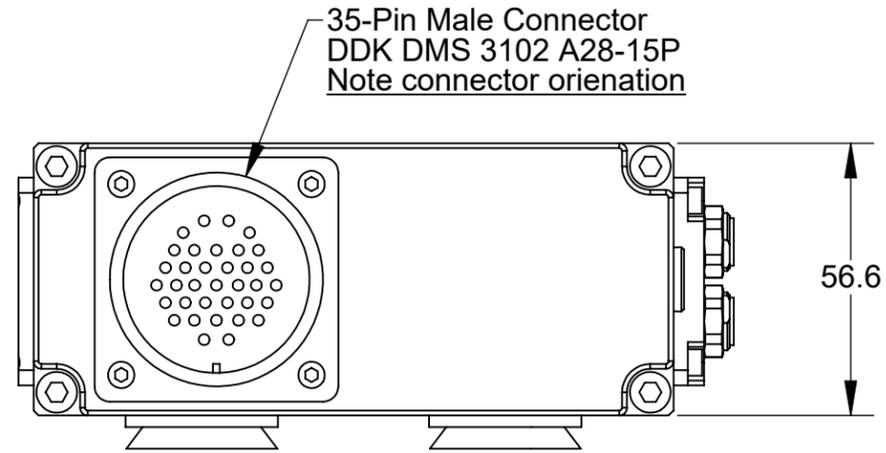
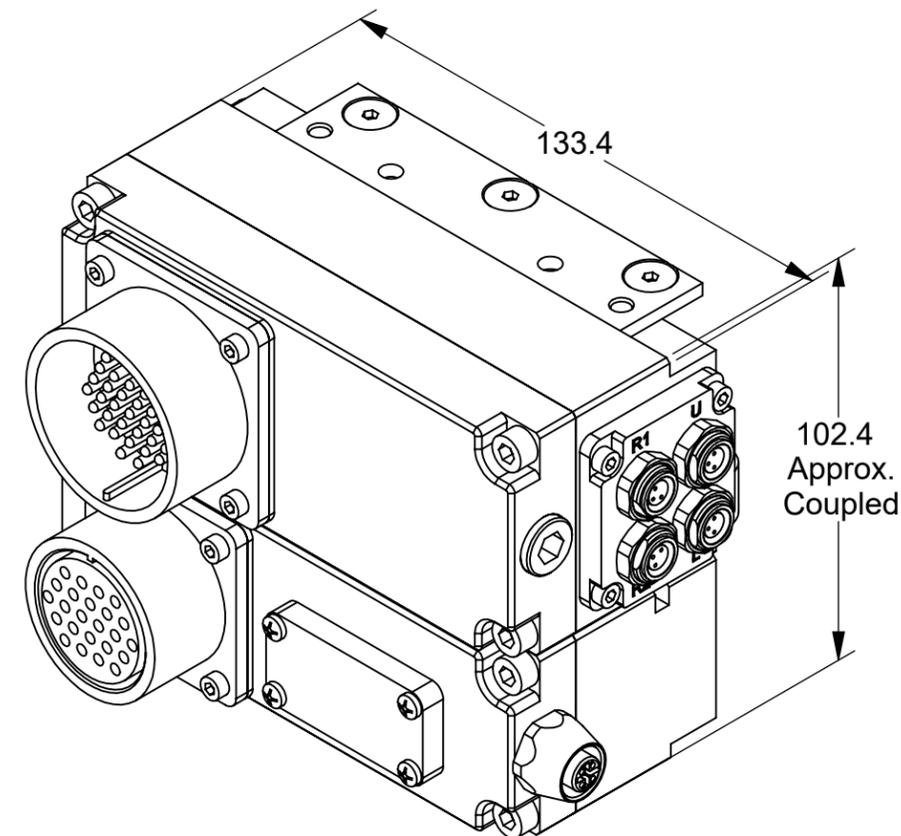


