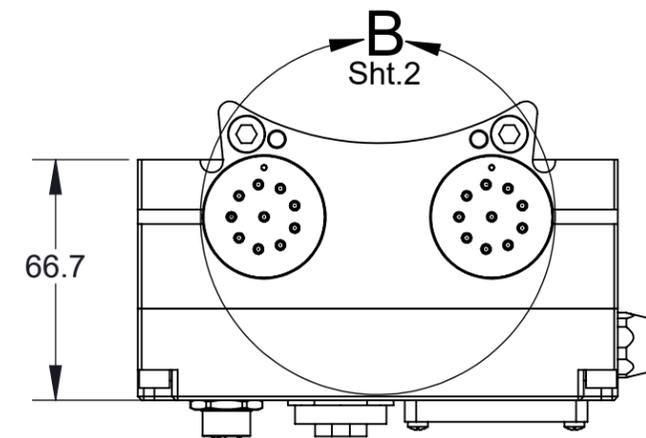
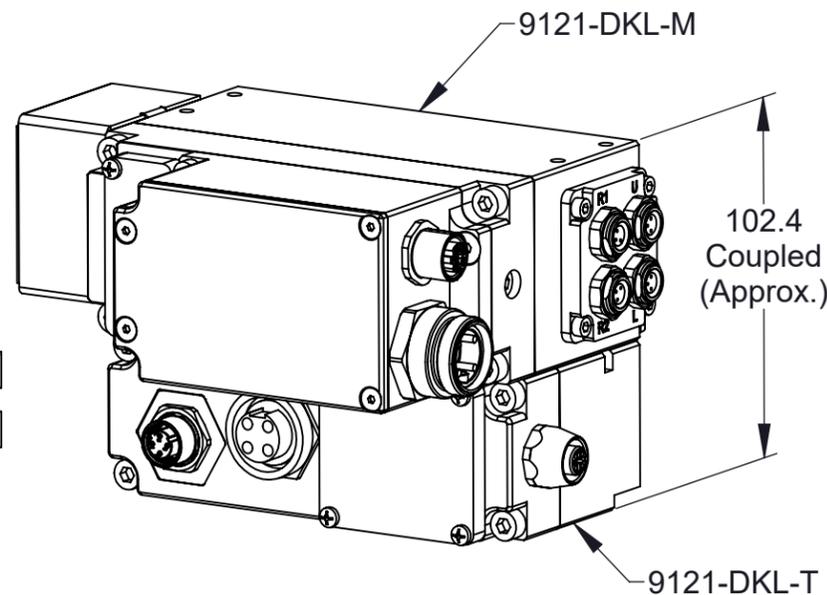
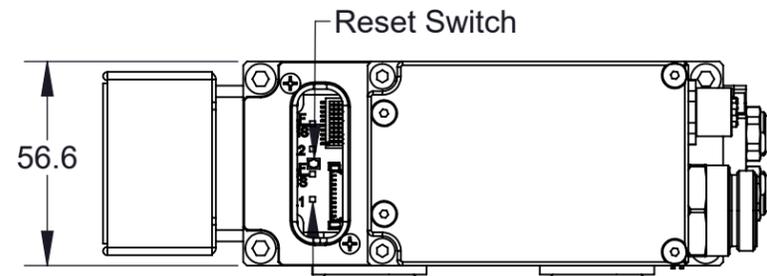
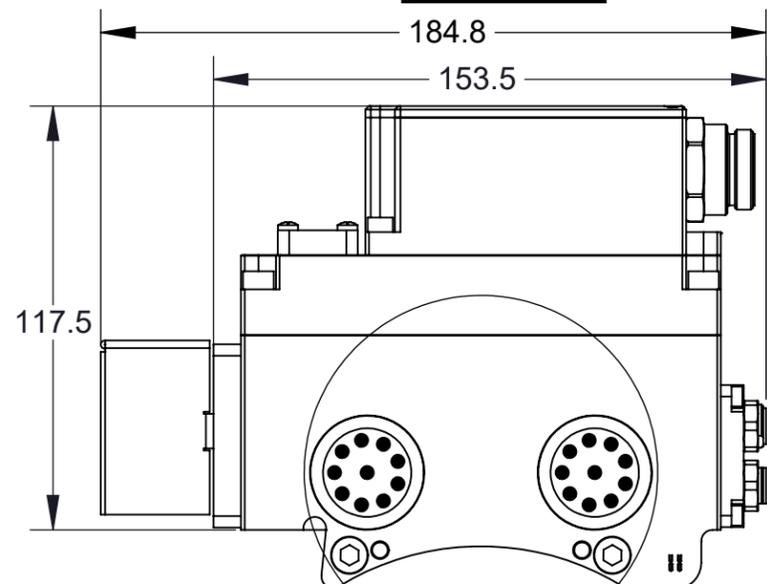


Rev.	Description	Initiator	Date
06	ECO 20533; Sheet 1 changed Turck FKDD 4413 to Signal 120404-04-064 for Tool Ethernet Connection. Updated title blocks. Removed revision tables from sheets 2-6. Updated to reflect changes to 9121-DKL-T. Sheet 3 changed Turck FKDD 4413 to Signal 120404-04-064 for DETAIL F	DS	03/07/2022



