

CERTIFICATIONS FOR MEAS LT TRANSDUCERS



CERTIFICATIONS for MEAS LT Transducers
FM
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CERTIFICATIONS FOR MEAS LT TRANSDUCERS

DATE	REV	ECO	REVISION	BY	CHK	EOR
7/28/06	V	N/A	SHT 1 ADDED "E" TO B=EXCITATION, SHT2 REVISED 1, P= ENTITY PARAMETERS & 2. STAHL APPARATUS	GKP	GWH	SMK
1/11/07	W	N/A	SHT2 REVISED 1, P= ENTITY PARAMETERS, ADDED "E" ENTITY PARAMETERS.	GKP	GWH	SMK
12/12/07	X	3901	SHT 1 ADDED VOLTAGE SUPPRESSION OPTIONS TO 300 SERIES TRANSDUCER, REVISED ALL P/Ns, SAME ON SHT. 3 FOR SERIES 169 & 173	GKP	GWH	SMK
2/25/09	Y	4015	RMV EXCITATION 1,2, ADD F.G.H.J. RMV PRESSURE CONN. 4,5,6,8.F.G. RMV ELEC. CONN. 3,K. RMV ENT PARAMETERS=1,8-2, ADD B=FG.H.J. DEL SHT 3 FROM DWG.	GKP	GWH	GWH
8/21/09	Z	4015	ADDED NOSE PIECE OPTIONS & REMOVED OPTION 2 (HIRSCHMANN) ELECTRICAL CONNECTION FROM SERIES 27, 28, & 30, SHT 1 ONLY	GKP	GWH	GWH
10/7/09	AA	4015	CORRECTED ORDER OF ALL SERIES LETTER CONFIGURATIONS, SHT 1 ONLY. REVISED CLASS GROUPS ON SHT 3.	GKP	GWH	GWH
11/4/09	AB	4015	ADDED SHEET 4	GKP	GWH	GWH
9/20/10	AC	4210	REVISED BORDER FORMAT FROM ESTERLINE TO MEASUREMENT SPECIALTIES.	GKP	GWH	GWH
9/20/10	AD	4218	ADDED ELECTRICAL CONNECTION "0" TO SERIES 27,28 & 30, LT MODEL SERIES & REFORMATTED PAGE LAYOUT SHEETS 1, 2 & 3.	GKP	GWH	GWH
4/22/11	AE	4218	CLARIFIED ENTITY PARAMETERS, SHT 2 ONLY	GKP	GWH	GWH
10/14/11	AF	8629	SERIES LT: ADDED PRESSURE & ELECTRICAL CONNECTION OPTIONS, INCREASED PRESSURE RANGE, SHT 1 ONLY	GKP	GWH	GWH
4/1/13	AG	9164	ADDED OPTIONS TO ALL SERIES, MOVED PRESSURE RANGE FROM P/N TO PRESSURE RANGE FIELD, SHT. 1 ONLY	GKP	GWH	GWH
6/21/13	AH	9164	ADDED LTR ORTION, SHT 1 ONLY	GKP	GWH	GWH
10/29/13	AH1	9164	TEXT CORRECTION TO SERIES	GKP	GWH	GWH

The Transducers listed below are designed for installation in a Class I, Division 1, Groups A, B, C and D, Class II, Division 1, Groups E, F, and G, Class III, Division 1 hazardous location when connected to Associated Apparatus as described in note 1.

Series 27FABCDG (EEEE), 28FABCDG (EEEE), 30FABCDG (EEEE)

- F = material: S,T
- A = pressure type: 1,3,4,7,8,9
- B = excitation/output 3,4,E,F,G,H,J,K,L,M
- C = pressure connection: 1,2,7
- D = electrical connection: 0,1,4
- G = voltage suppression: A,B,C
- * EEEEE = pressure range: 0-2000 PSI
- *Engraved in Pressure Field, not in p/n.

Series 700FABCDG (EEEE), 705FABCDG (EEEE), 710FABCDG (EEEE), 720FABCDG (EEEE), 730FABCDG (EEEE), 735FABCDG (EEEE), 745FABCDG (EEEE), 750FABCDG (EEEE)

- F = material: S,T
- A = pressure type: 1,3,4,7,8,9
- B = excitation/output: 3,4,E,F,G,H,J,K,L,M
- C = pressure connection: A,B,C,D,E,2,7
- D = electrical connection: 0,4,A,B
- G = voltage suppression: A,B,C
- * EEEEE = pressure range: 0-304 PSI
- *Engraved in Pressure Field, not in p/n.

Series 300FABCDGEEEE, 320FABCDGEEEE, 330FABCDGEEEE, 335FABCDGEEEE

- F = material: S,T
- A = pressure type: 1,3,4,7,8,9
- B = excitation/output: 3,4,E,F,G,H,J,K,L,M
- C = pressure connection: A,B,C,D,E,2,7
- D = electrical connection: 0,4,A,B
- G = voltage suppression: A,B,C
- * EEEEE = pressure range: 0-304 PSI
- *Engraved in Pressure Field, not in p/n.

Series LTABCDEFHGHIJK

- A = pressure connection: A,B,C,R,1,5,7
- B = excitation/output: 1,2,3,4,5,6,7,8,A,B,C,D,E,F,G
- C = cable type: A,B,C
- D = accuracy: A,B,C,D,E,F,T,S,R
- E = intrinsic safety approvals: A,B,C
- F = label: A,B,J,K
- G = material: S,T
- H = electrical connection: A,B,D,F,1,2
- I = pressure range: 0-2000 psi
- J = units: P,F,M,K
- K = pressure type: G,S,A

Notes: (applies to all figures on sht 2)

1. Associated Apparatus shall provide intrinsically safe connections which meet the following parameters.

- V_{max} ; For all barrier channels used.
- I_{max} ; Combined current for all barrier channels used.
- C_i ; For all barrier channels used.
- L_i ; For all barrier channels used.
- P_i ; Combined power for all barrier channels used.

$$V_{oc} \text{ or } V_T \leq V_{max} \quad C_a \geq C_i + C_{leads}^*$$

$$I_{sc} \text{ or } I_T \leq I_{max} \quad L_a \geq L_i + L_{leads}^*$$

$$P_o \text{ or } P_T < P_i$$

* Includes all cable connected to the barrier including the transducer cable.

Selected barriers must be third party approved as providing intrinsically safe circuits for the application, and have V_{oc} or V_T not exceeding V_{max} and I_{sc} or I_T not exceeding I_{max} , and the P_o of the barrier must be less than or equal to the P_{max} of the intrinsically safe equipment, as shown in the Table of Entity parameters.

