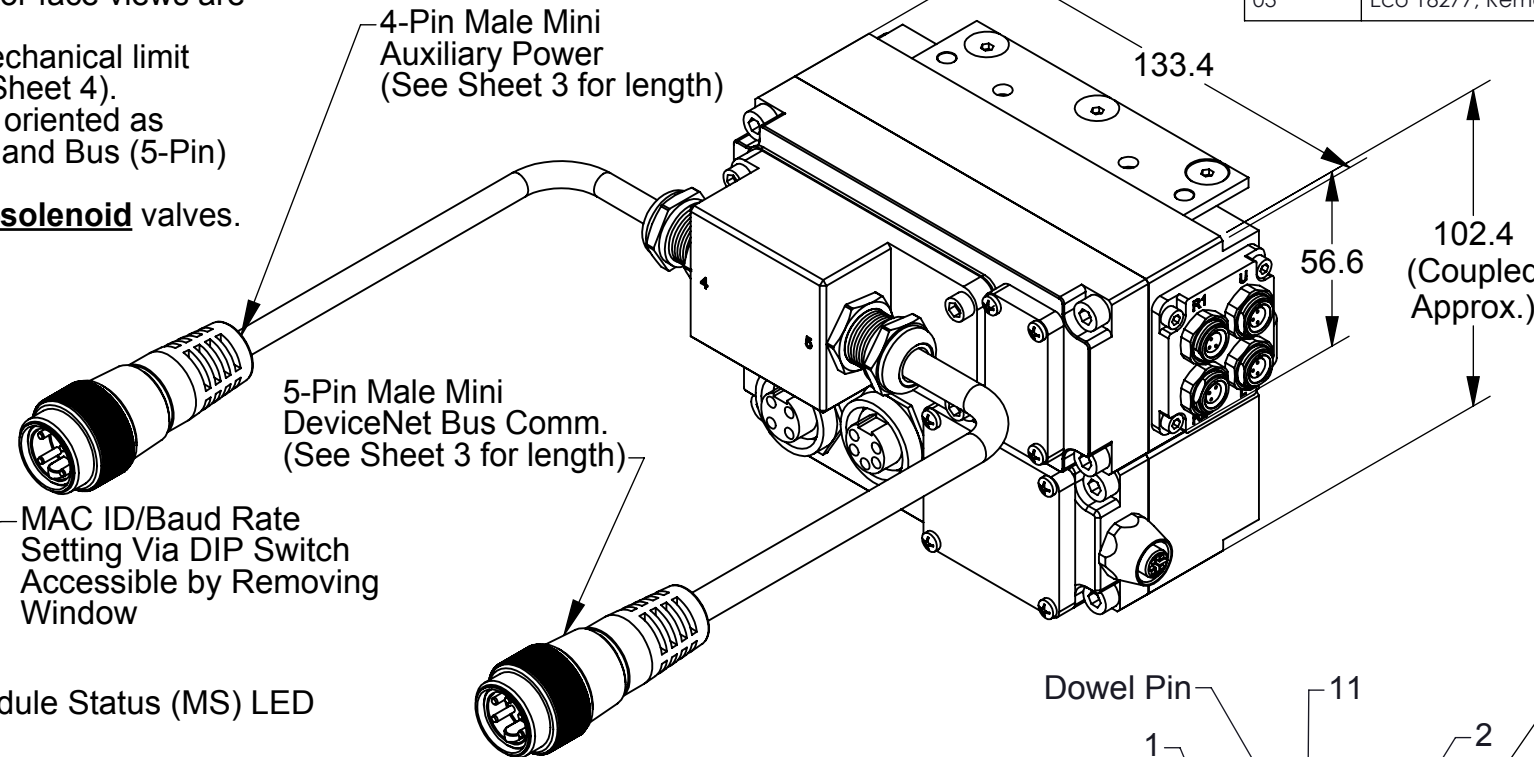
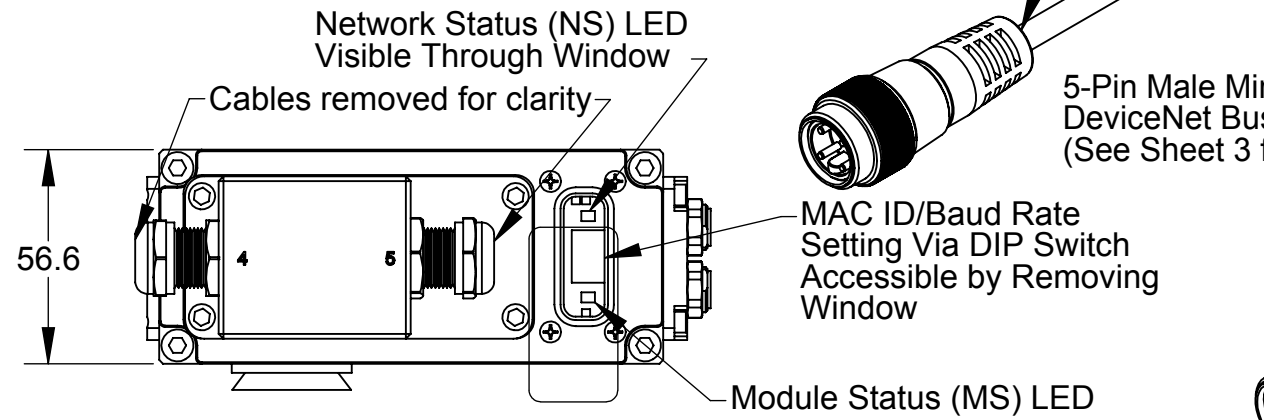


