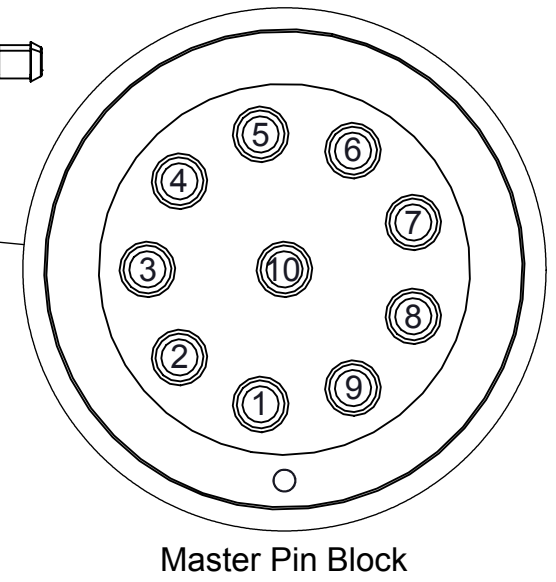
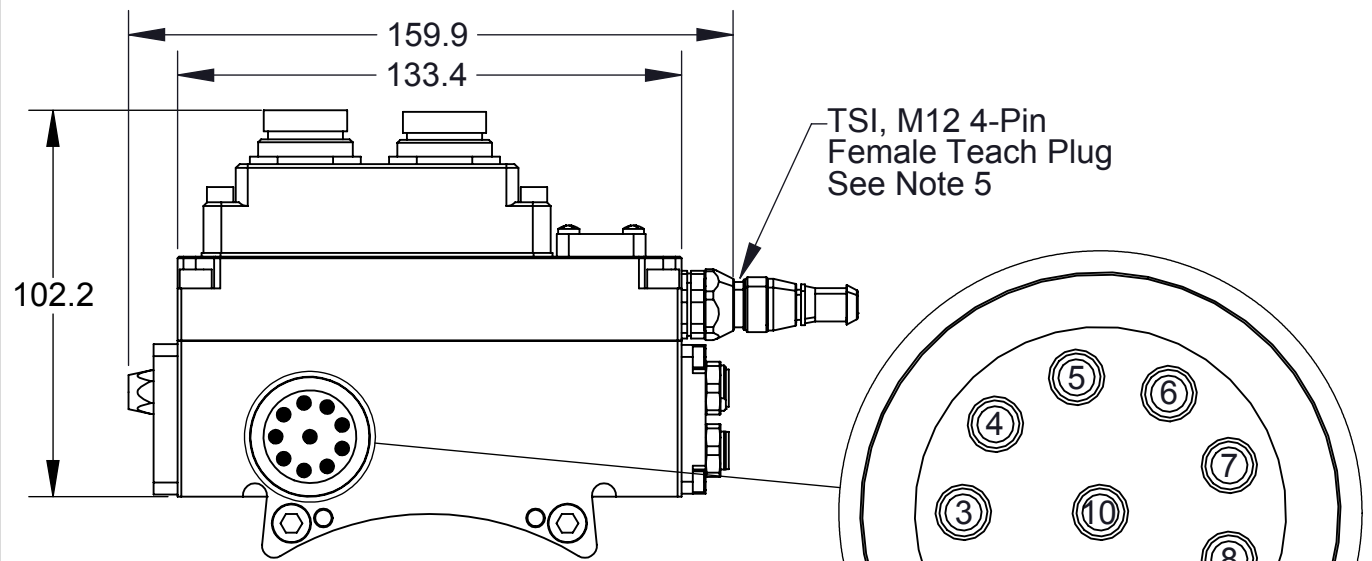
