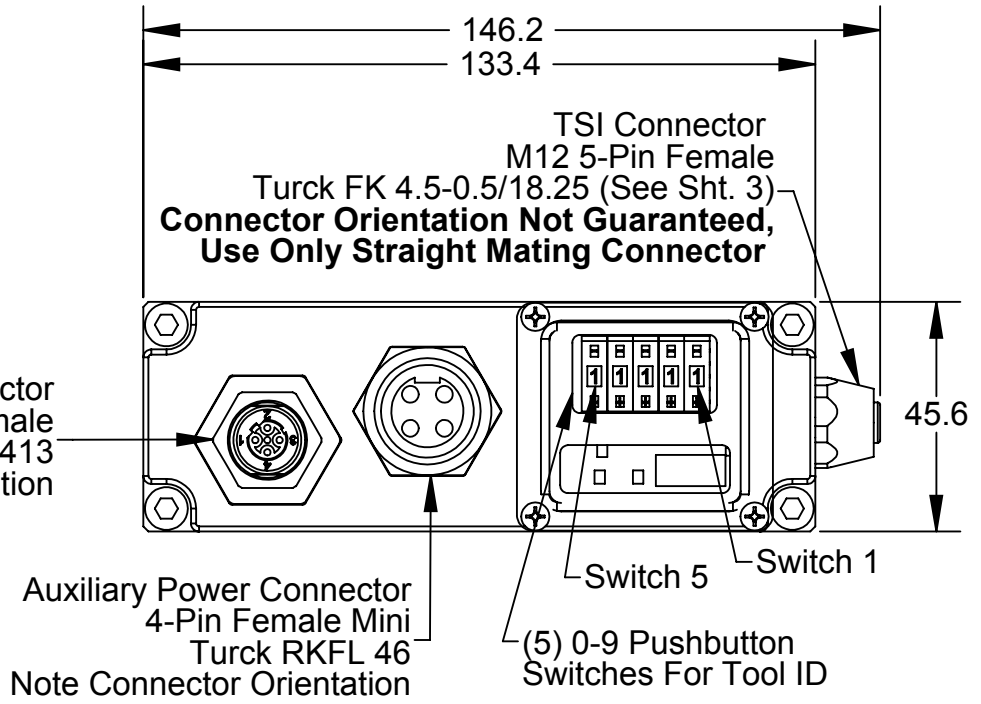
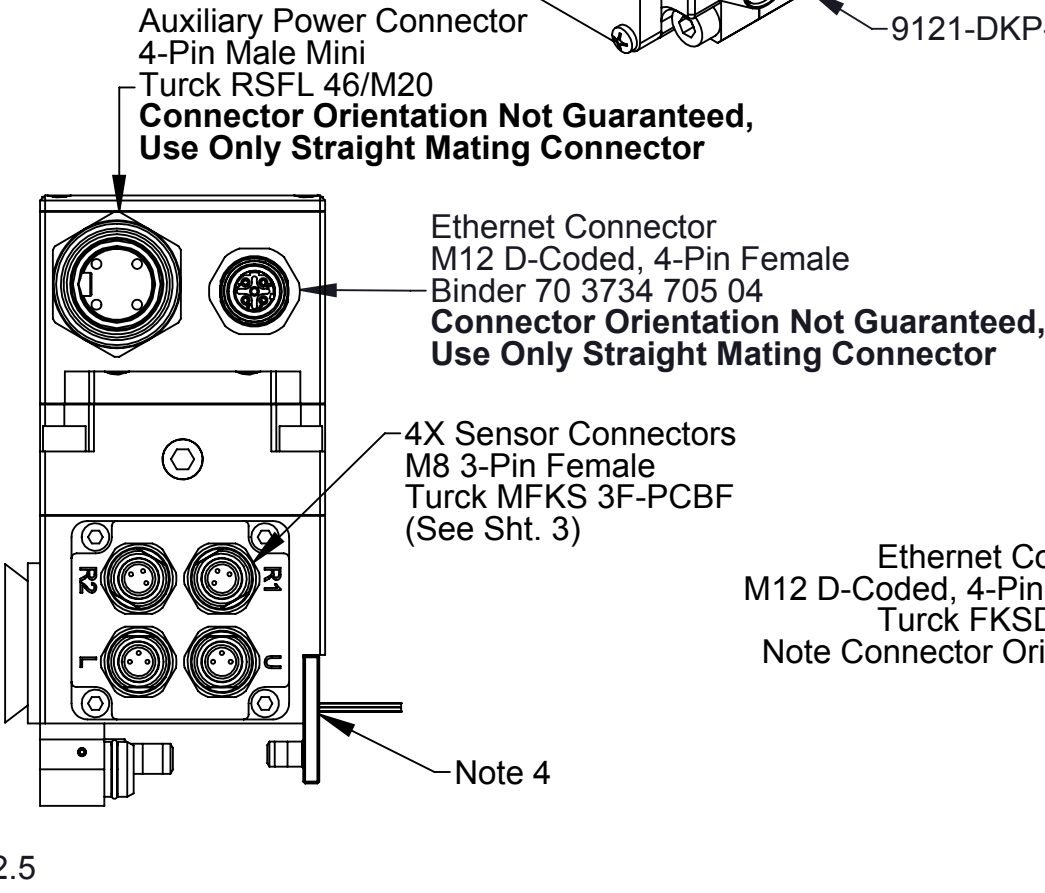
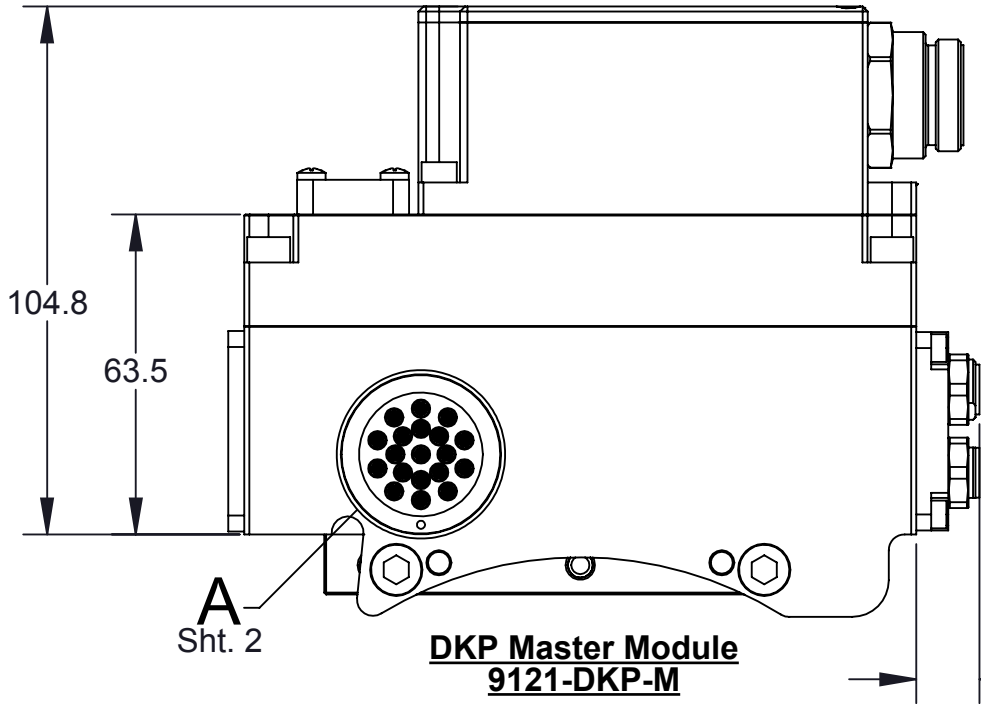