REV.	DESCRIPTION	INITIATOR	DATE
03	Eco 18277; Removed 9005-20-1199 Tool Side Cleat Assembly.	CF	8/30/2019

Notes:

1. The modules are shown at sheet scale. All connector face views are shown at a 1:1 scale, except as noted.
2. The 9121-DB13-T module supports the use of a mechanical limit switch for integration with the TSI feature (refer to Sheet 4).
3. Aux Power (4-Pin) and Bus (5-Pin) Connectors are oriented as shown on the Tool Module. The Aux Power (4-Pin) and Bus (5-Pin) is provided on the Master module via the pigtailed.
4. The DB12Z1 Master module supports only **double-solenoid** valves.

**DB12Z1 Master Module
9121-DB12Z1-M**



**DB10 Tool Module
9121-DB13-T**

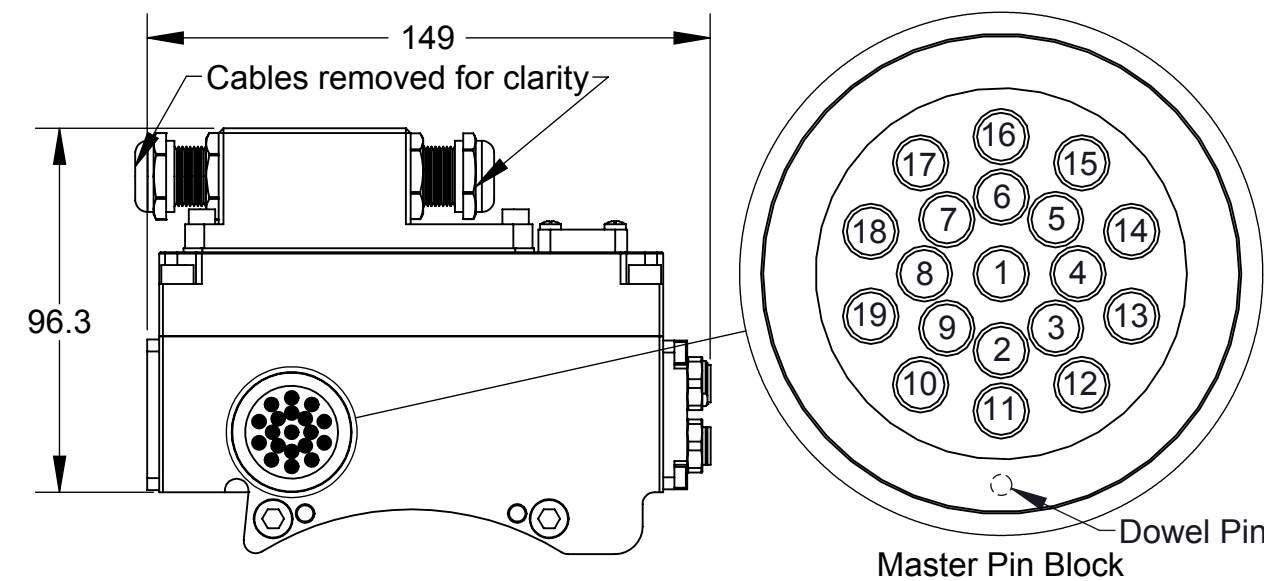
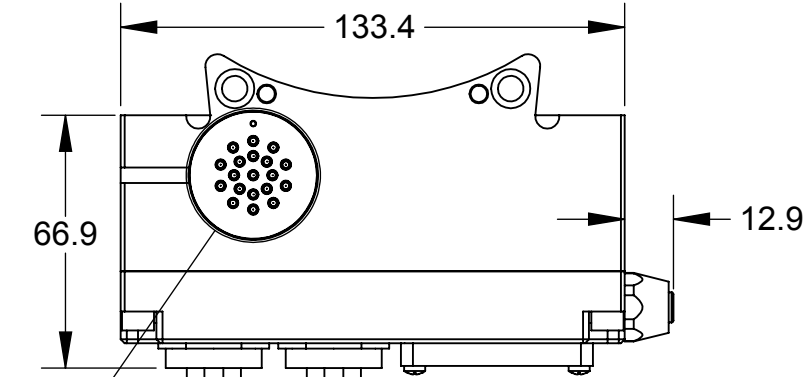


Table 3: Pin Designations

Pin	Description
1	Arc Switch Enable
2	TSIV
3	N/C
4	Drain
5	N/C
6	TSRV
7	CAN_H
8	AUX1 V-
9	CAN_L
10	AUX2 V-
11	N/C
12	CAN V+
13	CAN V+ (TSI)
14	AUX2 V+
15	AUX1 V+
16	N/C
17	TSI In
18	CAN V-
19	TSI Out