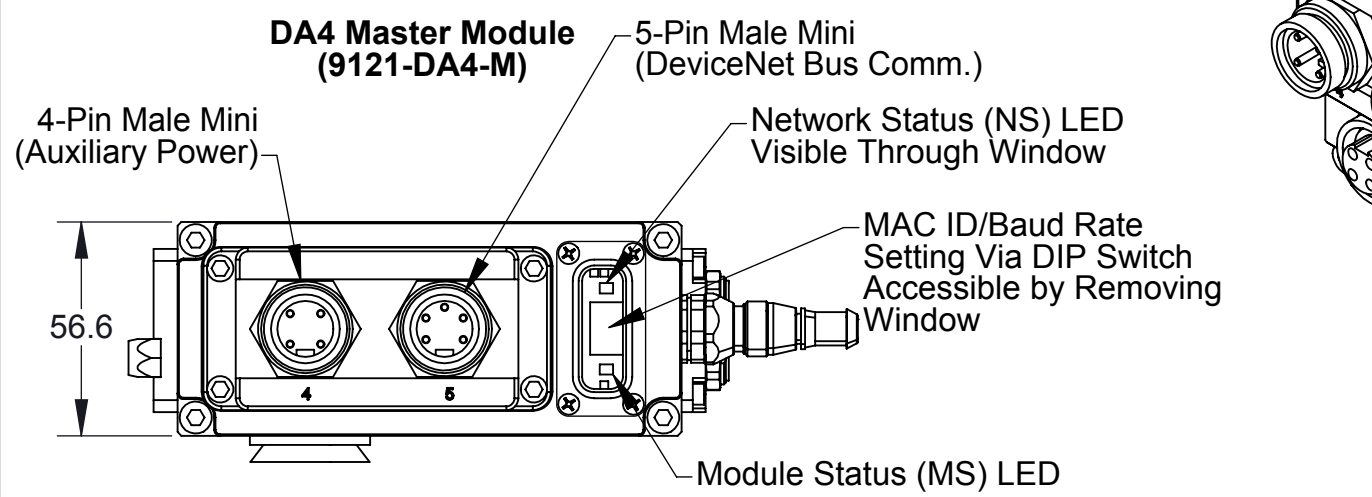
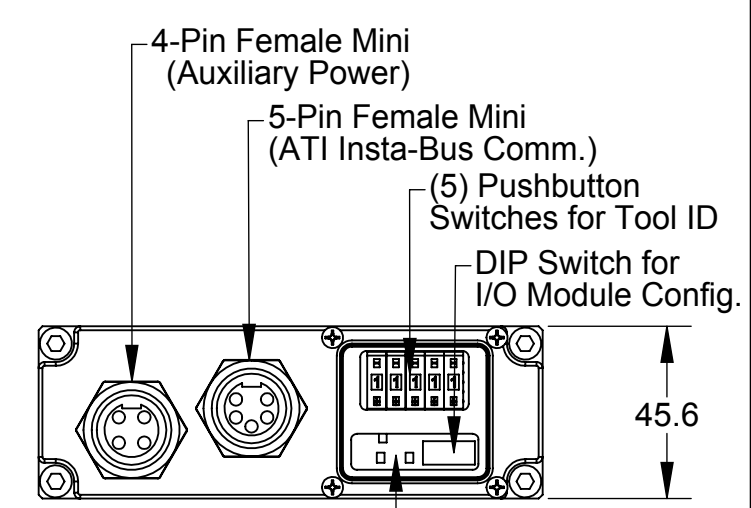
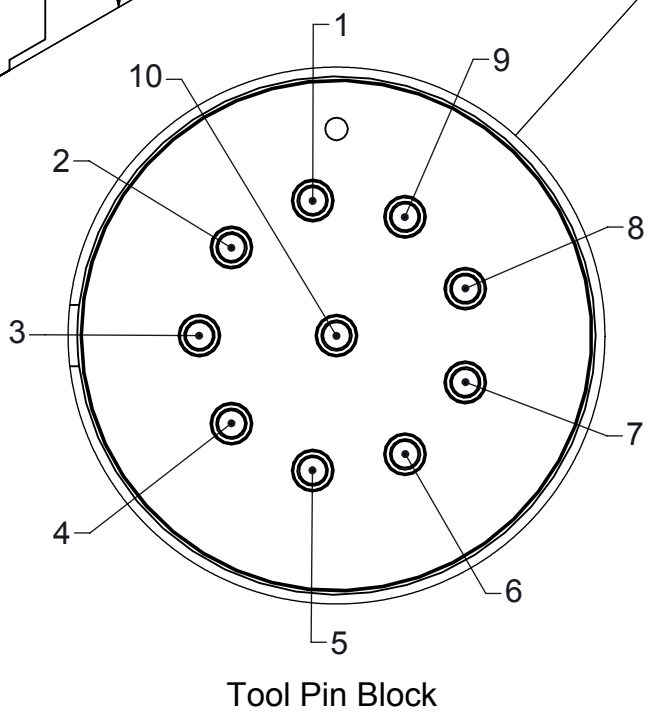
