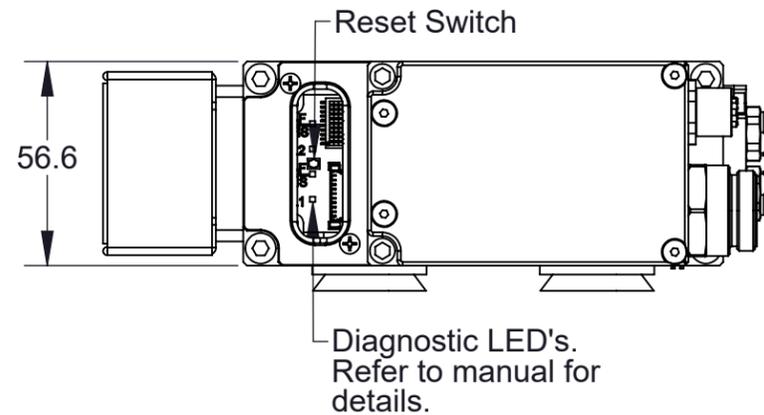
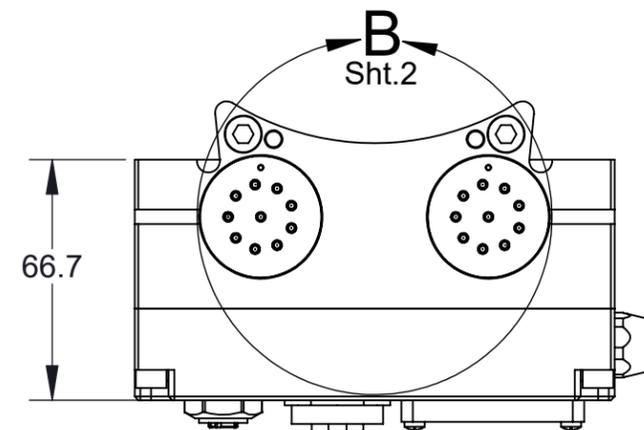
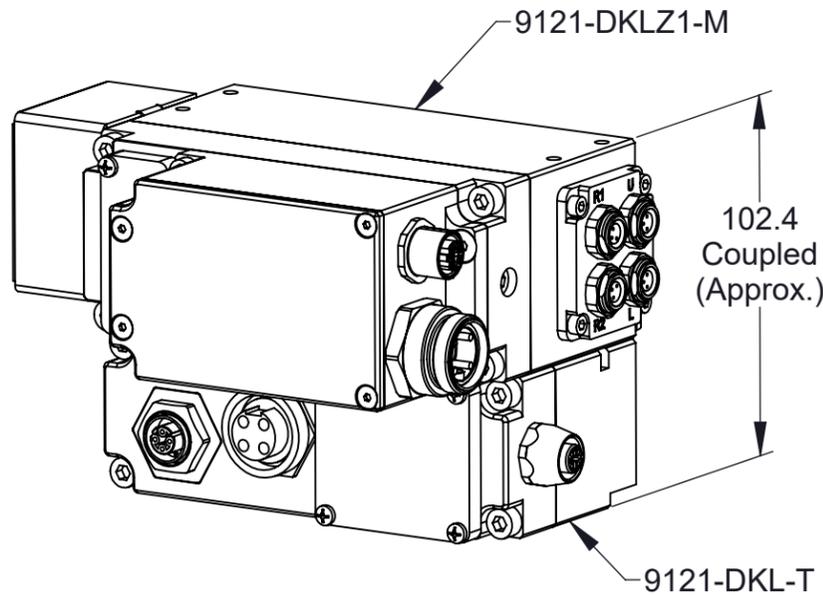


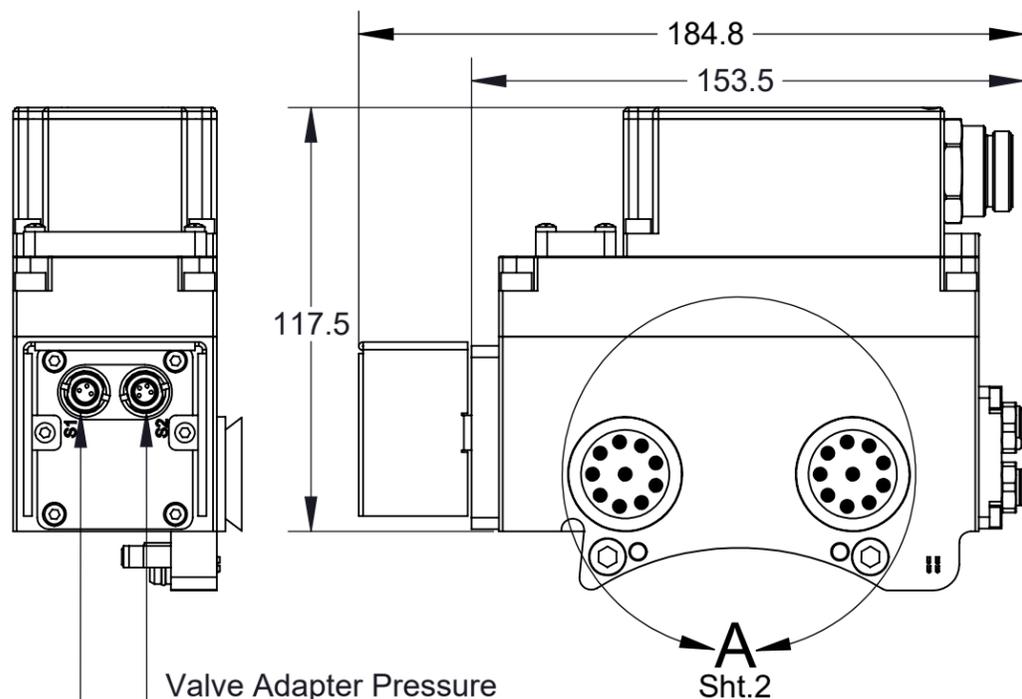
Rev.	Description	Initiator	Date
03	No changes. Release.	WB	11/11/2020