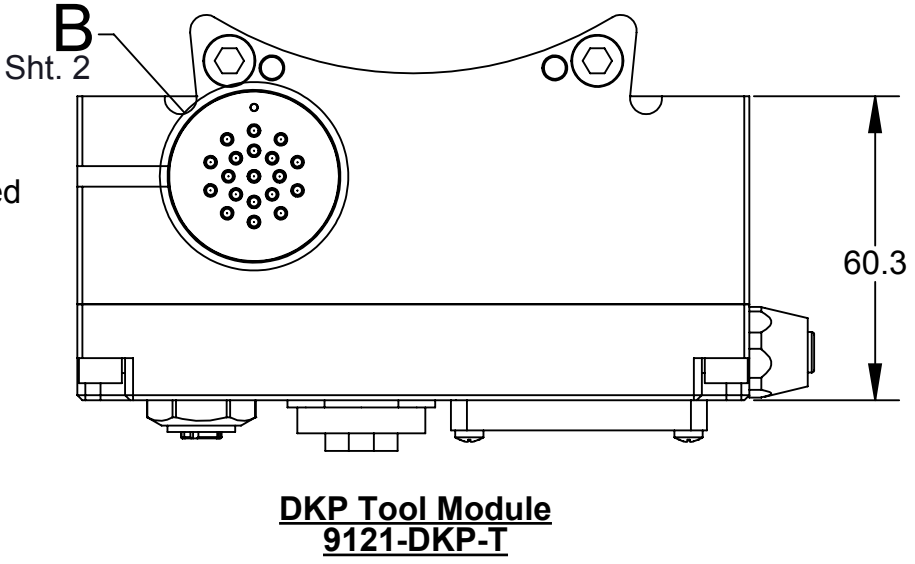
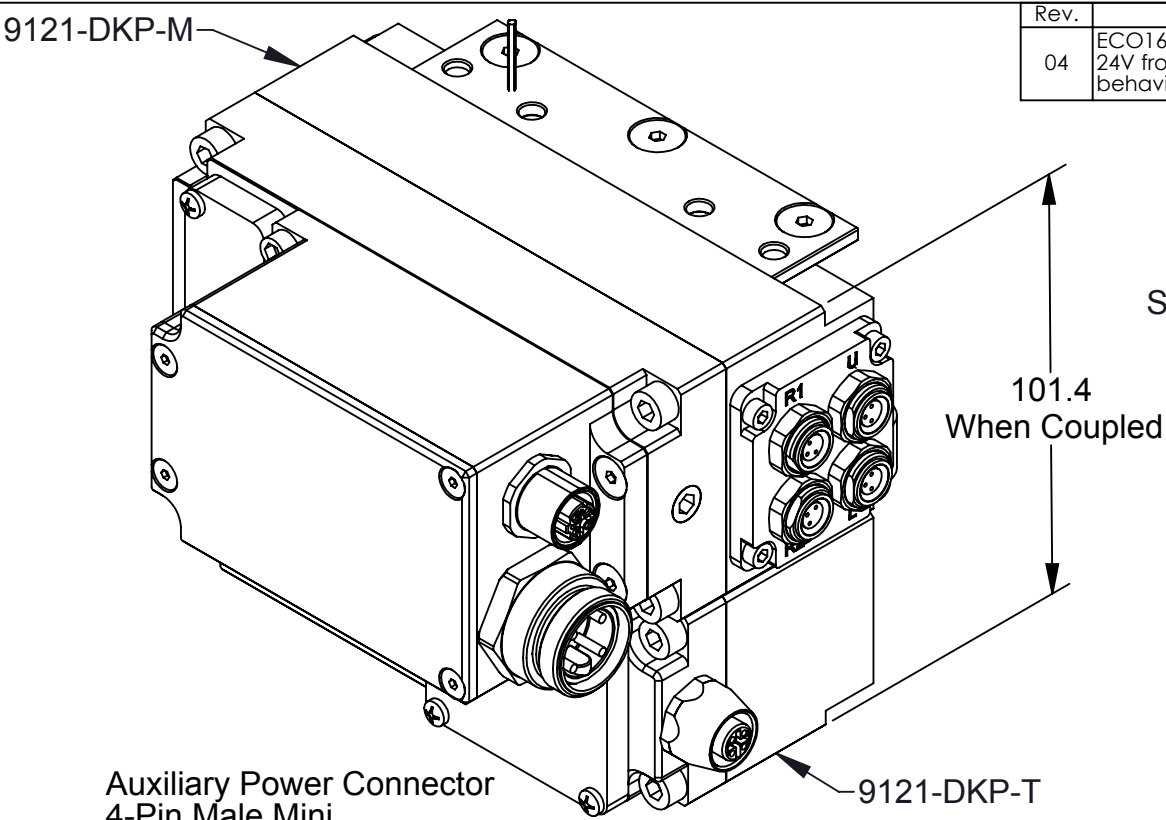
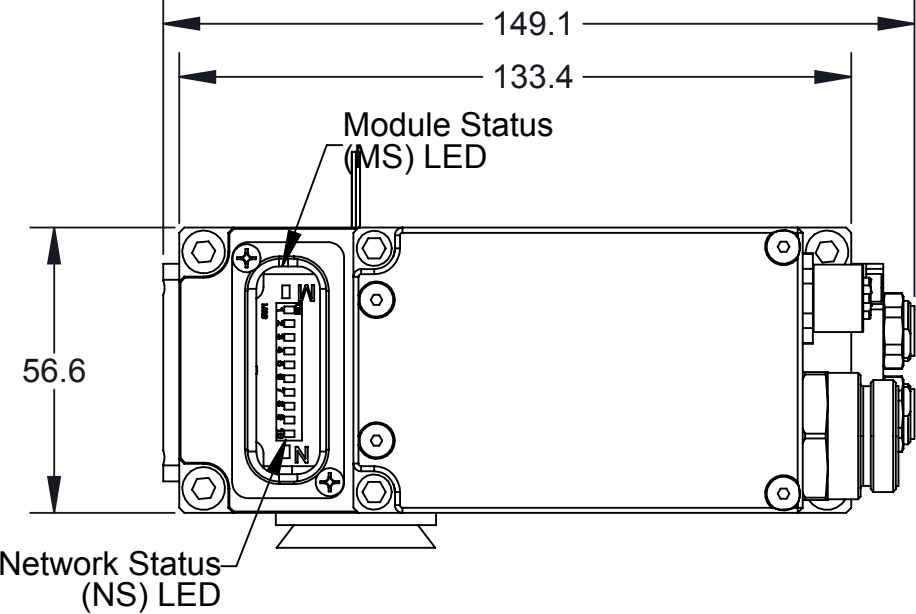


