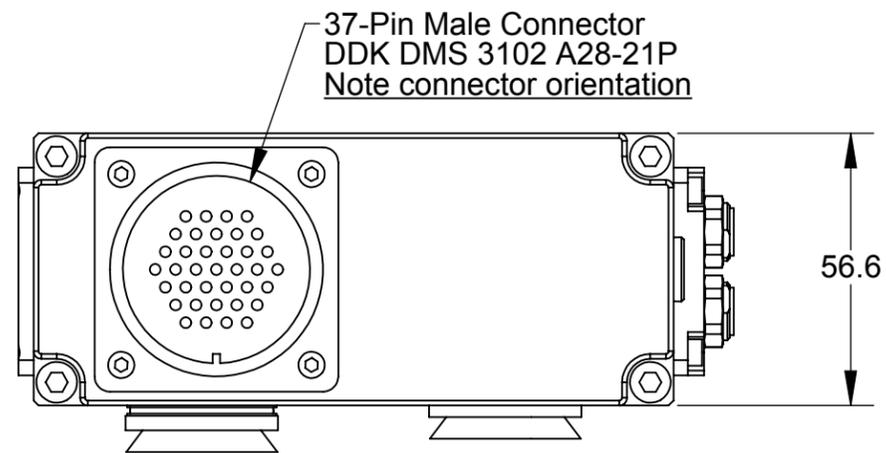
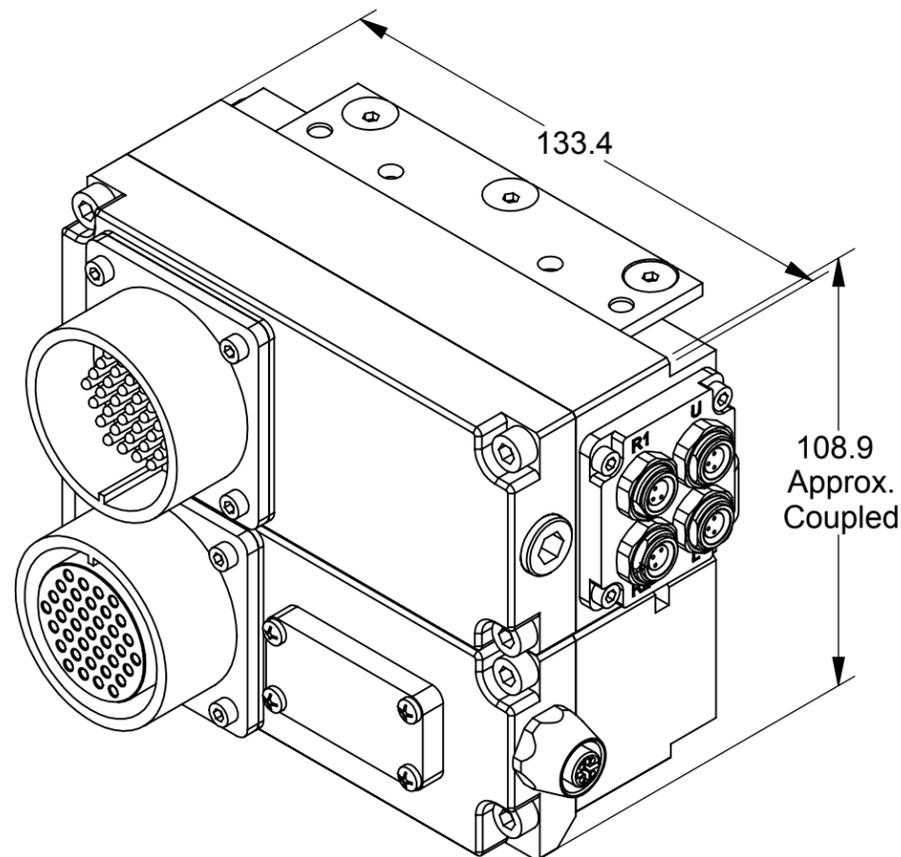


Rev.	Description	Initiator	Date
09	ECO 18205: Sheet 4: Added Note 8 "Tool-ID Switch is rated for 0.1A / 30VDC."	TBC	9/4/2019