2. Control Room apparatus shall not generate in excess of 250V (U_{max}).

3. Installation should be in accordance with Article 504 in the *National Electrical Code*, ANSI/NFPA 70 and ISA RP-12.06.01

4. Float unused wires in cable. Insure that these wires are electrically isolated from other conductors.

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DO NOT SCALE DRAWING UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES ANGLES ± 1 DECIMALS .XX = $\pm .02$.XXX = $\pm .005$ RUNOUT $\pm .015$ CONCENTRICITY $\pm .005$ SURFACE FINISH IN MICROINCHES RMS $32 \sqrt{V}$ UNLESS SHOWN OTHERWISE MATERIAL	PART NUMBER					
	DRAWN					DATE
	CHECKED		APPROVED		DATE	
	EOR		APPROVED		DATE	
DRAWING NUMBER			DRAWING TITLE			
SCALE			REVISION			
PROJECTION			SHEET			
DRAWING NUMBER			TA-6609			
REVISION			AH1			
SHEET			1/4			

CERTIFICATIONS FOR MEAS LT TRANSDUCERS

DATE	REV	ECO	REVISION	BY	CHK	EOR
7/28/06	V	N/A	SHT 1 ADDED "E" TO B=EXCITATION. SHT2 REVISED 1. P= ENTITY PARAMETERS & 2. STAHL APPARATUS	GKP	GWH	SMK
1/11/07	W	N/A	SHT2 REVISED 1. P= ENTITY PARAMETERS, ADDED "E" ENTITY PARAMETERS.	GKP	GWH	SMK
12/12/07	X	3901	SHT 1 ADDED VOLTAGE SUPPRESSION OPTIONS TO 300 SERIES TRANSDUCER, REVISED ALL P/Ns. SAME ON SHT. 3 FOR SERIES 169 & 173	GKP	GWH	SMK
2/25/09	Y	4015	RMV EXCITATION 1.2, ADD F.G.H.J. RMV PRESSURE CONN. 4.5.6.8.F.G. RMV ELEC. CONN. 3.K. RMV ENT PARAMETERS=1.B=2. ADD B=F.G.H.J. DEL SHT 3 FROM DWG.	GKP	GWH	GWH
8/21/09	Z	4015	ADDED NOSE PIECE OPTIONS & REMOVED OPTION 2 (HIRSCHMANN) ELECTRICAL CONNECTION FROM SERIES 27, 28, & 30, SHT 1 ONLY	GKP	GWH	GWH
10/7/09	AA	4015	CORRECTED ORDER OF ALL SERIES LETTER CONFIGURATIONS, SHT 1 ONLY. REVISED CLASS GROUPS ON SHT 3.	GKP	GWH	GWH
11/4/09	AB	4015	ADDED SHEET 4	GKP	GWH	GWH
9/20/10	AC	4210	REVISED BORDER FORMAT FROM ESTERLINE TO MEASUREMENT SPECIALTIES.	GKP	GWH	GWH
9/20/10	AD	4218	ADDED ELECTRICAL CONNECTION "0" TO SERIES 27,28 & 30, LT MODEL SERIES & REFORMATTED PAGE LAYOUT SHEETS 1, 2 & 3.	GKP	GWH	GWH
4/22/11	AE	4218	CLARIFIED ENTITY PARAMETERS, SHT 2 ONLY	GKP	GWH	GWH
10/14/11	AF	8629	SERIES LT: ADDED PRESSURE & ELECTRICAL CONNECTION OPTIONS, INCREASED PRESSURE RANGE, SHT 1 ONLY	GKP	GWH	GWH
4/1/13	AG	9164	ADDED OPTIONS TO ALL SERIES, MOVED PRESSURE RANGE FROM P/N TO PRESSURE RANGE FIELD, SHT. 1 ONLY	GKP	GWH	GWH
6/21/13	AH	9164	ADDED LTR ORTION, SHT 1 ONLY	GKP	GWH	GWH
10/29/13	AH1	9164	TEXT CORRECTION TO SERIES	GKP	GWH	GWH

Class I, II, III, Div. 1 Groups A-G Hazardous Location

Entity Parameters

$$V_{max} = 28V$$

$$I_{max} = 110mA$$

$$C_i = 0.064\mu F$$

$$L_i = 0$$

$$P_i = 1W$$

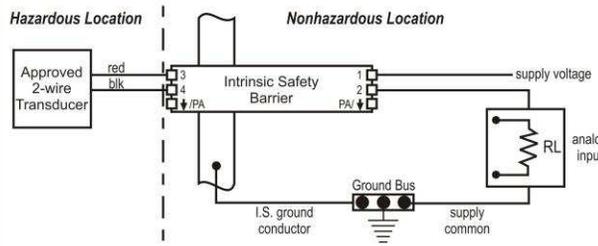


Figure 1. Return Lead Floating

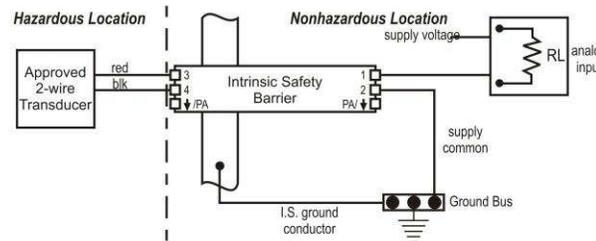


Figure 2. Return Lead Grounded

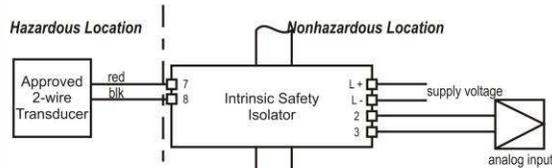


Figure 3. Field Circuit Isolated
Wiring diagram for 2-wire, 4-20mA output.

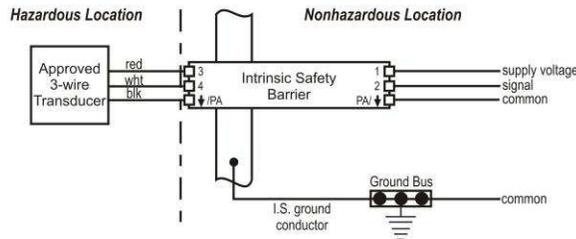


Figure 4. Wiring diagram for 3-wire, VDC output.