Rev.	Description	Initiator	Date
04	ECO16687- Redesigned the internal wiring for TSI safety switch to receive 24V from APC board. The firmware is updated to change the behavior of the Unlatch command. Sheet 6 notes have been updated.	VV	3/14/18



- Notes:
1. The modules are shown at sheet scale. All connector face views are shown at a 2:1 scale, except as noted.
 2. Serviceable parts for the DKP are shown on Sheet 4. The electrical schematic is shown on Sheet 5.
 3. Unless otherwise noted, the Auxiliary Power and Ethernet connectors are oriented as shown in this drawing.
 4. DKP Master Module is supplied with Master Cleat Assembly 9005-20-1198 to be used for securing tool changer sensor cables.

NOTES: UNLESS OTHERWISE SPECIFIED.

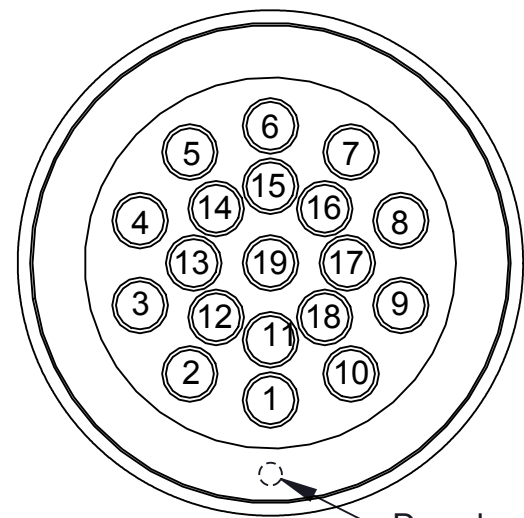
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3rd ANGLE PROJECTION

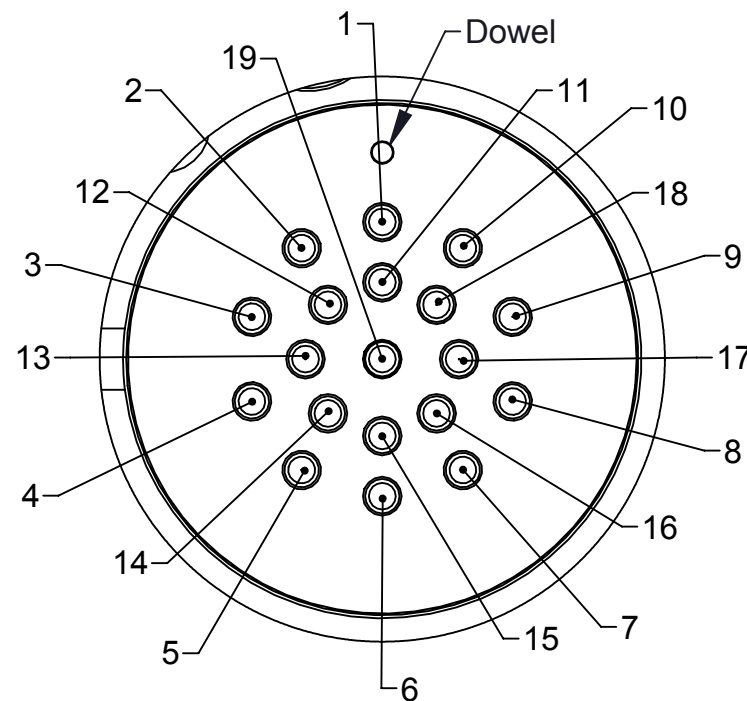
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DRAWN BY: A. Takla, 07/08/16		TITLE	
CHECKED BY: W. Berrocal, 01/17/17 L. Jamshidi, 01/16/17		DKP Ethernet Control Module Customer Drawing	
PROJECT # 160527-2	SHEET 1 OF 6	SCALE 2:3	SIZE B
		DRAWING NUMBER 9630-20-DKP	REVISION 04



Master Pin Block
(See Table 1)
DETAIL A

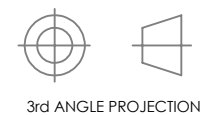


Tool Pin Block
(See Table 1)
DETAIL B

Table 1: Pin Designations	
1	TSRV
2	TSI OUT
3	SPARE_PROX_IN3
4	TOOL PRESENT OUT
5	RS485+
6	TX+
7	TX-
8	Ethernet Shield
9	TSI IN
10	RX+
11	INPUT V+_SS
12	TSIV
13	INPUT V+_AP
14	OUTPUT V+_AP
15	RS485-
16	OUTPUT V-
17	INPUT V-
18	RX-
19	TOOL PRESENT IN

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CHECKED BY: W. Berrocal, 01/17/17
L. Jamshidi, 01/16/17