9121-DKLZ1-M



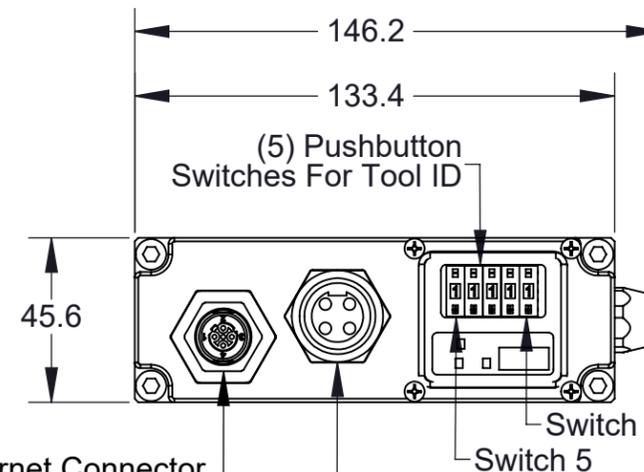
9121-DKL-T



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



Ethernet Connector
4-Pin M12, D-Coded Female
Turck FKSSD 4413
Note Connector Orientation

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

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

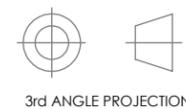
Valve Adapter Pressure
Sensor Connector
M8 4-Pin Female Turck MFKS 4F
Note Connector Orientation

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

- Notes:
1. Pin block signal assignments are shown on Sheet 2.
 2. Connector pin designations are shown on Sheet 3.
 3. Electrical schematic of DKLZ1 Master and DKL Tool is shown on Sheet 4. Schematic notes are on Sheet 5.
 4. Serviceable parts are shown on Sheet 6.

NOTES: UNLESS OTHERWISE SPECIFIED.

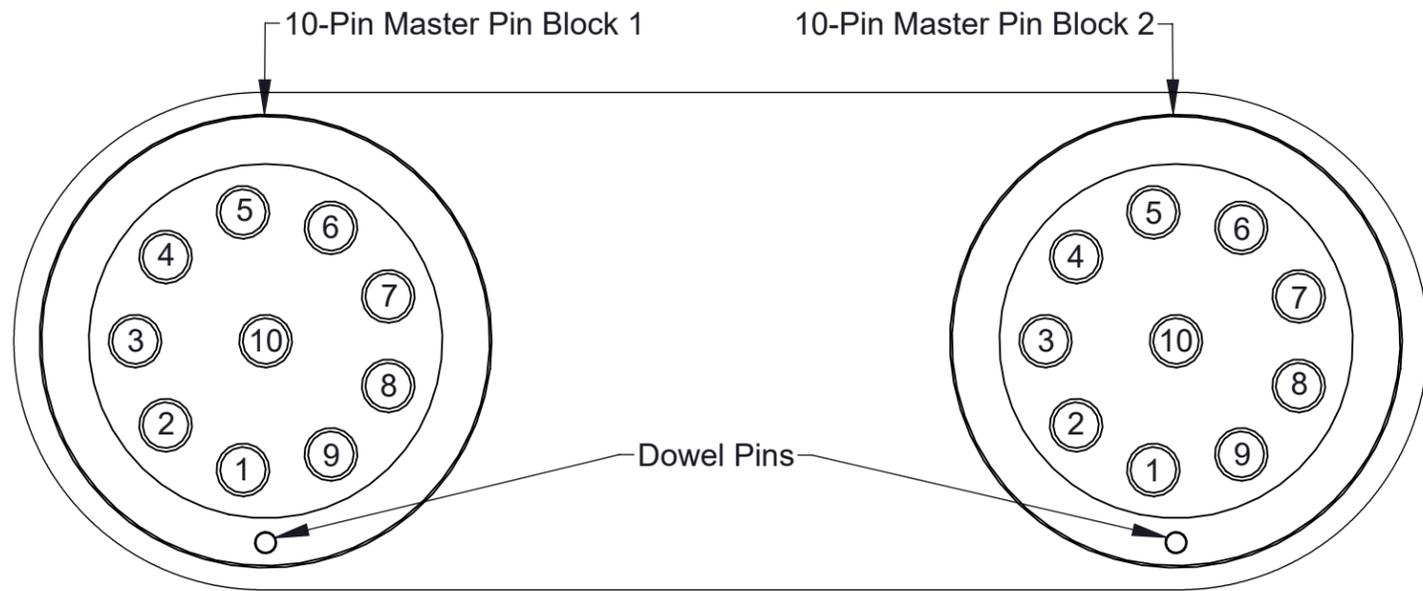
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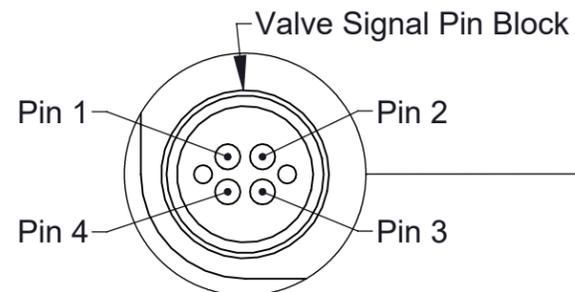
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CHECKED BY: M. Newell, 11/3/20 F. Alonso, 07/14/15		DKLZ1 Master, DKL Tool Ethernet Control Module Customer Drawing	
PROJECT # 201012-1 SHEET 1 OF 6	SCALE 1:2	SIZE B	DRAWING NUMBER 9630-20-DKLZ1M DKLT
			REVISION 03

