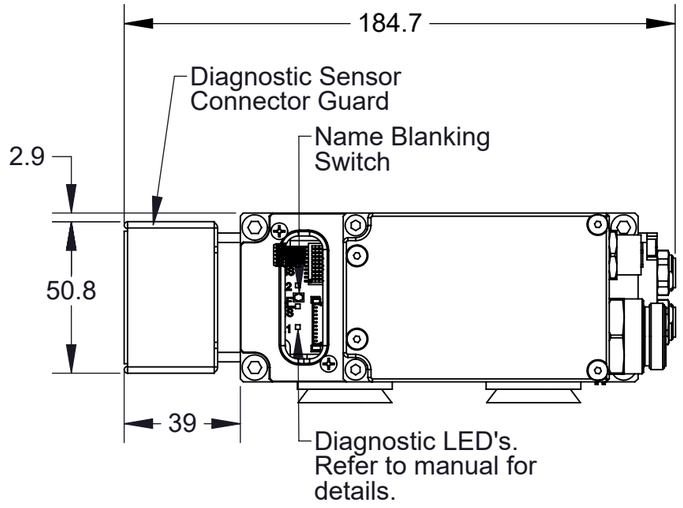
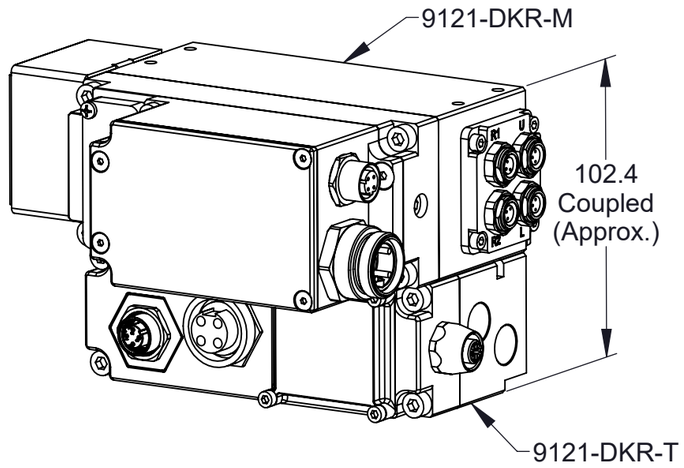
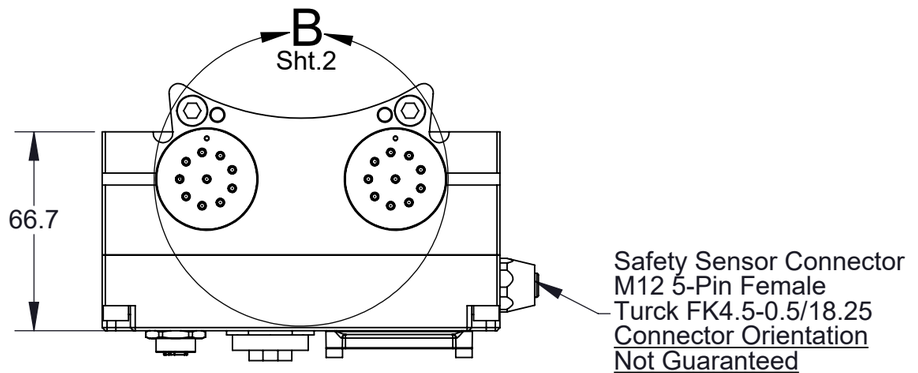
Rev.	Description	Initiator	Date
08	ECO 21749: Updated to show changes to Tool ID Window, injection molded.	BAW	3/2/2026