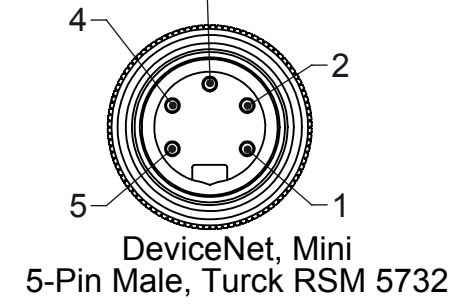
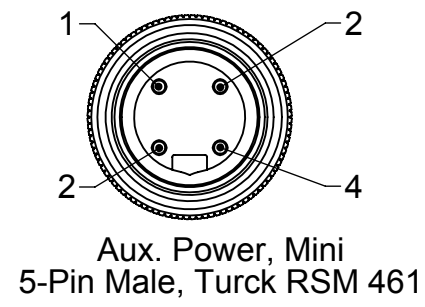
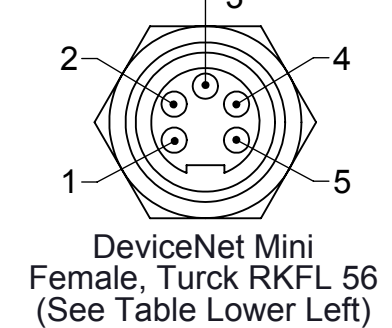
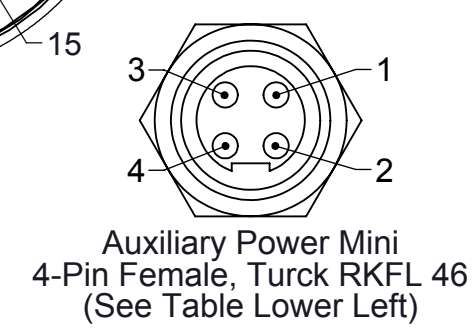
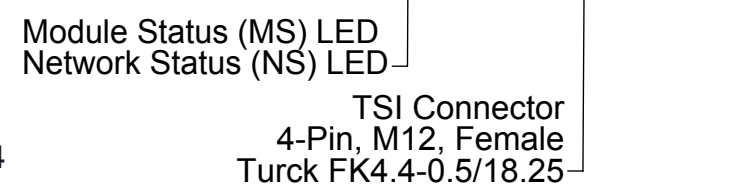
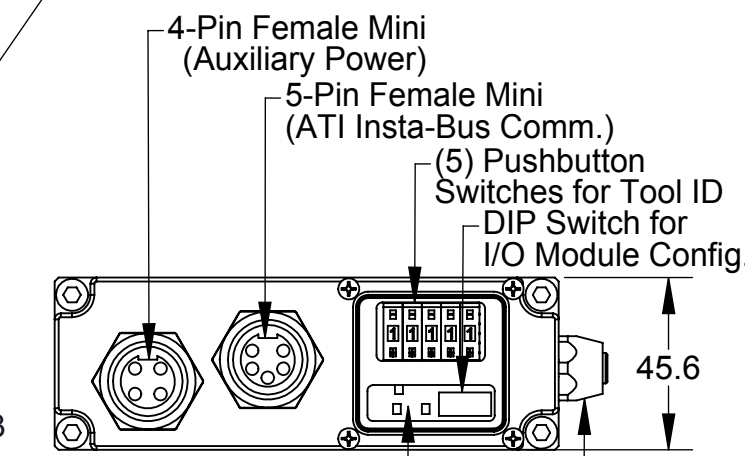
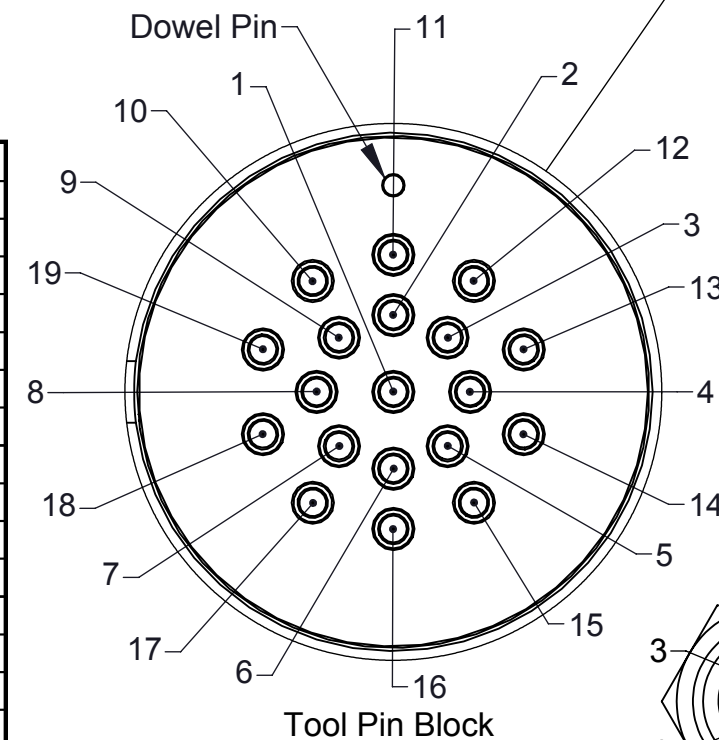


Table 1: Auxiliary Power Connector

1	Aux 1 V+
2	Aux 2 V+
3	Aux 2 V-
4	Aux 1 V-

Table 2: DeviceNet Connector

1	Drain
2	CAN V+
3	CAN V-
4	CAN_H
5	CAN_L

NOTES: UNLESS OTHERWISE SPECIFIED.