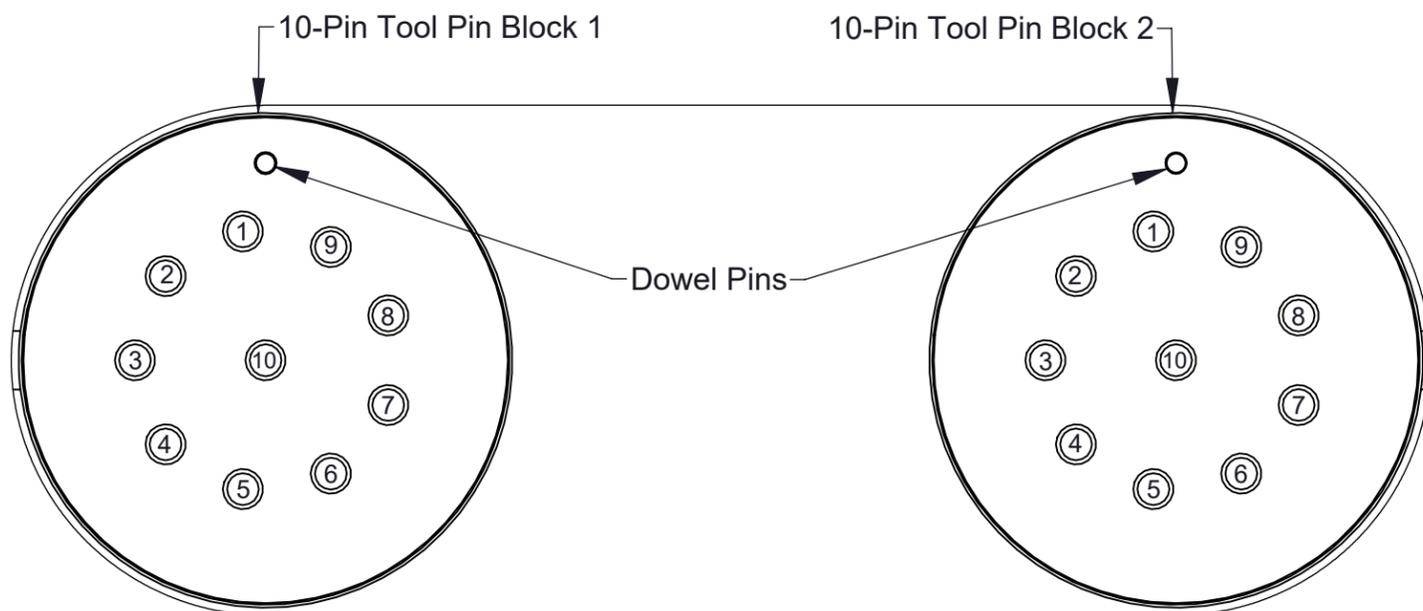
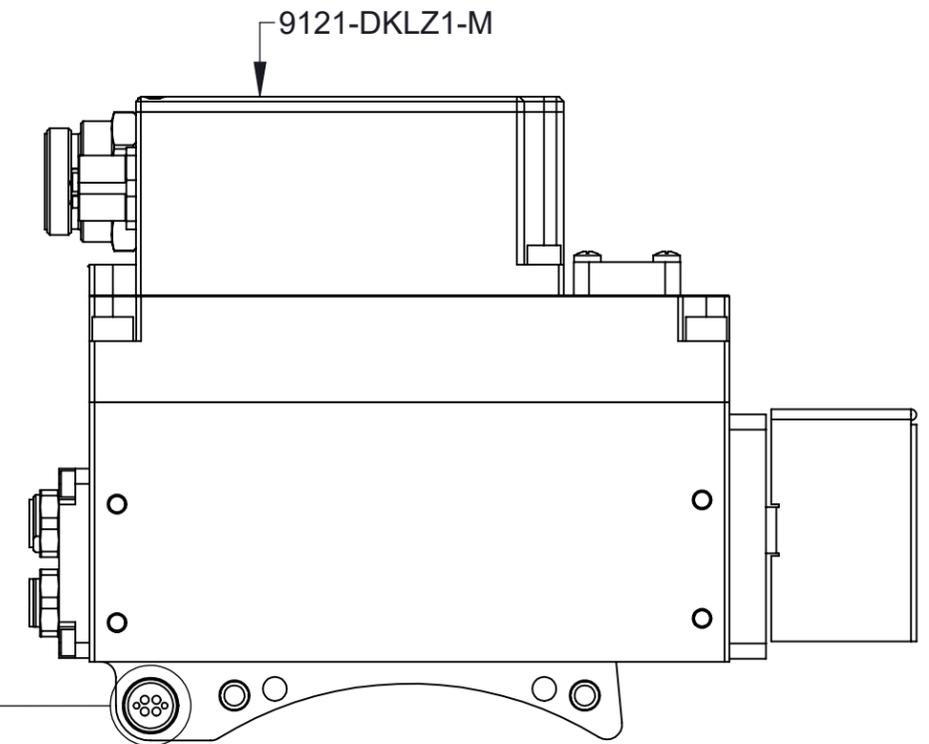