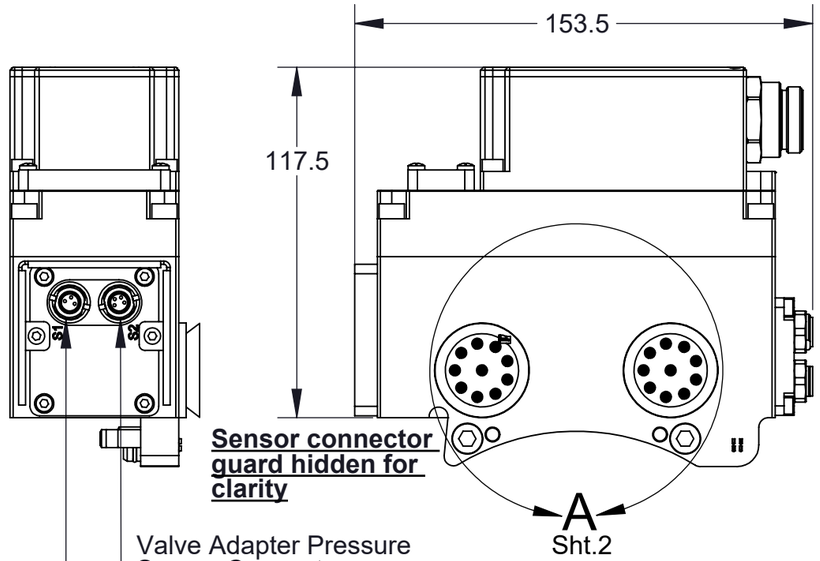


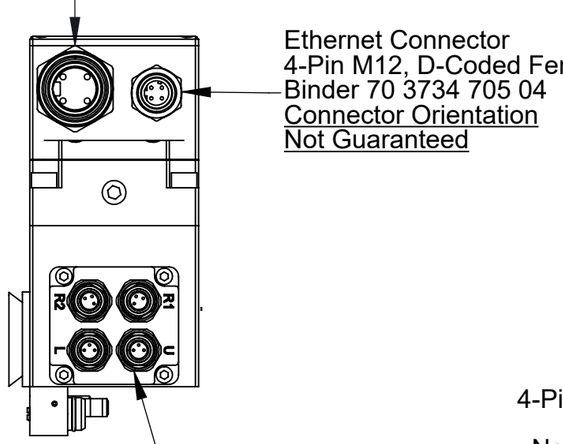
9121-DKR-M

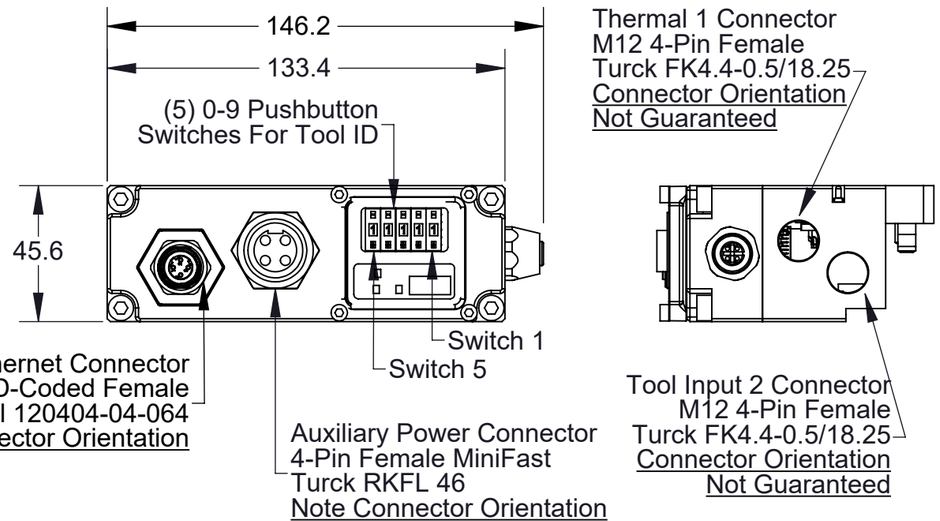




9121-DKR-T







Notes:
1. Pin block signal assignments are shown on Sheet 2.
2. Connector pin designations are shown on Sheet 3.
3. Electrical schematic of DKR Master and Tool is shown on Sheet 4. Schematic notes are on Sheet 5.
4. Connection to Safety Switches is outlined on Sheet 6.
5. Serviceable parts are shown on Sheet 7.

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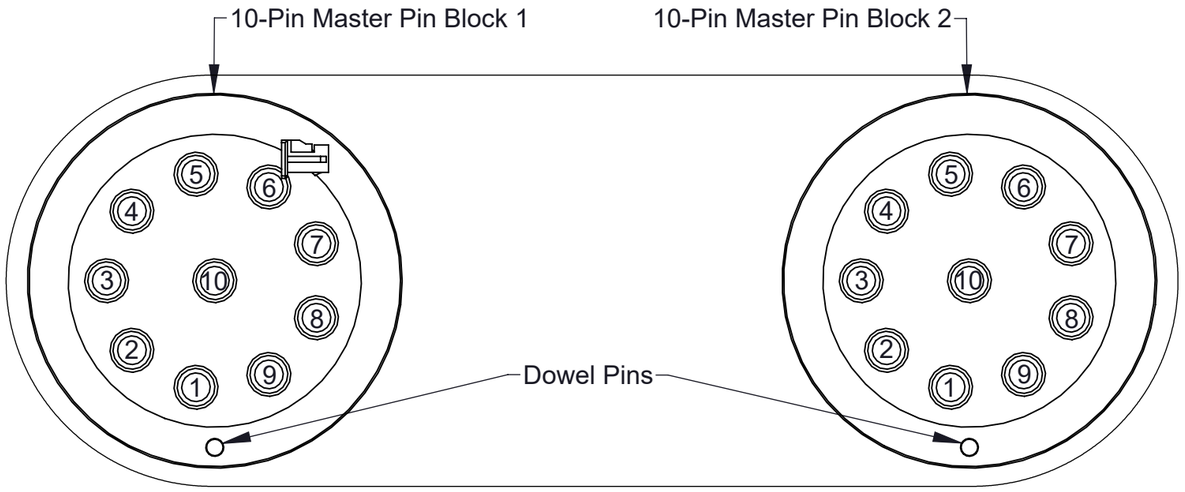
DRAWN BY: W. Berrocal, 4/26/17