Class I, II, III, Div. 1 Groups C&D (only) Hazardous Location

WIRING DIAGRAMS SAME AS FIGURES 1,2,3 & 4

Entity Parameters

$$V_{max} = 28V$$

$$I_{max} = 186mA$$

$$C_i = 0.064\mu F$$

$$L_i = 0$$

$$P_i = 1.3 W$$



WARNING!

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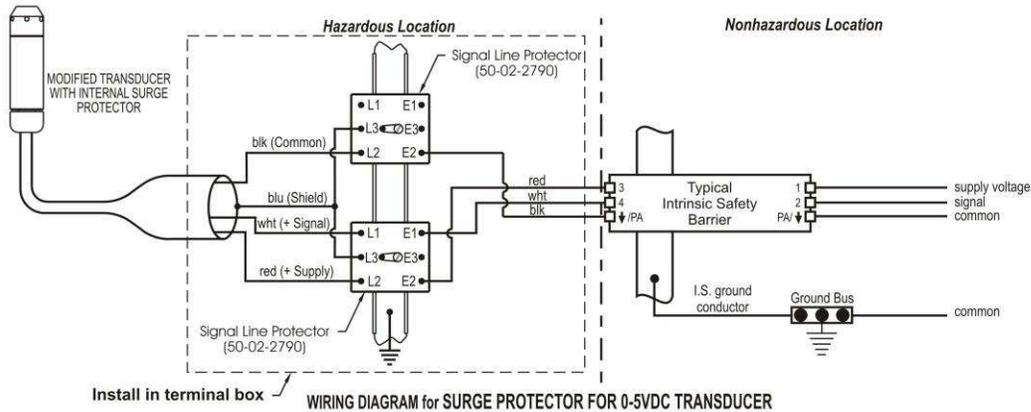
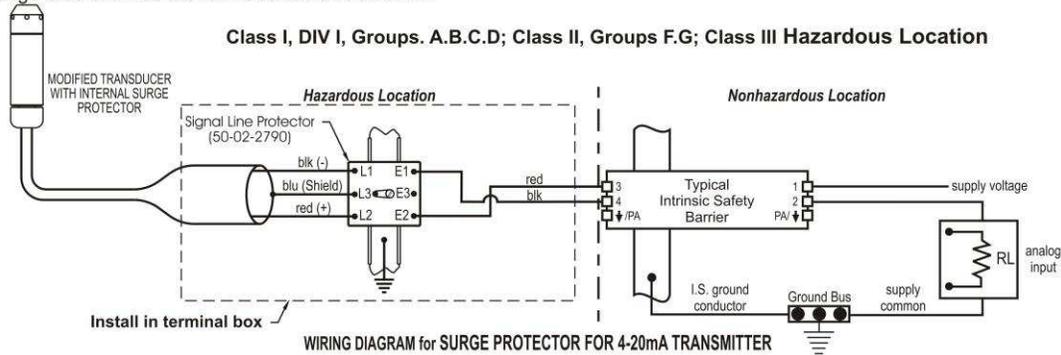
DO NOT SCALE DRAWING UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES ANGLES ±1 DECIMALS .XXX = ±.005 RUNOUT ±.015 CONCENTRICITY ±.005 SURFACE FINISH IN MICROINCHES RMS 32 UNLESS SHOWN OTHERWISE MATERIAL	PART NUMBER		
	DRAWN	DATE	
	CHP	4/24/00	PRODUCT TITLE
	CHECKED	APPROVED	DATE
EOR	APPROVED	DATE	DRAWING TITLE
GWH			CERTIFICATION DRAWING, FM
SCALE	PROJECTION	DRAWING NUMBER	REVISION
NTS		TA-6609	AH1
			SHEET
			2/4

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11/11/07	W	N/A	SHT2 REVISED 1, P= ENTITY PARAMETERS, ADDED "E" ENTITY PARAMETERS	GKP	GWH	SMK
12/12/07	X	3901	SHT 1 ADDED VOLTAGE SUPPRESSION OPTIONS TO 300 SERIES TRANSDUCER, REVISED ALL P/Ns, SAME ON SHT. 3 FOR SERIES 169 & 173	GKP	GWH	SMK
2/25/09	Y	4015	RMV EXCITATION 1,2, ADD F.G.H.J. RMV PRESSURE CONN. 4.5,6,8.F.G. RMV ELEC. CONN. 3,K. RMV ENT. PARAMETERS B=1 B=2, ADD B=F.G.H.J. DEL SHT 3 FROM DWG.	GKP	GWH	GWH
8/21/09	Z	4015	ADDED NOSE PIECE OPTIONS & REMOVED OPTION 2 (HIRSCHMANN) ELECTRICAL CONNECTION FROM SERIES 27, 28, & 30, SHT 1 ONLY	GKP	GWH	GWH
10/7/09	AA	4015	CORRECTED ORDER OF ALL SERIES LETTER CONFIGURATIONS, SHT 1 ONLY, REVISED CLASS GROUPS ON SHT 3.	GKP	GWH	GWH
11/4/09	AB	4015	ADDED SHEET 4	GKP	GWH	GWH
9/20/10	AC	4210	REVISED BORDER FORMAT FROM ESTERLINE TO MEASUREMENT SPECIALTIES	GKP	GWH	GWH
9/20/10	AD	4218	ADDED ELECTRICAL CONNECTION "D" TO SERIES 27,28 & 30, LT MODEL SERIES & REFORMATTED PAGE LAYOUT SHEETS 1, 2 & 3.	GKP	GWH	GWH
4/22/11	AE	4218	CLARIFIED ENTITY PARAMETERS, SHT 2 ONLY	GKP	GWH	GWH
10/14/11	AF	8629	SERIES LT: ADDED PRESSURE & ELECTRICAL CONNECTION OPTIONS, INCREASED PRESSURE RANGE, SHT 1 ONLY	GKP	GWH	GWH
4/1/13	AG	9164	ADDED OPTIONS TO ALL SERIES, MOVED PRESSURE RANGE FROM P/N TO PRESSURE RANGE FIELD, SHT. 1 ONLY	GKP	GWH	GWH
6/21/13	AH	9164	ADDED LTR ORTION, SHT 1 ONLY	GKP	GWH	GWH
10/29/13	AH1	9164	TEXT CORRECTION TO SERIES	GKP	GWH	GWH

Notes:

1. Install in terminal box.
2. Installation should be in accordance with Article 504 in the *National Electric Code*, ANSI/NFPA 70 and ISA RP12.06.01
3. The surge protector part #50-02-2790 is a passive device and as a result the device has no capacitance or inductance and it's Vmax and Imax would be identical to the connected transducer.
However, when using the entity formula on page 2, note 1, the Ci value of the pressure transducer shall be used.
4. The surge protector part #50-02-2790 is used with all Series Transducers on sht. 1. **Not approved** for use in a class E environment.
5. No change to 50-02-2790 this rev. Label remains at rev AF.