DETAIL A
SCALE 2 : 1

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



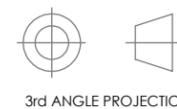
DETAIL B
SCALE 2 : 1

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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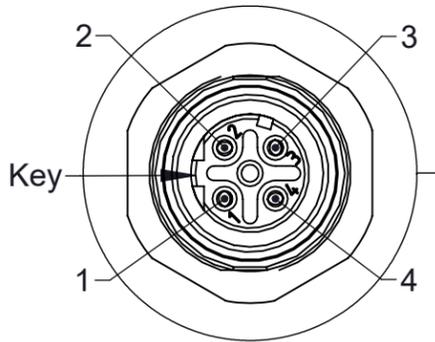
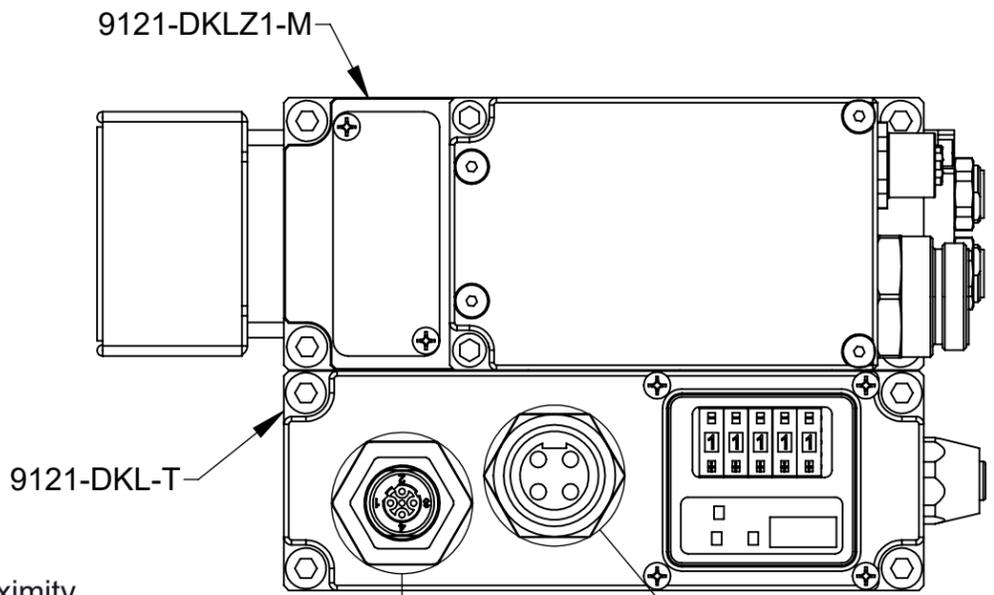
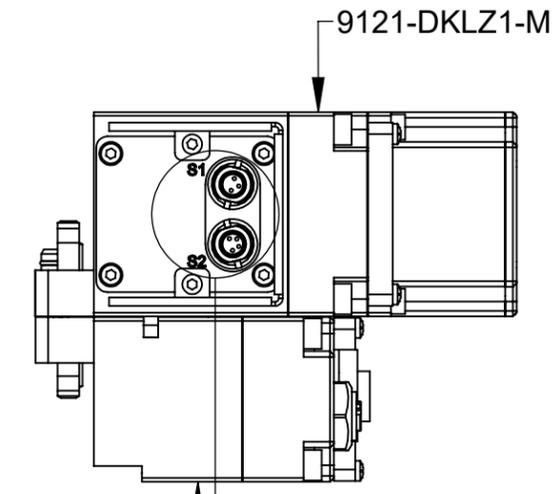
3rd ANGLE PROJECTION