PROJECT # 160527-2 SHEET 2 OF 6

TITLE

DKP Ethernet Control Module Customer Drawing

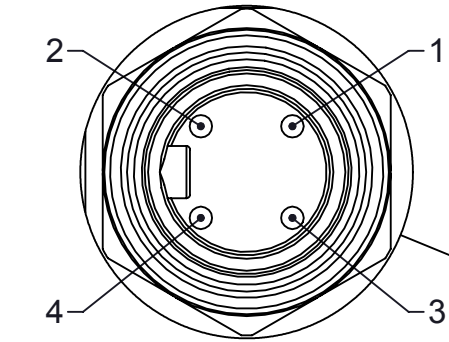
SCALE
2:3

SIZE
B

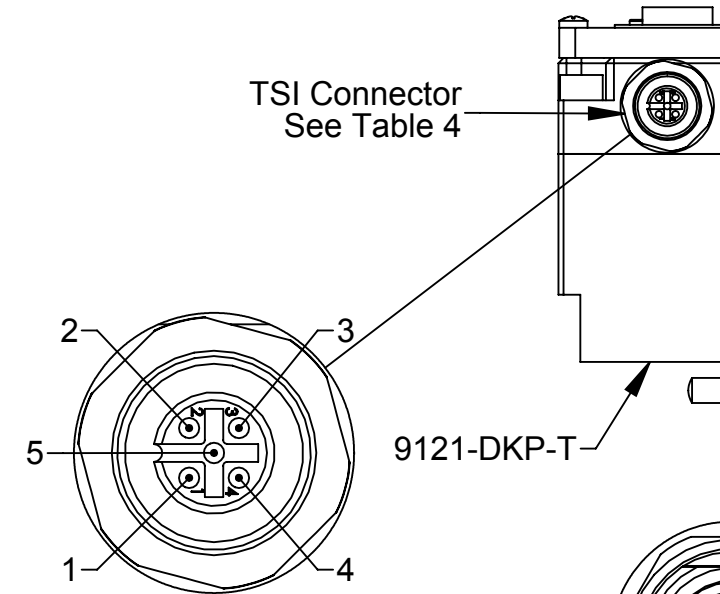
DRAWING NUMBER
9630-20-DKP

REVISION
04

Table 2	
1	Output Power V+
2	Input and Logic Power V+
3	Input and Logic Power V-
4	Output Power V-

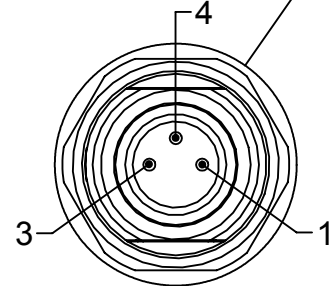
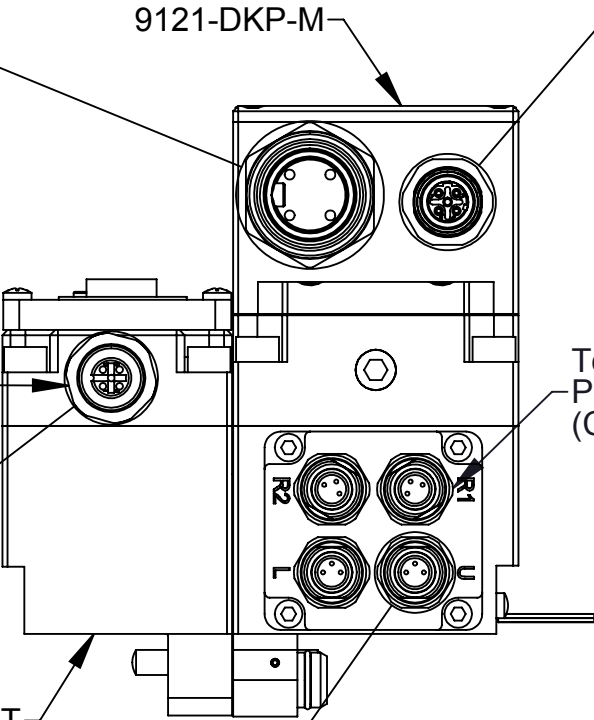


Auxiliary Power Connector
4-Pin Male Mini
Scale 3:2



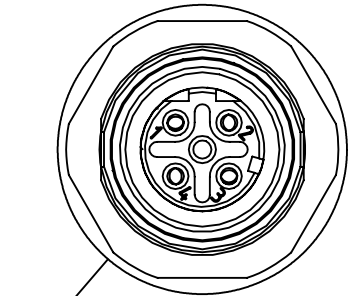
TSI Connector
M12 5-Pin Female
SCALE 2 : 1

Table 4	
1	INPUT V+_SS
2	TSI1
3	INPUT V-
4	TSI2
5	N/C



Sensor Input Connection
Typical
Scale 2:1

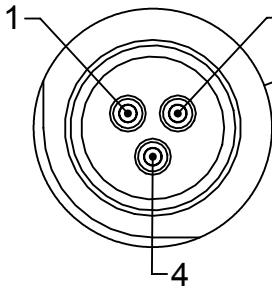
Table 5	
1	INPUT V+
3	INPUT V-
4	Sensor Input



