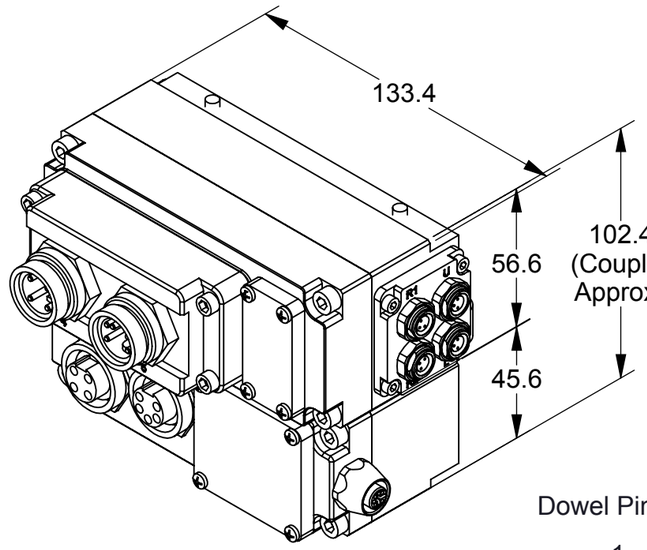
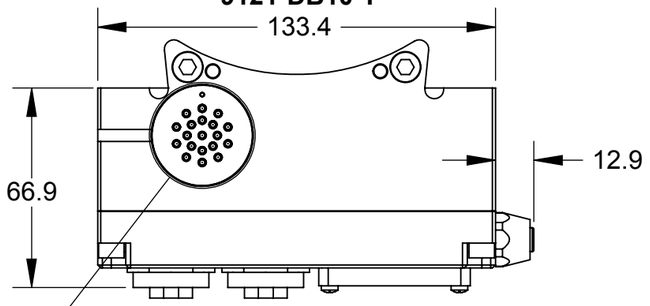
Notes:
1. The modules are shown at sheet scale. All connector face views are shown at a 1:1 scale, except as noted.
2. The 9121-DB10-T module supports the use of a mechanical limit switch for integration with the TSI feature (refer to Sheet 3).
3. Aux Power (4-Pin) and Bus (5-Pin) Connectors are oriented as shown on the Modules.
4. The DB12 Master module supports only **double-solenoid** valves.

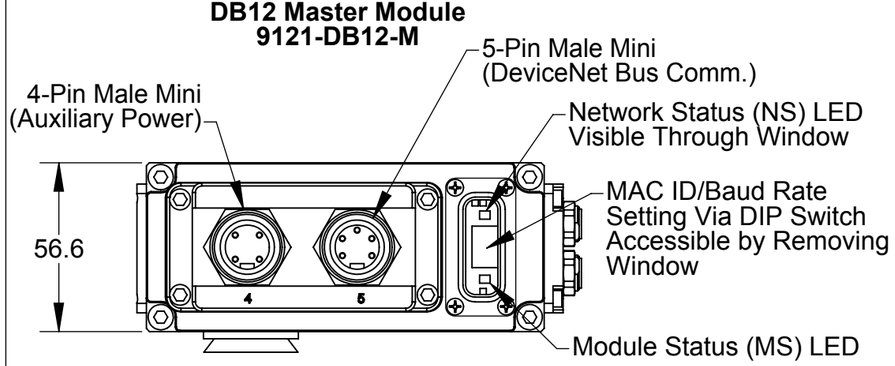
REV.	DESCRIPTION	INITIATOR	DATE
03	Eco 18277; Removed 9005-20-1199 Tool Side Cleat Assembly.	CF	8/29/2019