9121-DKL-M

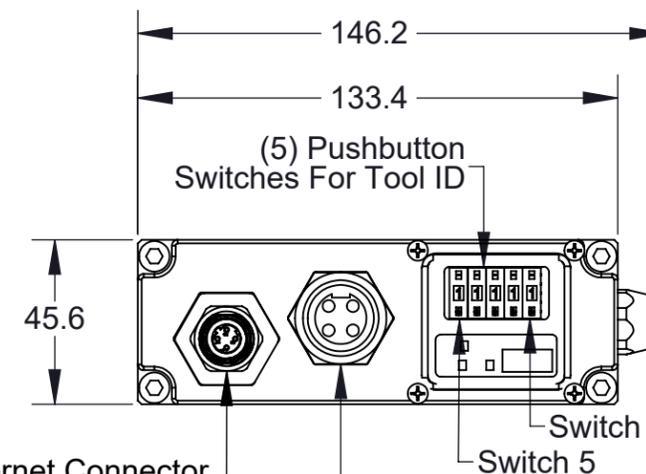


Auxiliary Power Connector
4-Pin Male MiniFast
Turck RSF 40-0.5M/M20
Connector Orientation
Not Guaranteed

Ethernet Connector
4-Pin M12, D-Coded Female
Binder 70 3734 705 04
Connector Orientation
Not Guaranteed

Integrated Tool Changer
Proximity Sensor Connections
4X M8 3-Pin Female
Turck MFKS 3F-PCBF
Note Connector Orientations

9121-DKL-T



Safety Sensor Connector
M12 5-Pin Female
Turck FK4.5-0.5/18.25
Connector Orientation
Not Guaranteed

Ethernet Connector
4-Pin M12, D-Coded Female
Signal 120404-04-064
Note Connector Orientation

Auxiliary Power Connector
4-Pin Female MiniFast
Turck RKFL 46
Note Connector Orientation

Valve Adapter Pressure
Sensor Connector
M8 4-Pin Female Turck MFKS 4F
Note Connector Orientation

Valve Adapter Proximity
Sensor Connector
M8 3-Pin Female Turck MFKS 3F
Note Connector Orientation

NOTES: UNLESS OTHERWISE SPECIFIED.

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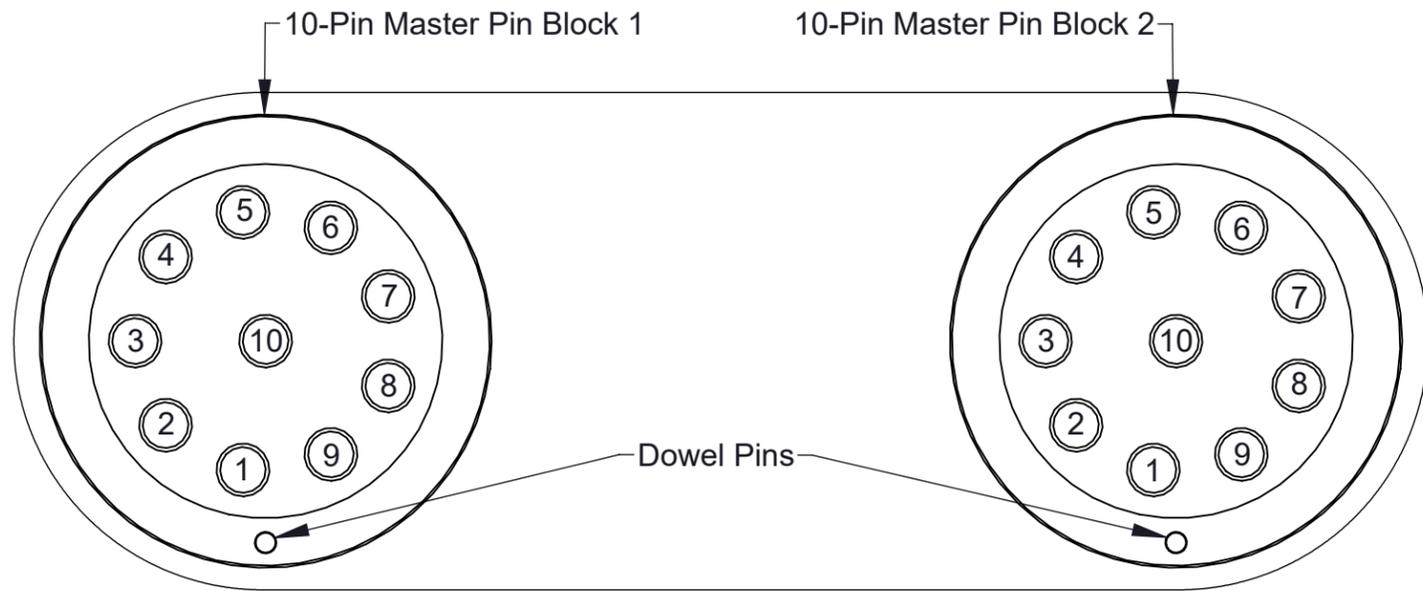
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F. Alonso, 07/14/15		SCALE	SIZE
PROJECT # 150514-5	SHEET 1 OF 6	1:2	B
		DRAWING NUMBER	REVISION
		9630-20-DKL	06

