UNITED ELECTRIC CONTROLS



TX300 ™

Explosion-proof Transmitter

(IMPERIAL AND METRIC UNITS)

United Electric Controls is
ISO 9001:2015 certified

RoHS compliant

TX300-B 01

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GLOSSARY OF TERMS

Proof Pressure	The maximum pressure that may be occasionally applied without causing damage.
Burst Pressure	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

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

Pressure Range & Reference

Pressure Ranges ..... page 4

Wetted Material *

S	Welded, Stainless Steel

* See page 3 for specific material availability.

Pressure Connection**

1	¼" NPT F (female)
2	½" NPT F (female)
3	½" NPT M (male) x ¼" NPT F (female)
4	HF4 ¼" female, high-pressure autoclave
5	HF6 ⅜" female, high-pressure autoclave
6	7/16-20 SAE F (female)

** See page 5 for dimensions and range availability.

Electrical Connection

N	½" NPT M (male)
M	M20 metric thread

Options

Options ..... page 6

Specifications

PERFORMANCE	
Full-Scale Pressure Range (FSPR)	0 to 5 psig (0 to 0,3 bar) through 0 to 30,000 psig (0 to 2069 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, Repeatability(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% per 1 °C
Temperature Effect on Span	±0.5% per 100 °F (55 °C) - < 0.01% per 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 protected against reverse polarity.
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 silicone 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 lb. (0,45 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 (psig)	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	8,500	586,2
18	0	750	51,7	2,250	155,2	8,500	586,2
19	0	1,000	69	3,000	206,9	8,500	586,2
20	0	1,500	103,4	4,500	310,3	8,500	586,2
21	0	2,000	137,9	6,000	413,8	8,500	586,2
22	0	2,500	172,4	7,500	517,2	8,500	586,2
23	0	3,000	206,9	8,500	586,2	8,500	586,2
24	0	5,000	344,8	15,000	1034,5	26,000	1793,1
25	0	7,500	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	2965,5	66,000	4551,7

* Consult UE for special range configurations
** Burst pressure tested to UL 61010-1

Pressure Connections*

CODE	Pressure range (psig unless noted)	1/4" NPT (Female)	1/2" NPT (Female)	1/2" x 1/4" NPT	HF4	HF6	7/16-20 SAE (Female)
03	15 psia	●	●	●			●
04	30 psia	●	●	●			●
05	50 psia	●	●	●			●
06	100 psia	●	●	●			●
07	300 psia	●	●	●			●
11	5	●	●	●			●
12	15	●	●	●			●
13	30	●	●	●			●
14	50	●	●	●			●
15	100	●	●	●			●
16	300	●	●	●			●
17	500	●	●	●			●
18	750	●	●	●			●
19	1,000	●	●	●			●
20	1,500	●	●	●			●
21	2,000	●	●	●			●
22	2,500	●	●	●			●
23	3,000	●	●	●			●
24	5,000	●	●	●	●	●	●
25	7,500	●	●	●	●	●	●
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^2
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 grounding screw