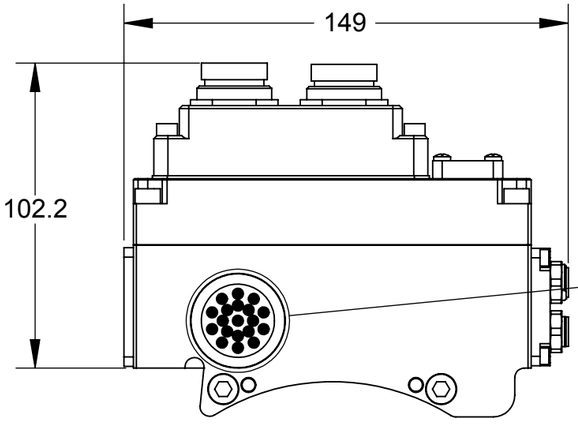


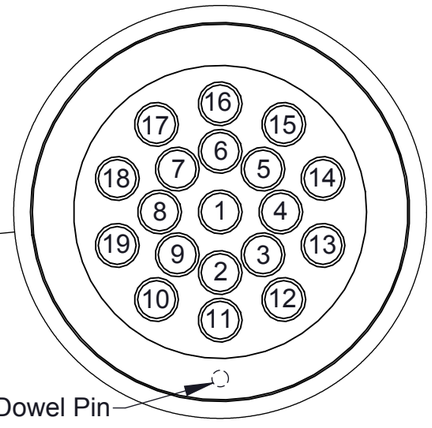
DB10 Tool Module
9121-DB10-T



DB12 Master Module
9121-DB12-M

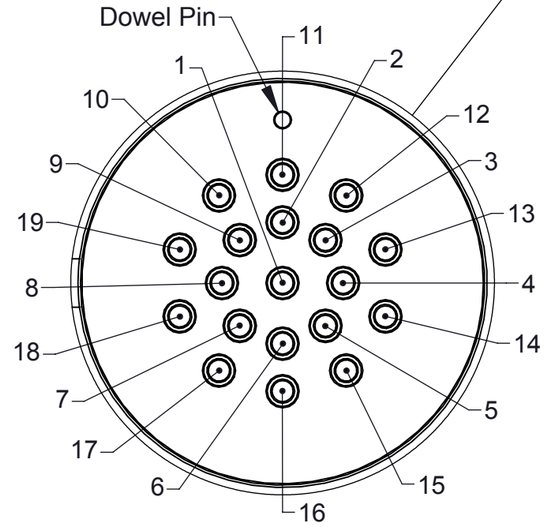




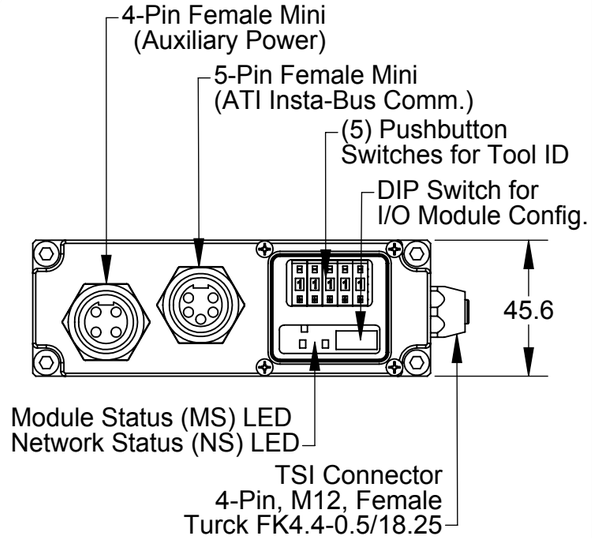


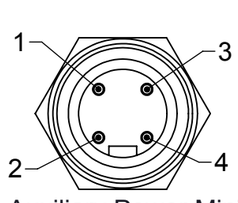
Master Pin Block

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



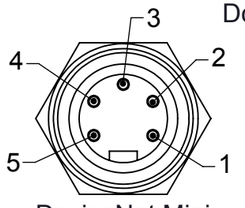
Tool Pin Block





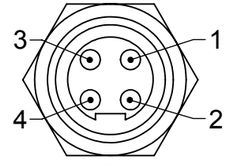
Auxiliary Power Mini
4-Pin Male, Turck RSFL 46