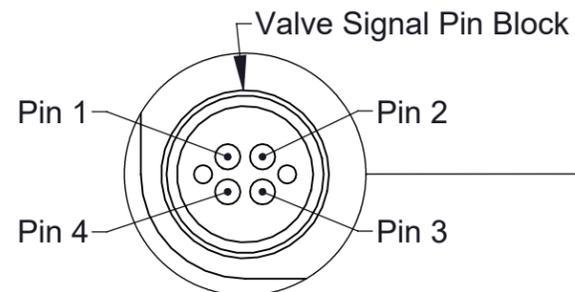


- Notes:
1. Pin block signal assignments are shown on Sheet 2.
 2. Connector pin designations are shown on Sheet 3.
 3. Electrical schematic of DKL Master and Tool is shown on Sheet 4. Schematic notes are on Sheet 5.
 4. Serviceable parts are shown on Sheet 6.

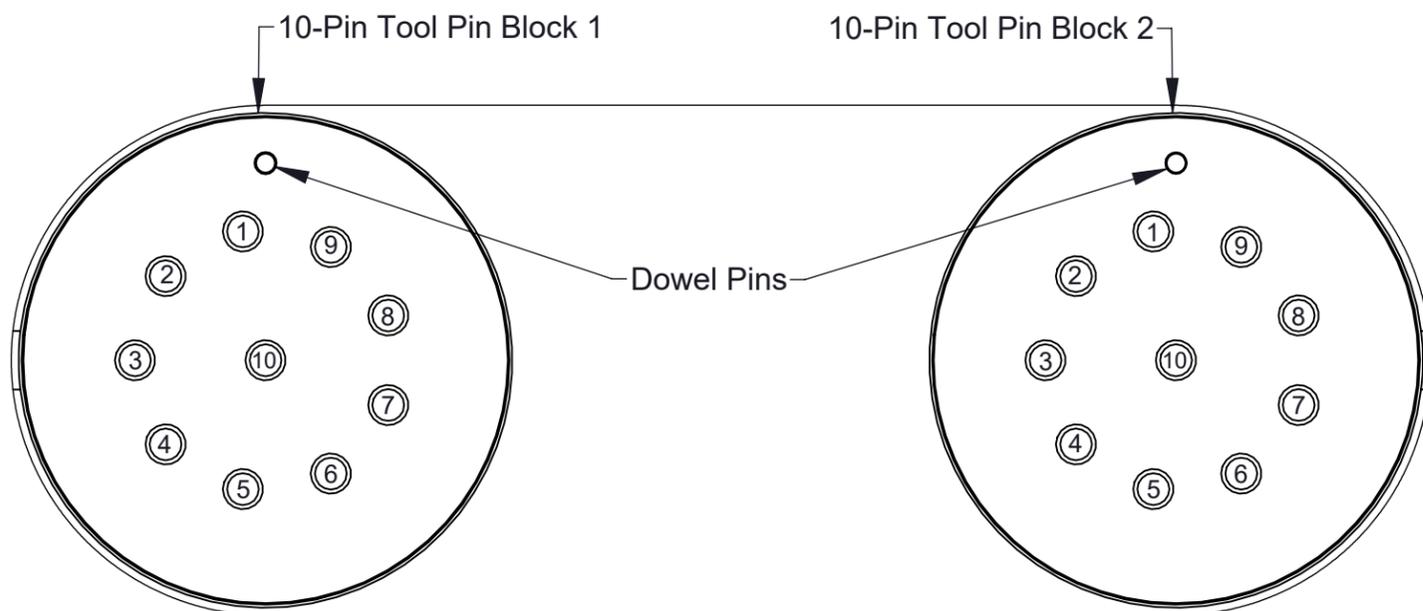
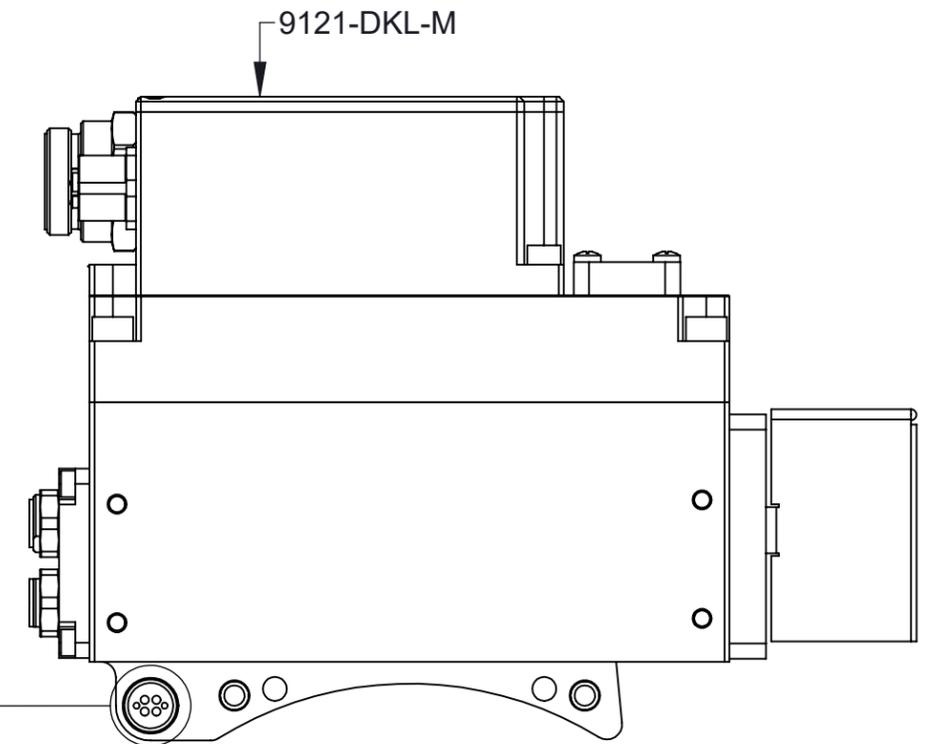


