



OPERATION MANUAL

CMCP420VT Series Loop Powered Transmitters

*CMCP420VT-01
CMCP420VT-02
CMCP420VT-T1
CMCP420VT-T2*

REV. J 8-15-2013



IMPORTANT!

After installation of this unit, no connections are to be made or broken while any connection on the unit is powered up.

Après l'installation de cette unité, pas de connexions doivent être faites ou cassé pendant toute connexion de l'appareil est sous tension.

STI Vibration Monitoring, Inc.
1010 East Main Street
League City, Texas 77573 USA
Tel.: 281.334.0766
www.stiweb.com

Model Description:

The **CMCP420VT Series Transmitters** are solid state loop powered Velocity and Velocity/Temperature Sensors. Each parameter provides a 4-20mA output that is proportional to overall vibration and/or temperature in terms of velocity and degrees Celsius or Fahrenheit. The CMCP420VT Series continuously monitors machinery health and transmits directly into a PLC or DCS for trending, alarm and machine shutdown. The dynamic output terminals on the CMCP420VT provides the user with a direct connection to the internal accelerometer for connecting data collectors. The CMCP420VT-T is not equipped with a dynamic output.

Ranges:

Vibration and Dynamic Output (VT Series)

CMCP420VT-01 0-1.0 In/Sec RMS (0-25.4mm/Sec)

CMCP420VT-02 0-2.0 In/Sec RMS (0-50.8mm/Sec)

Vibration and Temperature Output (VT-T Series)

CMCP420VT-T1 0-1.0 In/Sec RMS (0-25.4mm) and 0-100°C (32-212°)

CMCP420VT-T2 0-2.0 In/Sec RMS (0-50.8mm) and 0-100°C (32-212°)

Power Requirements

+22 to +36 VDC Per 4-20mA Loop

R-Load

RL max = 600 Ohms

The Recommended RL for most installations is: 250 Ohms or 100 Ohms, @ Vs = 24 Vdc

Loop Connections:

Vibration	V+ V-	CMCP420VT and CMCP420VT-T Series, 4-20mA Loop Output
Temperature	T+ T-	CMCP420VT-T Series Only, 4-20mA Loop Output
Dynamic	D+ D-	CMCP420VT Series Only, 100mV/g Output

Case:

316 Stainless Steel

Mounting Options:

Supplied with ¼"-28 x ½" mounting stud

Dimensions:

Case: 2 5/8" H x 1 1/16" W

3/4" NPT Top Fitting for Conduit

Weight:

8 oz.

Environmental:

Operating Temperature: -20°C to +80°C

Sealed: Epoxy Encapsulated

Certifications:

UL and CSA Approved Class I Division II, Groups B, C and D

CE Approved

RoHS Compliant

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Vibration	V+ V-	CMCP420VT and CMCP420VT-T Series, 4-20mA Loop Output
Temperature	T+ T-	CMCP420VT-T Series Only, 4-20mA Loop Output
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Operating Temperature: -20°C to +80°C

