

NO CHANGE IN PART OR VENDOR OF PART ALLOWED WITHOUT PRIOR APPROVAL OF FM.

FM & CSA CONTROL DRAWING
FOR VeriGAP ULTRASONIC
POINT LEVEL SENSORS

MODEL	SHEETS
404-1000 SERIES	2
1100 SERIES	2
1300 SERIES	2
404-1200 SERIES	3-5

FM SENSOR SHEET 2

705-abcd-efg-h

a = BLANK OR 0

b = BLANK OR 0

c = BLANK, 0, 2 (DUAL POINT), 3 (SINGLE POINT/ADJUSTABLE),
4 (DUAL POINT/ADJUSTABLE)

d = 1, 2 TEMPERATURE

e = BLANK, 6, CONSTRUCTION (6)

f = BLANK OR 0


g = 1, 3, 5, MATERIALS (6)

h = 14 CHARACTER EXPANDED NUMBERING SYSTEM.
DOES NOT AFFECT SAFETY.

****APPROVED DRAWING****
CHANGES TO THIS DRAWING
REQUIRE AGENCY APPROVAL
PER 440-0015-003

FM CSA KEMA

_____ _____
420-0004-067 _____
420-0004-076 _____
420-0004-036 _____

CERTIFIED by _____				COPYRIGHT 2007			FM & CSA CONTROL DRAWING FOR VeriGAP™ ULTRASONIC POINT LEVEL SENSORS		
PO # _____	6	9-07-102	THP	10-5-07	AMETEK DREXELBROOK				
ENG _____	5	9-01-202	THP	1-24-02	SCALE NONE				
USER _____	4	6-00-201	THP	6-23-00	UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES (MM)				
_____	3	6-96-212	OJM	8-22-97	DR. JJS 9-10-07				
DE # _____	ISS.	EDO/DSR NO.	APP' D	DATE	CK. _____	CDW	420-0004-024-CD	SHT. 1 OF 5	ISS. 6

205 KEITH VALLEY RD
HORSHAM, PA 19044-9986

215-674-1234
FAX 215-674-2731

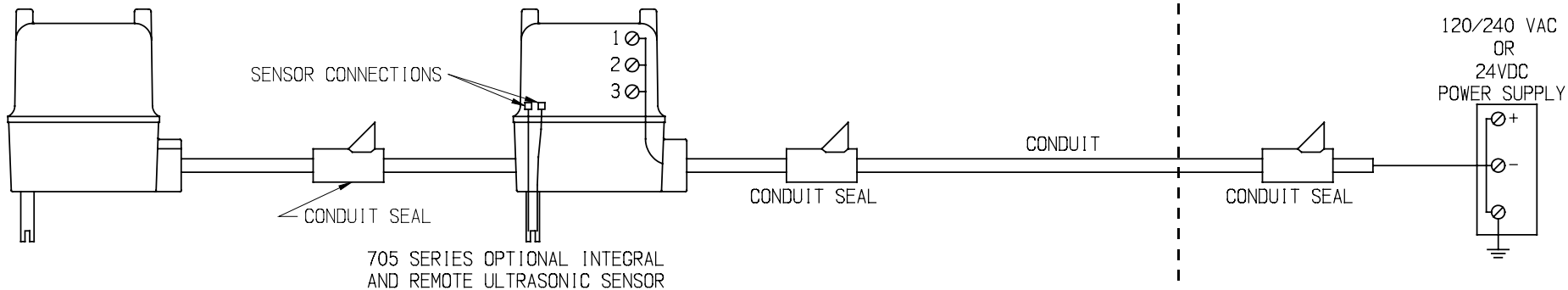
No. 420-0004-024-CD
SHT 1 OF 5

404-1000, 1100, 1300 SERIES
EXPLOSIONPROOF INSTALLATION

NO CHANGE IN PART OR VENDOR OF PART ALLOWED WITHOUT PRIOR APPROVAL OF FM.