DETAIL A
SCALE 2 : 1

Table 3	
Internal Valve Connection	
Pin 1	Latch
Pin 2	Unlatch 2
Pin 3	Unlatch 1
Pin 4	OUTPUT V-



DETAIL C
SCALE 2 : 1



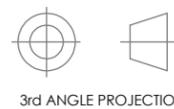
DETAIL B
SCALE 2 : 1

10-Pin Block 1	
1	TX+
2	TX-
3	24V_TH
4	N/C
5	SSO1
6	ETHERNET SHIELD
7	RX+
8	RX-
9	SSO2
10	24V_GND

10-Pin Block 2	
1	N/C
2	OUTPUT V-
3	RS485+
4	TOOL PRESENCE
5	RS485-
6	INPUT V-
7	N/C
8	OUTPUT V+
9	INPUT V+
10	N/C

NOTES: UNLESS OTHERWISE SPECIFIED.

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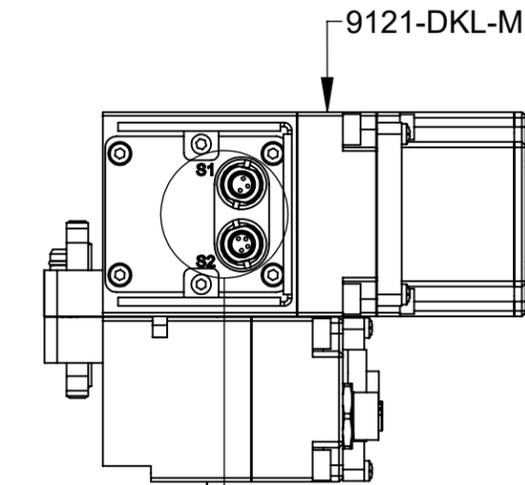
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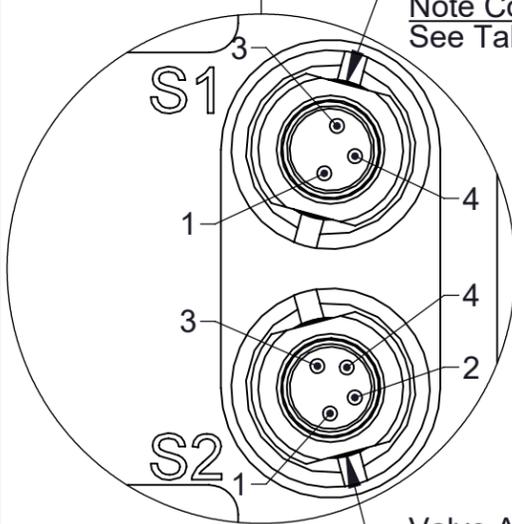
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PROJECT # 150514-5	SHEET 2 OF 6	SCALE 1:2	SIZE B
		DRAWING NUMBER 9630-20-DKL	REVISION 06



9121-DKL-T

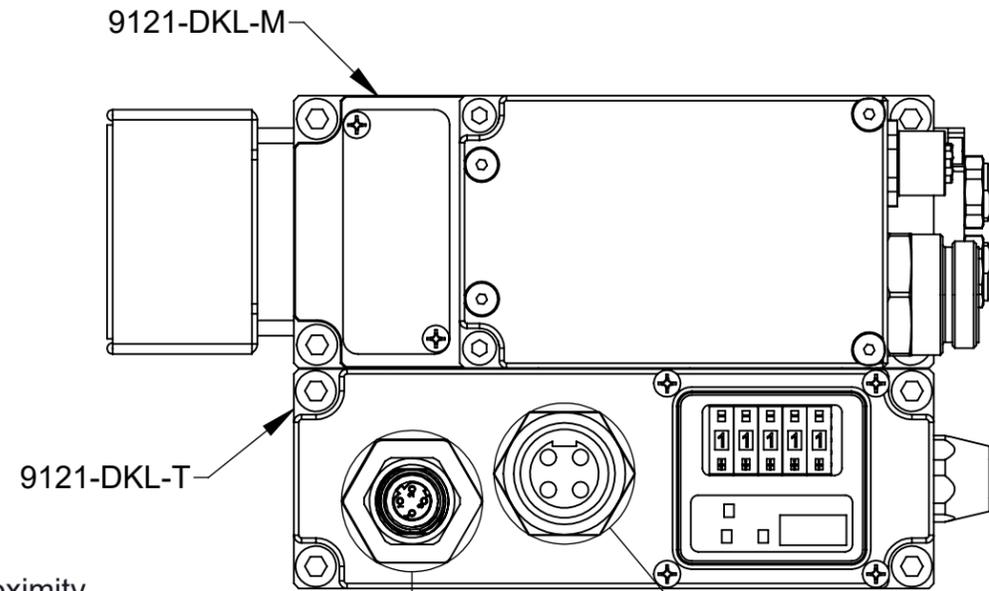
Valve Adapter Proximity Sensor Connector
M8 3-Pin Female Turck MFKS 3F
Note Connector Orientation
See Table 4