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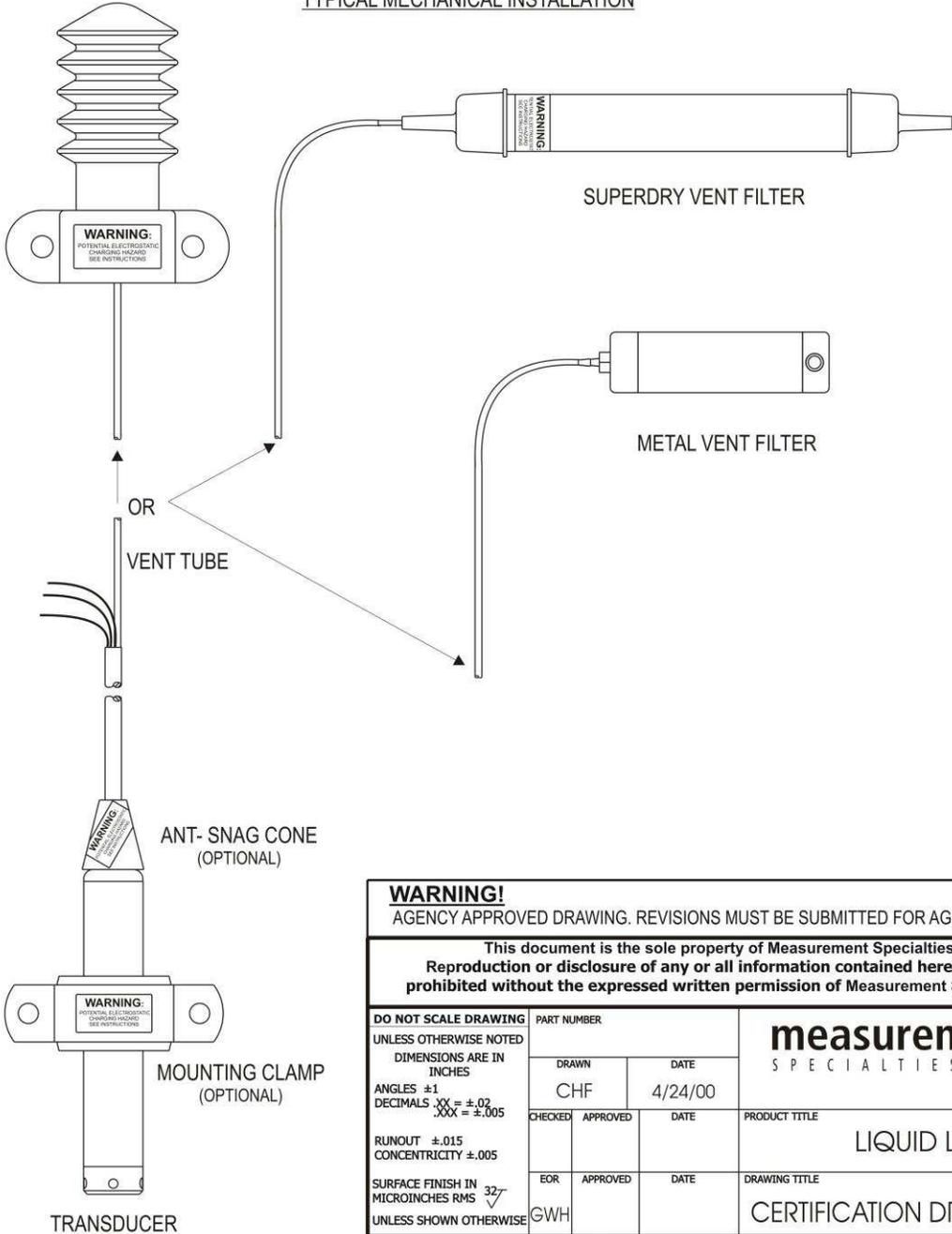
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	DRAWN	DATE		PRODUCT TITLE
	CHF	4/24/00		
	CHECKED	APPROVED		DATE
EOR	APPROVED	DATE	CERTIFICATION DRAWING, FM	
SCALE	PROJECTION	DRAWING NUMBER	REVISION	SHEET
NTS		TA-6609	AH1	3/4

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7/28/06	V	N/A	SHT 1 ADDED "E" TO B=EXCITATION, SHT2 REVISED 1, P= ENTITY PARAMETERS & 2, STAHL APPARATUS	GKP	GWH	SMK
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8/21/09	Z	4015	ADDED NOSE PIECE OPTIONS & REMOVED OPTION 2 (HIRSCHMANN) ELECTRICAL CONNECTION FROM SERIES 27, 28, & 30, SHT 1 ONLY	GKP	GWH	GWH
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11/4/09	AB	4015	ADDED SHEET 4	GKP	GWH	GWH
9/20/10	AC	4210	REVISED BORDER FORMAT FROM ESTERLINE TO MEASUREMENT SPECIALTIES.	GKP	GWH	GWH
9/20/10	AD	4218	ADDED ELECTRICAL CONNECTION "0" TO SERIES 27,28 & 30, LT MODEL SERIES & REFORMATTED PAGE LAYOUT SHEETS 1, 2 & 3.	GKP	GWH	GWH
4/22/11	AE	4218	CLARIFIED ENTITY PARAMETERS, SHT 2 ONLY	GKP	GWH	GWH
10/14/11	AF	8629	SERIES LT: ADDED PRESSURE & ELECTRICAL CONNECTION OPTIONS, INCREASED PRESSURE RANGE, SHT 1 ONLY	GKP	GWH	GWH
4/1/13	AG	9164	ADDED OPTIONS TO ALL SERIES, MOVED PRESSURE RANGE FROM P/N TO PRESSURE RANGE FIELD, SHT. 1 ONLY	GKP	GWH	GWH
6/21/13	AH	9164	ADDED LTR ORTION, SHT 1 ONLY	GKP	GWH	GWH
10/29/13	AH1	9164	TEXT CORRECTION TO SERIES	GKP	GWH	GWH