Sealed: Epoxy Encapsulated

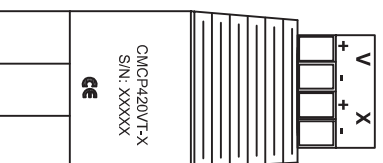
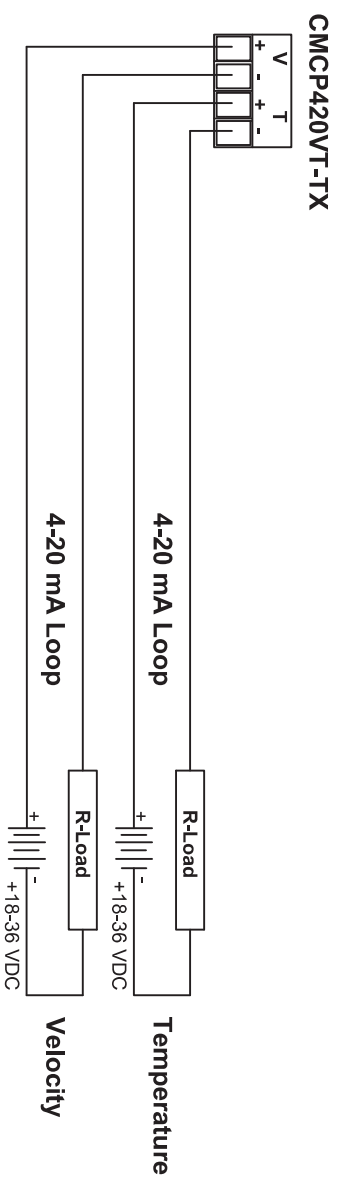
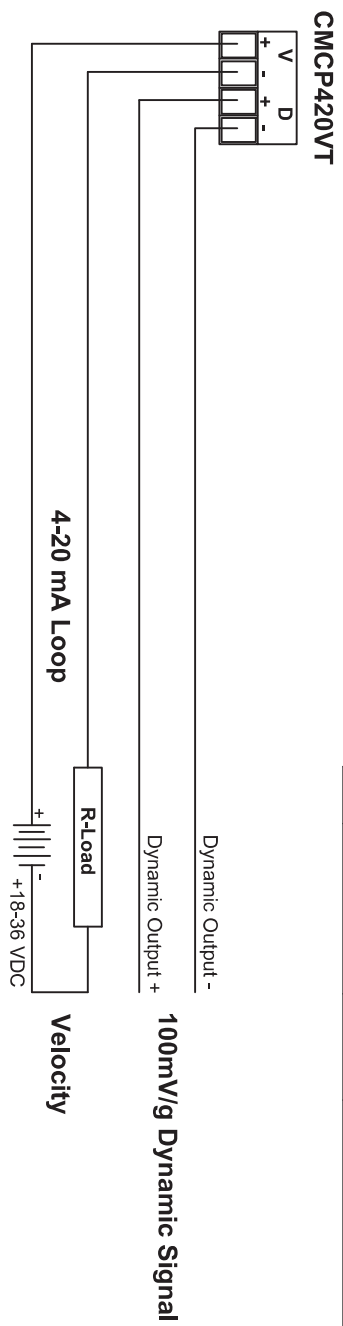
Certifications:

UL and CSA Approved Class I Division II, Groups B, C and D

CE Approved

RoHS Compliant

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Parameters:

V	Velocity	4-20mA	CMCP420VT and CMCP420VT-T
T	Temperature	4-20mA	CMCP420VT-T Only
D	Dynamic	100mV/g	CMCP420VT Only

Notes:

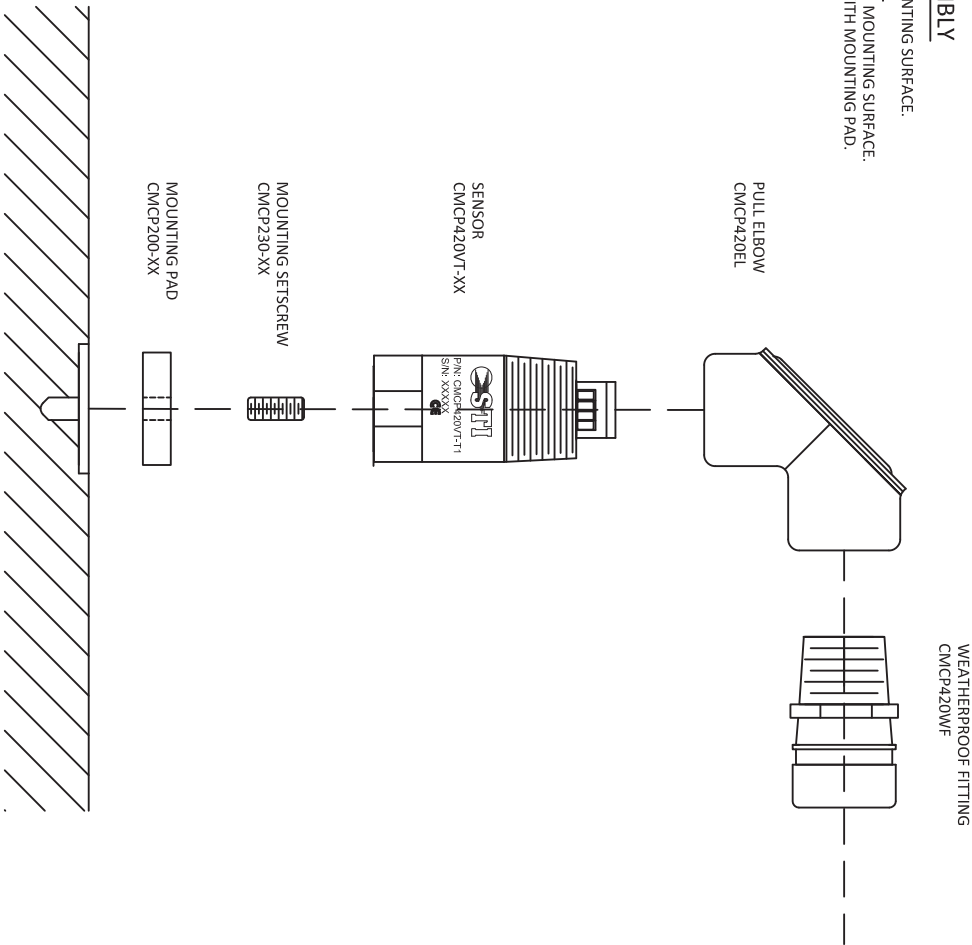
1. Power Requirements
+18 to 36 Vdc Per Loop
2. Maximum Load
600 Ohms max. @ Vs = 22 to 36 Vdc
300 Ohms max. @ Vs = 18 Vdc
3. Grounding
Case Isolated