CHECKED BY: A. Takla, 7/20/17
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PROJECT # 170413-2 SHEET 1 OF 7

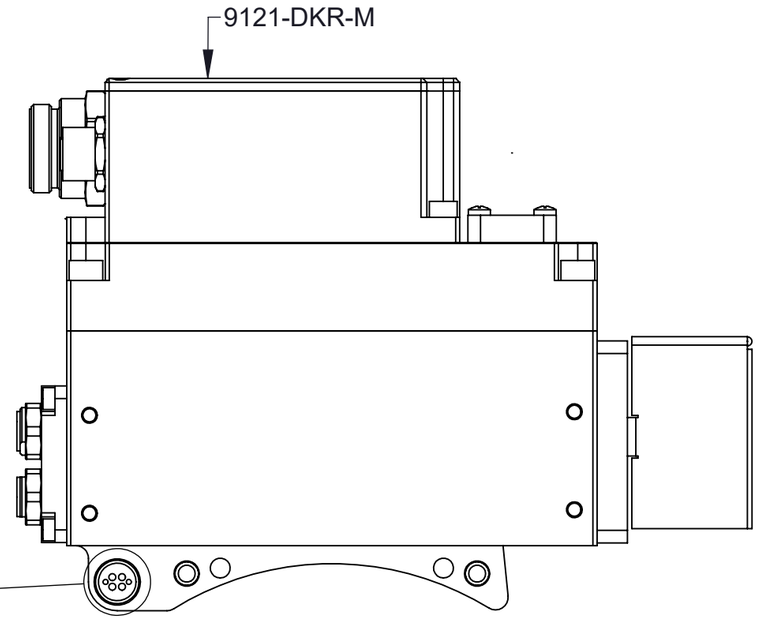
TITLE: DKR Ethernet Control Module Customer Drawing

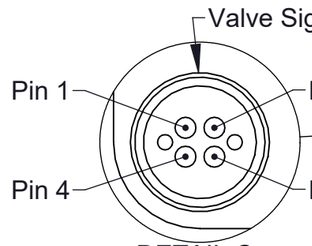
SCALE	SIZE	DRAWING NUMBER	REVISION
1:2	B	9630-20-DKR	08



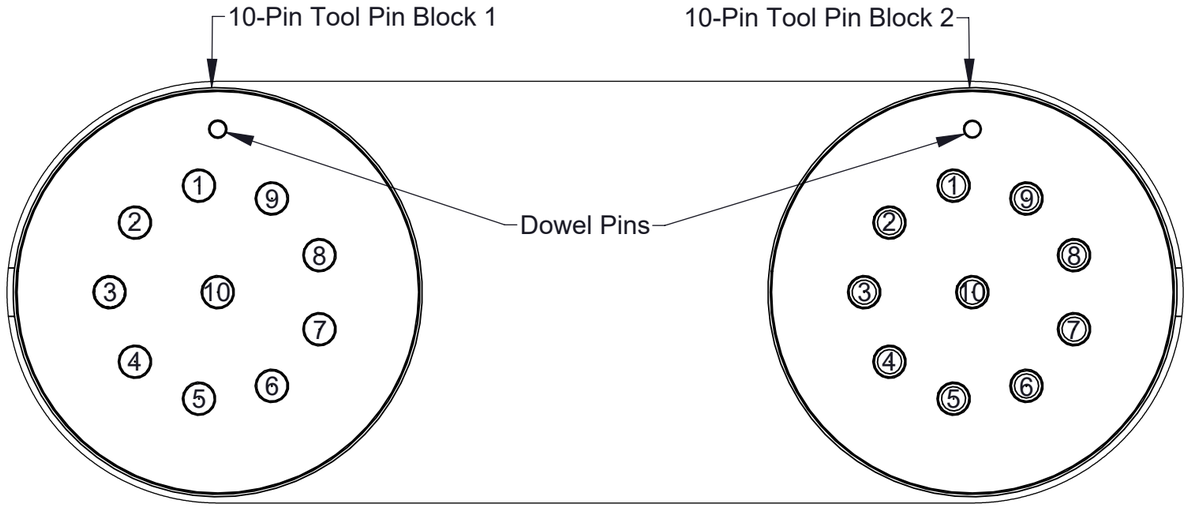
DETAIL A
SCALE 2 : 1

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	TOOL INPUT 2
5	SSO1
6	ETHERNET SHIELD
7	RX+
8	RX-
9	SSO2
10	24V_GND