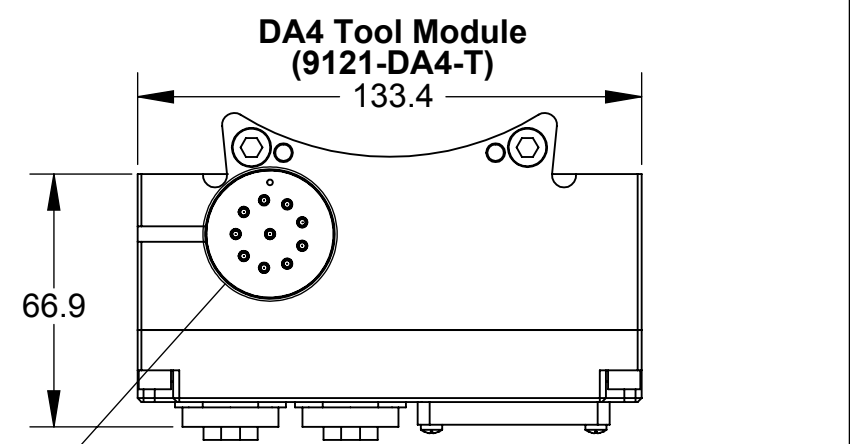
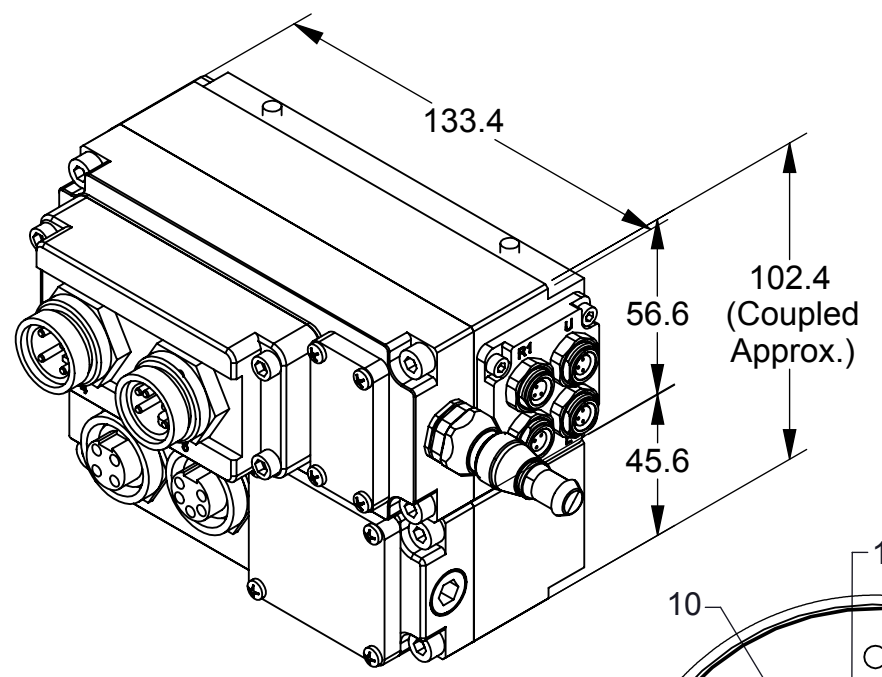