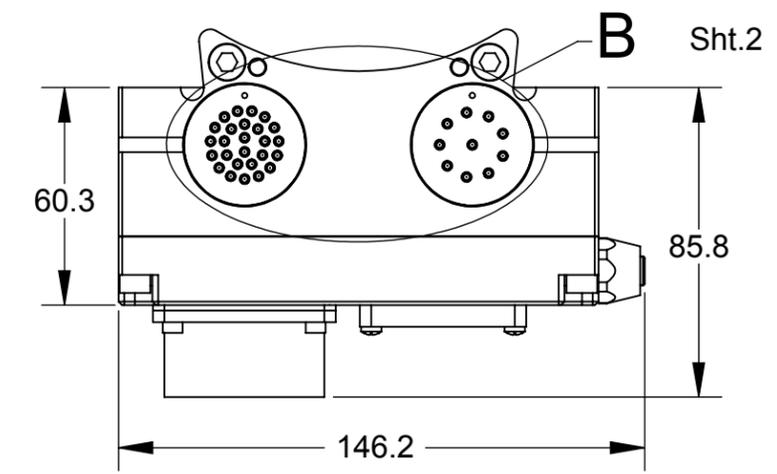


37-Pin Male Connector
DDK DMS 3102 A28-21P
Note connector orientation

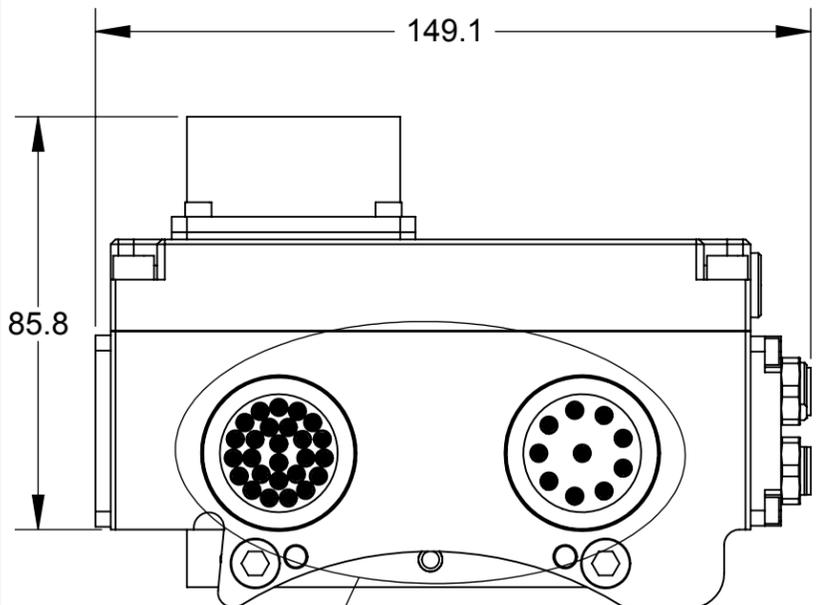
9121-VB8-M



VB8 Master and Tool Coupled

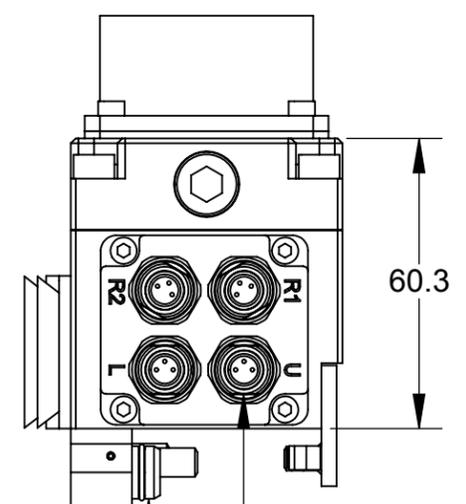


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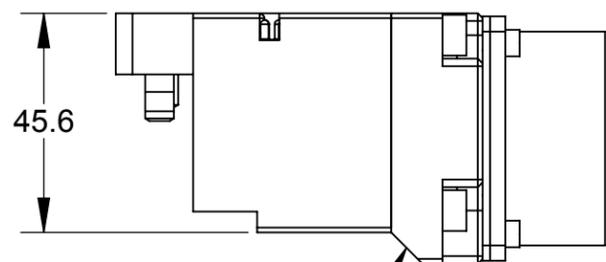