Ethernet Connector
M12 D-Coded, 4-Pin Female
Scale 2:1

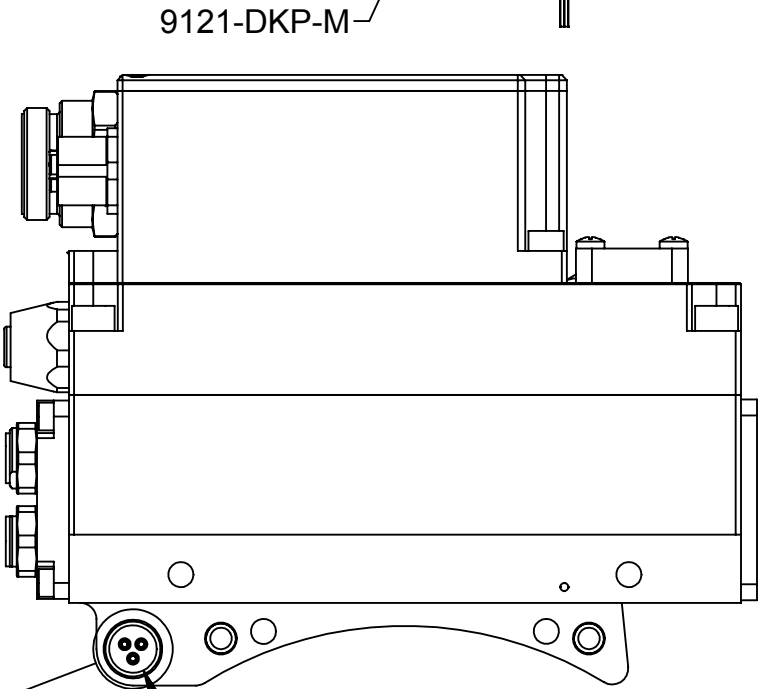
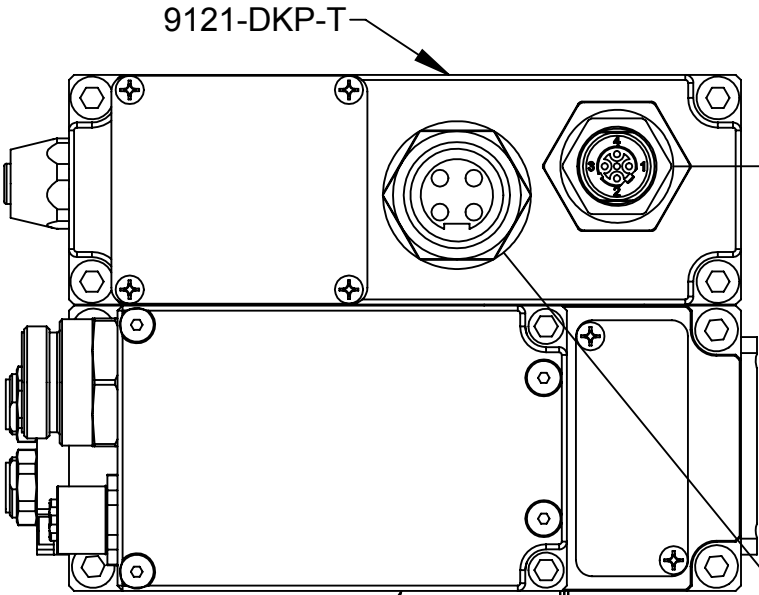
Table 3	
1	TX+
2	RX+
3	TX-
4	RX-

Tool Changer Integrated
Proximity Sensor I/O Connections
(Cables Provided by ATI, Not Shown)

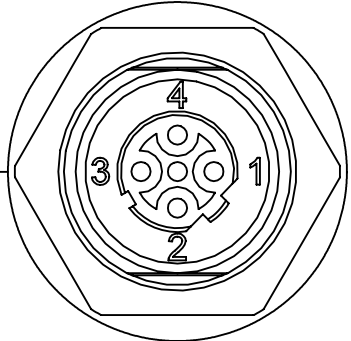


Valve Signal Pin Block
Scale 2:1

Table 6	
1	Unlatch
3	OUTPUT V-
4	Latch

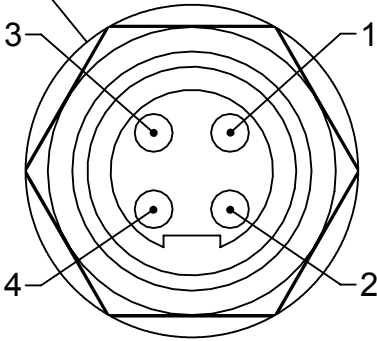


Integrated Tool Changer
Valve Connection
(Interfaces with Valve
Adapter Module, Not Shown)



Ethernet Connector
M12 D-Coded, 4-Pin Female
Scale 2:1

Table 7	
1	TX+
2	RX+
3	TX-
4	RX-

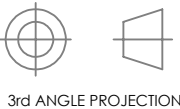


Auxiliary Power Connector
4-Pin Female Mini
Scale 2:1

Table 8	
1	Output Power V+
2	Input and Logic Power V+
3	Input and Logic Power V-
4	Output Power V-

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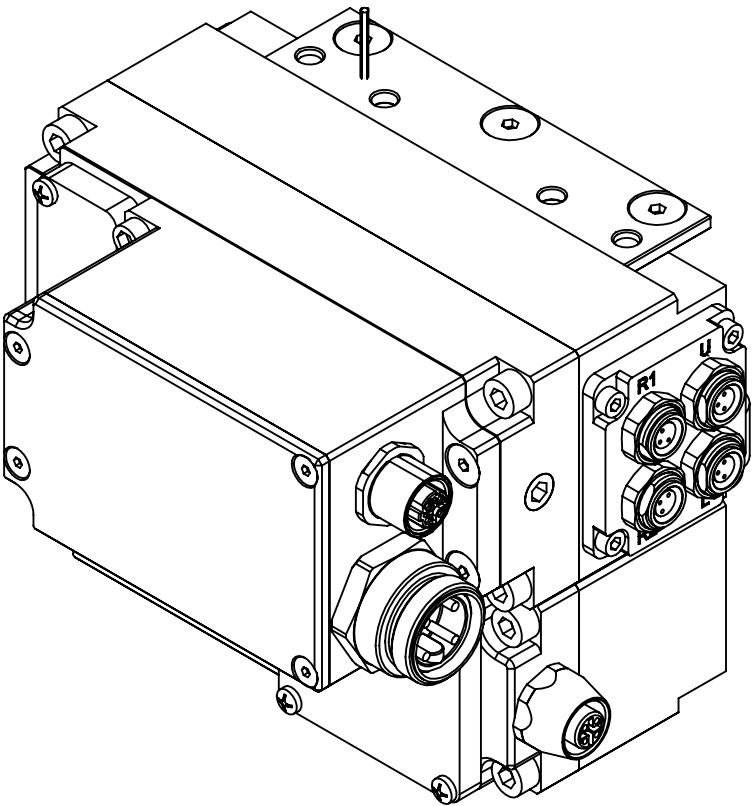
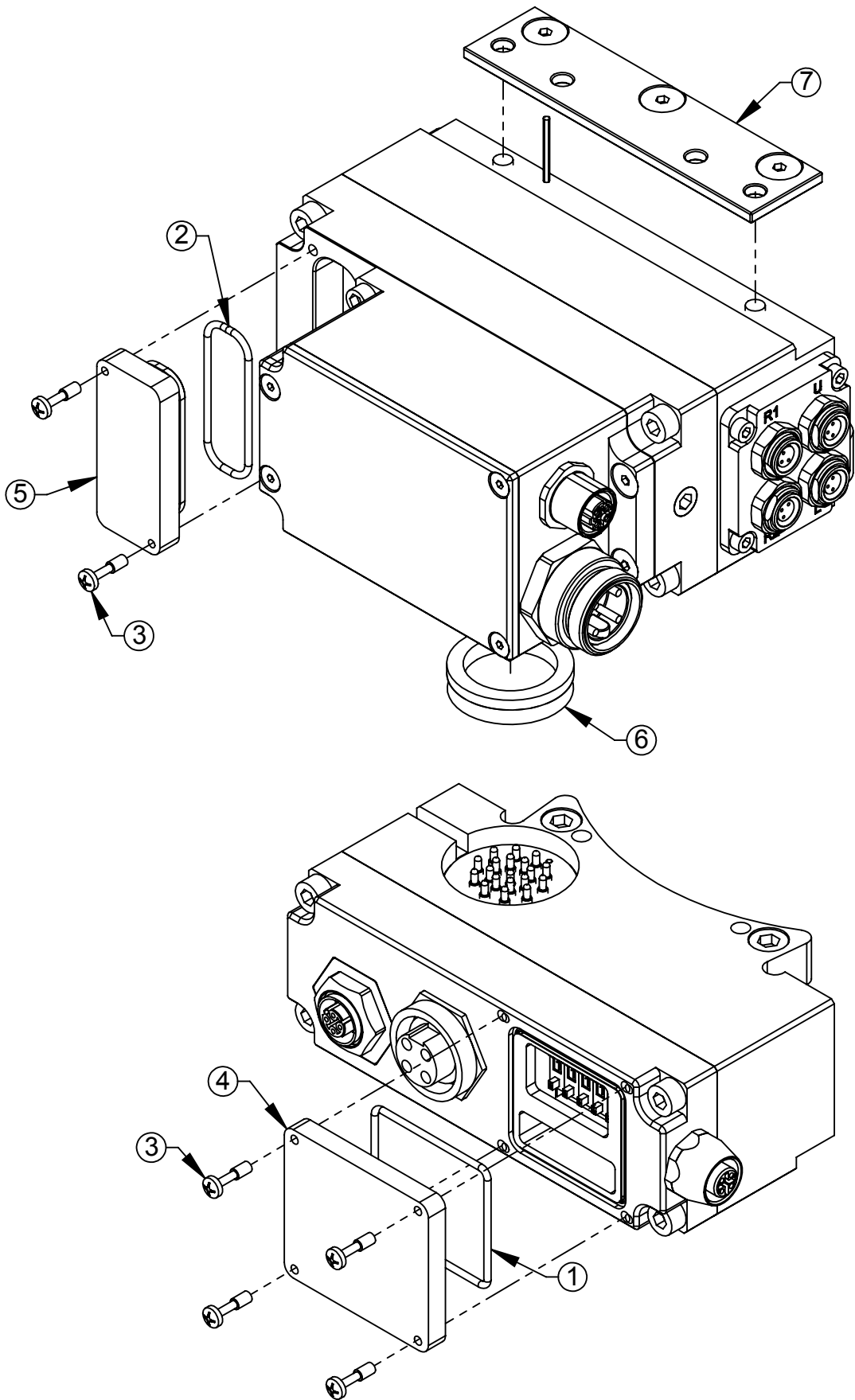