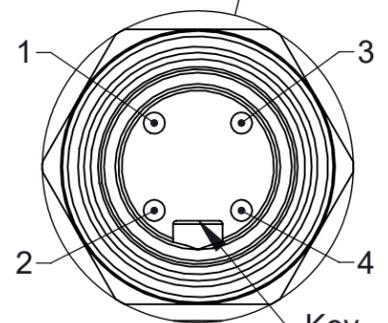
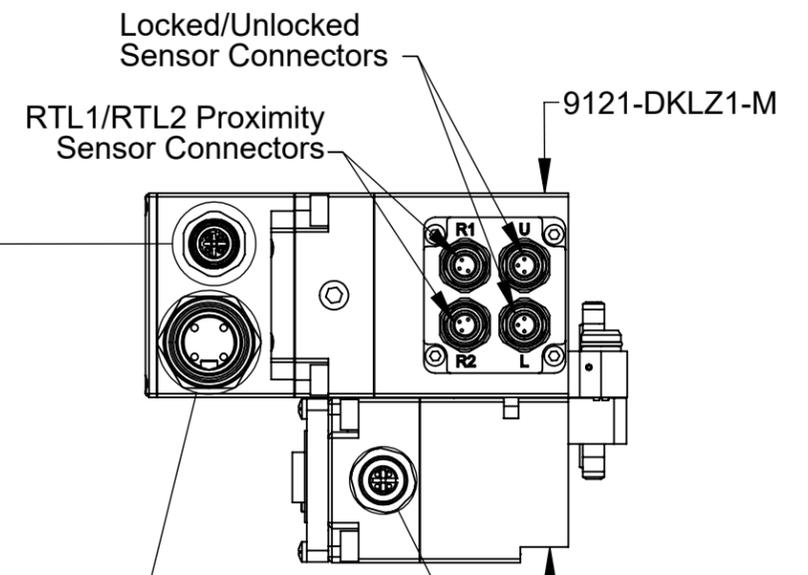
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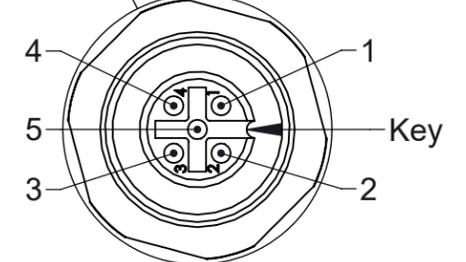
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CHECKED BY: M. Newell, 11/3/20 F. Alonso, 07/14/15		DKLZ1 Master, DKL Tool Ethernet Control Module Customer Drawing	
PROJECT #	201012-1 SHEET 2 OF 6	SCALE	1:2
SIZE	B	DRAWING NUMBER	9630-20-DKLZ1M DKLT
REVISION			03



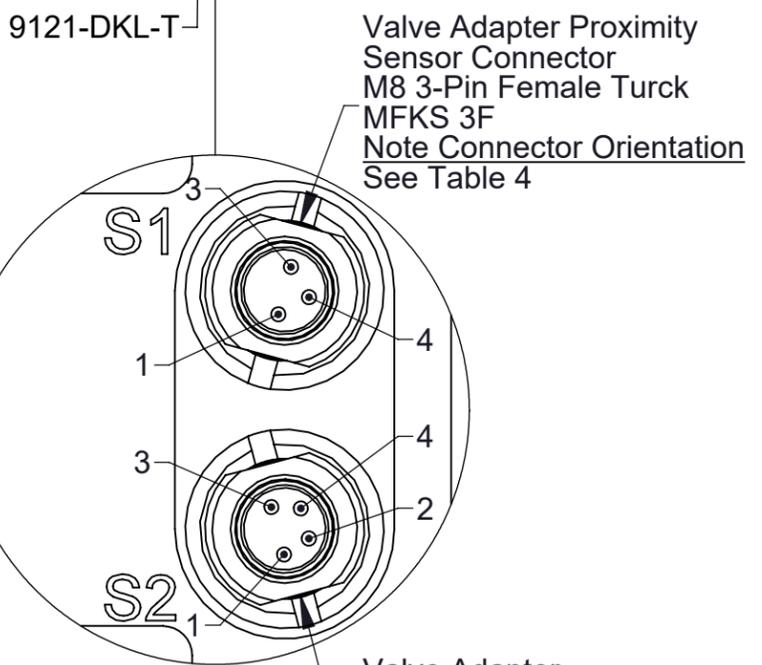
DETAIL G
Ethernet Connector
4-Pin M12, D-Coded Female
Binder 70 3734 705 04
Connector Orientation
Not Guaranteed
See Table 6
SCALE 2 : 1