A Sht.2

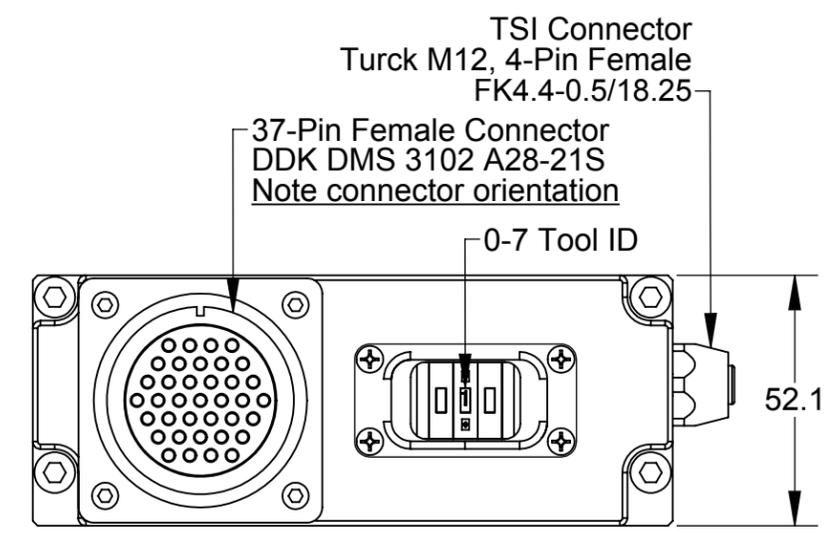
Valve Signal Pin Block
See Sheet 2 (Table 3)
for Details



RTL, Lock, and Unlock
Sensor Connectors
4X Turck MFKS 3



Note: The Tool Module Cover
extends below the mounting
surface of the Tool.



TSI Connector
Turck M12, 4-Pin Female
FK4.4-0.5/18.25

37-Pin Female Connector
DDK DMS 3102 A28-21S
Note connector orientation

0-7 Tool ID

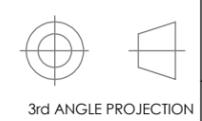
9121-VB8-T

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.

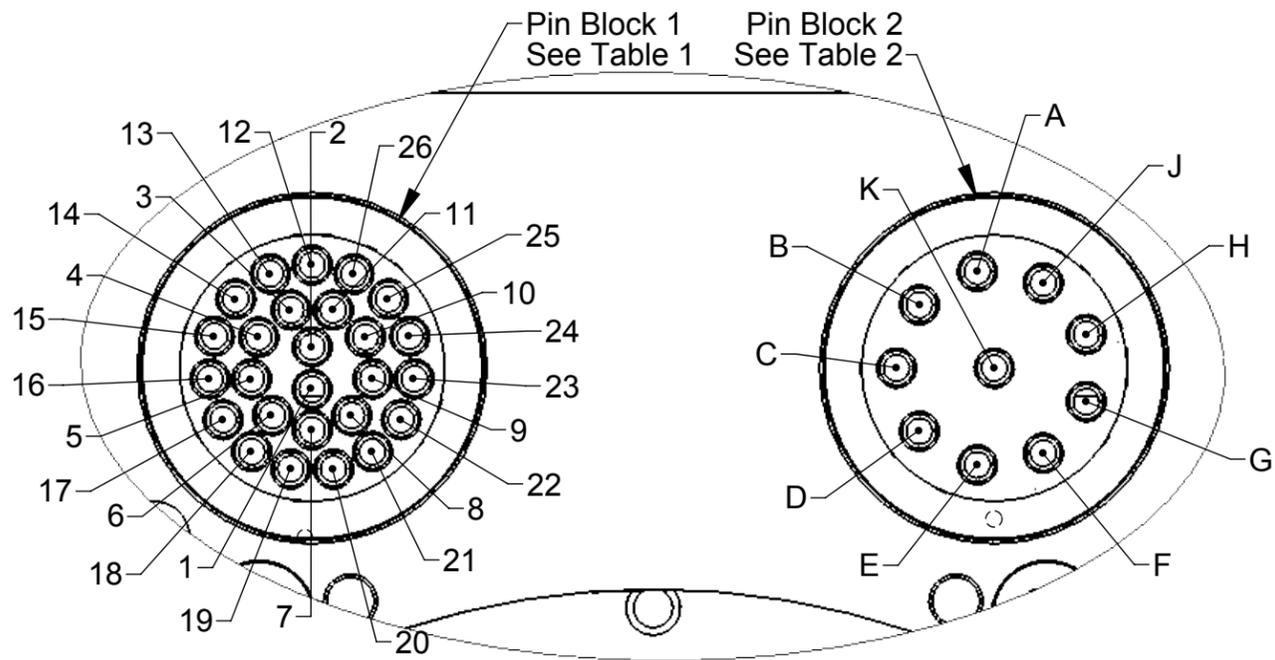
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CHECKED BY: D. Mushow, 10/02/09		VB8 Module Drawing	
PROJECT #	090901-3	SHEET	1 OF 4
SCALE	1:2	SIZE	B
DRAWING NUMBER	9630-20-VB8	REVISION	09