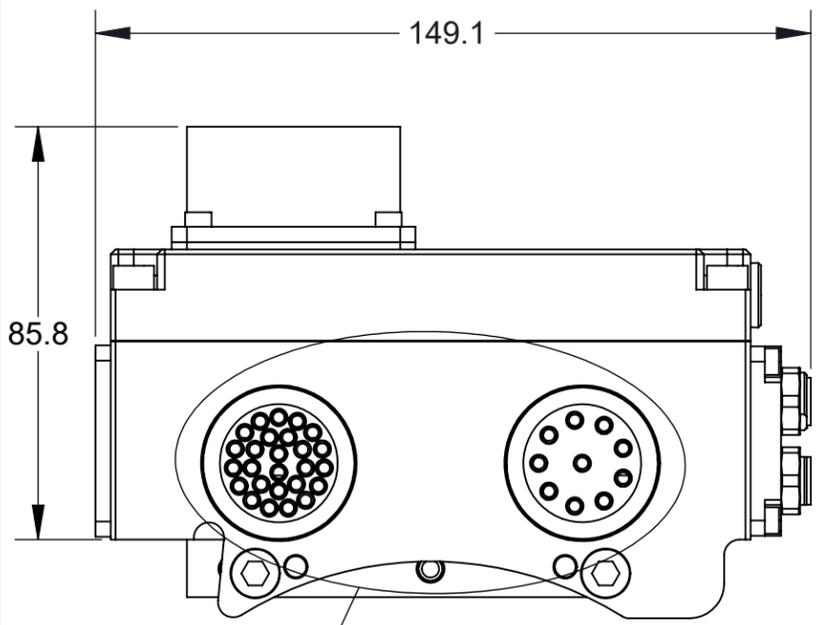
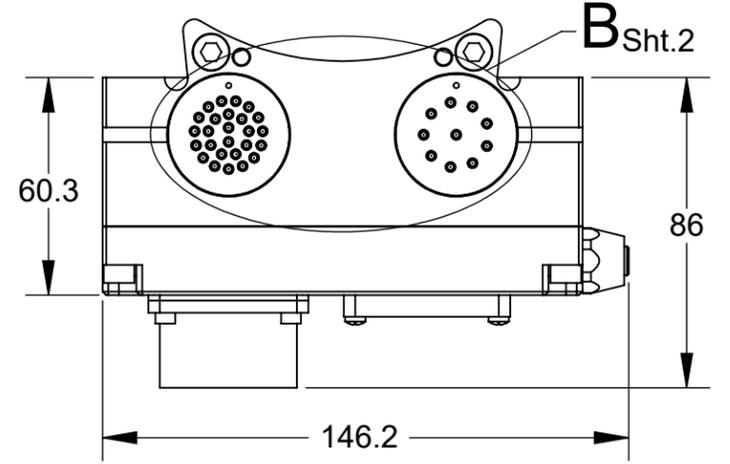
Rev.	Description	Initiator	Date
04	ECO 19477; Sheet 1 changed Switch 1 to Switch 2 and Switch 2 to Switch 1 for 9121-VB13-T. Sheet 2 removed leaders from the Master and Tool pin block letters. Sheet 4 changed Switch 1 to Switch 2 and Switch 2 to Switch 1 for 9121-VB13-T.	DS	11/12/2020