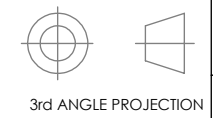
DO NOT SCALE DRAWING. ALL DIMENSIONS ARE IN MILLIMETERS.



1031 Goodworth Drive, Apex, NC 27539, USA
Tel: +1.919.772.0115 Email: info@ati-ia.com
Fax: +1.919.772.8259 www.ati-ia.com
ISO 9001 Registered Company

PROPERTY OF ATI INDUSTRIAL AUTOMATION, INC. NOT TO BE REPRODUCED IN ANY MANNER EXCEPT ON ORDER OR WITH PRIOR WRITTEN AUTHORIZATION OF ATI.

DRAWN BY: M. Hallmark, 4/3/14		TITLE	
CHECKED BY: A.Takla, 4/9/14 L. Jamishidi, 4/17/14		DB12Z1-M, DB13-T DeviceNet Module Drawing	
PROJECT # 140403-1	SHEET 1 OF 4	SCALE 1:2	SIZE B
DRAWING NUMBER 9630-20-DB12Z1M DB13T		REVISION 03	



DB12Z1-M/DB13-T Serviceable Parts

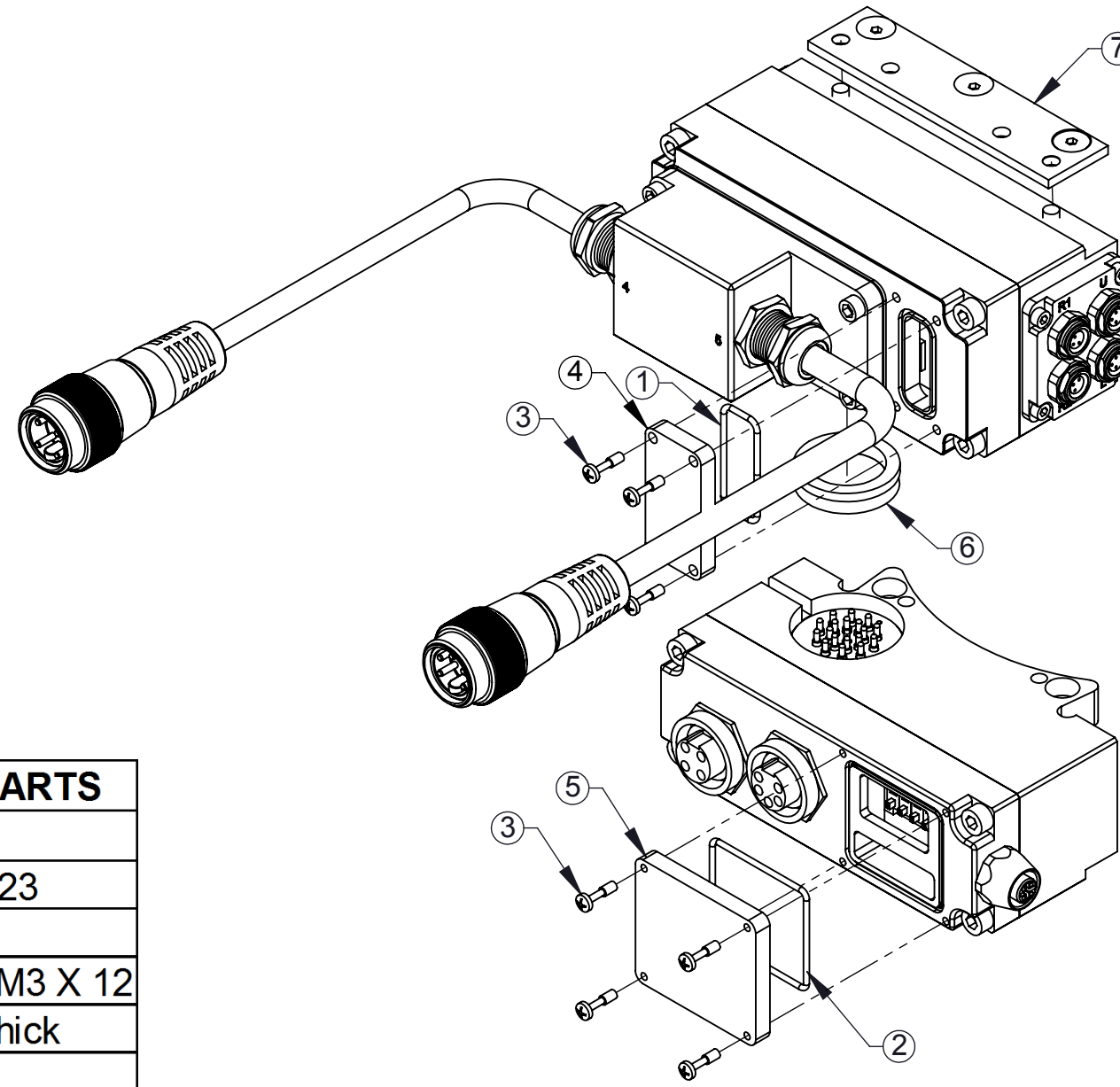
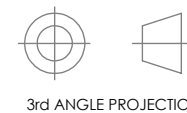