Master Side Pin Blocks
DETAIL A
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	Spare 19
20	Spare 20
21	Spare 21
22	Spare 22
23	Spare 23
24	Spare 24
25	Spare 25
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	TSI In
G	N/C
H	24V
J	N/C
K	0V

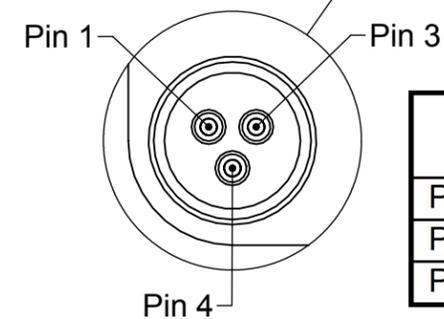
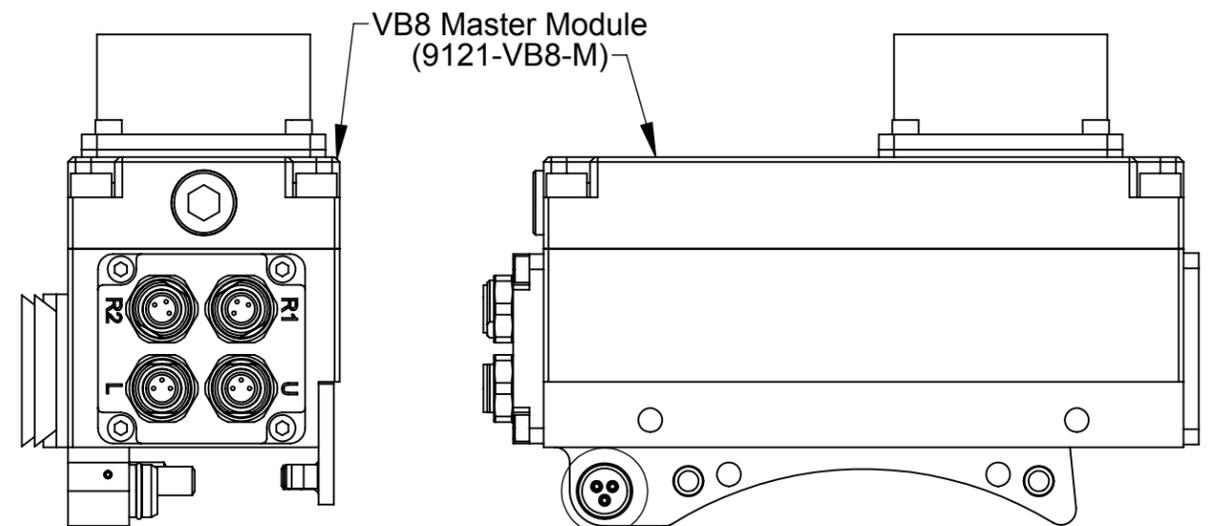
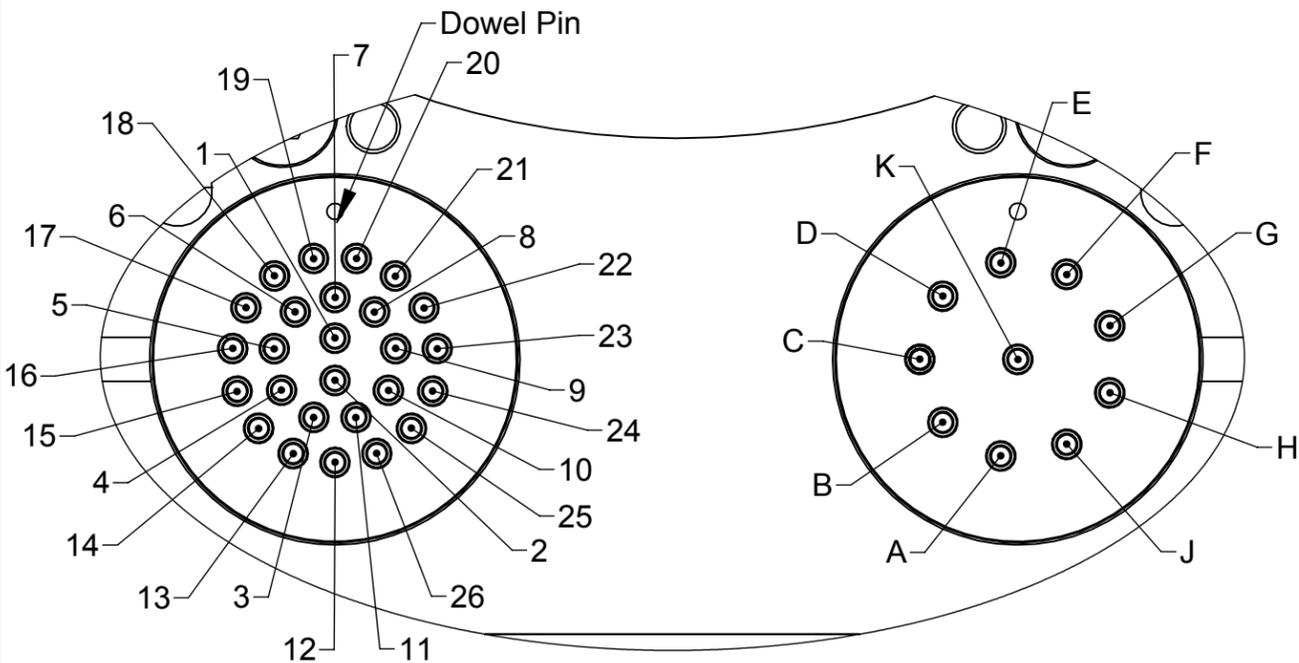


