

Latch Connector
M12, 5-Pin Male Receptacle
Turck FSD 4.5-0.5/18.25

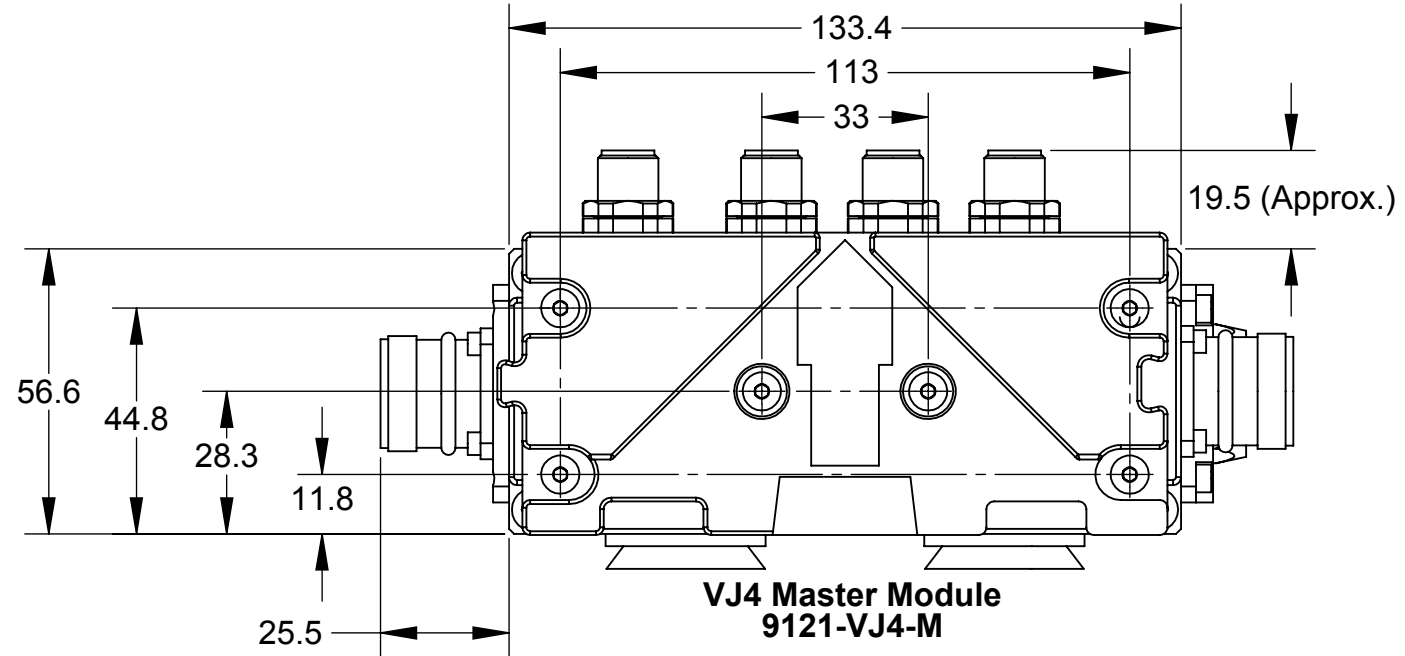
Unlatch Connector
M12, 5-Pin Male Receptacle
Turck FSD 4.5-0.5/18.25

Note: Cables to I/O Block
supplied by customer.