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CUSTOMER		 STI Vibration Monitoring League City, Texas	
LOCATION			
ORDER NO.			
SR. NO.			
UNLESS OTHERWISE SPECIFIED ALL DIMENSIONS ARE INCHES.			
TOLERANCES:			
FRACTIONS	ANGLES		
± 1/64	± 1.0		
XX ± 0.01			
XXX ± 0.05			
.XXXX ± 0.0005			
DATE	DATE		
3/20/2012	3/20/2012		
ORDER MOH	DATE MOH		
3/20/2012	3/20/2012		
PERL			
SCALE: NONE			
SHEET 1 OF 1			

CMCP420VT SERIES INSTALLATION AND ASSEMBLY

1. REMOVE ANY DEBRIS FROM THREADED HOLE DRILLED INTO MOUNTING SURFACE.
2. INSTALL SENSOR SETSCREW (CMCP230-XX) INTO THREADED HOLE.
3. THREAD MOUNTING PAD ONTO SETSCREW UNTIL CONTACT WITH MOUNTING SURFACE.
4. THREAD CMCP420VT ONTO SETSCREW UNTIL IT IS IN CONTACT WITH MOUNTING PAD.
MAX TORQUE 30 INCH-POUNDS
5. INSTALL CMCP420EL ONTO SENSOR.
USE WRENCH TO HOLD CMCP420VT WHILE TIGHTENING ELBOW.
6. IF USED, INSTALL THE CMCP420WF FITTING ON THE ELBOW.
FLEXIBLE CONDUIT CAN BE USED IN PLACE OF THE CMCP420EL.
7. REMOVE ELBOW COVER AND MAKE TERMINAL CONNECTIONS.



