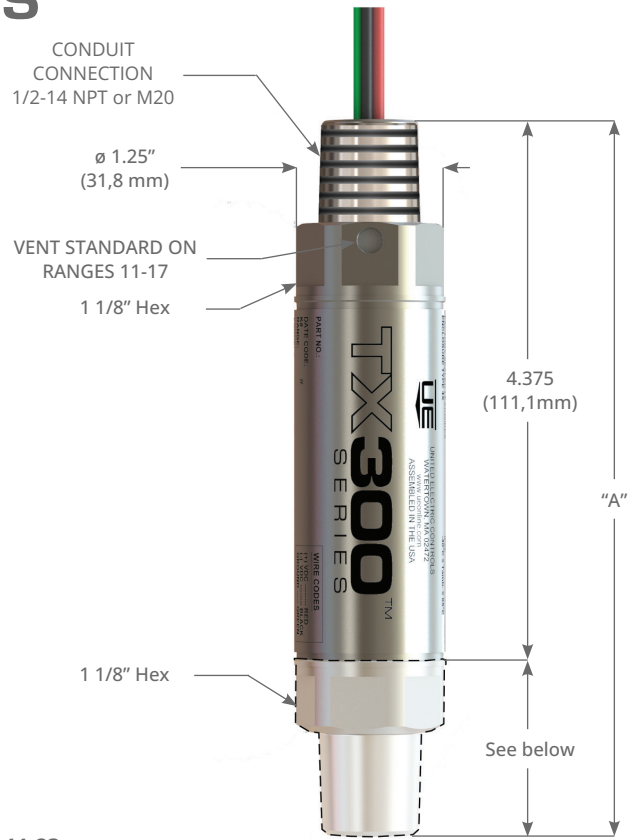
# Accessories

Part Number	Description
62169-31	ATEX flameproof compliant junction box and terminal kit, not pre-wired. Not available on M20 metric thread electrical conduit version. Threads to standard conduit 1/2" NPT (M).
6361-694	Junction box and terminal kit, not pre-wired. Not available on M20 metric thread electrical conduit version. Threads to standard conduit 1/2" NPT (M).

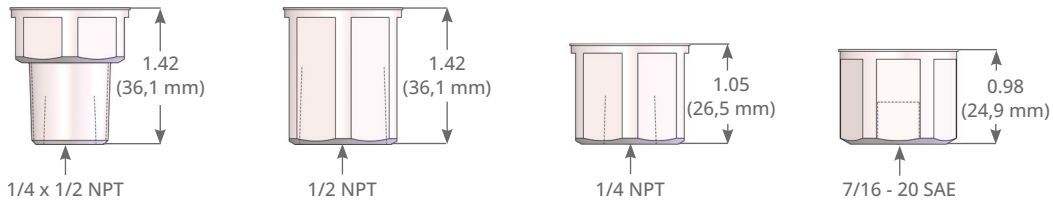
# Dimensional Drawings

Dimensions are for reference only. Models available upon request.

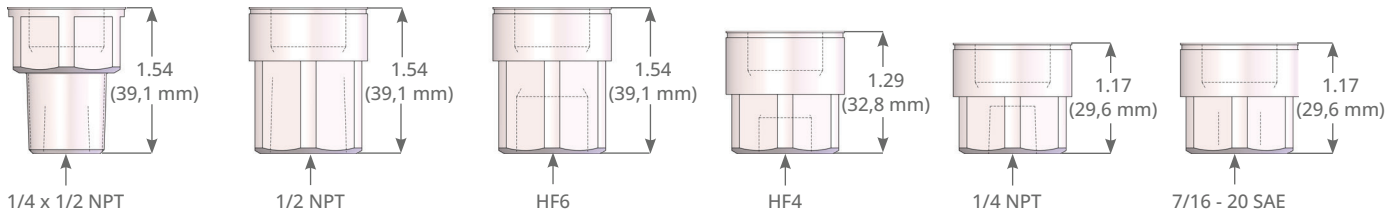
Ranges	Pressure Connection	"A" in inches	"A" in mm
03-07 & 11-23	1/4 x 1/2 NPT	5.80	147,3
	1/2 NPT	5.80	147,3
	1/4 NPT	5.42	137,7
	7/16 - 20 SAE	5.35	135,9
24-26	1/4 x 1/2 NPT	5.91	150,2
	1/2 NPT	5.91	150,2
	HF6	5.91	150,2
	HF4	5.66	143,9
	1/4 NPT	5.54	140,7
27-30	7/16 - 20 SAE	5.54	140,7
	HF6	5.80	147,3
	HF4	5.32	135,2
	1/4 NPT	5.12	130,2



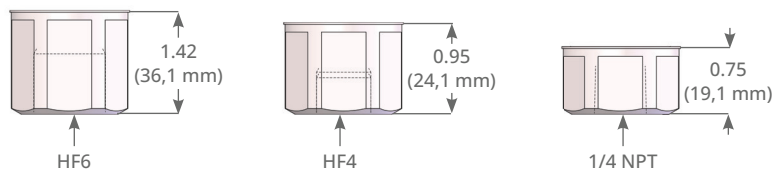
RANGES 03-07 & 11-23






RANGES 24-26



RANGES 27-30



# Certifications

	Region	Agency	Classification
	North America	UL	UL Listed E226592 Class I, Division 1 & 2, Groups A, B, C & D Class II, Division 1 & 2, Groups E, F & G Enclosure Type 4X, IP66 Ta = -40 °C to 85 °C UL 1203, UL61010-1, UL 50E, UL 122701 CSA C22.2 No. 25, 30, 94.2, and 61010-1 Electromagnetic Compatibility: CFR Title 47 FCC, Class A ICES-001 Class A
	Europe	ATEX	Certificate No. UL 26 ATEX 3589X II 2 G Ex db IIC T5 Gb II 2 D Ex tb IIIC T90°C Db, IP66 Ta = -40 °C to 85 °C EN IEC 60079-0, EN 60079-1, EN 60079-31 Pressure Equipment Directive (PED) (2014/68/EU) Sound Engineering Practice (SEP) Category 1 Electromagnetic Compatibility (EMC) (2014/30/EU) EN 61000-6-4 per EN 55011, EN IEC 61000-6-4 per EN 55011 Group 1 Class A Equipment
	International	IECEx	Certificate No. IECEx UL 26.00541X Ex db IIC T5 Gb Ex tb T90°C Db, IP66 IEC 60079-0, 60079-1, 60079-31

TERMS AND CONDITIONS OF SALE



UE is a registered trademark of United Electric Controls Company.  
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UE specifications subject to change without notice.



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