Rev.	Description	Initiator	Date
06	ECO 18975; Fixed broken mates. Removed rev tables from Sheets 2 and 3. Replaced 3500-1066016-15 with 3500-1066016-15A for the 9121-DA4-T	DS	4/16/2020

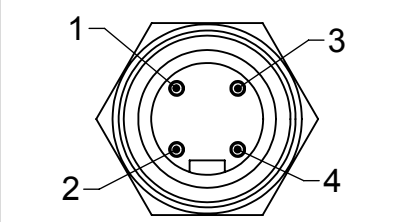
- Notes:**
- The modules are shown at sheet scale. All connector face views are shown at a 1:1 scale, except as noted.
 - The 9121-DA4-M module supports the use of a mechanical limit switch for integration with the TSI feature (refer to Sheet 3).
 - Aux (4-Pin) and Bus (5-Pin) Connectors are oriented as shown on the Modules.
 - The DA4 Master module supports double solenoid valves.
 - Teach Plug is not connected to the Tool Stand Interlock (TSI) connector. Item is bagged separately.



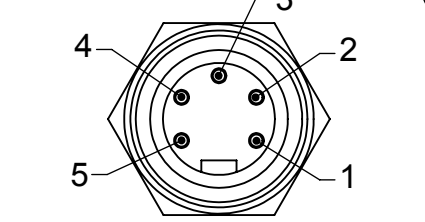
Pin	Description
1	CAN V+
2	CAN_L
3	CAN_H
4	Arc Switch Enable
5	Drain
6	AUX1 V+
7	AUX2 V+
8	AUX1 V-
9	AUX2 V-
10	CAN V-



Module Status (MS) LED
Network Status (NS) LED



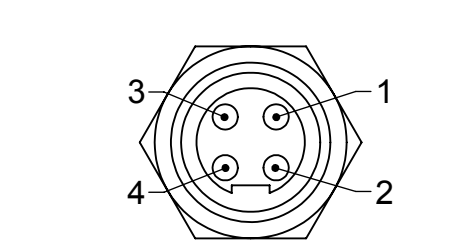
Auxiliary Power Mini
4-Pin Male, Turck RSFL 46



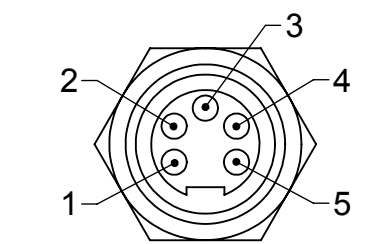
DeviceNet Mini
5-Pin Male, Turck RSFL 56

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

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



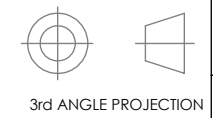
Auxiliary Power Mini
4-Pin Female, Turck RKFL 46
(See Table Lower Left)



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

NOTES: UNLESS OTHERWISE SPECIFIED.