9121-VB11-M

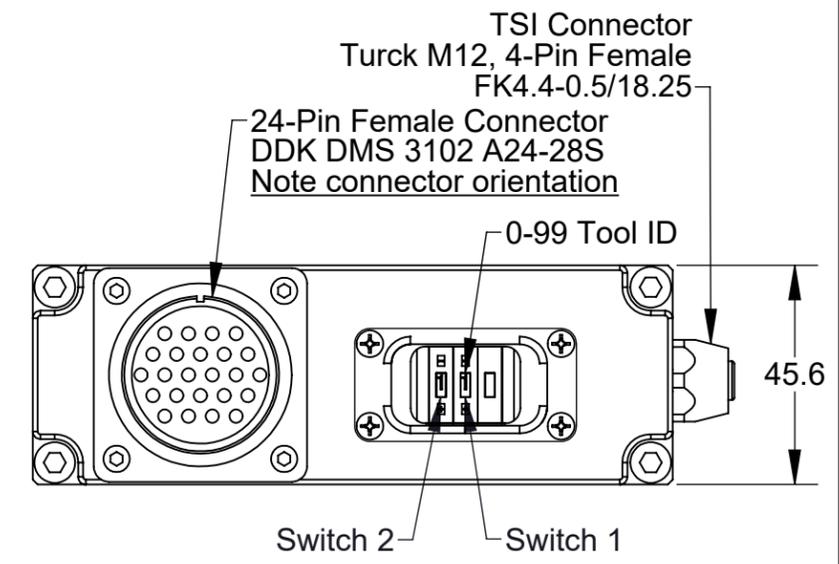
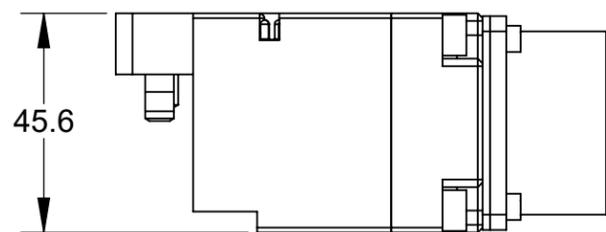
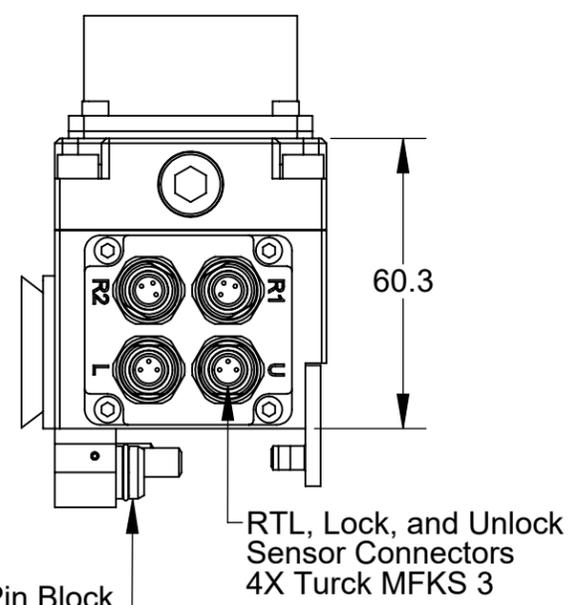


**VB11 Master and VB13 Tool
Coupled**



A Sht.2

Valve Signal Pin Block
See Sheet 2 (Table 3)
for Details

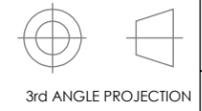


9121-VB13-T

- Notes:
1. Pin Block pin assignment information on Sheet 2.
 2. Connector details and pin assignment information on Sheet 3.
 3. Electrical schematic and functional notes on Sheet 4.

NOTES: UNLESS OTHERWISE SPECIFIED.