404-1000/1300
120/240 VAC
1 ⌀ — L1
2 ⌀ — L2
3 ⌀ — GND

404-1100
24 VDC
1 ⌀ — +
2 ⌀ — -
3 ⌀ — GND



705 SERIES OPTIONAL INTEGRAL AND REMOTE ULTRASONIC SENSOR

FM AND CSA APPROVED ELECTRONICS

404-1ab0-cde-Of

- a = 0,1,3 SUPPLY VOLTAGE
 - b = 0,6 SINGLE OR DUAL POINT
 - c = AGENCY F=FM C=CSA
 - d = 0,1 OPTIONS
 - e = 1,2,3,4,6,8,9,C,F HOUSING WHEN e=2,4 OR 3,6
EXPLOSIONPROOF ENCLOSURE 285-0001-414
285-0001-415 REQUIRED FOR REMOTE SENSOR
INSTALLATION
 - f = 0,1,2 FAIL SAFE
- NOTE: WHEN e = 1 CHASSIS MUST BE MOUNTED IN FM OR CSA APPROVED EXPF. HOUSING.
DUAL POINT USES 5" HOUSING.
ALL OTHERS 4"

NOTES:

1. FOR EXPLOSIONPROOF INSTALLATIONS CONDUIT SEALS MUST BE WITHIN 2" OF TRANSMITTER HOUSING.
2. INSTALL PER NEC OR CEC.
3. FOR 404-1060 CONNECTIONS SEE DRAWING 504-1600-001-CD1.
4. REFER TO FOLLOWING DRAWINGS FOR RELAY CONNECTIONS:
504-1000-001-CD1, 504-1100-001-CD1,
504-1600-001-CD1, 504-1600-001-CD2.

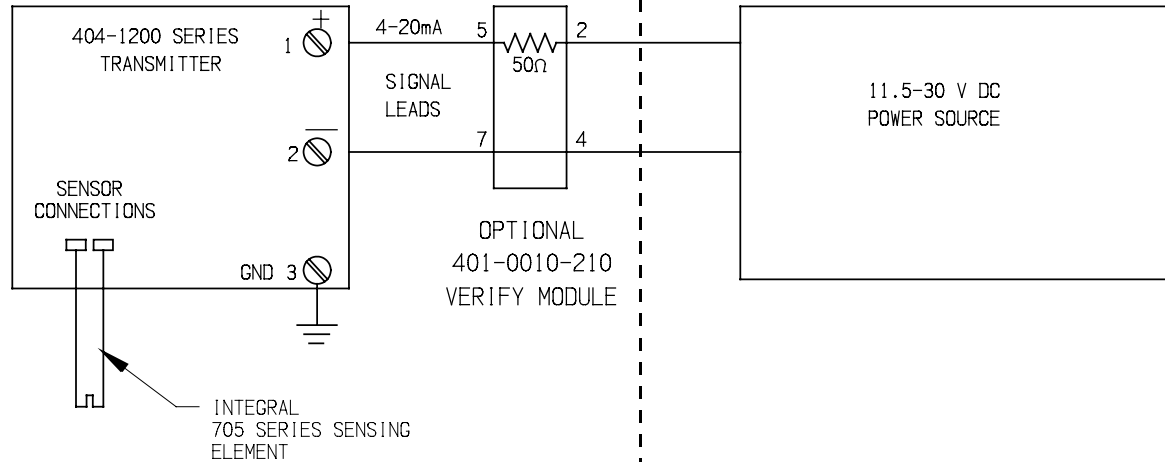
CLASS I,II,III, DIVISON 1, GROUP A,B,C,D,E,F,G

CERTIFIED by _____ PO # _____ ENG _____ USER _____ DE # _____	6	9-07-102	THP	10-5-07	COPYRIGHT 2007 AMETEK DREXELBROOK	AMETEK® DREXELBROOK 205 KEITH VALLEY RD HORSHAM, PA 19044-9986 215-674-1234 FAX 215-674-2731	FM & CSA CONTROL DRAWING FOR ULTRASONIC POINT LEVEL SENSOR TRANSMITTERS VeriGAP™	420-0004-024-CD	SHT. 2 OF 5 ISS. 6
	5	9-01-202	THP	1-24-02	SCALE NONE UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES (MM)				
	4	6-00-201	THP	6-23-00	DR. JJS 9-10-07				
	3	6-96-212	OJM	8-22-97	CK. CDW				
	ISS.	EDO/DSR NO.	APP'D	DATE	CK.				

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DIV. 2 LOOP, 404-1200 SERIES NO BARRIERS

SAFE AREA



SUITABLE FOR
CLASS I GROUPS A,B,C,D, AND
CLASS II GROUPS F,G AND
CLASS III.