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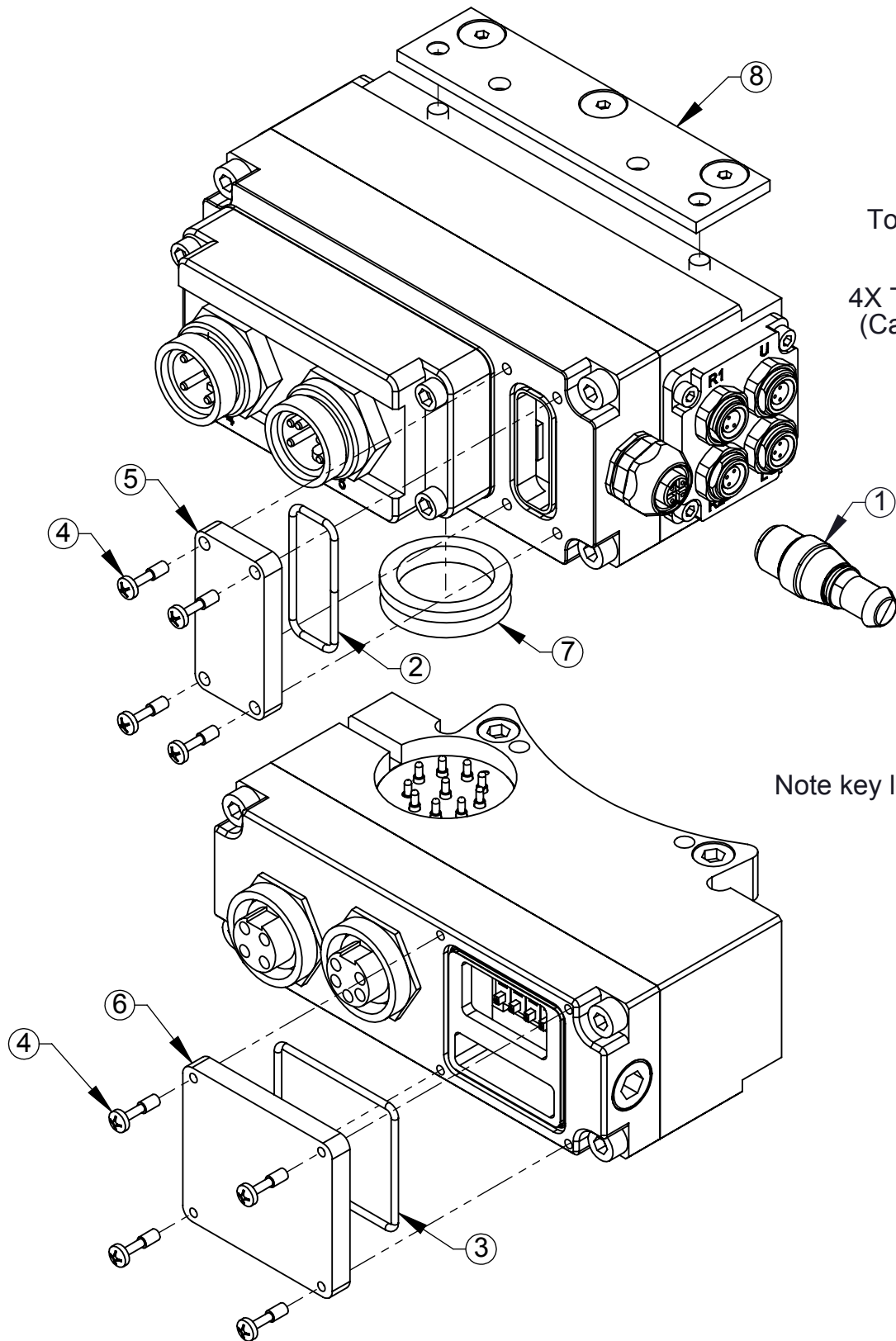
DRAWN BY: W. Berrocal, 2/21/14