10-Pin Block 2	
1	THERMAL1
2	OUTPUT V-
3	RS485+
4	TOOL PRESENCE
5	RS485-
6	INPUT V-
7	SPARE_OUT1
8	OUTPUT V+
9	INPUT V+
10	INPUT V+_SS

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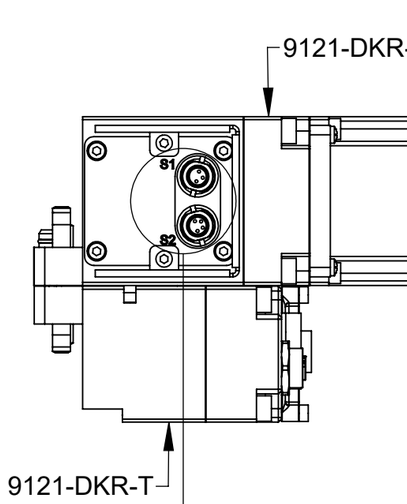
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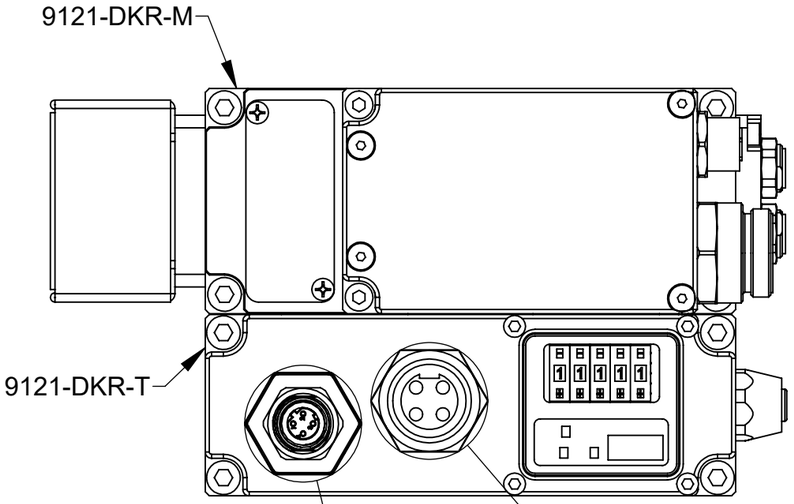
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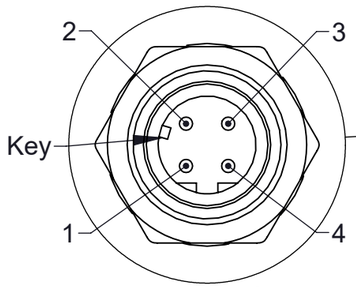
PROJECT # 170413-2 SHEET 2 OF 7

TITLE: DKR Ethernet Control Module Customer Drawing

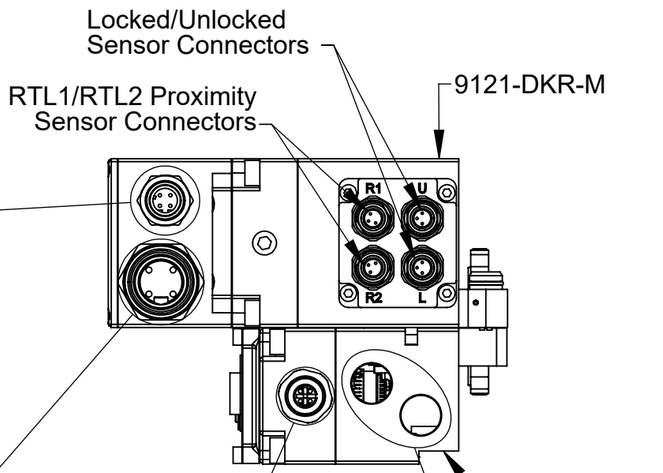
SCALE	SIZE	DRAWING NUMBER	REVISION
1:2	B	9630-20-DKR	08