Table 3: Valve Signal Pin Block		
Pin 1	V+	Unlock Output
Pin 3	V-	Common
Pin 4	V+	Lock Output



Tool Side Pin Blocks
DETAIL B
SCALE 1.5 : 1

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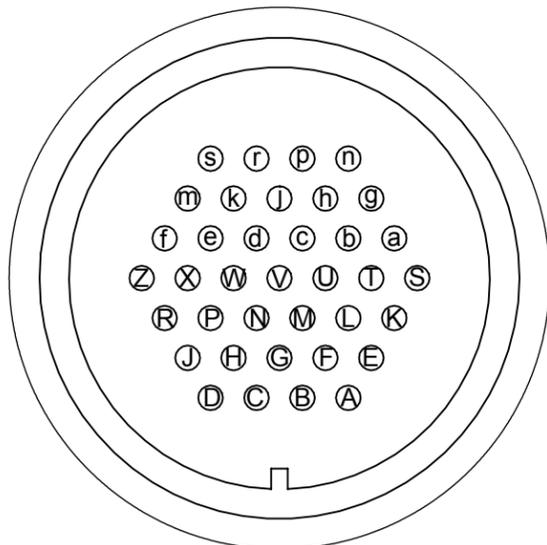
3rd ANGLE PROJECTION