CHECKED BY: M. Hallmark, 4/7/14

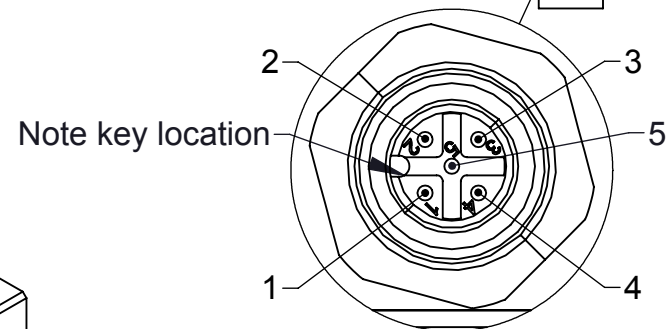
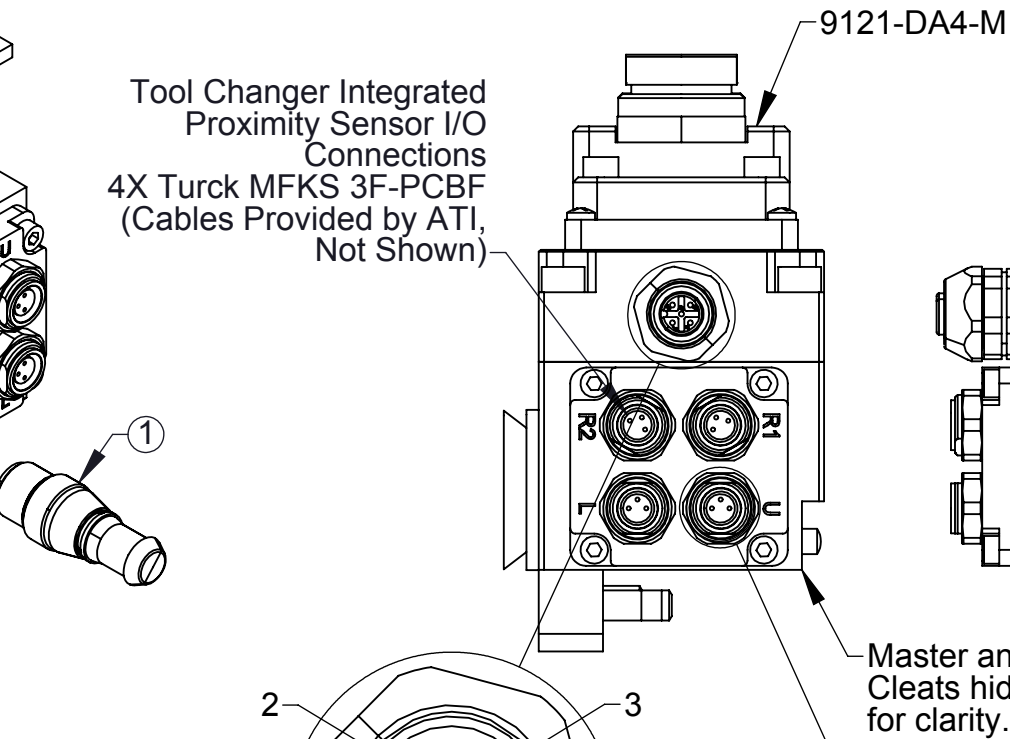
PROJECT # 110727-1 SHEET 1 OF 3