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REV.	DATE	DESCRIPTION
A	11/19/09	LOH ORIGINAL DRAWING

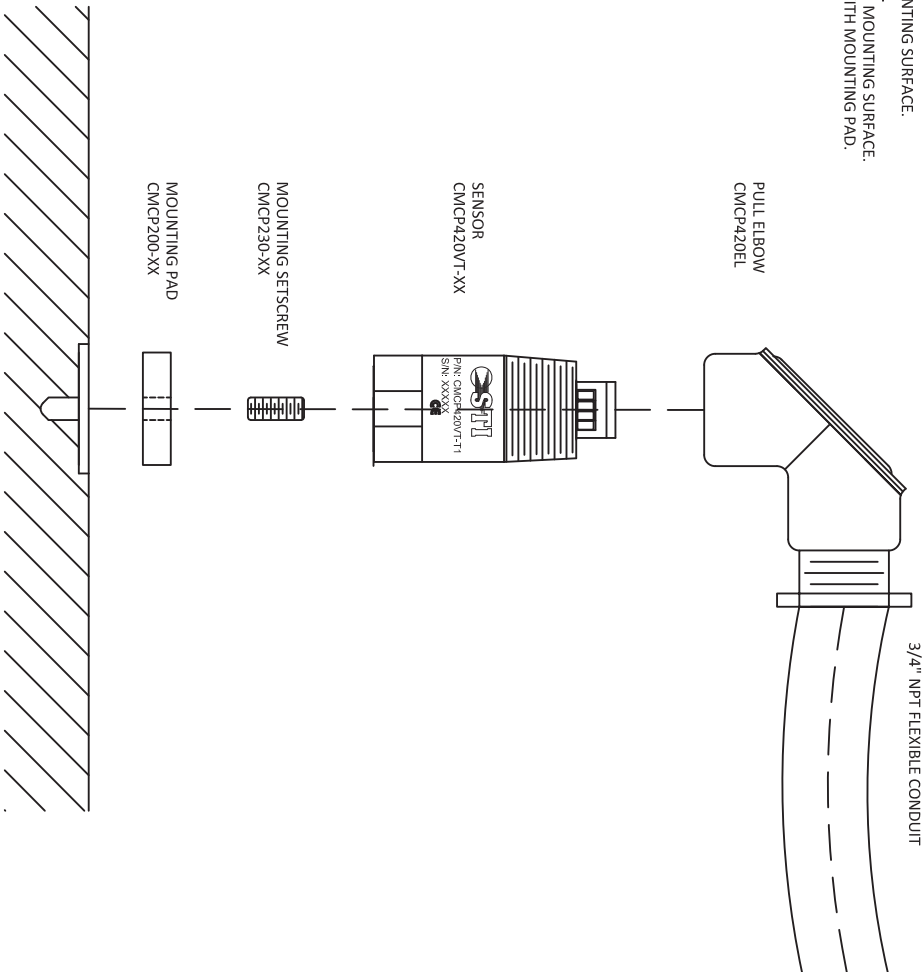
CUSTOMER			STI			Sales Technology Inc.		
LOCATION			DATE			League City, Texas		
ORDER NO.			DATE			CMCP420VT SERIES ASSEMBLY		
SR. NO.			DATE			VTINSTALL001		
UNLESS OTHERWISE SPECIFIED			DATE			SCALE: NONE		
ALL DIMENSIONS ARE INCHES.			DATE			SHEET 1 OF 1		
TOLERANCES:			DATE			REV. A		
FRACTIONS ± 1/64			DATE					
DECIMALS ± 0.01			DATE					
ANGLES ± 1.0			DATE					



Note:
1. OPTIONAL INSTALLATION TOOL KIT - CMCP720-01

CMCP420VT SERIES INSTALLATION AND ASSEMBLY

1. REMOVE ANY DEBRIS FROM THREADED HOLE DRILLED INTO MOUNTING SURFACE.
2. INSTALL SENSOR SETSCREW (CMCP230-XX) INTO THREADED HOLE.
3. THREAD MOUNTING PAD ONTO SETSCREW UNTIL CONTACT WITH MOUNTING SURFACE.
4. THREAD CMCP420VT ONTO SETSCREW UNTIL IT IS IN CONTACT WITH MOUNTING PAD.
MAX TORQUE 30 INCH-POUNDS
5. INSTALL CMCP420EL ONTO SENSOR.
6. USE WRENCH TO HOLD CMCP420VT WHILE TIGHTENING ELBOW.
7. CONNECT RIGID OR FLEXIBLE CONDUIT TO CMCP420EL.
8. REMOVE ELBOW COVER AND MAKE TERMINAL CONNECTIONS.