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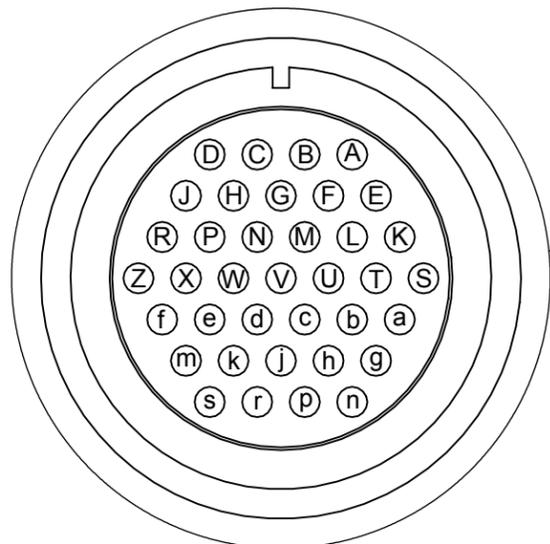
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PROJECT #	090901-3	SHEET	2 OF 4
SCALE	2:3	SIZE	B
DRAWING NUMBER	9630-20-VB8	REVISION	09

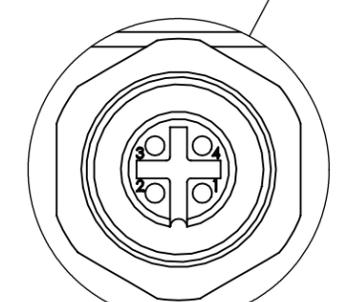
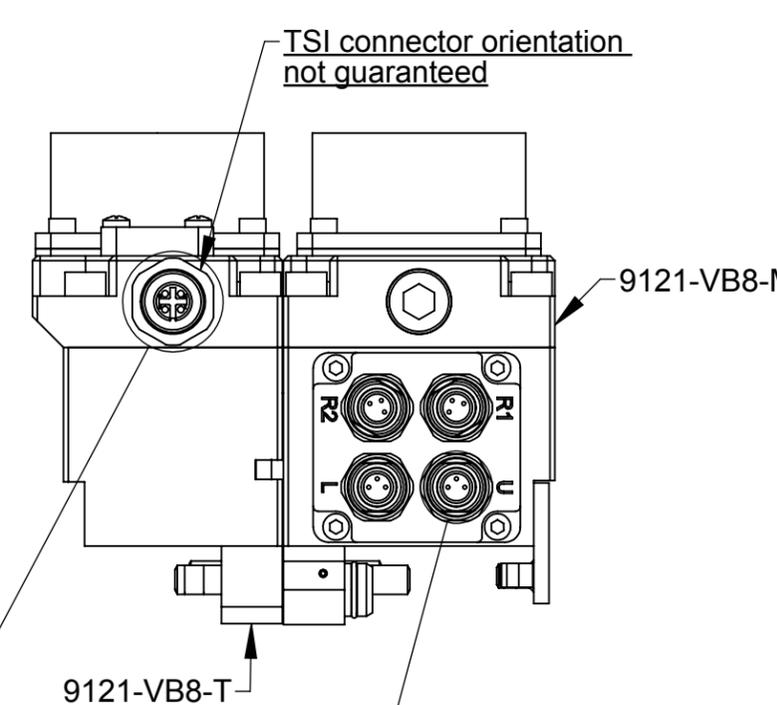
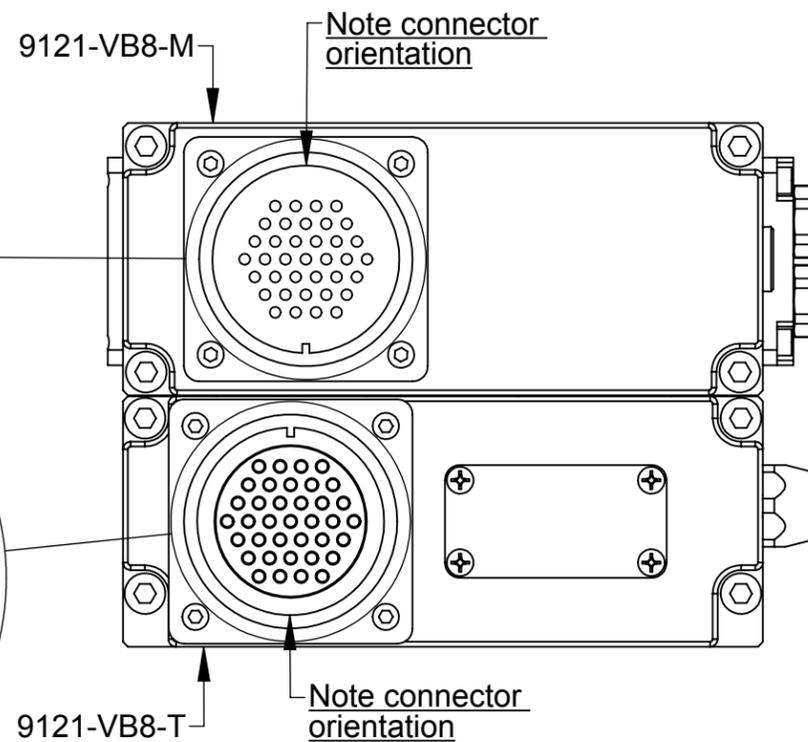