TYPICAL MECHANICAL INSTALLATION



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DO NOT SCALE DRAWING UNLESS OTHERWISE NOTED		PART NUMBER			
DIMENSIONS ARE IN INCHES		DATE			
ANGLES ±1		CHF		4/24/00	
DECIMALS .XXX = ±.02 .XXXX = ±.005		CHECKED		DATE	
RUNOUT ±.015		APPROVED		PRODUCT TITLE	
CONCENTRICITY ±.005		EOR		LIQUID LEVEL	
SURFACE FINISH IN MICROINCHES RMS 32		APPROVED		DRAWING TITLE	
UNLESS SHOWN OTHERWISE		GWH		CERTIFICATION DRAWING, FM	
MATERIAL		SCALE		REVISION	
		NTS		AH1	
		PROJECTION		SHEET	
		DRAWING NUMBER		4/4	
		TA-6609			

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1/11/07	X	N/A	ADDED "E" ENTITY PARAMETERS ON SHT 2.	GKP	GWH	SMK
12/12/07	Y	3901	SHT 1 ADDED VOLTAGE SUPPRESSOR OPTIONS TO 300 SERIES TRANSDUCERS, REVISED ALL P/NS, SAME ON SHT. 3 FOR SERIES 169 & 173, DELETED 500 SERIES, WAS 6 SHT, DWG.	GKP	GWH	SMK
2/24/09	Z	4015	RMV EXCITATION 1,2, ADD F,G,H,J, RMV PRESSURE CONN. 4,5,6,8,F,G, RMV ELEC. CONN. 3,K, RMV ENT PARAMETERS 1,2, ADD B=F,G,H,J, DEL SHT 3 FROM DWG.	GKP	GWH	
8/21/09	AA	4015	ADDED NOSE PIECE OPTIONS, REMOVED OPTION 2 (HIRSCHMANN) ELECTRICAL CONNECTION FROM SERIES 27, 28, & 30, SHT 1 ONLY	GKP	GWH	
10/7/09	AB	4015	CORRECTED ORDER OF ALL SERIES LETTER CONFIGURATIONS, SHT 1 ONLY, REVISED CLASS GROUPS ON SHT 3, GENERAL PRESENTATION REVISION SHTS. 1&2.	GKP	GWH	
9/20/10	AC	4210	REVISED BORDER FORMAT FROM ESTERLINE TO MEASUREMENT SPECIALTIES.	GKP	GWH	
9/20/10	AD	4218	ADDED ELECTRICAL CONNECTION "0" TO SERIES 27,28 & 30, LT MODEL SERIES SHT 1 ONLY AND ADDED SHEET 4	GKP	GWH	
4/22/11	AE	4218	CLARIFIED ENTITY PARAMETERS, SHT 2 ONLY	GKP	GWH	
10/14/11	AF	8629	SERIES LT: ADDED PRESSURE & ELECTRICAL CONNECTION OPTIONS, INCREASED PRESSURE RANGE, SHT 1 ONLY	GKP	GWH	
4/1/13	AG	9164	ADDED OPTIONS TO ALL SERIES, MOVED PRESSURE RANGE FROM P'N TO PRESSURE RANGE FIELD.	GKP	GWH	
6/21/13	AH	9164	ADDED LTR, SHT 1 ONLY	GKP	GWH	
10/29/13	AH1	9164	TEXT CORRECTION TO SERIES	GKP	GWH	

The Transducers listed below are designed for installation in a Class I, Division 1, Groups A, B, C and D, Class II, Division 1, Groups E, F, and G, Class III, Division 1 hazardous location when connected to Associated Apparatus as described in note 1.

Series 27FABCDG (EEEE), 28FABCDG (EEEE), 30FABCDG (EEEE)

- F = material: S,T
- A = pressure type: 1,3,4,7,8,9
- B = excitation/output 3,4,E,F,G,H,J,K,L,M
- C = pressure connection: 1,2,7
- D = electrical connection: 0,1,4
- G = voltage suppression: A,B,C
- * EEEE = pressure range: 0-2000 PSI
- * Engraved in Pressure Field, not in p/n.

Series 700FABCDG (EEEE), 705FABCDG (EEEE), 710FABCDG (EEEE), 720FABCDG (EEEE), 730FABCDG (EEEE), 735FABCDG (EEEE), 745FABCDG (EEEE), 750FABCDG (EEEE)

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- D = electrical connection: 0,4,A,B
- G = voltage suppression: A,B,C
- * EEEE = pressure range: 0-304 PSI
- * Engraved in Pressure Field, not in p/n.

Series 300FABCDGEEEE, 320FABCDGEEEE, 330FABCDGEEEE, 335FABCDGEEEE

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- B = excitation/output: 3,4,E,F,G,H,J,K,L,M
- C = pressure connection: A,B,C,D,E,2,7
- D = electrical connection: 0,4,A,B
- G = voltage suppression: A,B,C
- * EEEE = pressure range: 0-304 PSI
- * Engraved in Pressure Field, not in p/n.

Series LTABCDEFGHIJK

- A = pressure connection: A,B,C,R,1,5,7
- B = excitation/output: 1,2,3,4,5,6,7,8,A,B,C,D,E,F,G
- C = cable type: A,B,C
- D = accuracy: A,B,C,D,E,F,T,S,R
- E = intrinsic safety approvals: A,B,C
- F = label: A,B,J,K
- G = material: S,T
- H = electrical connection: A,B,D,F,1,2
- III = pressure range: 0-2000 psi
- J = units: P,F,M,K
- K = pressure type: G,S,A

Notes: (applies to all figures on sht 2)

1. Associated Apparatus shall provide intrinsically safe connections which meet the following parameters.

- V_{max} ; For all barrier channels used.
- I_{max} ; Combined current for all barrier channels used.
- C_i ; For all barrier channels used.
- L_i ; For all barrier channels used.
- P_i ; Combined power for all barrier channels used.
- V_{oc} or $V_T \leq V_{max}$ $C_a \geq C_i + C_{leads}^*$
- I_{sc} or $I_T \leq I_{max}$ $L_a \geq L_i + L_{leads}^*$
- P_o or $P_T < P_i$

* Includes all cable connected to the barrier including the transducer cable.

Selected barriers must be third party approved as providing intrinsically safe circuits for the application, and have V_{oc} or V_T not exceeding V_{max} and I_{sc} or I_T not exceeding I_{max} , and the P_o of the barrier must be less than or equal to the P_{max} of the intrinsically safe equipment, as shown in the Table of Entity parameters.