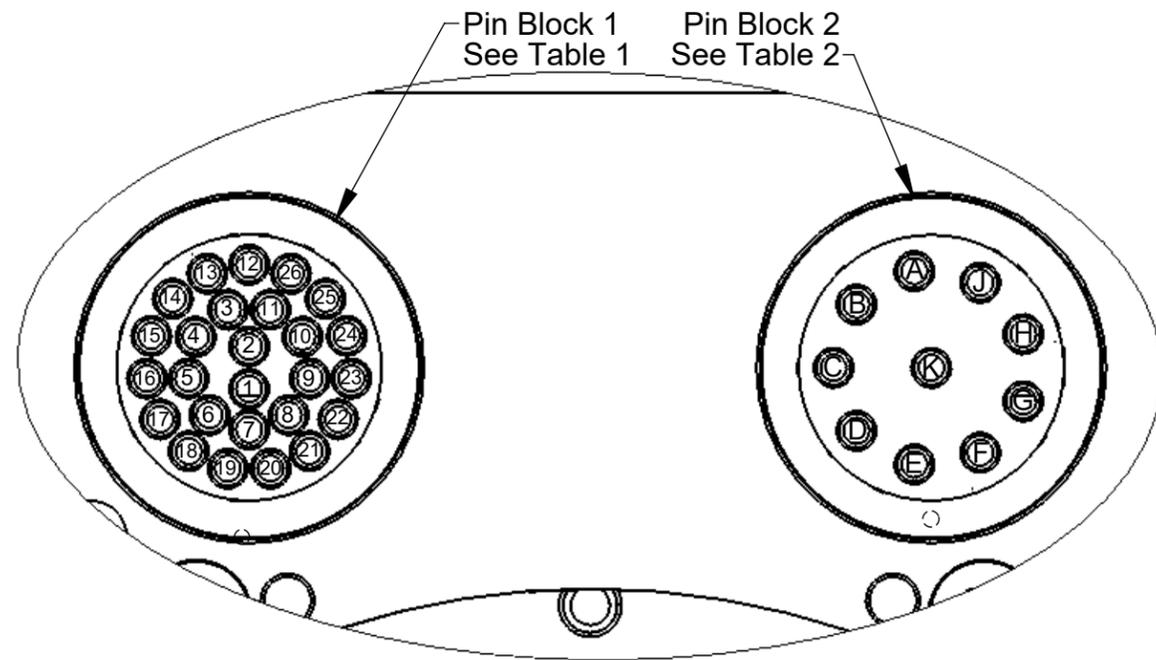
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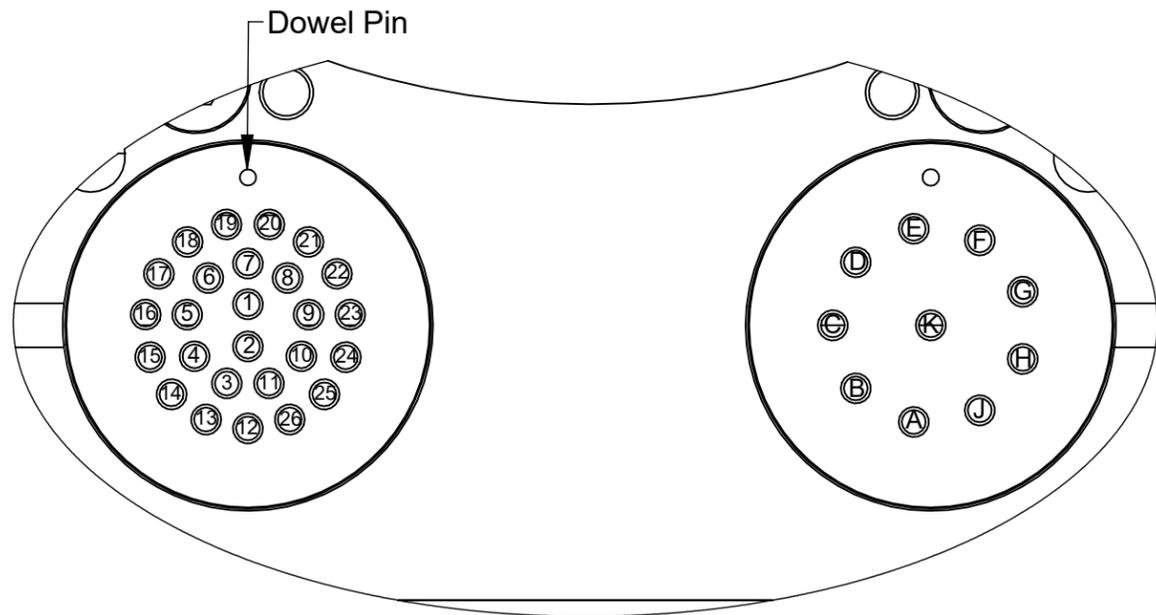
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CHECKED BY: A. Strotzer, 2/16/12		VB11-M VB13-T Customer Drawing	
PROJECT # 120215-1	SHEET 1 OF 4	SCALE 1:2	SIZE B
DRAWING NUMBER 9630-20-VB11M VB13T		REVISION 04	



Master Side Pin Blocks
DETAIL A
SCALE 1.5 : 1



Tool Side Pin Blocks
DETAIL B
SCALE 1.5 : 1

Table 1: 26-Pin Pin Block	
1	Spare 1
2	Spare 2
3	Spare 3
4	Spare 4
5	Spare 5
6	Spare 6
7	Spare 7
8	Spare 8
9	Spare 9
10	Spare 10
11	Spare 11
12	Spare 12
13	Spare 13
14	Spare 14
15	Spare 15
16	Spare 16
17	Spare 17
18	Spare 18
19	Tool ID1
20	Tool ID2
21	Tool ID4
22	Tool ID8
23	N/C
24	N/C
25	N/C
26	N/C