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

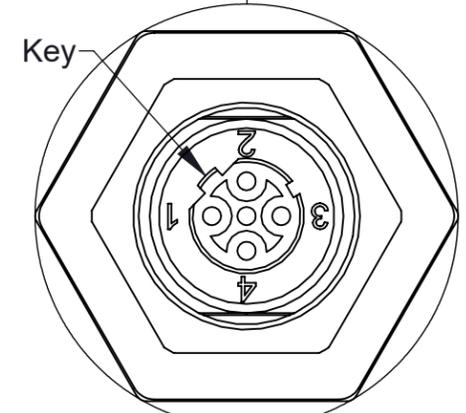


DETAIL J
Safety Sensor Connector
M12 5-Pin Female
Turck FK4.5-0.5/18.25
Connector Orientation
Not Guaranteed
See Table 8
SCALE 2 : 1

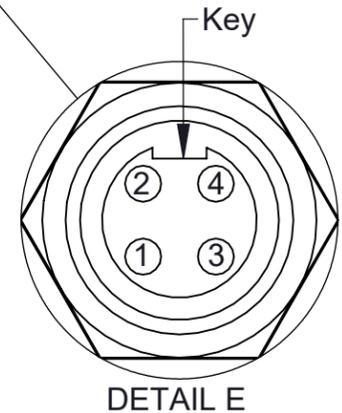


DETAIL D
SCALE 2 : 1

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



DETAIL F
Ethernet Connector
4-Pin M12, D-Coded Female
Turck FKSD 4413
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

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

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

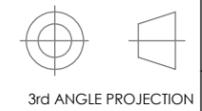
Table 4	
Valve Adapter Proximity Sensor Connector	
1	INPUT V+
3	INPUT V-
4	Input

Table 5	
Valve Adapter Pressure Sensor Connector	
1	+5V
2	Pressure Output+
3	Pressure Output-
4	GND_5V

Table 6	
Ethernet Connectors	
1	Tx+
2	Rx+
3	Tx-
4	Rx-

NOTES: UNLESS OTHERWISE SPECIFIED.

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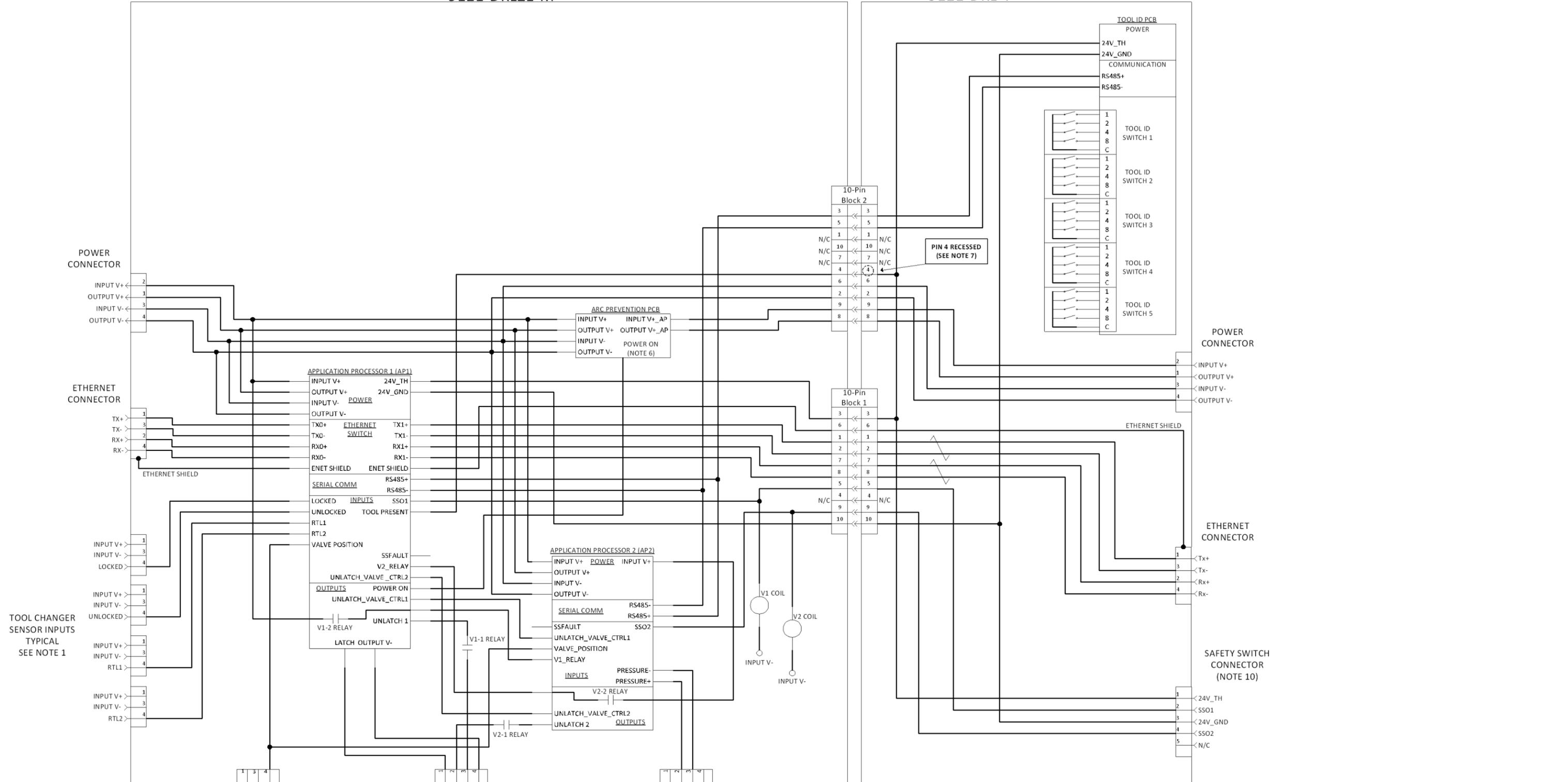
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PROJECT #	201012-1	SHEET	3 OF 6
SCALE	1:2	SIZE	B
DRAWING NUMBER	9630-20-DKLZ1M DKLT		REVISION
			03