2. Control Room apparatus shall not generate in excess of 250V (U_{max}).

3. Installation should be in accordance with Article 504 in the *National Electrical Code*, ANSI/NFPA 70 and ISA RP-12.06.01

4. Float unused wires in cable. Insure that these wires are electrically isolated from other conductors.

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	DRAWN	DATE			
	CHF	4/24/00			
	CHECKED	APPROVED		DATE	PRODUCT TITLE
EOR	APPROVED	DATE	DRAWING TITLE		
GWH			CERTIFICATION DRAWING, UL		
MATERIAL	SCALE	PROJECTION	DRAWING NUMBER	REVISION	SHEET
	NTS		TA-6610	AH1	1/4

CERTIFICATIONS FOR MEAS LT TRANSDUCERS

DATE	REV	ECO	REVISION	BY	CHK	EOR
7/28/06	V	N/A	SHT 1 ADDED "E" TO B=EXCITATION, SHT2 REVISED 1. P= ENTITY PARAMETERS & 2. STAHL APPARATUS	GKP	GWH	SMK
1/10/07	W	N/A	HT2 REVISED 1. P= ENTITY PARAMETERS	GKP	GWH	SMK
1/11/07	X	N/A	ADDED "E" ENTITY PARAMETERS ON SHT 2.	GKP	GWH	SMK
2/24/09	Z	3901	SHT 1 ADDED VOLTAGE SUPPRESSOR OPTIONS TO 300 SERIES TRANSDUCERS, REVISED ALL P/Ns, SAME ON SHT. 3 FOR SERIES 169 & 173, DELETED 500 SERIES, WAS 6 SHT, DWG.	GKP	GWH	SMK
8/21/09	AA	4015	RMV EXCITATION 1.2, ADD F.G.H.J. RMV PRESSURE CONN. 4.5 & 8.F.G. RMV ELEC. CONN. 3.K. RMV ENT PARAMETERS B=1 B=2, ADD B=F.G.H.J. DEL SHT 3 FROM DWG.	GKP	GWH	
10/7/09	AB	4015	ADDED NOSE PIECE OPTIONS, REMOVED OPTION 2 (HIRSCHMANN) ELECTRICAL CONNECTION FROM SERIES 27, 28, & 30. SHT 1 ONLY	GKP	GWH	
9/20/10	AC	4210	CORRECTED ORDER OF ALL SERIES LETTER CONFIGURATIONS, SHT 1 ONLY. REVISED CLASS GROUPS ON SHT 3, GENERAL PRESENTATION REVISION SHTS. 1 & 2.	GKP	GWH	
9/20/10	AD	4218	REVISED BORDER FORMAT FROM ESTERLINE TO MEASUREMENT SPECIALTIES.	GKP	GWH	
4/22/11	AE	4218	ADDED ELECTRICAL CONNECTION "0" TO SERIES 27, 28 & 30, LT MODEL SERIES SHT 1 ONLY AND ADDED SHEET 4	GKP	GWH	
10/14/11	AF	8629	CLARIFIED ENTITY PARAMETERS, SHT 2 ONLY	GKP	GWH	
4/1/13	AG	9164	SERIES LT: ADDED PRESSURE & ELECTRICAL CONNECTION OPTIONS, INCREASED PRESSURE RANGE, SHT 1 ONLY	GKP	GWH	
6/21/13	AH	9164	ADDED OPTIONS TO ALL SERIES, MOVED PRESSURE RANGE FROM P'N TO PRESSURE RANGE FIELD.	GKP	GWH	
10/29/13	AH1	9164	ADDED LTR, SHT 1 ONLY	GKP	GWH	
			TEXT CORRECTION TO SERIES	GKP	GWH	

Class I, II, III, Div. 1 Groups A-G Hazardous Location — Entity Parameters

$V_{max} = 28V$
 $I_{max} = 110mA$
 $C_i = 0.064\mu F$
 $L_i = 0$
 $P_i = 1W$

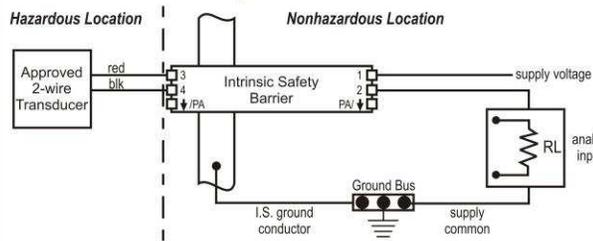


Figure 1. Return Lead Floating

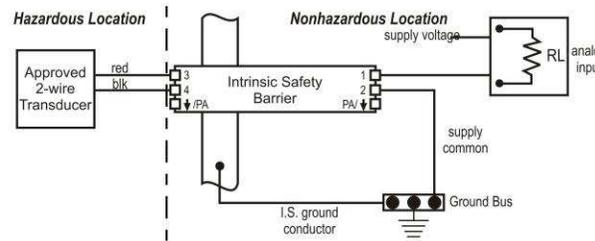


Figure 2. Return Lead Grounded

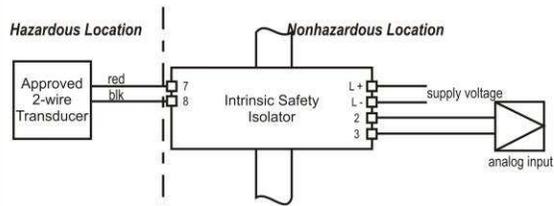


Figure 3. Field Circuit Isolated
Wiring diagram for 2-wire, 4-20mA output.

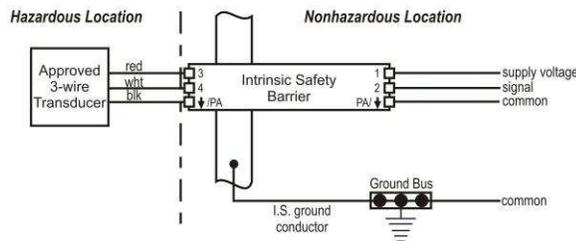


Figure 4. Wiring diagram for 3-wire, VDC output.