Table 1: Auxiliary Power Connector	
1	Aux 1 V+
2	Aux 2 V+
3	Aux 2 V-
4	Aux 1 V-

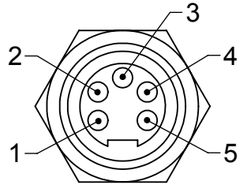


DeviceNet Mini
5-Pin Male, Turck RSFL 56

Table 2: DeviceNet Connector	
1	Drain
2	CAN V+
3	CAN V-
4	CAN_H
5	CAN_L



Auxiliary Power Mini
4-Pin Female, Turck RKFL 46
(See Table Lower Left)



DeviceNet Mini
Female, Turck RKFL 56
(See Table Lower Left)

NOTES: UNLESS OTHERWISE SPECIFIED.

DO NOT SCALE DRAWING. ALL DIMENSIONS ARE IN MILLIMETERS.

3rd ANGLE PROJECTION

ATI INDUSTRIAL AUTOMATION

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DRAWN BY: W. Berrocal, 5/23/13
CHECKED BY: A. Strotzer, 5/29/13
PROJECT # 130522-1 SHEET 1 OF 3

TITLE: DB12-M, DB10-T DeviceNet Module Drawing

SCALE	SIZE	DRAWING NUMBER	REVISION
1:2	B	9630-20-DB12M DB10T	03

DB12-M/DB10-T Serviceable Parts

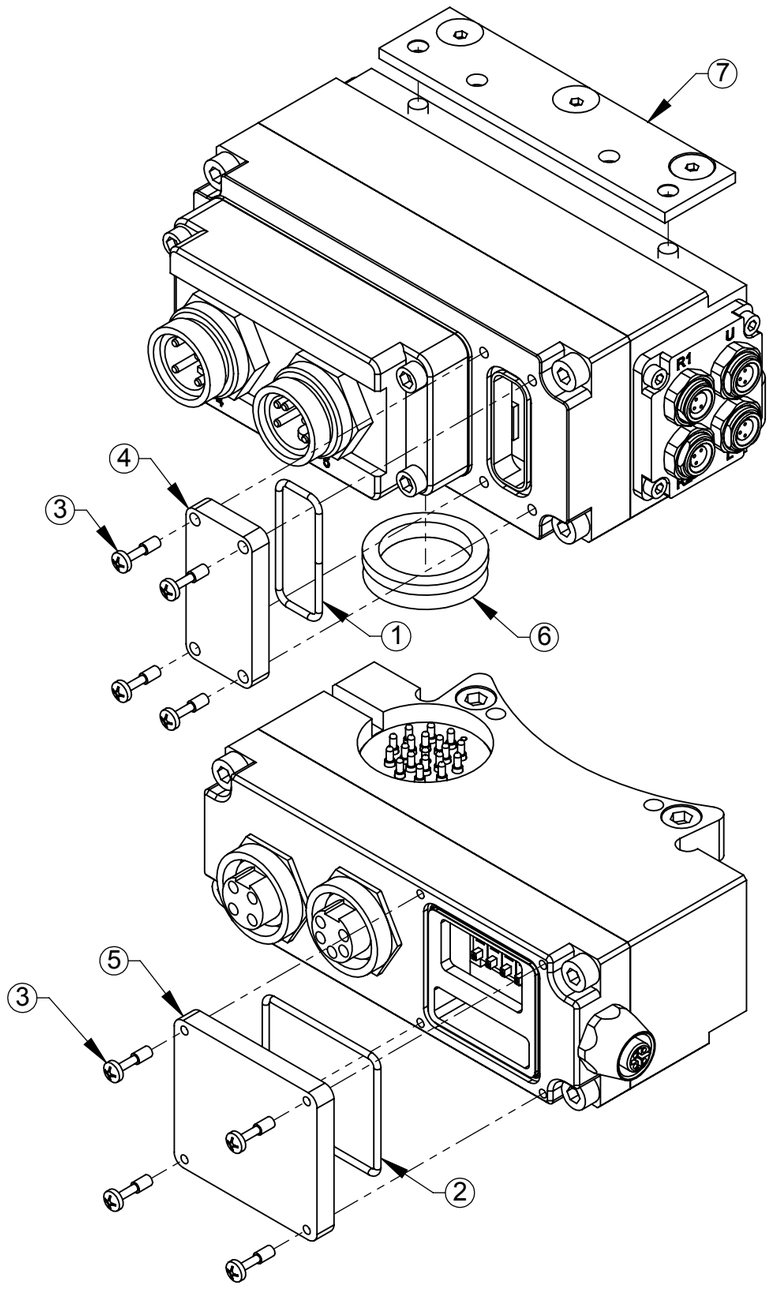
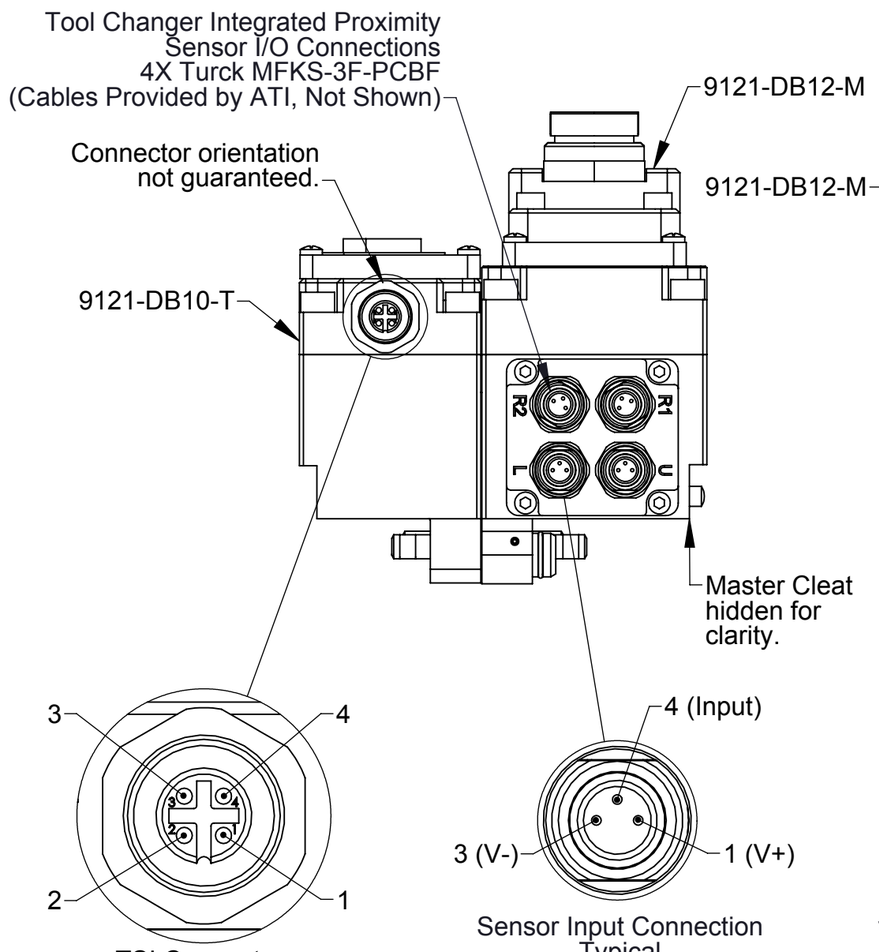