9121-DKLZ1-M

9121-DKL-T



TOOL CHANGER
SENSOR INPUTS
TYPICAL
SEE NOTE 1

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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SCALE	SIZE	DRAWING NUMBER	REVISION						
1:2	B	9630-20-DKLZ1M DKLT	03						

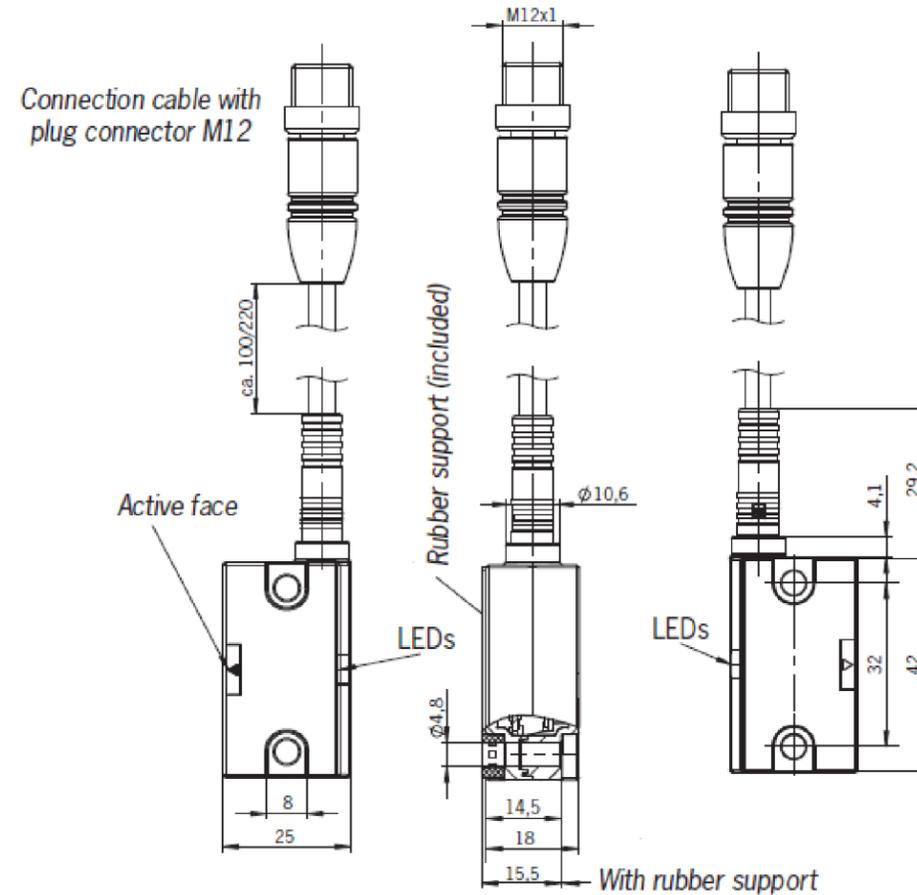
Schematic Notes:

1. The complete tool changer package comes equipped with external cables that are connected to the sensors. The DKLZ1M/DKLT 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 DKLZ1 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 Tool 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 DKLZ1.
10. The Valve Adapter proximity sensor is powered by INPUT Power.
11. The DKLZ1M/DKLT modules employ 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.

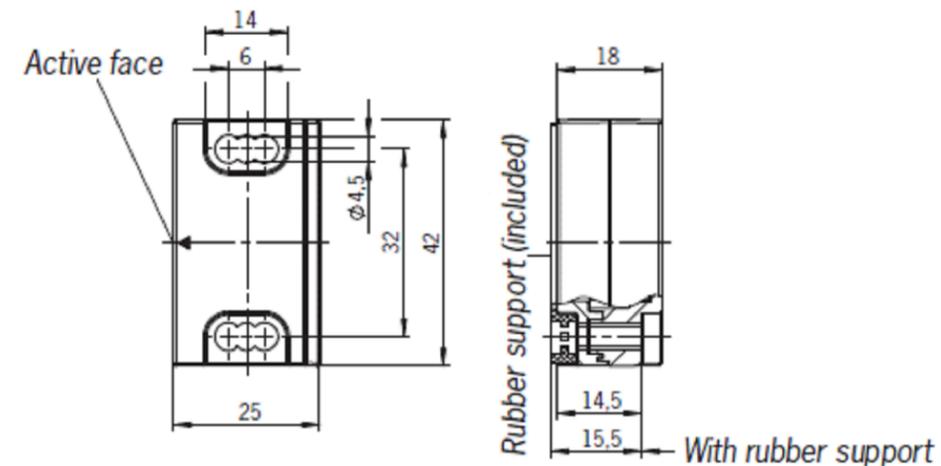


Figure 1: Euchner CES-AP-C04 Series Safety Sensor

Safety Switch: ATI PN# 8600-117324

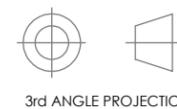


Actuator: ATI PN# 8605-115271



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PROJECT # 201012-1	SHEET 5 OF 6	SCALE 1:10	REVISION 03
		SIZE B	DRAWING NUMBER 9630-20-DKLZ1M DKLT