37-Pin Male Connector (Master)
DDK DMS 3102 A28-21P
Face View
Scale 3:2

Table 4: 37-Pin DDK Connectors		
Pin	37-Pin Male Connector Master Side	37-Pin Female Connector Tool Side
A	Locked I/P	N/C
B	Unlocked I/P	N/C
C	RTL1 I/P	N/C
D	RTL2 I/P	N/C
E	RTL V I/P	N/C
F	Tool ID1	N/C
G	Tool ID2	N/C
H	Tool ID4	N/C
J	Latch O/P	N/C
K	Unlatch O/P	N/C
L	Spare 1	Spare 1
M	Spare 2	Spare 2
N	Spare 3	Spare 3
P	Spare 4	Spare 4
R	Spare 5	Spare 5
S	Spare 6	Spare 6
T	Spare 7	Spare 7
U	Spare 8	Spare 8
V	Spare 9	Spare 9
W	Spare 10	Spare 10
X	Spare 11	Spare 11
Z	Spare 12	Spare 12
a	Spare 13	Spare 13
b	Spare 14	Spare 14
c	Spare 15	Spare 15
d	Spare 16	Spare 16
e	Spare 17	Spare 17
f	Spare 18	Spare 18
g	Spare 19	Spare 19
h	Spare 20	Spare 20
j	Spare 21	Spare 21
k	Spare 22	Spare 22
m	Spare 23	Spare 23
n	24V	24V
p	0V	0V
r	Spare 24	Spare 24
s	Spare 25	Spare 25