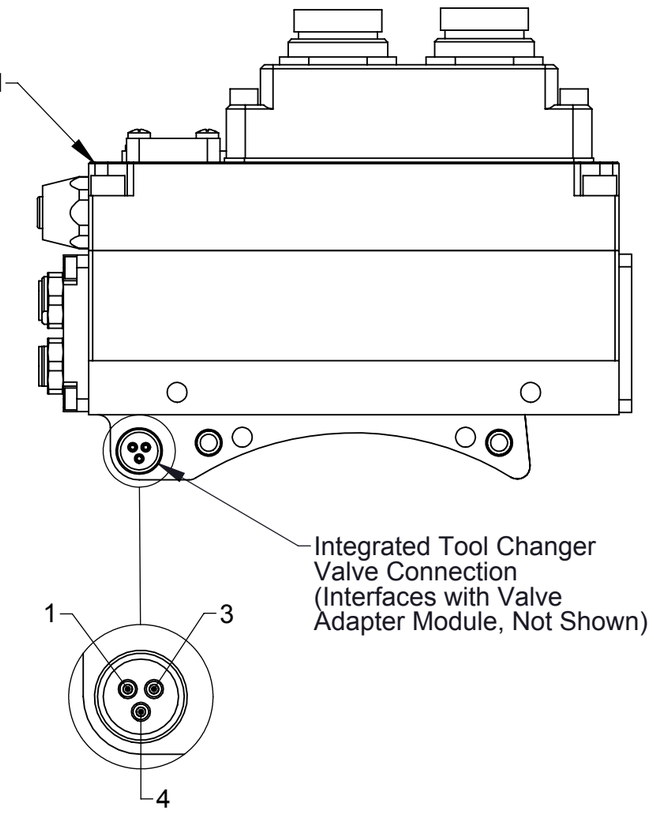
Table 4: 9121-DB12-M, 9121-DB10-T SERVICEABLE PARTS			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	3410-0001092-01	O-ring, Buna N 70D, AS568-023
2	1	3410-0001021-01	O-Ring AS568-031
3	8	3500-9957012-21	Pan Head M3 Captive Screw M3 X 12
4	1	3700-20-2696	Device Net Master Window, Thick
5	1	3700-20-3058	Insta-Tool Window
6	1	4010-0000030-01	V-Ring Seal V-22A Nitrile
7	1	9005-20-1198	Master Cleat Sub-Assembly



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

Table 5: TSI Connector	
1	CAN V+
2	CAN V+
3	TSI Relay Control
4	TSIV Input

Sensor Input Connection
Typical
Turck MFKS-3F-PCBF
Scale 2:1



Valve Signal Pin Block
Scale 2:1

Table 6: Valve Signal Pin Block	
1	V+ (Unlatch)
3	V- (Common)
4	V+ (Latch)

NOTES: UNLESS OTHERWISE SPECIFIED.