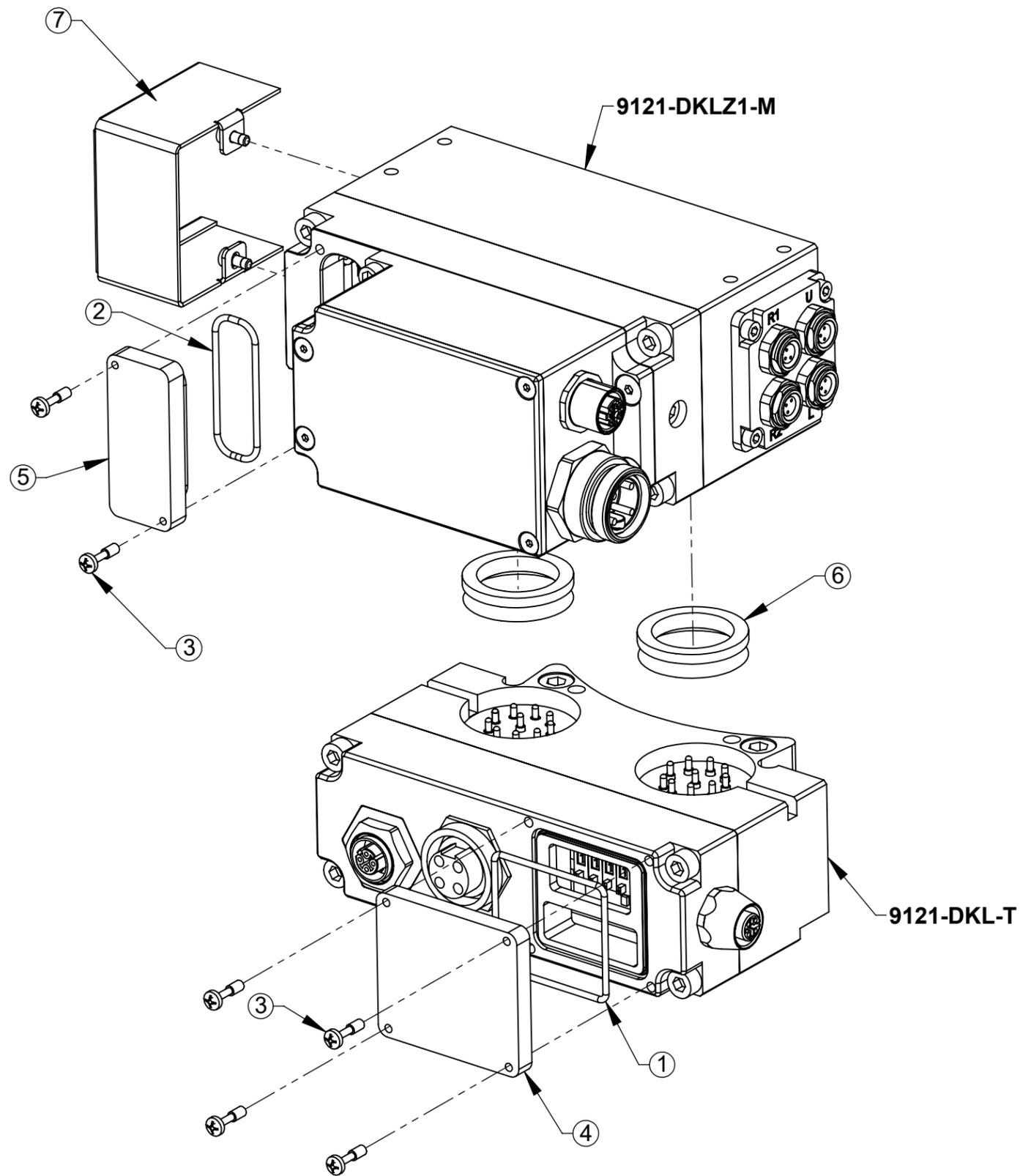


TABLE 9: 9121-DKLZ1-M, 9121-DKL-T SERVICEABLE PARTS

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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F. Alonso, 07/14/15

PROJECT # 201012-1 SHEET 6 OF 6

TITLE

DKLZ1 Master, DKL Tool Ethernet Control Module Customer Drawing

SCALE
1:2

SIZE
B

DRAWING NUMBER
9630-20-DKLZ1M DKLT

REVISION
03