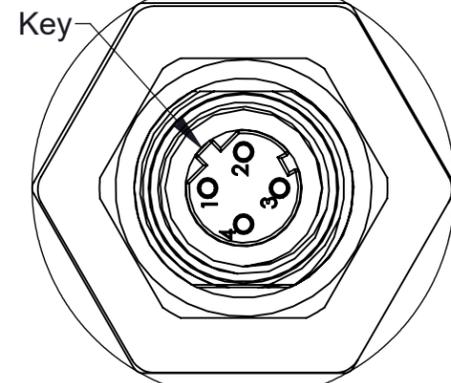
DETAIL D
SCALE 2 : 1

Valve Adapter Pressure Sensor Connector
M8 4-Pin Female Turck MFKS 4F
Note Connector Orientation
See Table 5

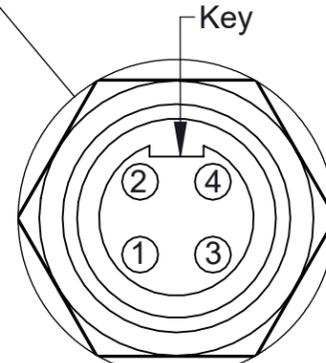
Table 4 Valve Adapter Proximity Sensor Connector	
1	INPUT V+
3	INPUT V-
4	Input



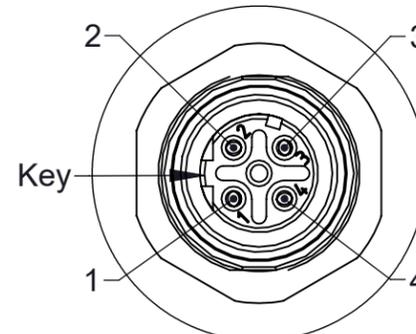
9121-DKL-T



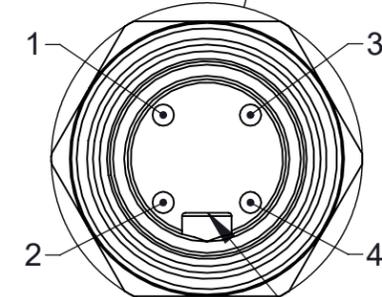
DETAIL F
Ethernet Connector
4-Pin M12, D-Coded Female
Signal 120404-04-064
Note Connector Orientation
See Table 6
SCALE 2 : 1



DETAIL E
Auxiliary Power Connector
4-Pin Female MiniFast
Turck RKFL 46
Note Connector Orientation
See Table 7
SCALE 1.5 : 1

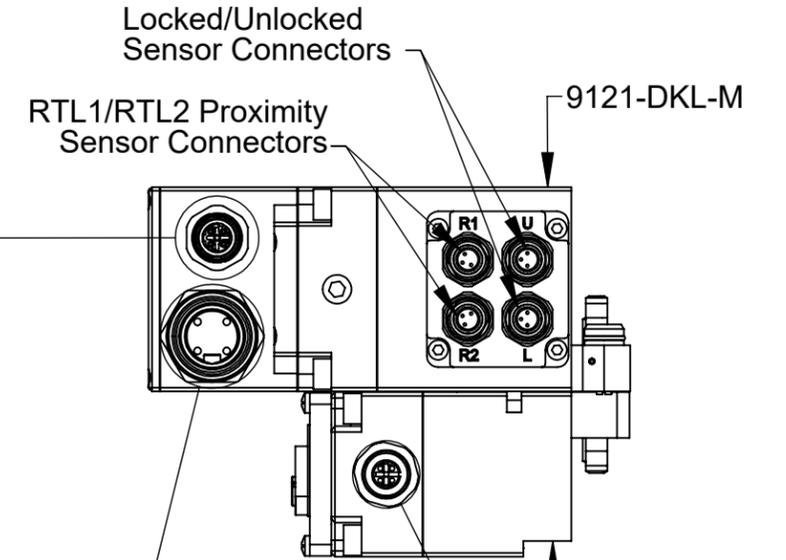


DETAIL G
Ethernet Connector
4-Pin M12, D-Coded Female
Binder 70 3734 705 04
Connector Orientation
Not Guaranteed
See Table 6
SCALE 2 : 1



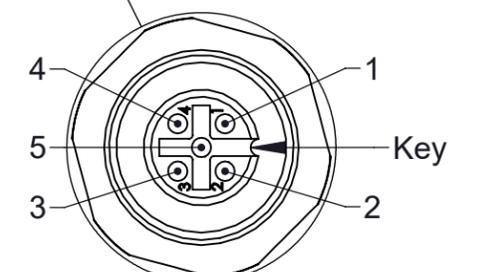
DETAIL H
Auxiliary Power Connector
4-Pin Male MiniFast
Turck RSF 40-0.5M/M20
Connector Orientation
Not Guaranteed
See Table 7
SCALE 1.5 : 1

Table 7 Auxiliary Power Connectors	
1	OUTPUT V+
2	INPUT V+
3	INPUT V-
4	OUTPUT V-



RTL1/RTL2 Proximity Sensor Connectors

Locked/Unlocked Sensor Connectors



DETAIL J
Safety Sensor Connector
M12 5-Pin Female
Turck FK4.5-0.5/18.25
Connector Orientation
Not Guaranteed
See Table 8
SCALE 2 : 1

Table 8 Safety Switch Connector	
1	24V_TH
2	SSO1
3	24V_GND
4	SSO2
5	N/C

NOTES: UNLESS OTHERWISE SPECIFIED.