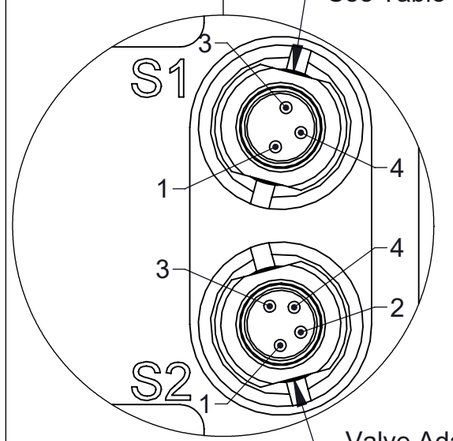




DETAIL G
Ethernet Connector
4-Pin M12, D-Coded Female
See Table 6
SCALE 2 : 1



Valve Adapter Proximity
Sensor Connector
M8 3-Pin Female Turck
See Table 4

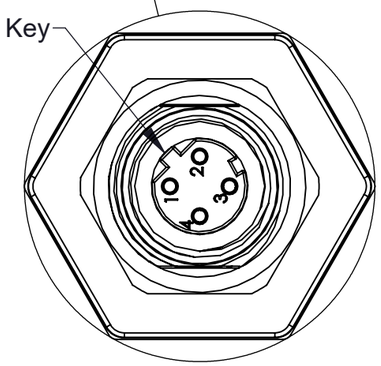


DETAIL D
SCALE 2 : 1

Valve Adapter
Pressure Sensor
Connector
M8 4-Pin Female
See Table 5

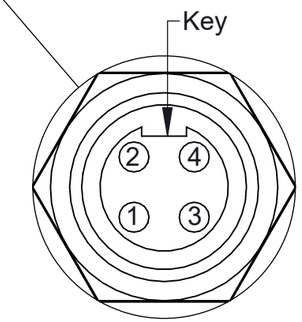
Table 4	
Valve Adapter Proximity Sensor Connector	
1	INPUT V+
3	INPUT V-
4	Input

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

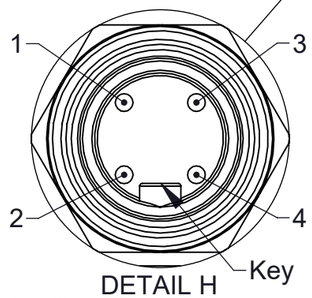


DETAIL F
Ethernet Connector
4-Pin M12, D-Coded Female
See Table 6
SCALE 2 : 1

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

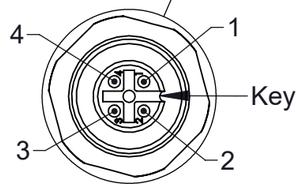


DETAIL E
Auxiliary Power Connector
4-Pin Female MiniFast
See Table 7
SCALE 1.5 : 1



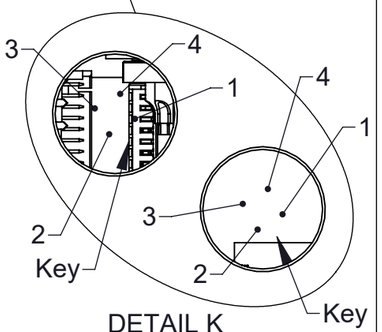
DETAIL H
Auxiliary Power Connector
4-Pin Male MiniFast
See Table 7
SCALE 1.5 : 1

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



DETAIL J
Safety Sensor Connector
M12 5-Pin Female
See Table 8
SCALE 1.5 : 1

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



DETAIL K
Thermal 1 and Tool
Input 2 Connectors
M12 4-Pin Female
See Table 9
SCALE 1.5 : 1

Table 9		
	Thermal 1 Connector	**Tool Input 2 Connector**
1	INPUT V+	INPUT V+
2	N/C	N/C
3	INPUT V-	INPUT V-
4	THERMAL 1	TOOL INPUT 2

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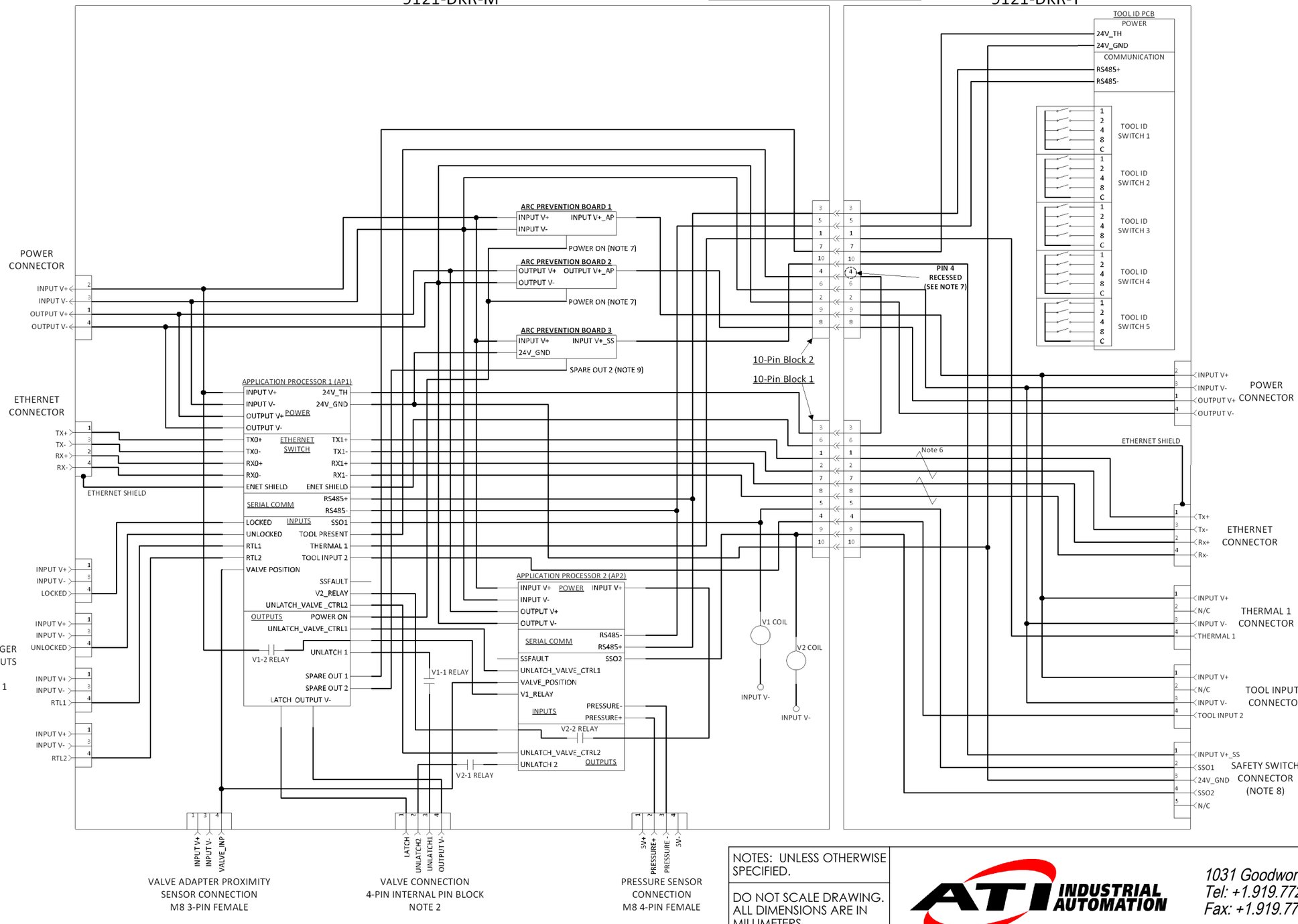
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PROJECT # 170413-2 SHEET 3 OF 7