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REV.	DATE	DESCRIPTION
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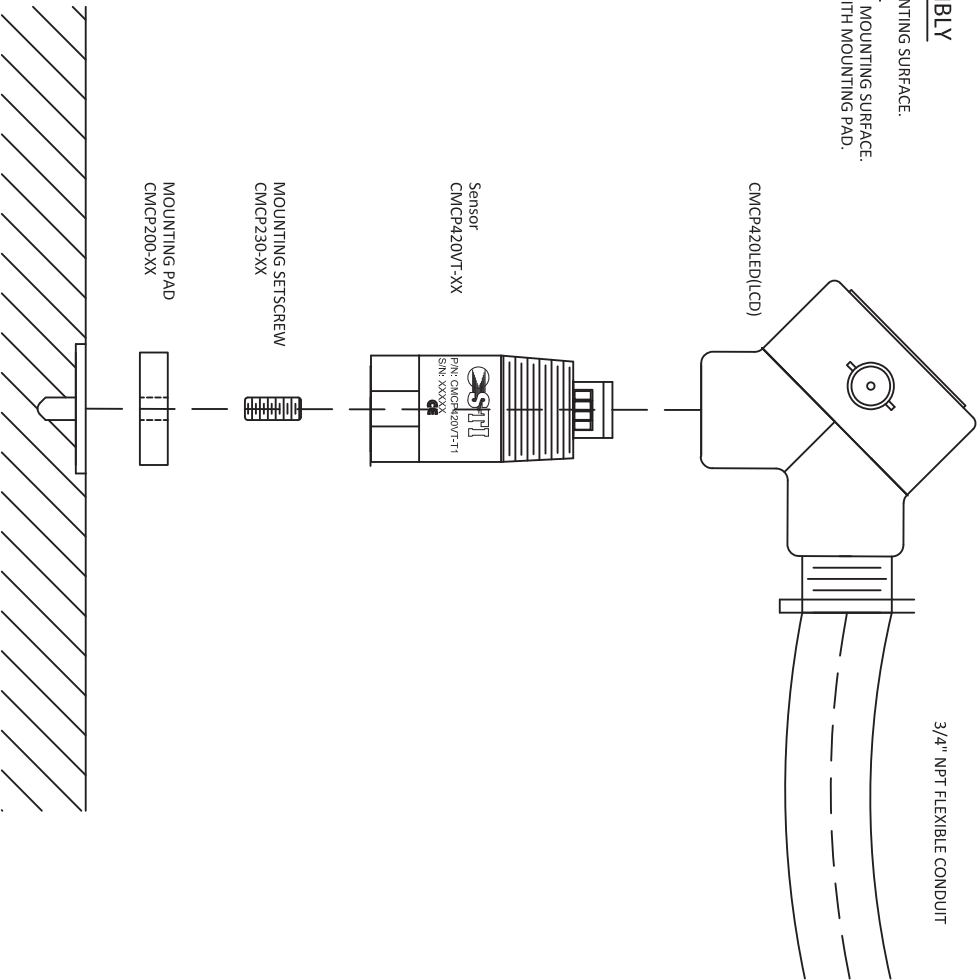
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LOCATION		DATE		League City, Texas	
ORDER NO.		DATE		CMCP420VT SERIES ASSEMBLY	
SR. NO.		DATE		VTINSTALL003	
UNLESS OTHERWISE SPECIFIED		DATE		SCALE: NONE	
ALL DIMENSIONS ARE INCHES.		DATE		SHEET 1 OF 1	
TOLERANCES:		DATE		REV. A	
FRACTIONS .XX ± 0.01		DATE			
DECIMALS .00XX ± 0.0005		DATE			
ANGLES ± 1.0		DATE			



Note:
1. OPTIONAL INSTALLATION TOOL KIT - CMCP720-01

CMCP420VT SERIES INSTALLATION AND ASSEMBLY

1. REMOVE ANY DEBRIS FROM THREADED HOLE DRILLED INTO MOUNTING SURFACE.
2. INSTALL SENSOR SETSCREW (CMCP230-XX) INTO THREADED HOLE.
3. THREAD MOUNTING PAD ONTO SETSCREW UNTIL CONTACT WITH MOUNTING SURFACE.
4. THREAD CMCP420VT ONTO SETSCREW UNTIL IT IS IN CONTACT WITH MOUNTING PAD.
MAX TORQUE 30 INCH-POUNDS
5. INSTALL CMCP420LED ONTO SENSOR (SEE WIRING DIAGRAM)
6. USE WRENCH TO HOLD CMCP420VT WHILE TIGHTENING ELBOW.
6. CONNECT RIGID OR FLEXIBLE CONDUIT TO CMCP420LED(LCD)