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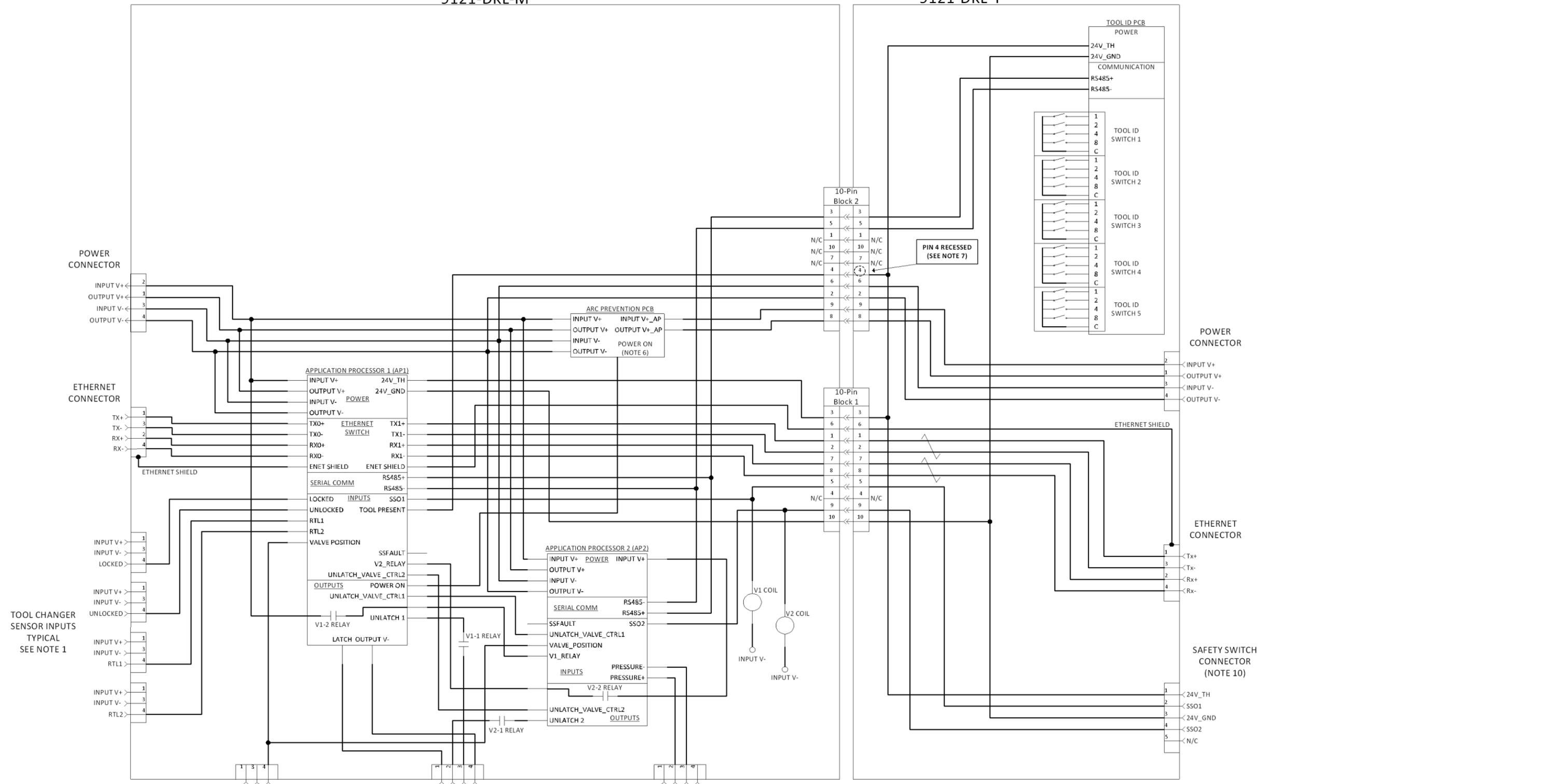
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PROJECT # 150514-5	SHEET 3 OF 6	1:2	06

9121-DKL-M

9121-DKL-T



VALVE ADAPTER PROXIMITY SENSOR CONNECTION
M8 3-PIN FEMALE

VALVE CONNECTION
4-PIN INTERNAL PIN BLOCK
NOTE 2

PRESSURE SENSOR CONNECTION
M8 4-PIN FEMALE

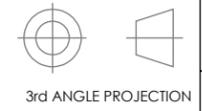
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Notes:
1. Schematic notes are on Sheet 5.