TITLE
DKR Ethernet Control Module Customer Drawing

SCALE	SIZE	DRAWING NUMBER	REVISION
1:2	B	9630-20-DKR	08

ELECTRICAL SCHEMATIC



Notes:
1. Schematic notes are on Sheet 5.

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PROJECT # 170413-2 SHEET 4 OF 7

TITLE: DKR Ethernet Control Module Customer Drawing

SCALE	SIZE	DRAWING NUMBER	REVISION
1:2	B	9630-20-DKR	08

Schematic Notes:

1. The complete tool changer package comes equipped with external cables that are connected to the sensors. The DKR 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, 9121-JT7-M, etc.).

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 DKR Modules are supplied by the customer.

4. The Tool ID I/O is reported in the DKR Master Bitmap. Refer to the product manual for more information. The Tool ID board is powered by 24V INPUT power via the Spare 1 Output.

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 DKR Module requires the use of two channel, PLe rated contactless Safety Sensors. See the notes on Sheet 6 for details regarding compatible Safety Sensors and single and series connection of the Safety Sensors.

9. The Arc Prevention PCB provides INPUT V+ power to the Safety Switches. The switching function is controlled by the "Spare 2" signal from Application Processor 1 (AP1).

10. The Valve Adapter pressure sensor is supplied with 5V (unswitched) from AP2. The pressure sensor provides an analog input to the DKR.

11. The Valve Adapter proximity sensor is powered by INPUT Power.

12. The DKR module employs a dual channel safety circuit to prevent an unsafe tool unlatch. An extensive description of the safety system is provided in the DKR Operation Manual: 9620-20-C-DKR.

13. The Thermal 1 and Tool Input 2 connectors are intended to interface with PNP 3-wire proximity sensors, dry contact switches, or 2-wire proximity sensors.

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PROJECT # 170413-2 SHEET 5 OF 7