Table 4: 9121-DB12Z1-M, 9121-DB13-T SERVICEABLE PARTS			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	3410-0001092-01	O-ring, Buna N 70D, AS568-023
2	1	3410-0001021-01	O-Ring AS568-031
3	8	3500-9957012-21	Pan Head M3 Captive Screw M3 X 12
4	1	3700-20-2696	Device Net Master Window, Thick
5	1	3700-20-3058	Insta-Tool Window
6	1	4010-0000030-01	V-Ring Seal V-22A Nitrile
7	1	9005-20-1198	Master Cleat Sub-Assembly

NOTES: UNLESS OTHERWISE SPECIFIED.

DO NOT SCALE DRAWING. ALL DIMENSIONS ARE IN INCHES.



3rd ANGLE PROJECTION



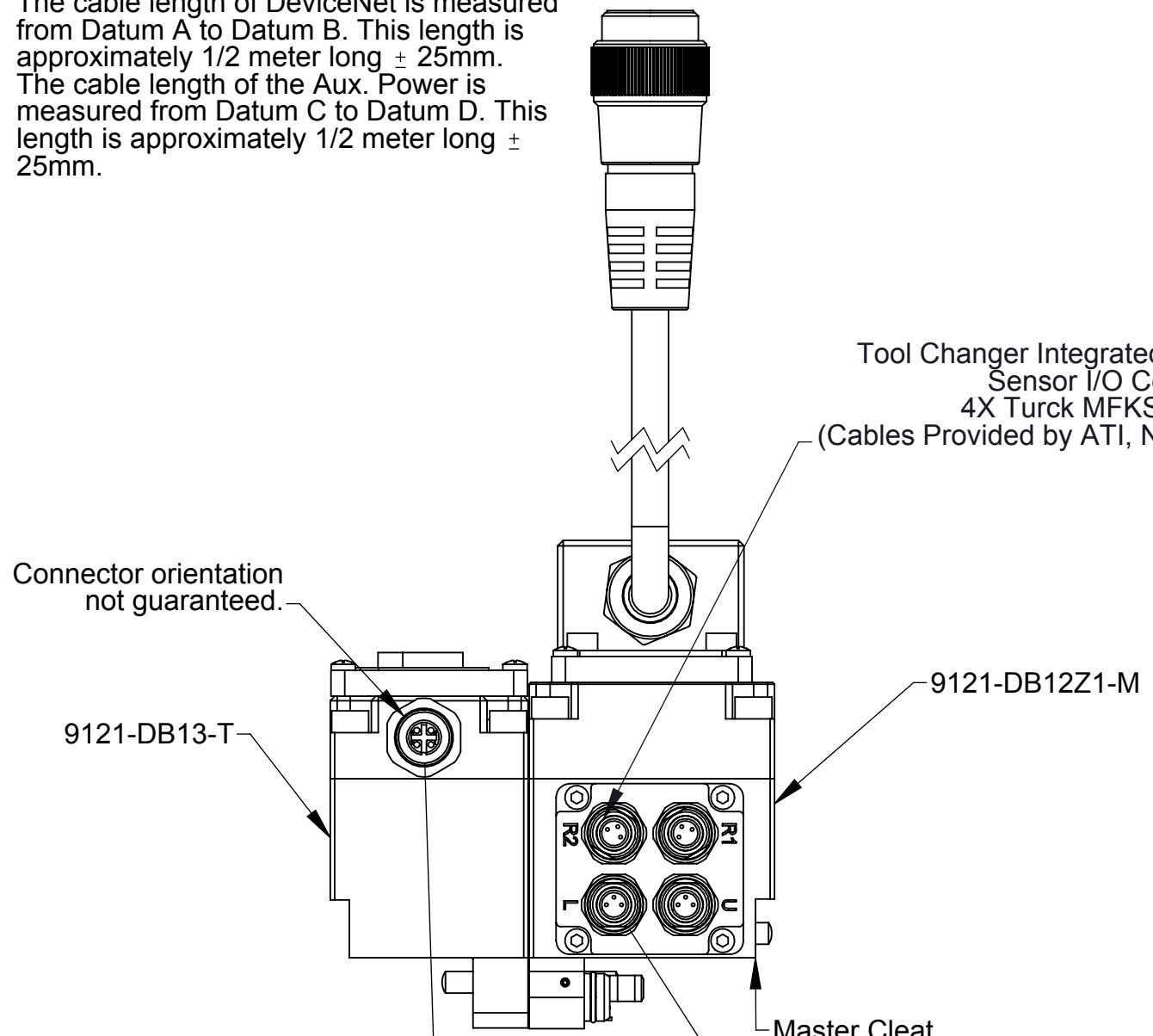
1031 Goodworth Drive, Apex, NC 27539, USA
 Tel: +1.919.772.0115 Email: info@ati-ia.com
 Fax: +1.919.772.8259 www.ati-ia.com
 ISO 9001 Registered Company

PROPERTY OF ATI INDUSTRIAL AUTOMATION, INC. NOT TO BE REPRODUCED IN ANY MANNER EXCEPT ON ORDER OR WITH PRIOR WRITTEN AUTHORIZATION OF ATI.