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DRAWN BY: A. Takla, 07/08/16		TITLE		
CHECKED BY: W. Berrocal, 01/17/17 L. Jamshidi, 01/16/17		DKP Ethernet Control Module Customer Drawing		
PROJECT # 160527-2	SHEET 3 OF 6	SCALE 2:3	SIZE B	DRAWING NUMBER 9630-20-DKP
				REVISION 04

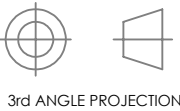
DKP Master and Tool Serviceable Parts



ITEM NO.	QTY.	PART NUMBER	DESCRIPTION
1	1	3410-0001021-01	O-ring, AS568-031
2	1	3410-0001201-01	O-ring, AS568-024
3	6	3500-9957012-21	Captive Screw M3 x 12 Slotted Head SS
4	1	3700-20-3058	Tool ID Window
5	1	3700-20-4820	Window, Master, DJ Module, Annular Seal
6	1	4010-0000030-01	V-Ring Seal
7	1	9005-20-1198	Master Cleat Assembly

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CHECKED BY: W. Berrocal, 01/17/17 L. Jamshidi, 01/16/17		DKP Ethernet Control Module Customer Drawing		
PROJECT # 160527-2	SHEET 4 OF 6	SCALE 2:3	SIZE B	DRAWING NUMBER 9630-20-DKP
				REVISION 04