TITLE: DKR Ethernet Control Module Customer Drawing

SCALE	SIZE	DRAWING NUMBER	REVISION
1:10	B	9630-20-DKR	08

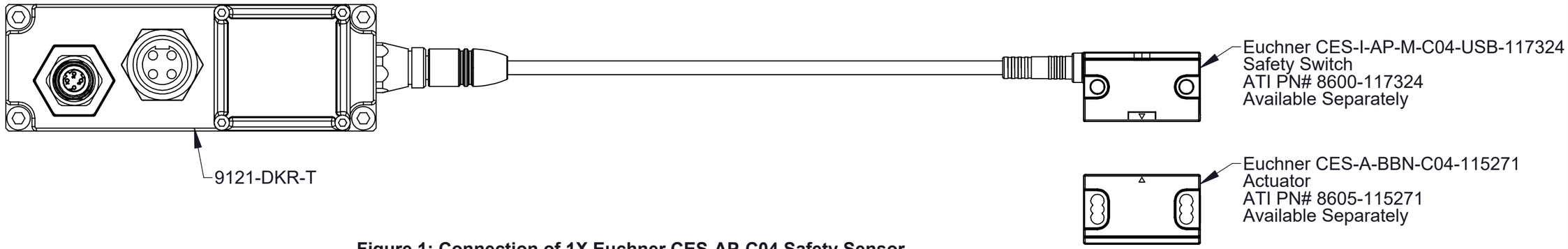


Figure 1: Connection of 1X Euchner CES-AP-C04 Safety Sensor

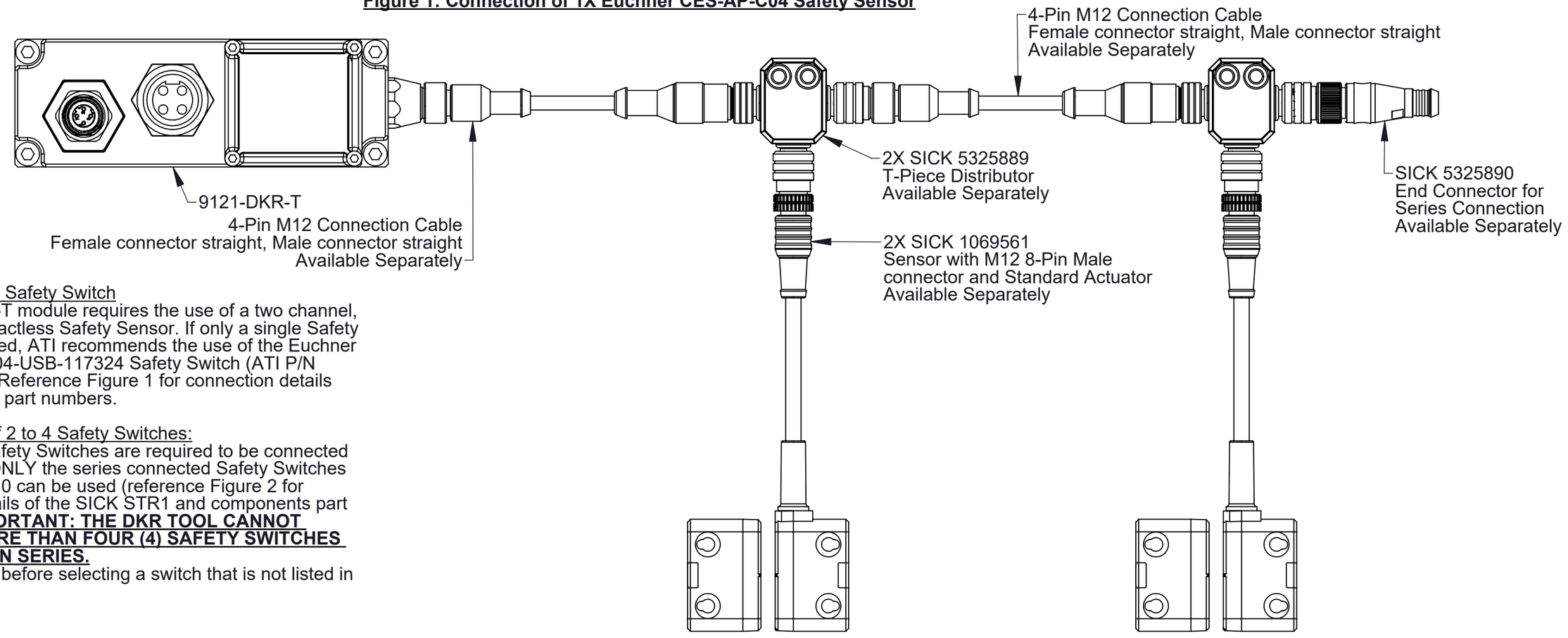


Figure 2: Connection of Two to Four SICK STR1 Safety Sensors in Series

Connection of Single Safety Switch

1. The 9121-DKR-T module requires the use of a two channel, PL e rated contactless Safety Sensor. If only a single Safety Switch is required, ATI recommends the use of the Euchner CES-I-AP-M-C04-USB-117324 Safety Switch (ATI P/N 8600-117324). Reference Figure 1 for connection details and component part numbers.

Series Connection of 2 to 4 Safety Switches:

2. If two to four Safety Switches are required to be connected in series then ONLY the series connected Safety Switches listed in Table 10 can be used (reference Figure 2 for connection details of the SICK STR1 and components part numbers). **IMPORTANT: THE DKR TOOL CANNOT SUPPORT MORE THAN FOUR (4) SAFETY SWITCHES CONNECTED IN SERIES.**
3. Check with ATI before selecting a switch that is not listed in Table 10.