TITLE		SCALE		SIZE	DRAWING NUMBER	REVISION
DA4 DeviceNet Module Drawing		1:2		B	9630-20-DA4	06

DA4-M/DA4-T Serviceable Parts

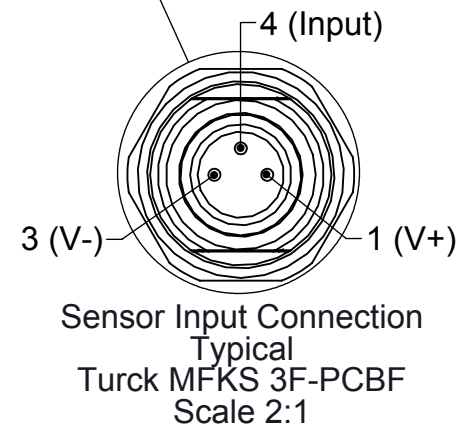


Tool Changer Integrated Proximity Sensor I/O Connections
4X Turck MFKS 3F-PCBF
(Cables Provided by ATI, Not Shown)



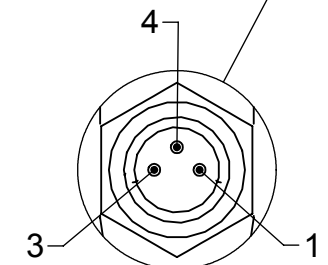
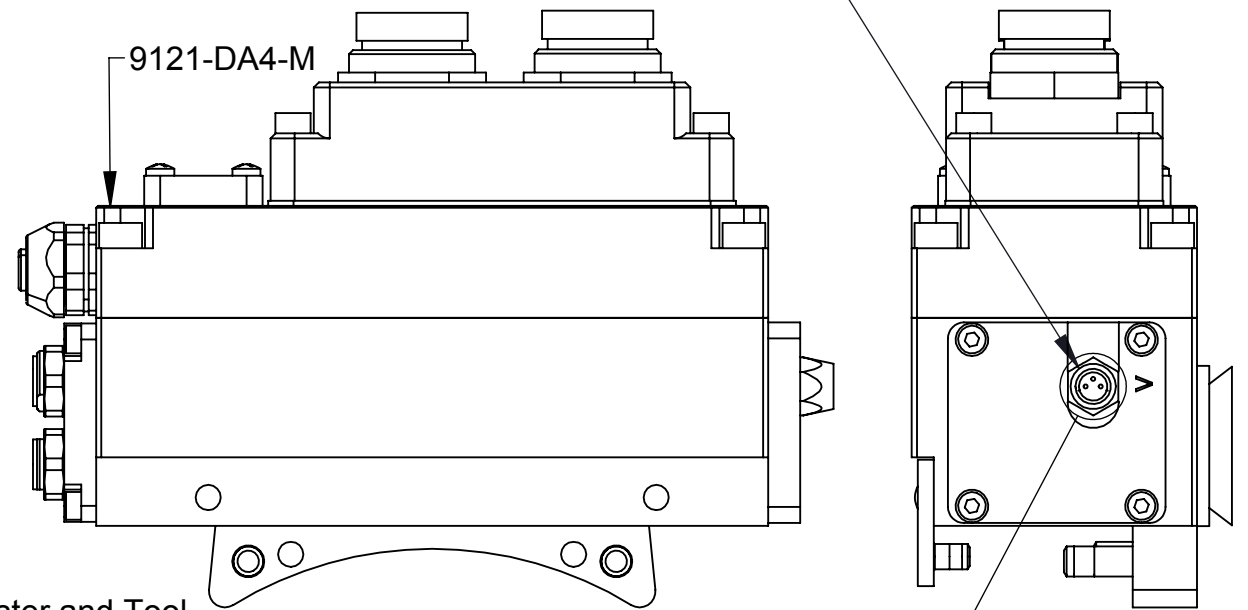
TSI Connector
Turck M12 5-Pin Female
FKD 4.5-0.5/18.25
Scale 2:1