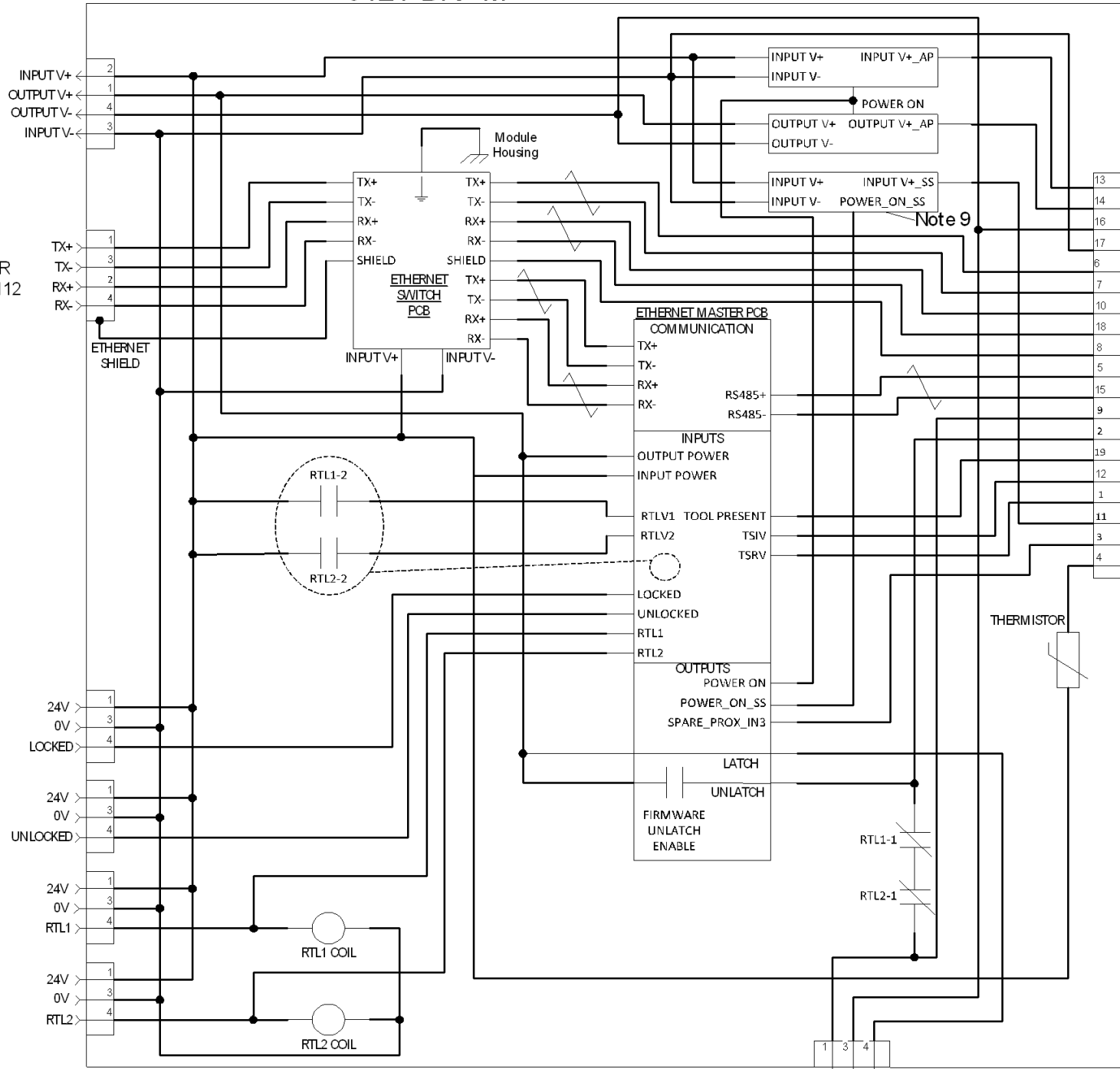
9121-DKP-M

9121-DKP-T

POWER CONNECTOR
4-Pin Male MiniFast

ETHERNET CONNECTOR
4-Pin D-Coded Female M12

TOOL CHANGER
SENSOR INPUTS
4X 3-Pin Female M8
SEE NOTES 1 AND 2



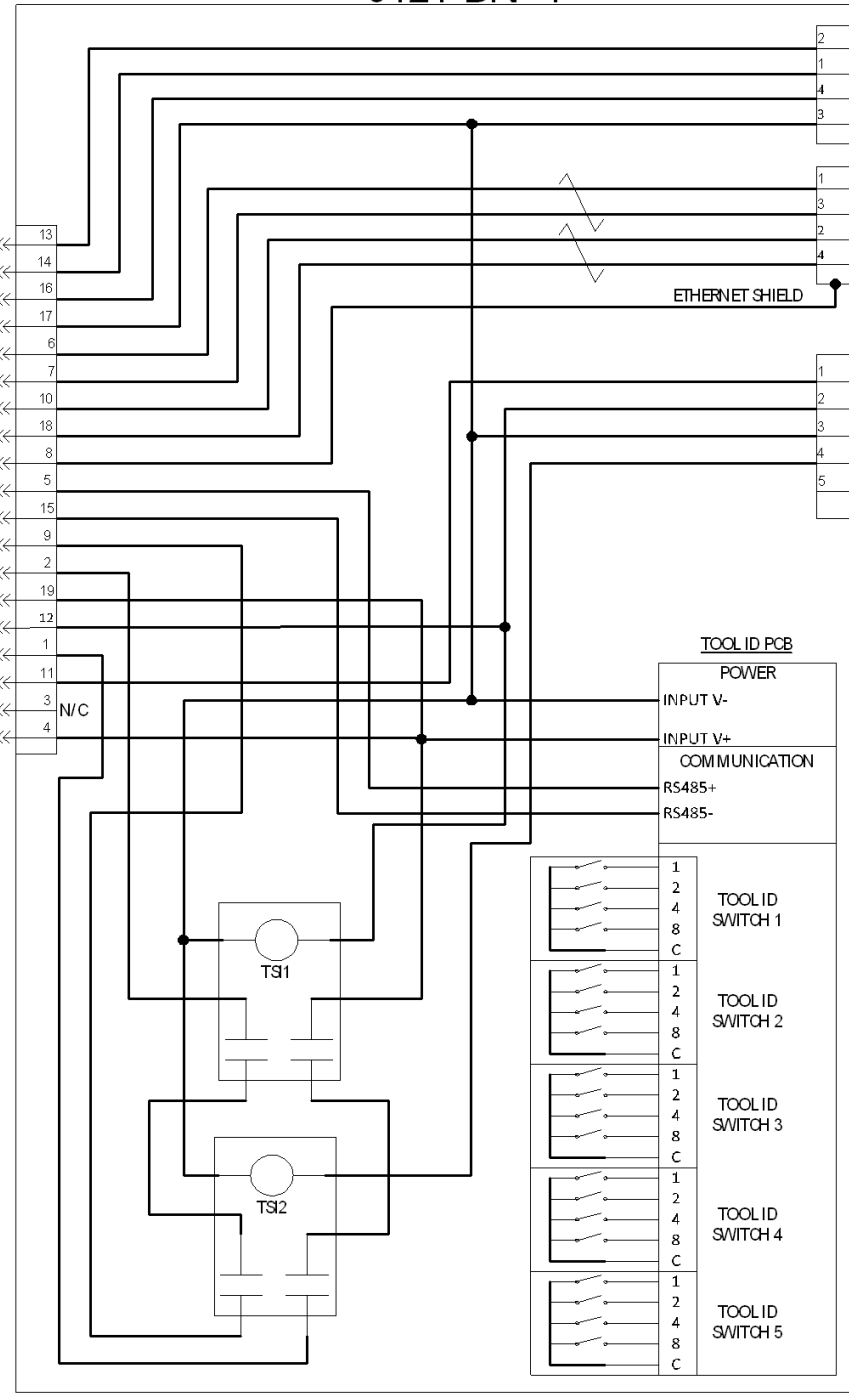
VALVE CONNECTION
3-PIN INTERNAL PIN BLOCK
NOTE 3

POWER CONNECTOR
4-Pin Female MiniFast

ETHERNET CONNECTOR
4-Pin D-Coded Female M12

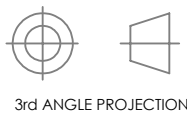
TSI CONNECTOR
5-Pin Female M12

SAFETY SWITCH
(Note 7)