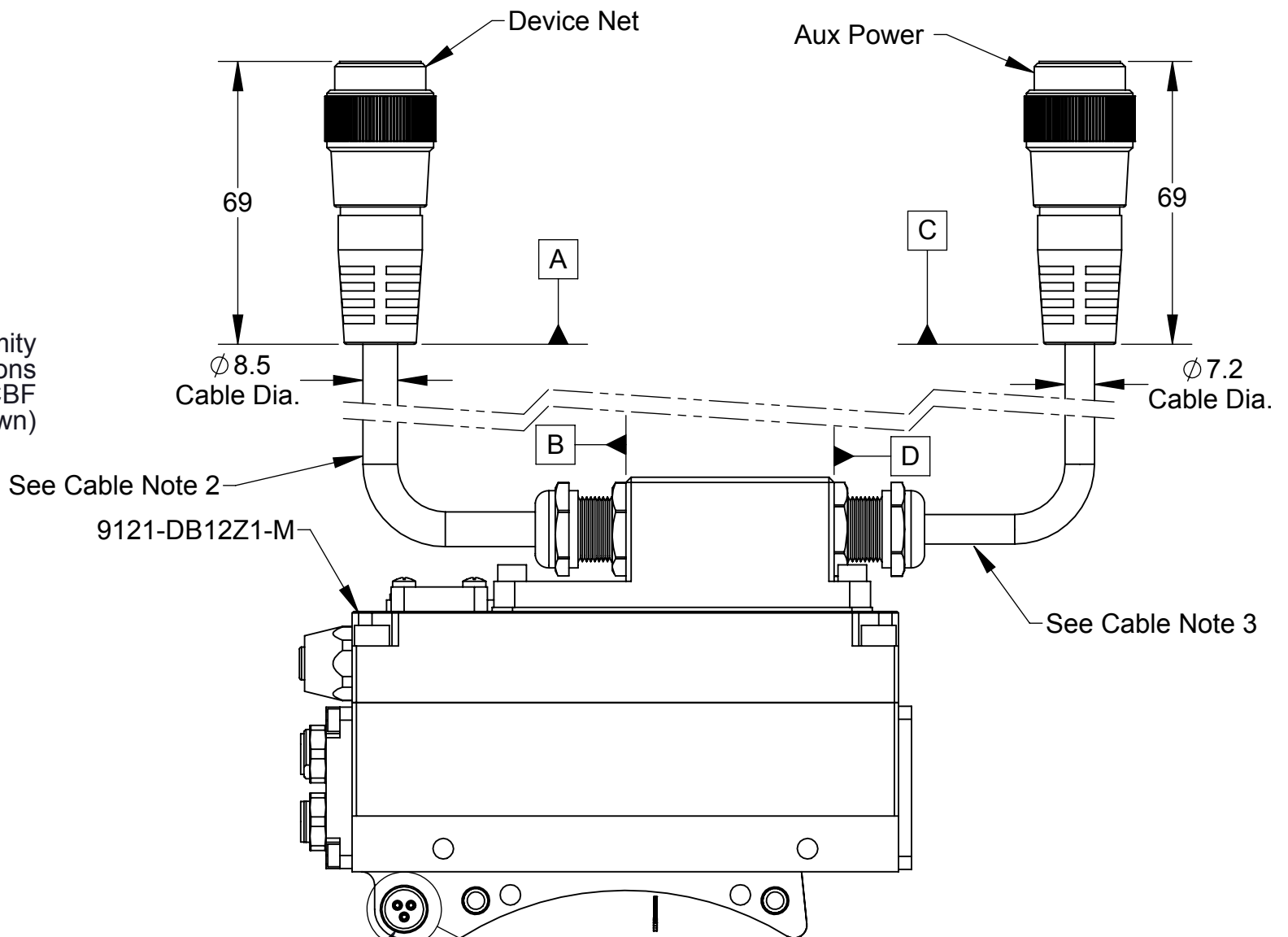
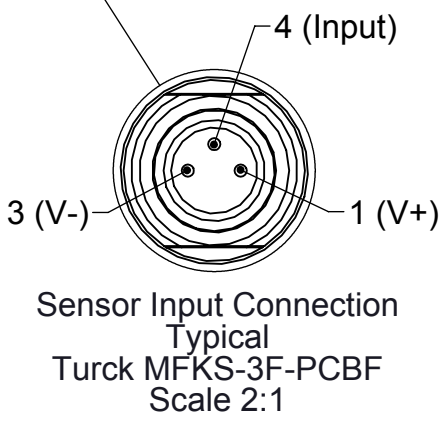
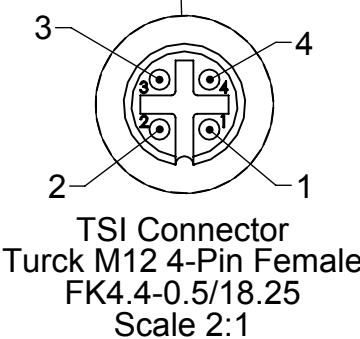
DRAWN BY: M. Hallmark, 4/3/14		TITLE		
CHECKED BY: A.Takla, 4/9/14 L. Jamishidi, 4/17/14		DB12Z1-M, DB13-T DeviceNet Module Drawing		
PROJECT #	140403-1	SHEET	2	OF 4
SCALE	1:2	SIZE	B	DRAWING NUMBER
				9630-20-DB12Z1M DB13T
				REVISION
				03