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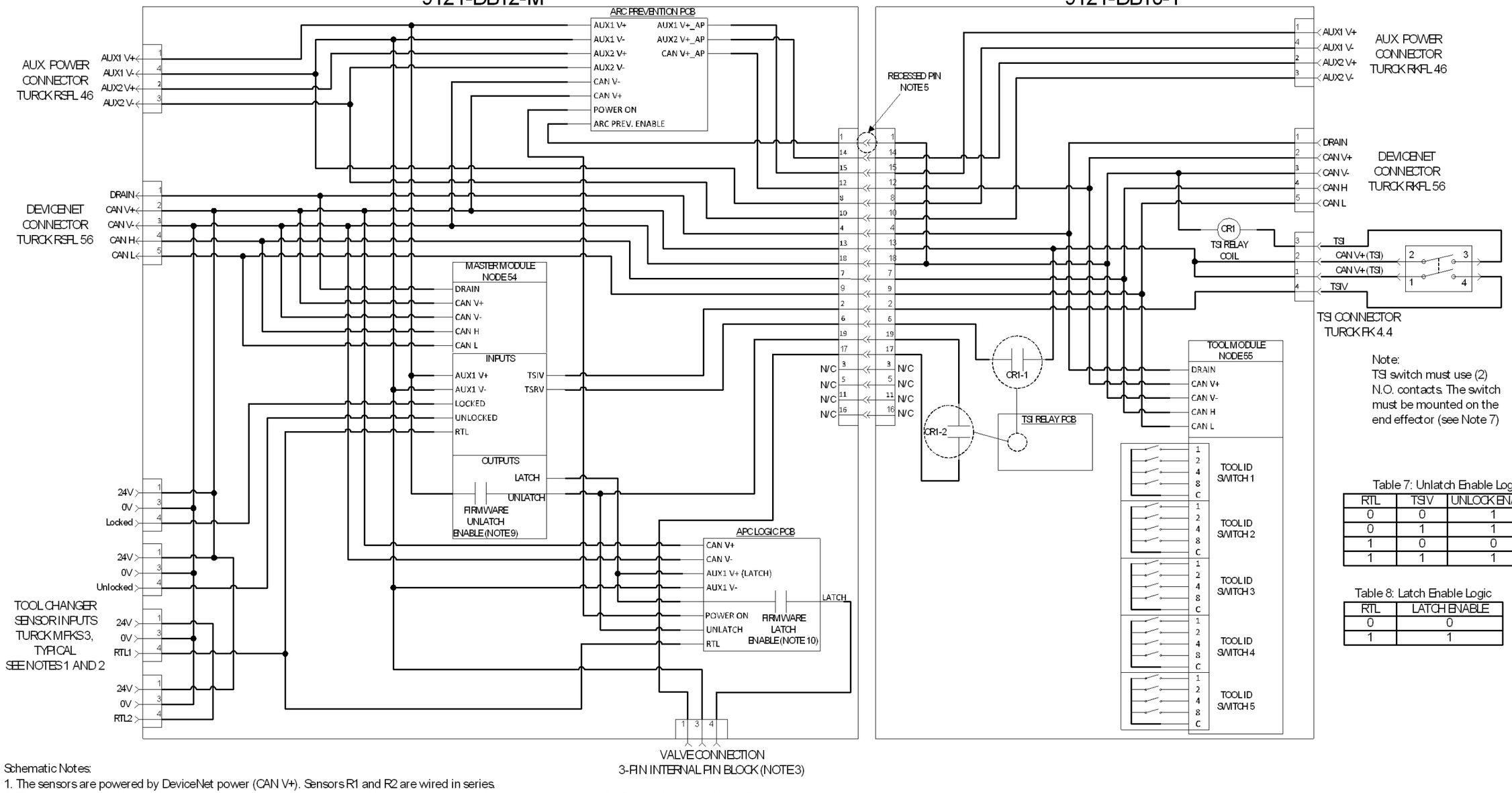
DRAWN BY: W. Berrocal, 5/23/13

CHECKED BY: A. Strotzer, 5/29/13

PROJECT # 130522-1 SHEET 2 OF 3

TITLE: DB12-M, DB10-T DeviceNet Module Drawing

SCALE	SIZE	DRAWING NUMBER	REVISION
1:2	B	9630-20-DB12M DB10T	03



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	TSIV	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

Schematic Notes:

1. The sensors are powered by DeviceNet power (CAN V+). Sensors R1 and R2 are wired in series.
2. 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.
3. An internal pin block is used to transmit the Latch/ Unlatch signal to the valve adapter.
4. The Tool ID I/O is reported in the DB10 Tool Bitmap. Refer to the product manual for more information.
5. 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.
6. The DB10-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.
7. 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 (PN 9005-20-1165) but is not included with the DB10-T module. Contact ATI for specific switch requirements.
8. TSI related diagnostic bits are not shown on this schematic but are reported in the DB12 Master Bitmap. Refer to the product manual for details.
9. 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.
10. 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.

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DRAWN BY: W. Berrocal, 5/23/13
CHECKED BY: A. Strotzer, 5/29/13
PROJECT # 130522-1 SHEET 3 OF 3

TITLE: DB12-M, DB10-T DeviceNet Module Drawing

SCALE	SIZE	DRAWING NUMBER	REVISION
1:1	B	9630-20-DB12M DB10T	03