Class I, II, III, Div. 1 Groups C&D (only) Hazardous Location — Entity Parameters

WIRING DIAGRAMS SAME AS FIGURES 1, 2, 3 & 4

$V_{max} = 28V$
 $I_{max} = 186mA$
 $C_i = 0.064\mu F$
 $L_i = 0$
 $P_i = 1.3W$



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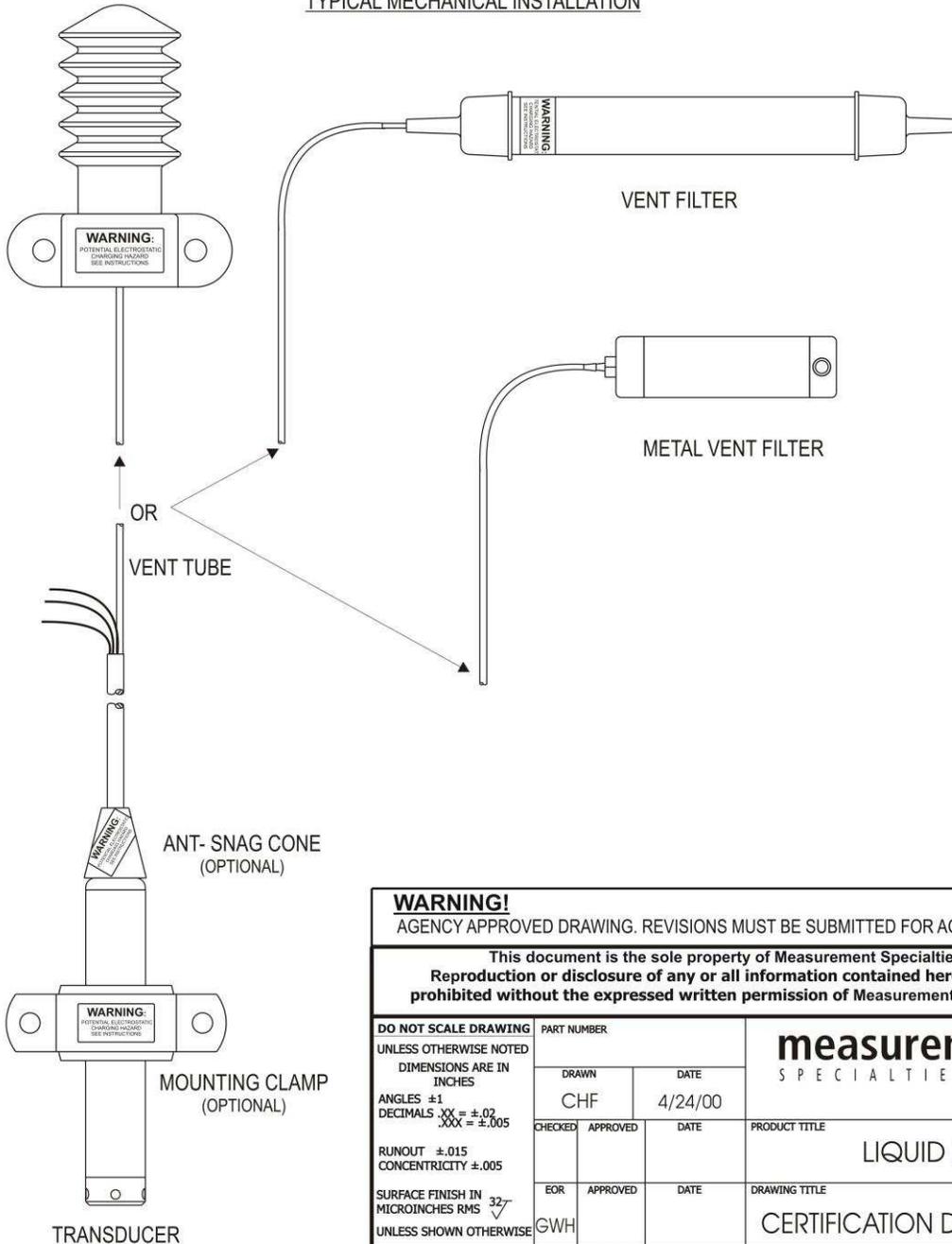
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	DRAWN	DATE		
	CHF	4/24/00	CHECKED	APPROVED
	DATE	PRODUCT TITLE	LIQUID LEVEL	
EOR	APPROVED	DATE	DRAWING TITLE	
GWH			CERTIFICATION DRAWING, UL	
SCALE	PROJECTION	DRAWING NUMBER	REVISION	
NTS		TA-6610	AH1	
			SHEET	
			2/4	

CERTIFICATIONS FOR MEAS LT TRANSDUCERS

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7/28/06	V	N/A	SHT 1 ADDED "E" TO B=EXCITATION. SHT2 REVISED 1. P= ENTITY PARAMETERS & 2. STAHL APPARATUS	GKP	GWH	SMK
1/10/07	W	N/A	HT2 REVISED 1. P= ENTITY PARAMETERS	GKP	GWH	SMK
1/11/07	X	N/A	ADDED "E" ENTITY PARAMETERS ON SHT 2.	GKP	GWH	SMK
12/12/07	Y	3901	SHT 1 ADDED VOLTAGE SUPPRESSOR OPTIONS TO 300 SERIES TRANSDUCERS. REVISED ALL P/Ns. SAME ON SHT. 3 FOR SERIES 169 & 173. DELETED 500 SERIES. WAS & SHT. DWG.	GKP	GWH	SMK
2/24/09	Z	4015	RMV EXCITATION 1.2, ADD F.G.H.J. RMV PRESSURE CONN. 4.5.6.8.F.G. RMV ELEC. CONN. 3.K. RMV ENT PARAMETERS B=1 B=2. ADD B=F.G.H.J. DEL SHT 3 FROM DWG.	GKP	GWH	
8/21/09	AA	4015	ADDED NOSE PIECE OPTIONS, REMOVED OPTION 2 (HIRSCHMANN) ELECTRICAL CONNECTION FROM SERIES 27, 28, & 30. SHT 1 ONLY	GKP	GWH	
10/7/09	AB	4015	CORRECTED ORDER OF ALL SERIES LETTER CONFIGURATIONS. SHT 1 ONLY. REVISED CLASS GROUPS ON SHT 3. GENERAL PRESENTATION REVISION SHTS. 1&2.	GKP	GWH	
9/20/10	AC	4210	REVISED BORDER FORMAT FROM ESTERLINE TO MEASUREMENT SPECIALTIES.	GKP	GWH	
9/20/10	AD	4218	ADDED ELECTRICAL CONNECTION "O" TO SERIES 27, 28 & 30. LT MODEL SERIES SHT 1 ONLY AND ADDED SHEET 4	GKP	GWH	
4/22/11	AE	4218	CLARIFIED ENTITY PARAMETERS, SHT 2 ONLY	GKP	GWH	
10/14/11	AF	8629	SERIES LT: ADDED PRESSURE & ELECTRICAL CONNECTION OPTIONS, INCREASED PRESSURE RANGE, SHT 1 ONLY	GKP	GWH	
4/1/13	AG	9164	ADDED OPTIONS TO ALL SERIES, MOVED PRESSURE RANGE FROM P'N TO PRESSURE RANGE FIELD.	GKP	GWH	
6/21/13	AH	9164	ADDED LTR, SHT 1 ONLY	GKP	GWH	
10/29/13	AH1	9164	TEXT CORRECTION TO SERIES	GKP	GWH	