Table 10: Series Connected Safety Switches Compatible with the DKR Module
Euchner CES-I-AR series connected PLe rated safety switch
SICK STR1 series connected PLe rated safety switches.
PILZ PSEN cs3.1p/M12 series connected PLe rated safety switches
ABB JOKAB Adam OSSD-Info M12-8 series connected PLe rated safety switches

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TITLE: DKR Ethernet Control Module Customer Drawing

SCALE	SIZE	DRAWING NUMBER	REVISION
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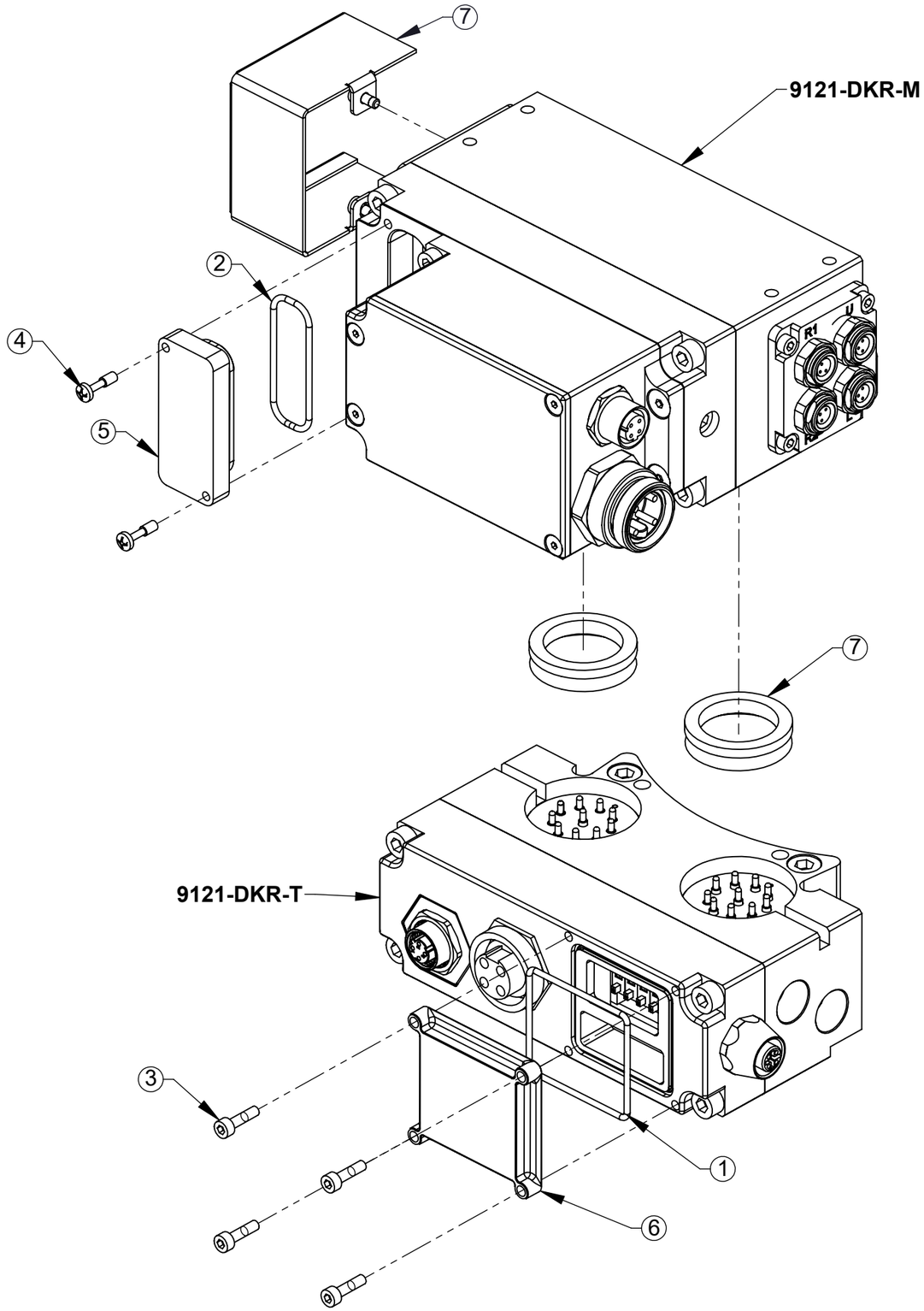


Table 11: 9121-DKR-M/T Serviceable Parts

ITEM	QTY	PART NUMBER	DESCRIPTION
1	1	3410-0001021-01	O-Ring AS568-031
2	1	3410-0001201-01	O-Ring AS568-024
3	4	3500-1058012-15	M3 x 12 SCHS, Corrosion Protection
4	2	3500-9957012-21	Pan Head M3 Captive Screw M3 X 12
5	1	3700-20-4820	Window, DJ Master, Annular Seal
6	1	3700-20-11880	Tool ID Window
7	2	4010-0000030-01	V-Ring Seal V-22A Nitrile
8	1	9005-20-2517	Diagnostic Sensor Connector Guard, PLd Modules

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PROJECT # 170413-2 SHEET 7 OF 7

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