OPTION M460
EXTERNAL GROUNDING SCREW

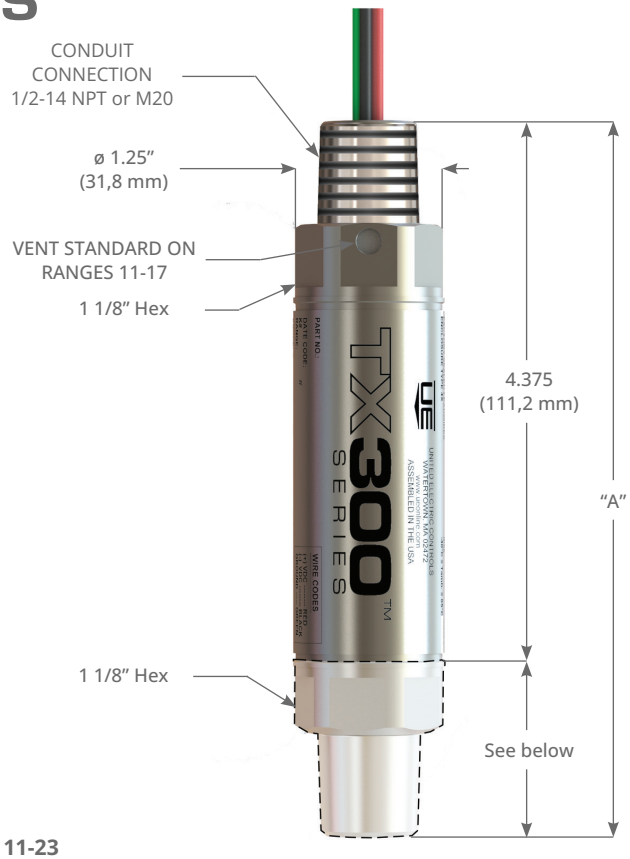
Accessories

Part Number	Description
62169-31	ATEX-compliant flameproof 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 the M20 metric thread electrical conduit version. Threads to standard conduit 1/2” NPT (M).

Dimensional Drawings

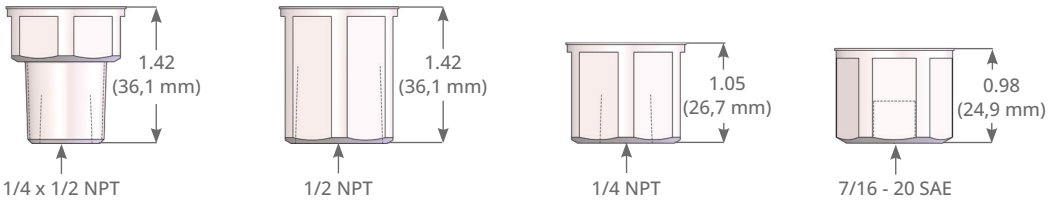
Dimensions are for reference only. Models available upon request.
Dimensions in inches (mm).

Ranges	Pressure Connection	"A" in inches	"A" in mm
03-07 & 11-23	1/4 x 1/2 NPT	5.80	147,4
	1/2 NPT	5.80	147,4
	1/4 NPT	5.42	137,8
	7/16-20 SAE	5.35	135,9
24-26	1/2 x 1/4 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	140,8
	7/16 - 20 SAE	5.54	140,8
27-30	HF6	5.80	147,4
	HF4	5.32	135,1
	1/4 NPT	5.12	130,2

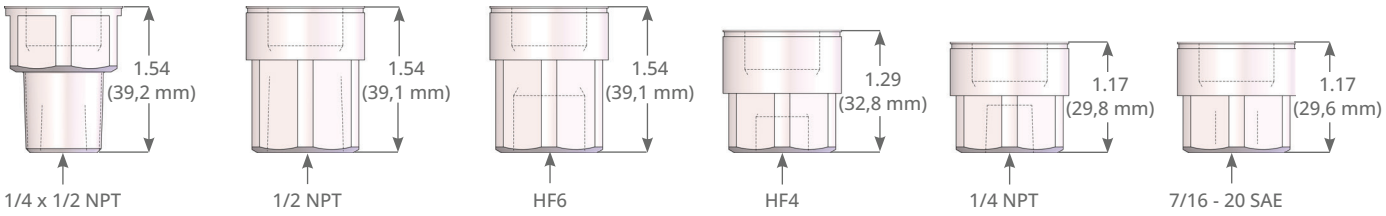


For pressure-connection availability by range, see page 5.

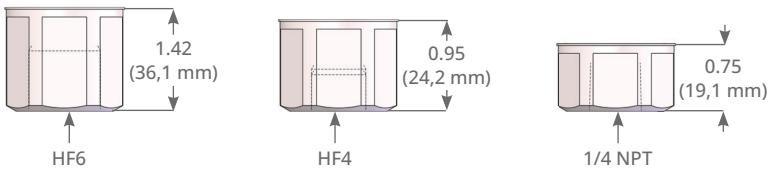
RANGES 03-07 & 11-23



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, UL 61010-1, 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 26.0054X Ex db IIC T5 Gb Ex tb IIIC T90°C Db, IP66 IEC 60079-0, 60079-1, 60079-31

TERMS AND CONDITIONS OF SALE

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