Table 2: 10-Pin Pin Block	
A	TSI Out
B	N/C
C	Tool ID1
D	Tool ID2
E	Tool ID4
F	Tool ID8
G	TSI In
H	24V
J	N/C
K	0V

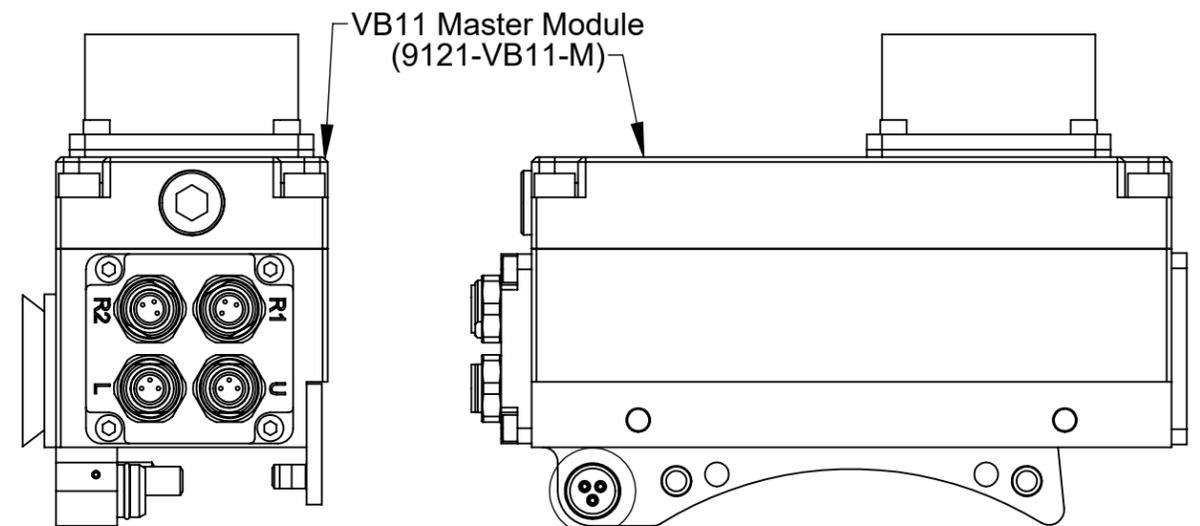


Table 3: Valve Signal Pin Block		
Pin 1	V+	Unlock Output
Pin 3	V-	Common
Pin 4	V+	Lock Output

NOTES: UNLESS OTHERWISE SPECIFIED.

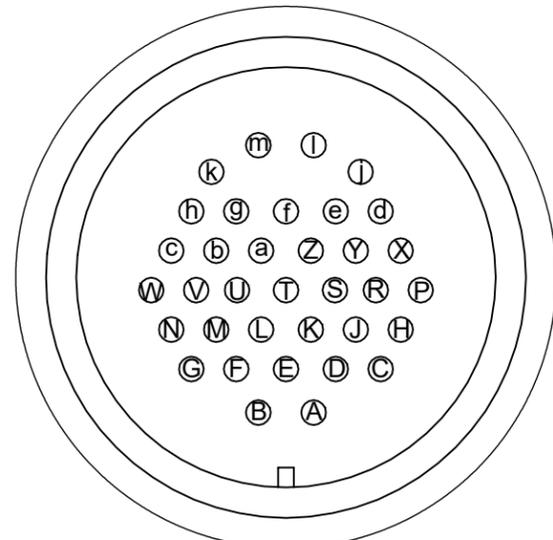
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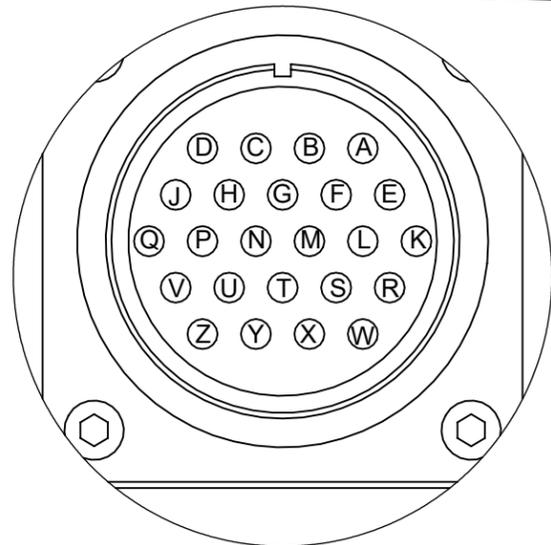
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PROJECT # 120215-1	SHEET 2 OF 4	SCALE 2:3	SIZE B
DRAWING NUMBER 9630-20-VB11M VB13T		REVISION 04	