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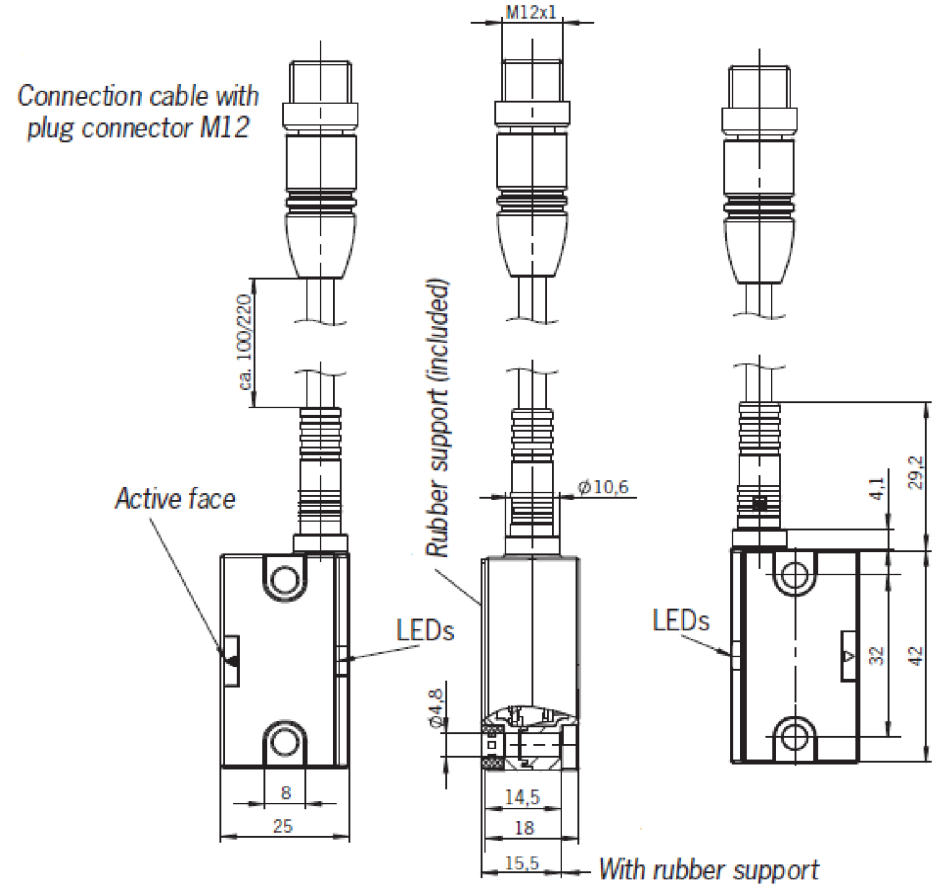
DRAWN BY: A. Takla, 07/08/16		TITLE	
CHECKED BY: W. Berrocal, 01/17/17 L. Jamshidi, 01/16/17		DKP Ethernet Control Module Customer Drawing	
PROJECT # 160527-2	SHEET 5 OF 6	SCALE 2:3	SIZE B
DRAWING NUMBER 9630-20-DKP		REVISION 04	

- Notes:
- 1. The sensors are powered by Input power.
 - 2. The complete tool changer package comes equipped with external cables that are connected to the sensors.
 - 3. An internal pin block is used to transmit the Latch/Unlatch signal to the valve adapter. The DKP Master is compatible with both Single and Double Solenoid Valve Adapter Modules.
 - 4. Cables for Ethernet and Auxiliary Power are supplied by the customer.
 - 5. The Tool ID I/O is reported in the DKP Master Bitmap. Refer to the product manual for more information.
 - 6. The Arc Prevention Circuit turns off Output and Input Power during coupling and uncoupling of the Tool Changer. The switching function is controlled by the POWER ON signal from the Ethernet Master PCB. The TOOL PRESENT input is used to ensure that the spring/contact pins are touching when power is turned on. Refer to the manual for additional information.
 - 7. The DKP requires the use of a PLe-rated two-channel non-contact Safety Sensor for TSI functionality. The manufacturer of this Safety Sensor is Euchner, Safety Sensor Part No# CES-I-AP-M-C04-USB-117324/ATI PN# 8600-117324 and Euchner Actuator Part No # CES-A-BBN-C04-115271/ATI PN # 8605-115271. The Safety Sensor and Actuator are not included with the DKP but is available from ATI. The Safety Sensor is powered by INPUT V+_SS / INPUT V-.
 - 8. TSI related error bits are not shown on this schematic but are reported in the DKP Master Bitmap. Refer to the product manual for details.
 - 9. ARC PREVENTION BOARD-3 is used to switch the power to the TSI Safety Switches. The Switching function is controlled by the POWER_ON_SS from the Ethernet Master PCB Communication Board.

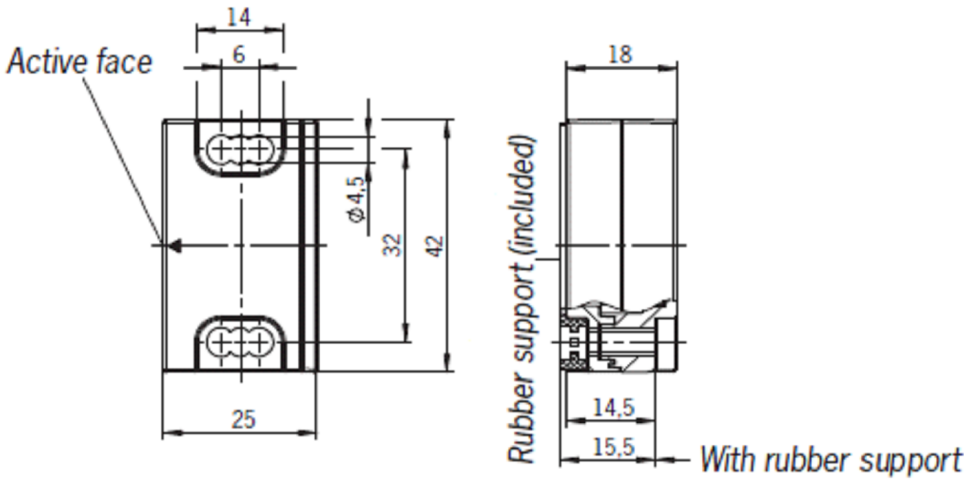


Figure 1: Euchner CES-AP-C04 Series Safety Sensor
Available Separately from ATI (PN# 9120-TSL-SS-9019)

Safety Switch: ATI PN# 8600-117324

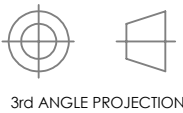


Actuator: ATI PN# 8605-115271



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CHECKED BY: W. Berrocal, 01/17/17 L. Jamshidi, 01/16/17							
PROJECT #	160527-2	SHEET 6	OF 6	SCALE 2:3	SIZE B	DRAWING NUMBER 9630-20-DKP	REVISION 04