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PROJECT # 150514-5	SHEET 4 OF 6	1:2	06

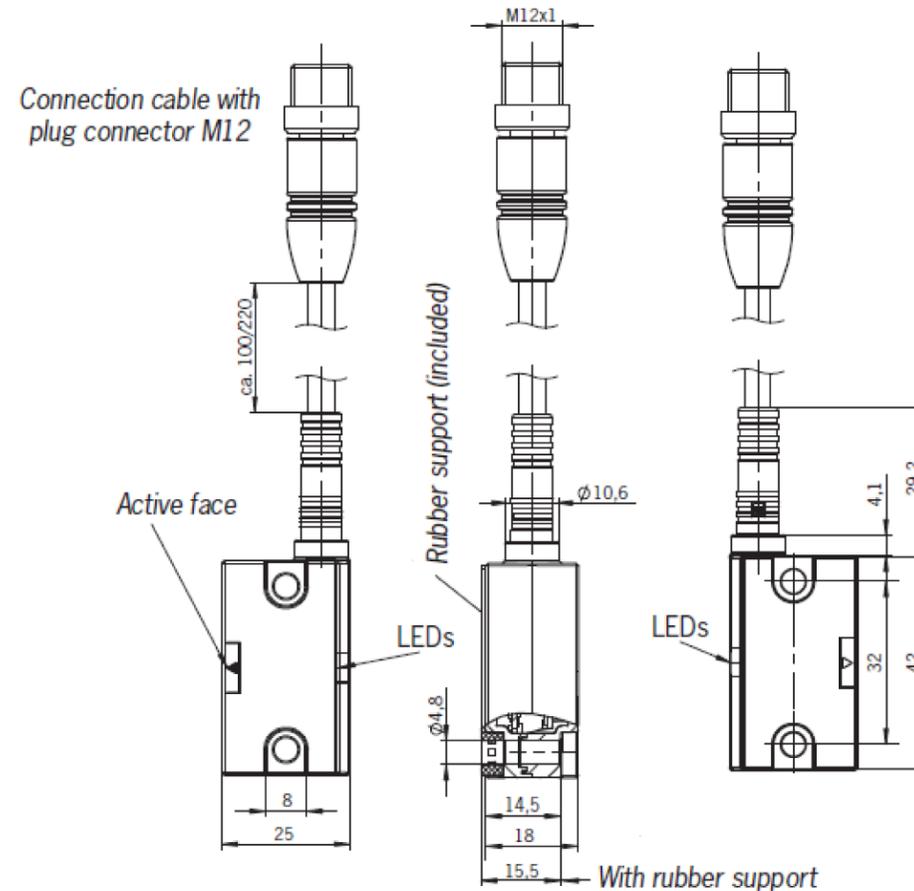
Schematic Notes:

1. The complete tool changer package comes equipped with external cables that are connected to the sensors. The DKL modules must be used with Valve Adapters employing two valves and diagnostic monitoring via pressure and proximity sensors (ex. 9121-JR4-M, 9121-JU4-M).
2. An internal pin block is used to connect the Latch/Unlatch signal to the Valve Adapter.
3. Power, Ethernet, and Safety Switch cables for the DKL Modules are supplied by the customer.
4. The Tool ID I/O is reported in the DKL Master Bitmap. Refer to the product manual for more information. The Tool ID board is powered by current limited 24V unswitched power (24V_TH and 24V_GND).
5. Note that the R1, R2, L, and U sensors are powered by Input Power. The common INPUT V+ and INPUT V- connections are not shown here.
6. The Ethernet (Tx and Rx) signals are transmitted over twisted pairs.
7. The Arc Prevention PCB turns off Input V+ and Output V+ during coupling and uncoupling of the Master and Tool. The switching function is controlled by the "Power ON" signal from Application Processor 1 (AP1). The "Tool Present" circuit is used to ensure that the spring/contact pins are touching when power is turned on. Refer to the product manual for additional information.
8. The DKL Module requires the use of a two channel, PLe rated contactless Safety Sensor, specifically, Euchner CES Series Safety Sensors. The Safety Sensor is not included. The Safety Sensor is powered by current limited INPUT Power (24V_TH).
9. The Valve Adapter pressure sensor is supplied with 5V (unswitched) from AP2. The pressure sensor provides an analog input to the DKL.
10. The Valve Adapter proximity sensor is powered by INPUT Power.
11. The DKL module employs a dual channel safety circuit to prevent an unsafe tool unlatch. An extensive description of the safety system is provided in the DKL Operation Manual: 9620-20-C-DKL.