TYPICAL MECHANICAL INSTALLATION



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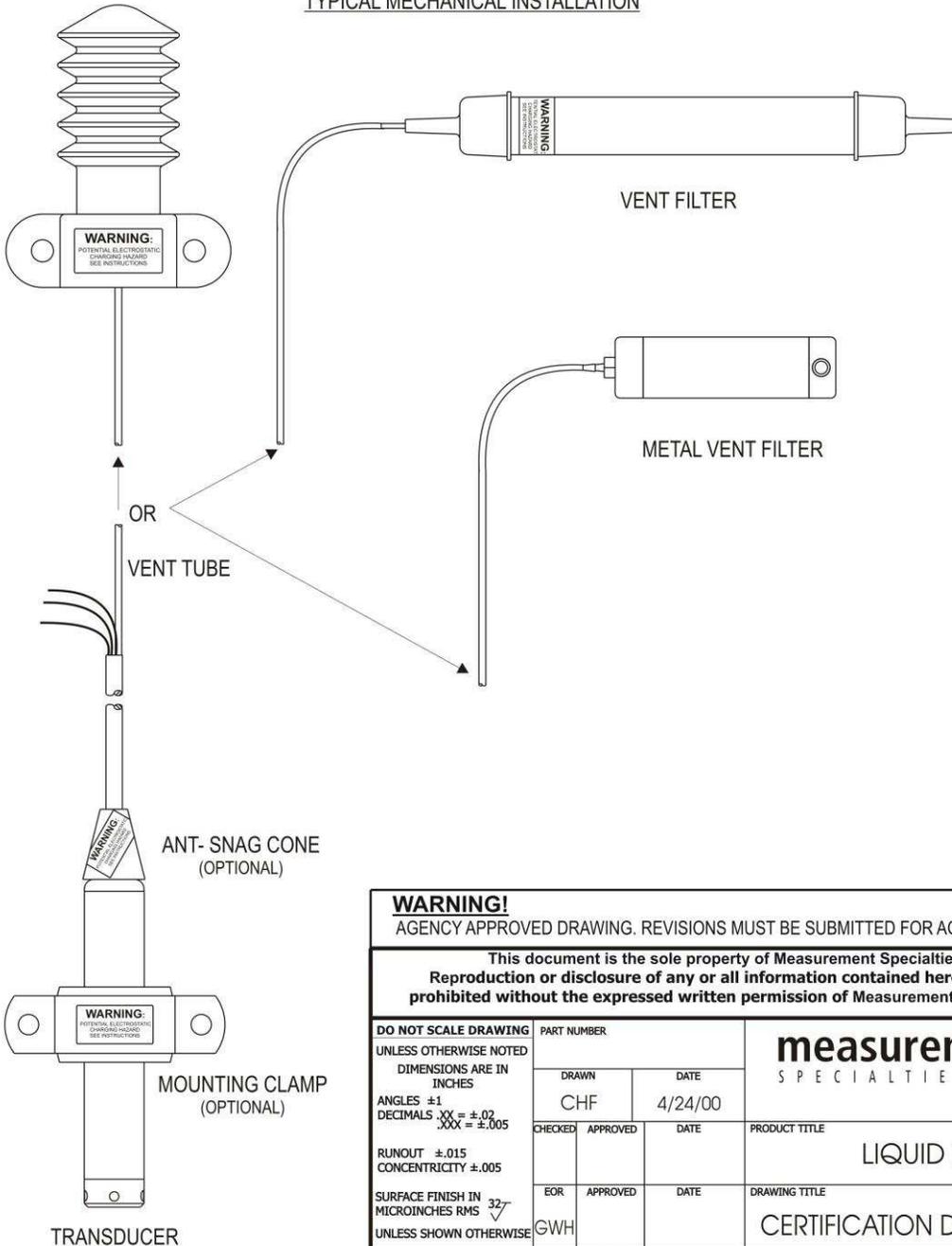
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UNLESS OTHERWISE NOTED DIMENSIONS ARE IN INCHES		DRAWN	DATE	
ANGLES ±1 DECIMALS .XXX = ±.02 .XXX = ±.005		CHF	4/24/00	PRODUCT TITLE
RUNOUT ±.015 CONCENTRICITY ±.005		CHECKED	APPROVED	DATE
SURFACE FINISH IN MICROINCHES RMS 32 UNLESS SHOWN OTHERWISE		EOR	APPROVED	DATE
MATERIAL		GWH		DRAWING TITLE
		SCALE	PROJECTION	DRAWING NUMBER
		NTS		TA-6610
				REVISION SHEET
				AH1 4/4

CERTIFICATIONS FOR MEAS LT TRANSDUCERS

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10/29/13	AH1	9164	TEXT CORRECTION TO SERIES	GKP		GWH

TYPICAL MECHANICAL INSTALLATION



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DIMENSIONS ARE IN INCHES		CHD	4/24/00	PRODUCT TITLE
ANGLES ±1		DATE		
DECIMALS .XX = ±.02		DATE		DRAWING TITLE
XXX = ±.005		DATE		
RUNOUT ±.015		DATE		CERTIFICATION DRAWING, UL
CONCENTRICITY ±.005		DATE		
SURFACE FINISH IN MICROINCHES RMS 32		DATE		TA-6610 AH1 4/4
UNLESS SHOWN OTHERWISE		DATE		
MATERIAL	SCALE	PROJECTION	DRAWING NUMBER	REVISION
	NTS			



Certificate of Compliance

September 9, 2016

We,

TE CONNECTIVITY SENSORS

Certify that the products listed below:

Series LTA, LTB, LTR, LT1, LT5, LT7

Comply with the specifications published in the following standard:

EN 61326-1:2013 & EN 61326-2-3:2013 Immunity & Emissions Standards

- Basic Electromagnetic Environment
- During testing there was a temporary degradation, or a loss of function or performance that was self-recovering.

97/23/EC Pressure Equipment Directive

RoHS2 – These products comply with Directive 2011/65/EU on the restriction of the use of certain hazardous substances in electrical and electronic equipment.

Certified by:

Greg Hall

Senior Design Engineer

TE Connectivity Sensor Solutions

Gregory.Hall@TE.com

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