Cable Notes:

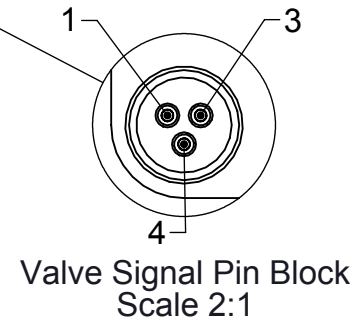
1. All cable lengths are governed by IPC/WHMA-A-620.
2. The cable length of DeviceNet is measured from Datum A to Datum B. This length is approximately 1/2 meter long ± 25mm.
3. The cable length of the Aux. Power is measured from Datum C to Datum D. This length is approximately 1/2 meter long ± 25mm.



1	CAN V+
2	CAN V+
3	TSI Relay Control
4	TSIV Input



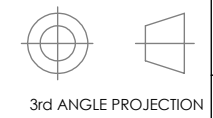
Integrated Tool Changer Valve Connection (Interfaces with Valve Adapter Module, Not Shown)



1	V+ (Unlatch)
3	V- (Common)
4	V+ (Latch)

NOTES: UNLESS OTHERWISE SPECIFIED.

DO NOT SCALE DRAWING. ALL DIMENSIONS ARE IN MILLIMETERS.



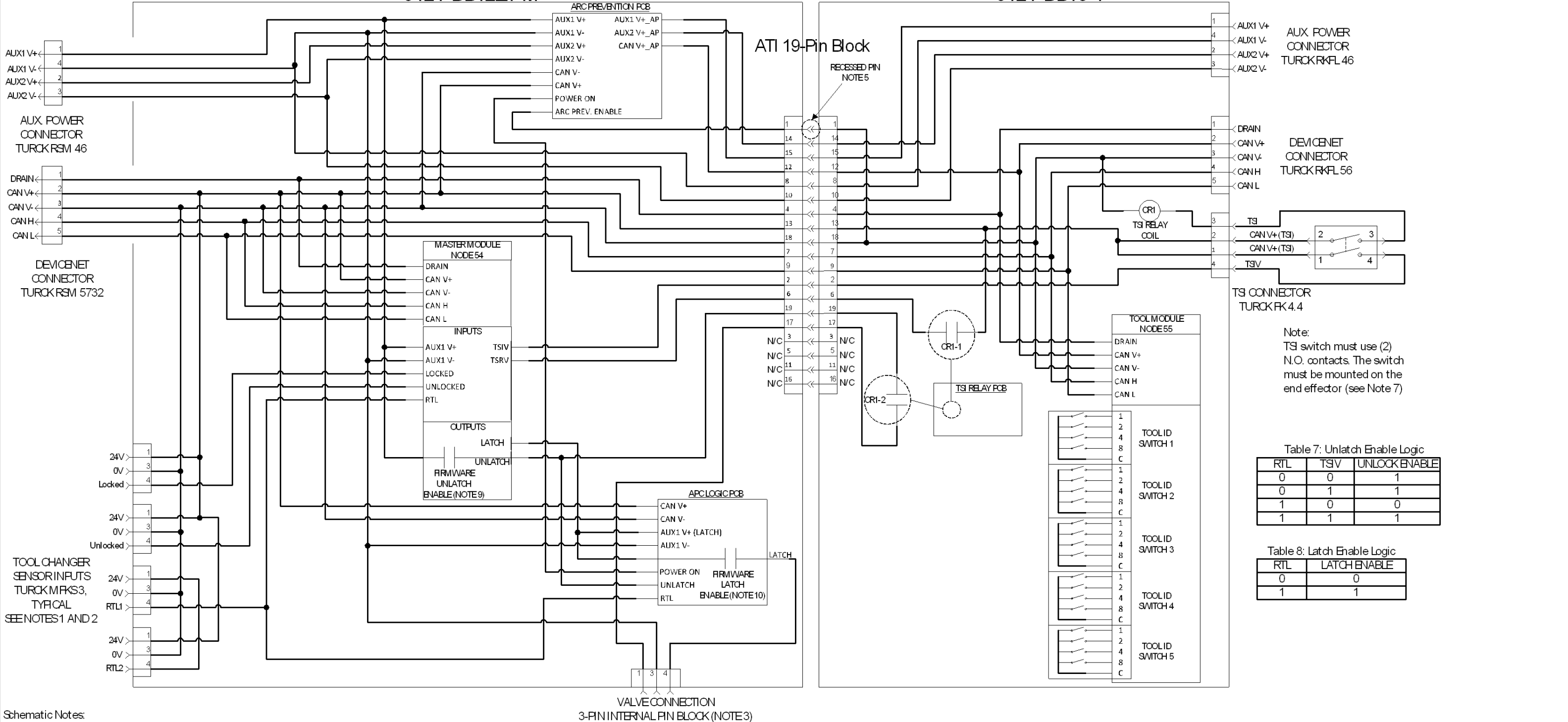
1031 Goodworth Drive, Apex, NC 27539, USA
 Tel: +1.919.772.0115 Email: info@ati-ia.com
 Fax: +1.919.772.8259 www.ati-ia.com
 ISO 9001 Registered Company