DIVISION 2 AREA

SENSOR

705-efgh-ijk-l
 e = BLANK OR 0
 f = BLANK OR 0
 g = BLANK OR 0
 h = 1,2 TEMPERATURE
 i = BLANK,6, CONSTRUCTION (6)
 j = BLANK OR 0
 k = 1,3,5, MATERIALS (6)
 l = 14 CHARACTER EXPANDED
 NUMBERING SYSTEM.
 DOES NOT AFFECT SAFETY.

MODEL NUMBERS OF APPROVED TRANSMITTERS
SHOWN ON SHEETS 3-5;

TRANSMITTERS

404-120a-Fbc-0d
 a = 0 TIME DELAY
 b = 0 OR V OPTIONS
 c = 1,7,A HOUSING
 d = 0,1 FAIL SAFE

NOTE:
WHEN c = 1 CHASSIS MUST BE MOUNTED IN
APPROVED HOUSING.

WARNING FOR ALL SHEETS:

- EQUIPMENT CONNECTED TO SIGNAL LEADS MUST NOT USE OR GENERATE MORE THAN 250V MAX.
- SEE SHEET 3 FOR CLASS II AND CLASS III HOUSING NOTE.

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PD #	_____	6	9-07-102	THP	10-5-07
ENG	_____	5	9-01-202	THP	1-24-02
USER	_____	4	6-00-201	THP	6-23-00
	_____	3	6-96-212	OJM	8-22-97
DE #	_____	ISS.	EDD/DSR NO.	APP'D	DATE
				CDW	

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DREXELBROOK

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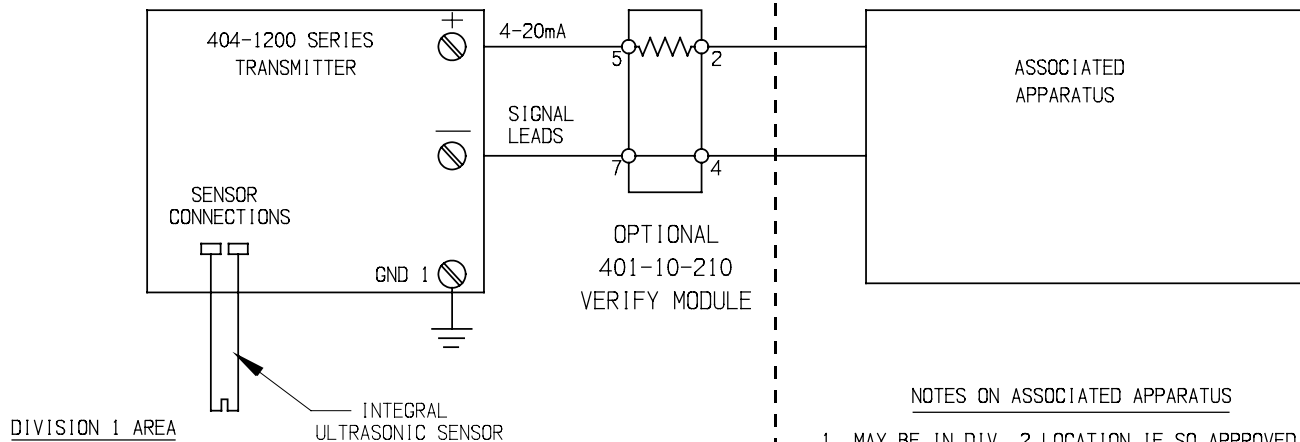
FM CONTROL DRAWING FOR
 ULTRASONIC
 POINT LEVEL TRANSMITTER

420-0004-024-CD

SHT. 3 OF 5
 ISS. 6

NO. 420-0004-024-CD
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705 SERIES
SENSING ELEMENT



NOTES ON ASSOCIATED APPARATUS

1. MAY BE IN DIV. 2 LOCATION IF SO APPROVED.
2. CABLE CAPACITANCE AND INDUCTANCE (C = 60pF/FT. AND L = 0.2uH/FT. MAY BE USED) PLUS TRANSMITTER C_i AND L_i MUST NOT EXCEED C_a AND L_a OF ASSOCIATED APPARATUS.
3. MUST BE INSTALLED PER MANUFACTURER'S INSTRUCTIONS.
4. MUST NOT BE CONNECTED IN PARALLEL.
5. MUST BE INSTALLED IN ACCORDANCE WITH NEC IN AN ENCLOSURE MEETING THE REQUIREMENTS OF ANSI/ISA S82.