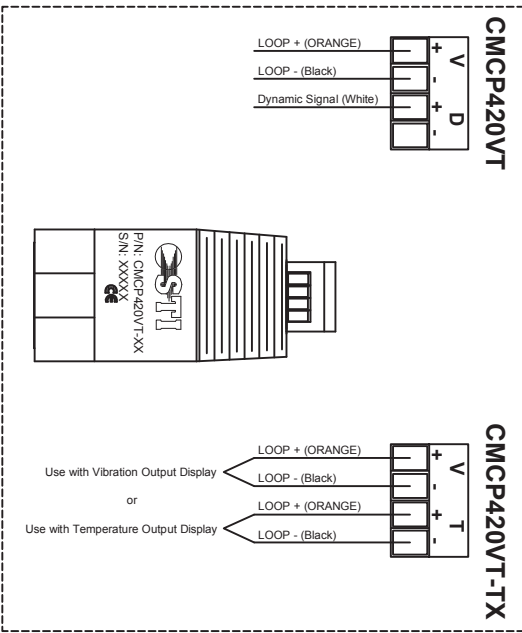
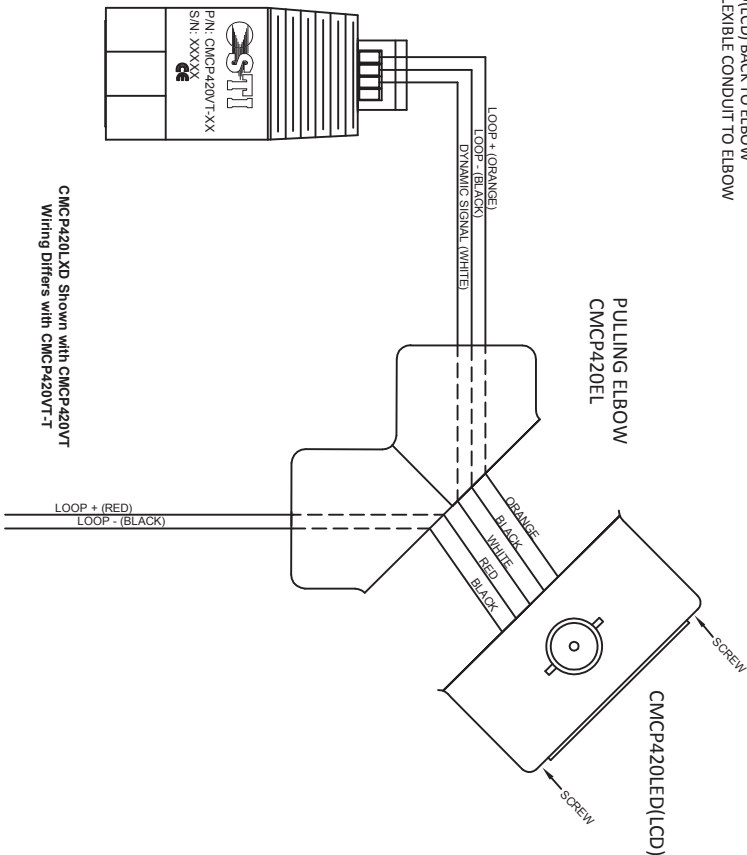
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REV.	DATE	DESCRIPTION
A	11/19/09	MDH ORIGINAL DRAWING

CUSTOMER				Sales Technology Inc. League City, Texas			
LOCATION							
ORDER NO.		DATE		11/18/09			
SR. NO.		DATE		11/18/09			
UNLESS OTHERWISE SPECIFIED		DATE		11/18/09			
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CMCP420VTLCD(LCD) INSTALLATION AND ASSEMBLY

1. REMOVE TWO (2) SCREWS FROM CMCP420LED(LCD) THAT CONNECT ELBOW
2. INSERT WIRES FROM CMCP420LCD(LCD) THROUGH ELBOW
3. CONNECT WIRES TO CMCP420VT or CMCP420VT-T
4. SLIDE ELBOW DOWN WIRES AND TIGHTEN TO CMCP420LED(LCD) USE WRENCH TO HOLD CMCP420VT WHILE TIGHTENING ELBOW
5. CONNECT PLC/DCS WIRES TO CMCP420LED
6. ATTACH CMCP420LED(LCD) BACK TO ELBOW
4. CONNECT RIGID OR FLEXIBLE CONDUIT TO ELBOW



Note:
1. Dynamic Output BNC not used with CMCP420VT-TX Vibration and Temperature Sensors.

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REV.	DATE	DESCRIPTION
1	11/19/00	ORIGIN: DRAWING
2	06/17/2012	Revised wiring for CMCP420VT-T
3		
4		
5		

CUSTOMER		STI		Sales Technology Inc.	
LOCATION		DATE		League City, Texas	
ORDER NO.		DATE		CMCP420LXD SERIES ASSEMBLY	
SR. NO.		DATE		VTLXDINSTALL001	
UNLESS OTHERWISE SPECIFIED		DATE		SCALE: NONE	
ALL DIMENSIONS ARE INCHES.		DATE		SHEET 1 OF 1	
TOLERANCES:		DATE			
FRACTIONS .XX ± 0.01		DATE			
DECIMALS .XXX ± 0.005		DATE			
ANGLES ± 1.0		DATE			



NOTE:
1. USE 25AWG TWISTED SHIELDED CABLE
2.
3.
4.
5.