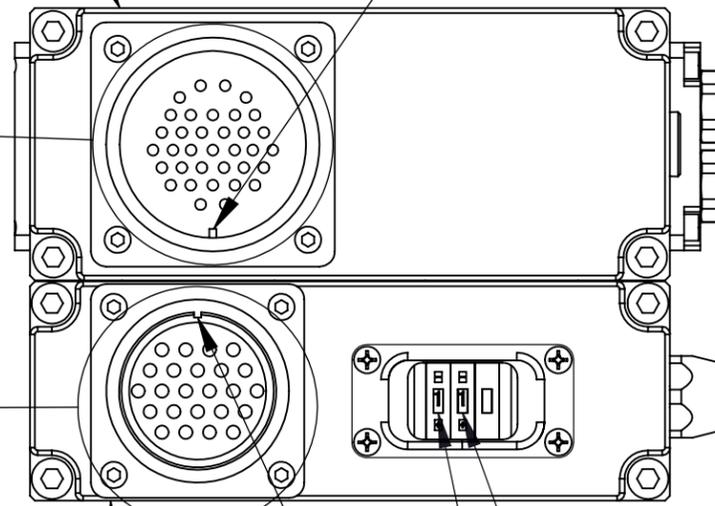


35-Pin Male Connector (Master)
DDK DMS 3102 A28-15P
Face View
Scale 3:2



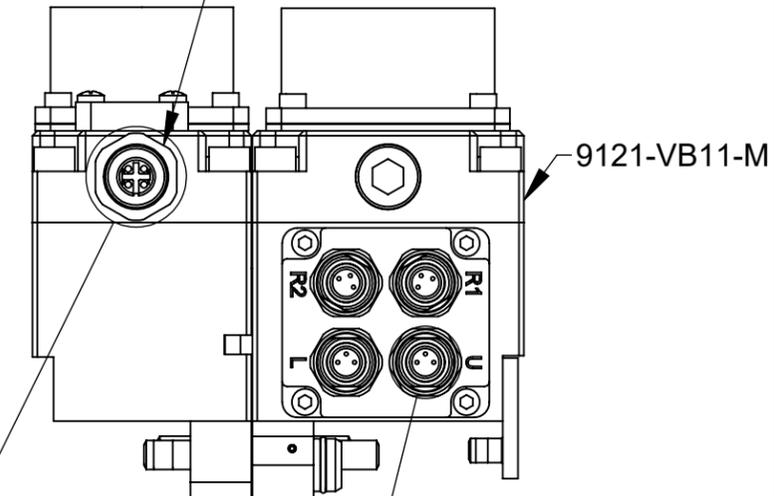
24-Pin Female Connector (Tool)
DDK DMS 3102 A24-28S
Face View
Scale 3:2