TRANSMITTER ENTITY PARAMETERS

V_{max} = 35 V
 I_{max} = 140 mA
 C_i = 0 uF
 L_i = 0 mh

SENSING ELEMENTS AND CABLE ARE INTRINSICALLY SAFE FOR CLASS I GROUPS A,B,C,D. CLASS II GROUPS E,F,G. CLASS III.

CLASS II AND CLASS III HOUSING NOTE:

USE ONLY APPROVED DUST IGNITIONPROOF HOUSINGS, WITH TIGHT CABLE FITTINGS OR THREADED CONDUIT, FOR ENVIRONMENTAL PROTECTION IN CLASS II DIV. 1 AND 2 APPLICABLE GROUPS E, F, G AND CLASS III DIV. 1 AND 2.

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USER _____	4	6-00-201	THP	6-23-00	UNLESS OTHERWISE STATED ALL DIMENSIONS IN INCHES (MM)
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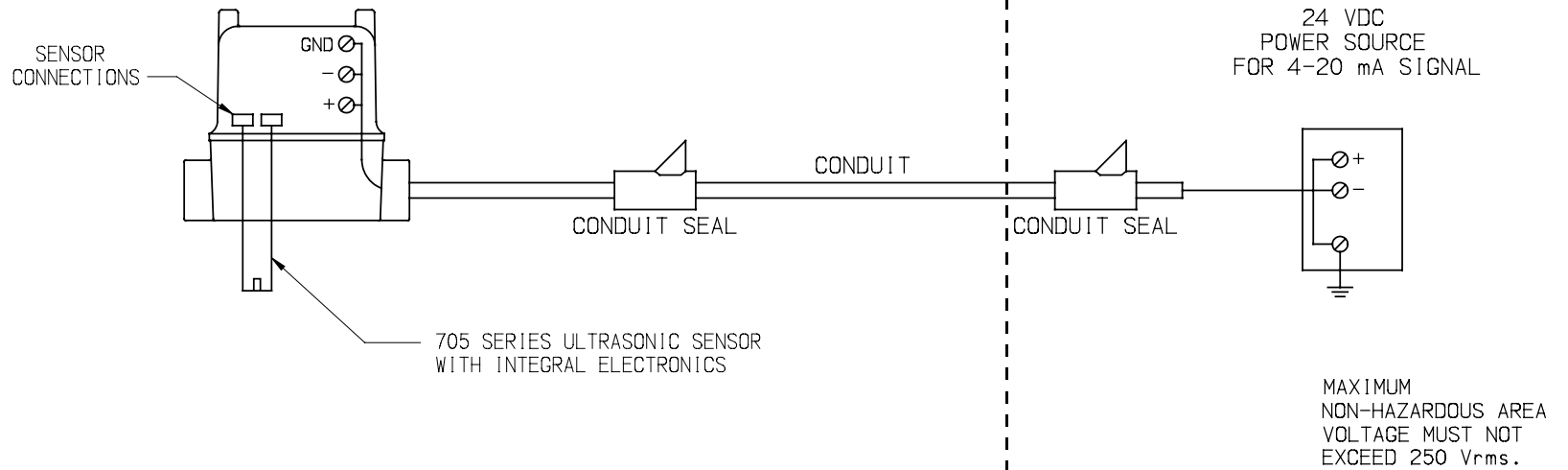
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FM CONTROL DRAWING FOR
ULTRASONIC
POINT LEVEL TRANSMITTER

420-0004-024-CD

SHT. 4 OF 5

ISS. 6



NOTES;

1. FOR EXPLOSIONPROOF INSTALLATIONS CONDUIT SEALS MUST BE WITHIN 2 INCHES OF TRANSMITTER HOUSING.
2. EXPLOSIONPROOF INSTALLATIONS MUST COMPLY WITH NEC.

CLASS I,II,III, DIVISON 1, GROUP A,B,C,D,E,F,G

NON-HAZARDOUS AREA

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FM & CSA CONTROL DRAWING
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POINT LEVEL SENSOR
TRANSMITTERS VeriGAP™

420-0004-024-CD

SHT. 5 OF 5
ISS. 6

NO. 420-0004-024-CD

SHT 5 OF 5