PROPERTY OF ATI INDUSTRIAL AUTOMATION, INC. NOT TO BE REPRODUCED IN ANY MANNER EXCEPT ON ORDER OR WITH PRIOR WRITTEN AUTHORIZATION OF ATI.

DRAWN BY: M. Hallmark, 4/3/14		TITLE	
CHECKED BY: A.Takla, 4/9/14 L. Jamishidi, 4/17/14		DB12Z1-M, DB13-T DeviceNet Module Drawing	
PROJECT # 140403-1	SHEET 3 OF 4	SCALE 1:2	SIZE B
DRAWING NUMBER 9630-20-DB12Z1M DB13T		REVISION 03	

9121-DB12Z1-M

9121-DB13-T



- Schematic Notes:**
- The sensors are powered by DeviceNet power (CAN V+). Sensors R1 and R2 are wired in series.
 - The complete tool changer package comes equipped with external cables that are connected to the sensors. Cables for DeviceNet and Auxiliary Power are supplied by the user.
 - An internal pin block is used to transmit the Latch/Unlatch signal to the valve adapter.
 - The Tool ID I/O is reported in the DB13 Tool Bitmap. Refer to the product manual for more information.
 - The Arc Prevention Circuit turns off CAN V+, AUX1 V+, and AUX2 V+ during coupling and uncoupling of the Tool Changer. The switching function is controlled by the Latch/Unlatch commands and Arc Switch Enable signal. The Arc Switch Enable is transmitted via a recessed pin in the Tool side Pin Block. This ensures that all of the spring probes and contact pins are touching when power is turned on.
 - The DB13-T is equipped with a Tool Stand Interlock (TSI) connector that is wired directly into the unlock solenoid valve circuit. Using this connector, a switch can be integrated that will allow the solenoid valve to uncouple the Tool Changer only when the Tool is in the Tool Stand. Note: ONLY double-solenoid valves are supported.
 - The limit switch connected to the TSI connector must have two sets of N.O. contacts (double-pole, single-throw). A limit switch is available from ATI (FN 9005-20-1165) but is not included with the DB13-T module. Contact ATI for specific switch requirements.
 - TSI related diagnostic bits are not shown on this schematic but are reported in the DB12Z1 Master Bitmap. Refer to the product manual for details.
 - Unlatch enable is a virtual bit used to determine under what conditions the module disables the Unlatch command to prevent an unwanted tool release. The internal logic is listed in Table 7.
 - Latch enable is a virtual bit used to determine under what conditions the module disables the Latch command. Latch Enable prevents the Tool Changer from locking when there is no Tool attached. The internal logic is listed in Table 8.

Note:
TSI switch must use (2) N.O. contacts. The switch must be mounted on the end effector (see Note 7)

Table 7: Unlatch Enable Logic

RTL	TSV	UNLOCK ENABLE
0	0	1
0	1	1
1	0	0
1	1	1

Table 8: Latch Enable Logic

RTL	LATCH ENABLE
0	0
1	1

NOTES: UNLESS OTHERWISE SPECIFIED.

DO NOT SCALE DRAWING. ALL DIMENSIONS ARE IN MILLIMETERS.



1031 Goodworth Drive, Apex, NC 27539, USA
 Tel: +1.919.772.0115 Email: info@ati-ia.com
 Fax: +1.919.772.8259 www.ati-ia.com
 ISO 9001 Registered Company

PROPERTY OF ATI INDUSTRIAL AUTOMATION, INC. NOT TO BE REPRODUCED IN ANY MANNER EXCEPT ON ORDER OR WITH PRIOR WRITTEN AUTHORIZATION OF ATI.

DRAWN BY: M. Hallmark, 4/3/14		TITLE	
CHECKED BY: A.Takla, 4/9/14 L. Jamishidi, 4/17/14		DB12Z1-M, DB13-T DeviceNet Module Drawing	
PROJECT # 140403-1	SHEET 4 OF 4	SCALE 1:1	SIZE B
DRAWING NUMBER 9630-20-DB12Z1M DB13T		REVISION 03	