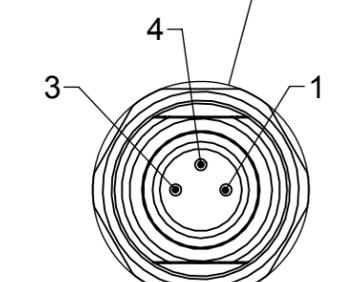


37-Pin Female Connector (Tool)
DDK DMS 3102 A28-21S
Face View
Scale 3:2



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

Table 5: TSI Connector	
1	N/C
2	TSI In
3	TSI Out
4	N/C

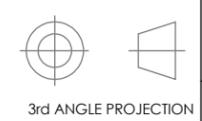


Sensor Connectors
4X Turck MFKS 3
Face View
Scale 2:1

Table 6: Sensor Connectors	
1	V+
3	V-
4	Output

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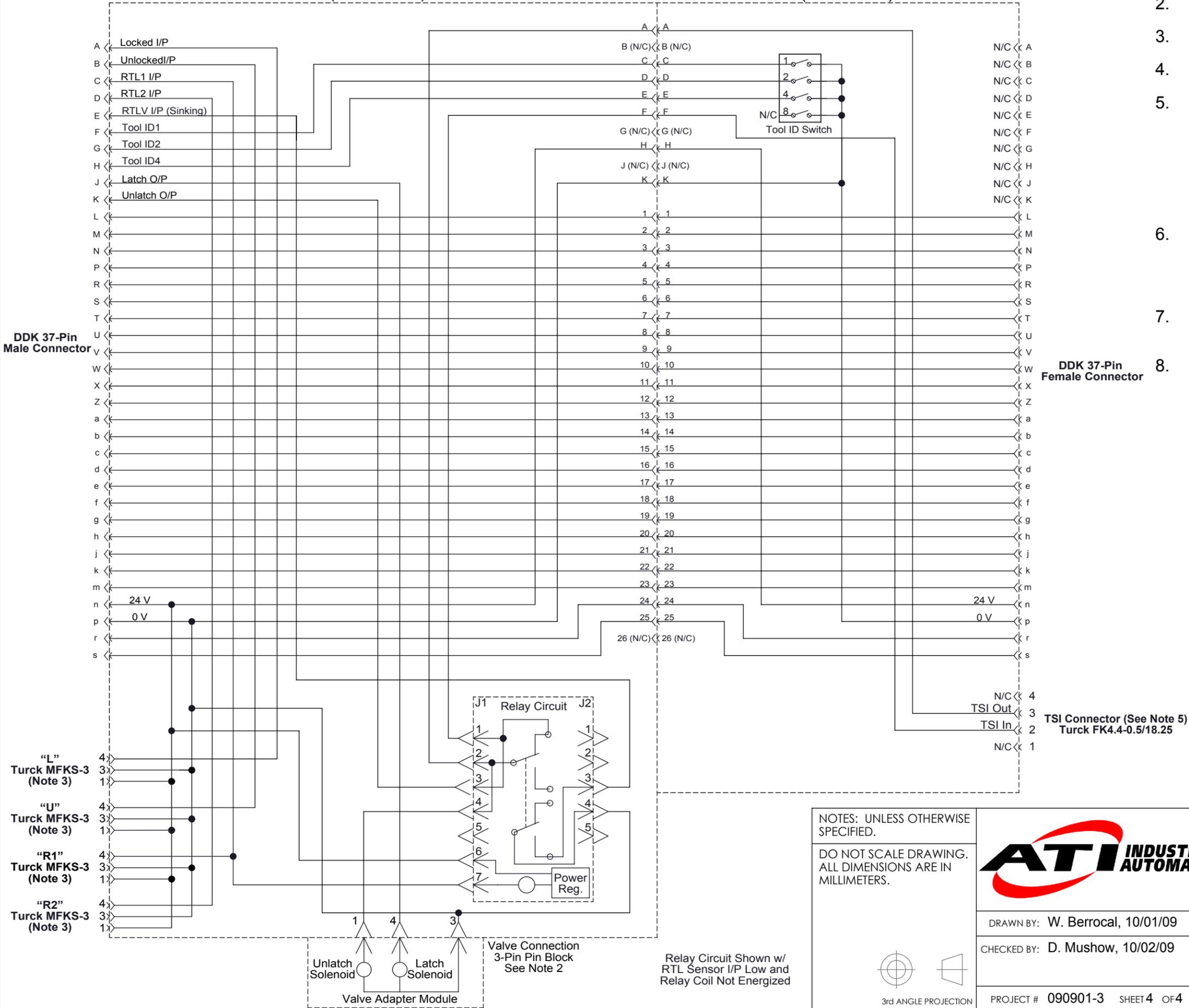
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PROJECT #	090901-3	SHEET	3 OF 4
SCALE	2:3	SIZE	B
DRAWING NUMBER	9630-20-VB8	REVISION	09

Control/Signal Module, Master
(9121-VB8-M)

Control/Signal Module, Tool
(9121-VB8-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. Note that the the VB8 module is designed to operate ONLY with NPN sensors.
4. The Latch and Unlatch command signals must be sourcing NOT sinking.
5. 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.
6. The RTL1 sensor is very important to the operation of the TSI feature and should be monitored for failure. The RTLV input is provided for fault monitoring of this circuit. Please consult the product manual for operation and fault monitoring recommendations.
7. Positions 8 and 9 on the Tool ID switch are NOT unique Tool ID's. Refer to Table 7 for the Tool ID output (Note: Use Pin 'p' of the 37-Pin Connector (Master Side) as common).
8. Tool-ID Switch is rated for 0.1A / 30VDC.

Table 7: Tool ID Output

Switch Position	37-Pin Connector (Master)		
	Pin H	Pin G	Pin F
0	0	0	0
1	0	0	1
2	0	1	0
3	0	1	1
4	1	0	0
5	1	0	1
6	1	1	0
7	1	1	1
8	UNUSED (See Note 7)		
9	UNUSED (See Note 7)		

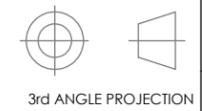
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PROJECT #	090901-3	SHEET	4 OF 4
SCALE	1:1	SIZE	B
DRAWING NUMBER	9630-20-VB8		REVISION
			09



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

Valve Connection 3-Pin Pin Block See Note 2