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



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

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



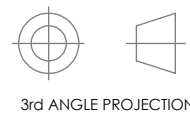
Turck MFKS 3
Scale 2:1

Valve Connection	
1	AUX1 V+ (Unlatch)
3	AUX1 V- (Common)
4	AUX1 V+ (Latch)

9121-DA4-M/T SERVICEABLE PARTS			
ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	9120-DE45-PLUG	Yellow Teach Plug w/ Lanyard and Caution Tags
2	1	3410-0001092-01	O-ring, Buna N 70D, AS568-023
3	1	3410-0001021-01	O-Ring AS568-031
4	6	3500-9957012-21	Pan Head M3 Captive Screw M3 X 12
5	1	3700-20-2696	Device Net Master Window, Thick
6	1	3700-20-3058	Insta-Tool Window
7	1	4010-0000030-01	V-Ring Seal V-22A Nitrile
8	1	9005-20-1198	Master Cleat Sub-Assembly

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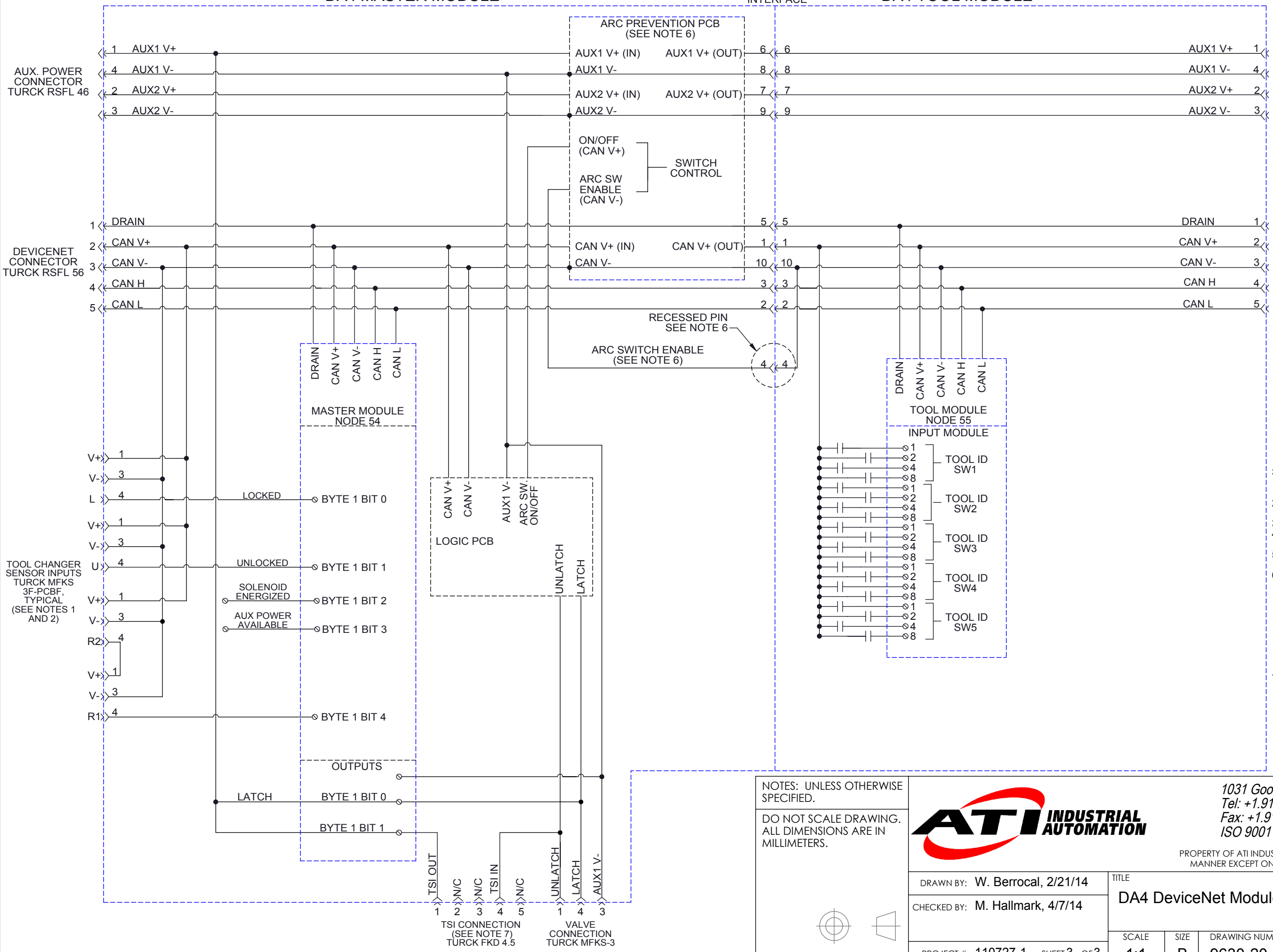
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DRAWN BY: W. Berrocal, 2/21/14		TITLE	
CHECKED BY: M. Hallmark, 4/7/14		DA4 DeviceNet Module Drawing	
PROJECT # 110727-1	SHEET 2 OF 3	SCALE 1:2	SIZE B
DRAWING NUMBER 9630-20-DA4		REVISION 06	

DA4 MASTER MODULE

ATI PIN BLOCK INTERFACE

DA4 TOOL MODULE



AUX. POWER CONNECTOR TURCK RKFL 46

DEVICENET CONNECTOR TURCK RKFL 56

- Schematic Notes:
- Note that the sensors are powered by DeviceNet power (CAN V+).
 - The complete tool changer package comes equipped with external cables that are connected to the sensors.
 - Sensors R1 and R2 are wired in series.
 - Cables for DeviceNet and Auxiliary Power to the DA4 Modules are supplied by the user.
 - The Tool ID I/O is reported in the DA4 Tool Bitmap. Refer to the product manual for more information.
 - The Arc Prevention Circuits turn off CAN V+, AUX1 V+, and AUX2 V+ during coupling and uncoupling of the Master and Tool. The switching function is controlled by the Latch/Unlatch commands and the Arc Switch Enable signal. The Arc Switch Enable signal is transmitted through 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. Refer to the product manual for additional information.
 - The DA4 Master is supplied with a Teach Plug (9120-DE45-PLUG) to make the TSI circuit (Pin 1 to Pin 4 on the TSI Connector). It is recommended that the customer integrate a mechanical limit switch to use with this circuit. The limit switch should be mounted to indicate the robot and the tool changer are in the stand, thus making the circuit and only allowing the tool changer to uncouple while in the stand. Contact ATI for further assistance.

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CHECKED BY: M. Hallmark, 4/7/14

TITLE

DA4 DeviceNet Module Drawing

PROJECT # 110727-1 SHEET 3 OF 3

SCALE	SIZE	DRAWING NUMBER	REVISION
1:1	B	9630-20-DA4	06