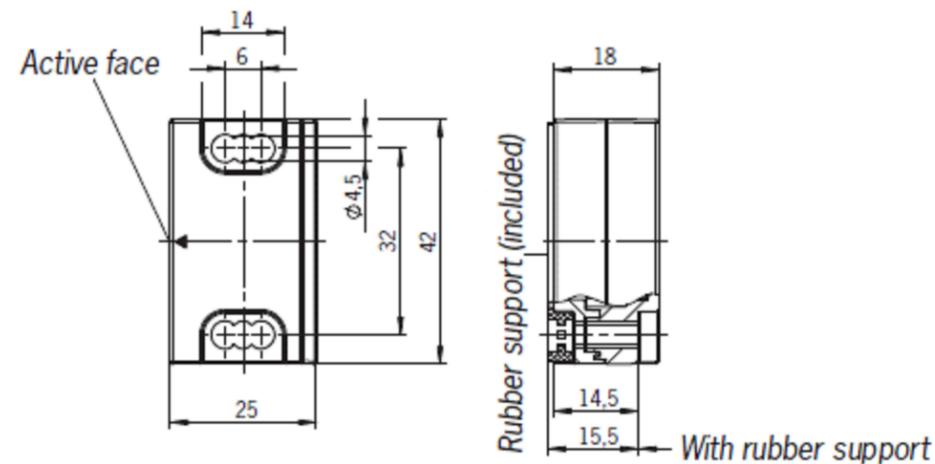


Figure 1: Euchner CES-AP-C04 Series Safety Sensor

Safety Switch: ATI PN# 8600-117324



Actuator: ATI PN# 8605-115271



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PROJECT # 150514-5	SHEET 5 OF 6	SCALE 1:10	SIZE B
		DRAWING NUMBER 9630-20-DKL	REVISION 06

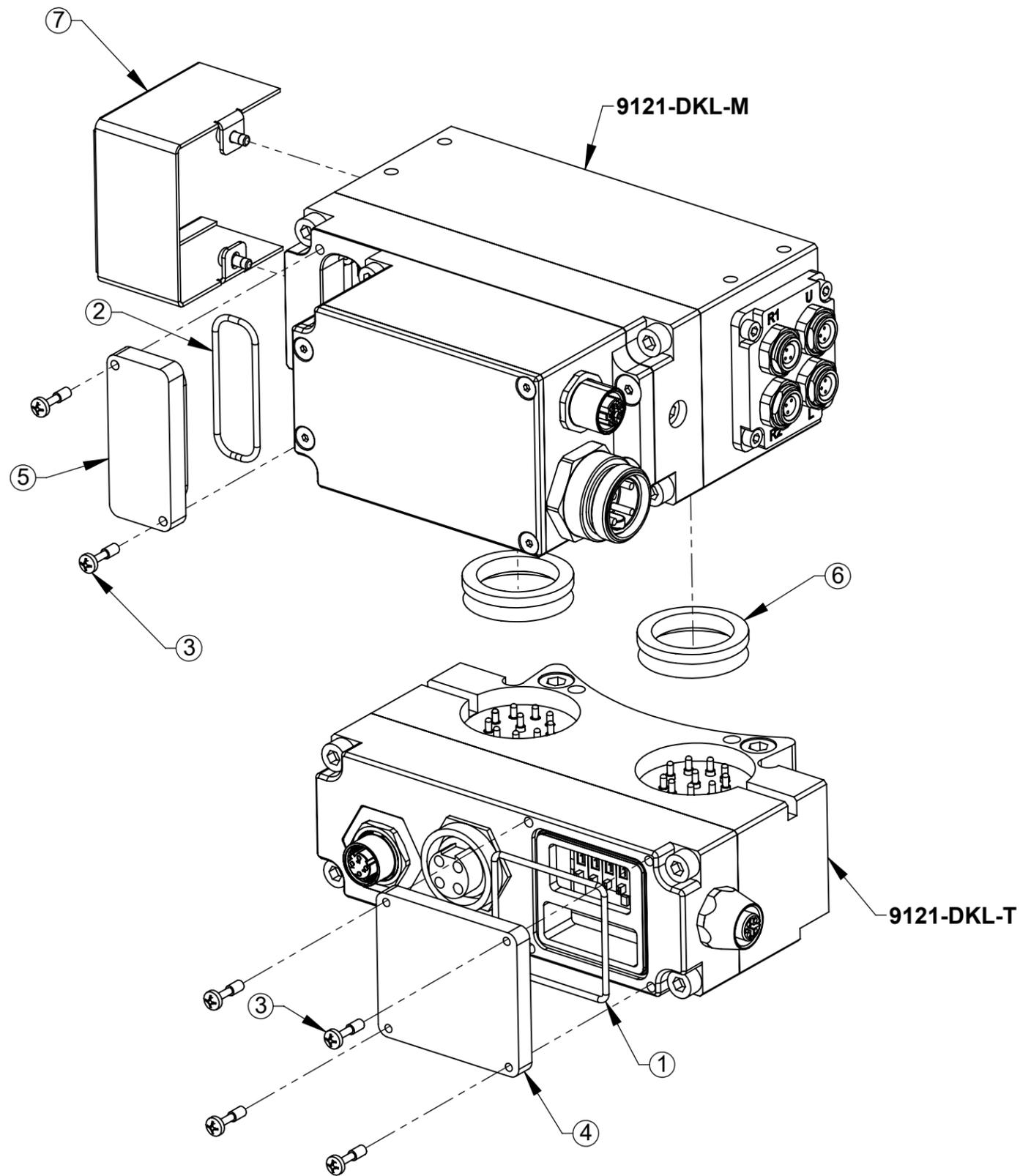


TABLE 9: 9121-DKL-M/T SERVICEABLE PARTS

ITEM	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	Pan Head M3 Captive Screw M3 X 12
4	1	3700-20-3058	Tool ID Window
5	1	3700-20-4820	Window, DJ Master, Annular Seal
6	2	4010-0000030-01	V-Ring Seal V-22A Nitrile
7	1	9005-20-2517	Diagnostic Sensor Guard

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				REVISION
				06