9121-VB11-M



Note connector orientation

TSI connector orientation not guaranteed



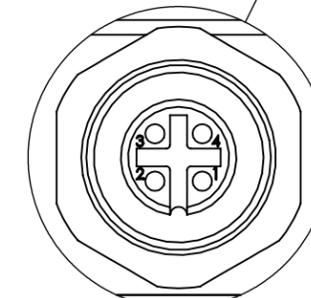
9121-VB11-M

9121-VB13-T

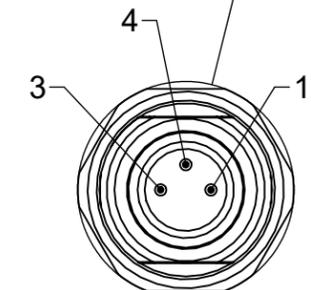
Switch 2 Switch 1

Note connector orientation

9121-VB13-T



TSI Connector
Turck M12, 4-Pin Female
FK4.4-0.5/18.25
Face View
Scale 2:1



Sensor Connectors
4X Turck MFKS 3
Face View
Scale 2:1

Table 4: 35-Pin DDK Connector

Pin	35-Pin Male Connector Master Side
A	Locked I/P
B	Unlocked I/P
C	RTL1 I/P
D	RTL2 I/P
E	RTL V I/P
F	Tool ID1
G	Tool ID2
H	Tool ID4
J	Tool ID8
K	Latch O/P
L	Unlatch O/P
M	Spare 1
N	Spare 2
P	Spare 3
R	Spare 4
S	Spare 5
T	Spare 6
U	Spare 7
V	Spare 8
W	Spare 9
X	Spare 10
Y	Spare 11
Z	Spare 12
a	Spare 13
b	Spare 14
c	Spare 15
d	Spare 16
e	Spare 17
f	Spare 18
g	Tool ID1
h	Tool ID2
j	Tool ID4
k	Tool ID8
l	24V
m	0V

Table 5: 24-Pin DDK Connector

Pin	24-Pin Female Connector
A	Spare 1
B	Spare 2
C	Spare 3
D	Spare 4
E	Spare 5
F	Spare 6
G	Spare 7
H	Spare 8
J	Spare 9
K	Spare 10
L	Spare 11
M	Spare 12
N	Spare 13
P	Spare 14
Q	Spare 15
R	Spare 16
S	Spare 17
T	Spare 18
U	N/C
V	N/C
W	N/C
X	N/C
Y	24V
Z	0V

Table 6: TSI Connector

1	N/C
2	TSI In
3	TSI Out
4	N/C

Table 7: Sensor Connectors

1	V+
3	V-
4	Output

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3rd ANGLE PROJECTION



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CHECKED BY: A. Strotzer, 2/16/12

TITLE

VB11-M VB13-T Customer Drawing

PROJECT # 120215-1 SHEET 3 OF 4

SCALE
2:3

SIZE
B

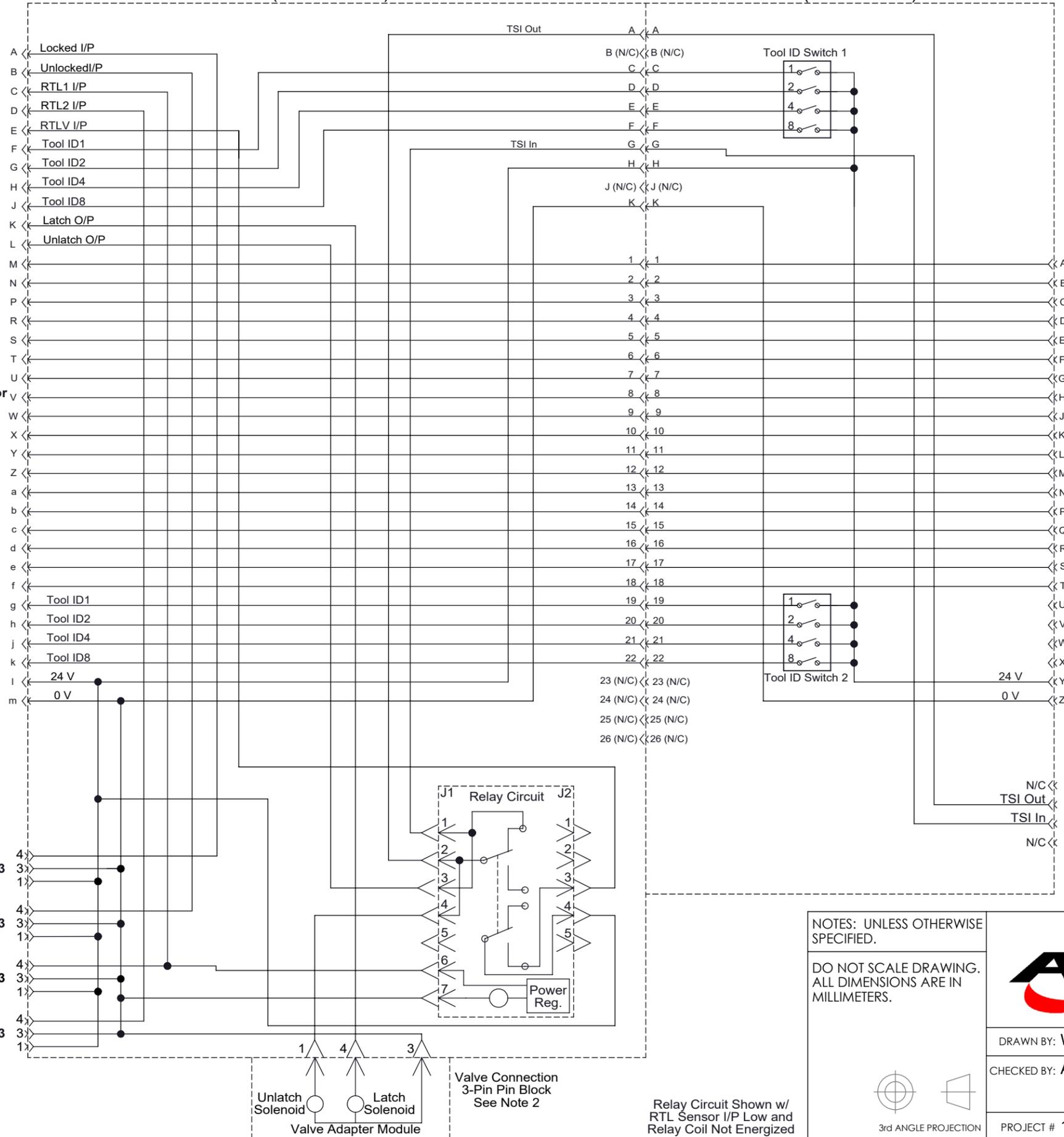
DRAWING NUMBER
9630-20-VB11M VB13T

REVISION
04

Control/Signal Module, Master
(9121-VB11-M)

Control/Signal Module, Tool
(9121-VB13-T)

ATI Pin Blocks



Notes:

1. The complete tool changer package comes equipped with external cables that are connected to the sensors.
2. An internal pin block is used to transmit the Latch/Unlatch signal to the valve adapter, as shown in the schematic.
3. The Tool Stand Interlock (TSI) circuit is provided to ONLY allow tool release while in the stand or storage location as indicated by actuation of a customer-integrated switch. It is suggested that the customer integrate a single pole, single throw (Normally Open, spring return) limit switch to work with this feature. The limit switch should be mounted to the end effector in such a way that the switch is "made" only when the tool is in the stand or storage location.
4. The RTL1 sensor is very important to the operation of the TSI feature and should be monitored for failure. The RTL V input is provided for fault monitoring of this circuit. Please consult the product manual for operation and fault monitoring recommendations.
5. The common for Tool ID is tied into the 24VDC line. The Tool ID switches are rated for service at 50V and 100mA max. Refer to Table 8 for the Tool ID output (Note: Use Pin 'I' of the 35-Pin Connector (Master Side) as common).
6. Tool-ID Switch is rated for 0.1A / 30VDC.

Table 8: Tool ID Binary Output

Switch Position	35-Pin Connector (Master)			
	Pin J	Pin H	Pin G	Pin F
	Pin k	Pin j	Pin h	Pin g
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1

DDK 35-Pin Male Connector

Amphenol 24-Pin Female Connector

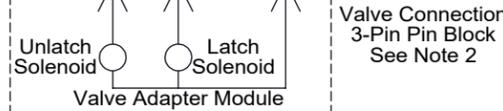
TSI Connector (See Note 5)
Turck FK4.4-0.5/18.25

"L" Turck MFKS-3 (Note 3)

"U" Turck MFKS-3 (Note 3)

"R1" Turck MFKS-3 (Note 3)

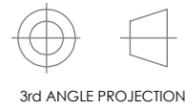
"R2" Turck MFKS-3 (Note 3)



Relay Circuit Shown w/ RTL Sensor I/P Low and Relay Coil Not Energized

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DRAWING NUMBER 9630-20-VB11M VB13T		REVISION 04	