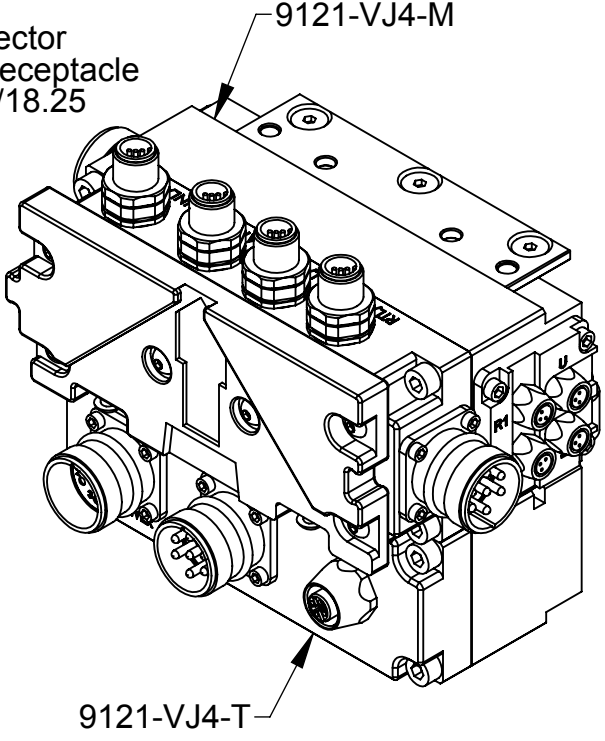
RTL/TSIV Connector
M12, 5-Pin Male Receptacle
Turck FSD 4.5-0.5/18.25

Lock/Unlock Connector
M12, 5-Pin Male Receptacle
Turck FSD 4.5-0.5/18.25

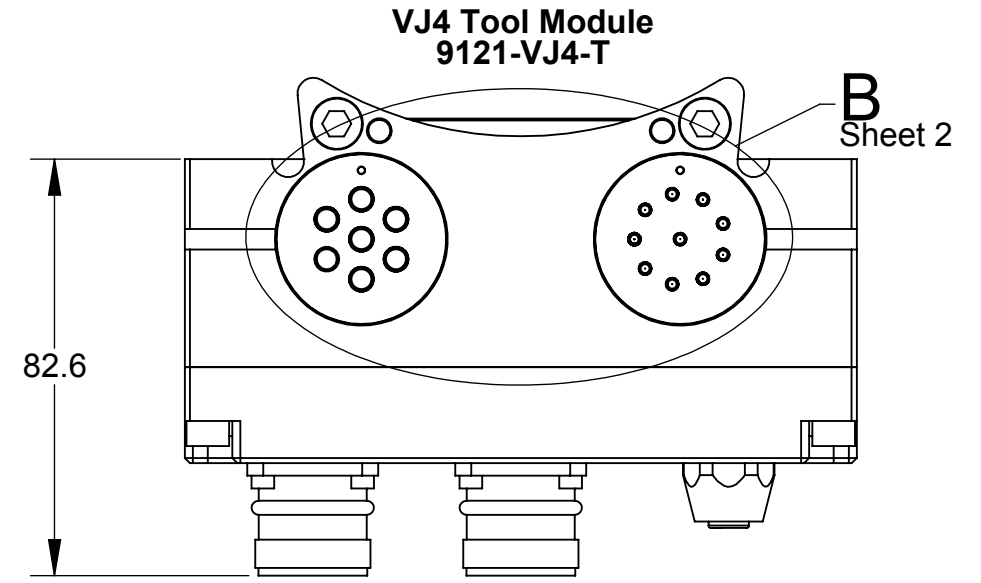
Rev.	Description	Initiator	Date
04	Removed the eight M4 fasteners utilized to mount the IBS RL AP Mounting Plate and Interbus I/O Module. Corrected cable length; should be 1.5m not 2m. Added shielding to Master Module measure line connection.	WB	9/16/2011
05	ECO 9601. Replace Tool Cover 3700-20-6948 with Tool Cover 3700-20-7471. Shielded cable pigtail replaced with Coninverse Connector RC-07P1N12WB00 (1510-1313003-07) on Tool Module. Weld Measure Line Connector 1510-2313011-06 on Master Module also replaced with 1510-1313003-07. 7-Pin Connector shell is connected to Master and Tool Module Housings.	TWC	3/7/2012
06	ECO 9996. Eliminated RTL bypass feature from Master Module. Connected RTL sensors in series. Added TSIV diagnostic signal to R1/R2 connector. Added Interbus adapter plate.	WB	7/20/2012
07	Eco 11106; Updated drawing to show 7 Pin Block Assembly with Spring Probe.	CF	6/13/2013



VJ4 Master Module
9121-VJ4-M

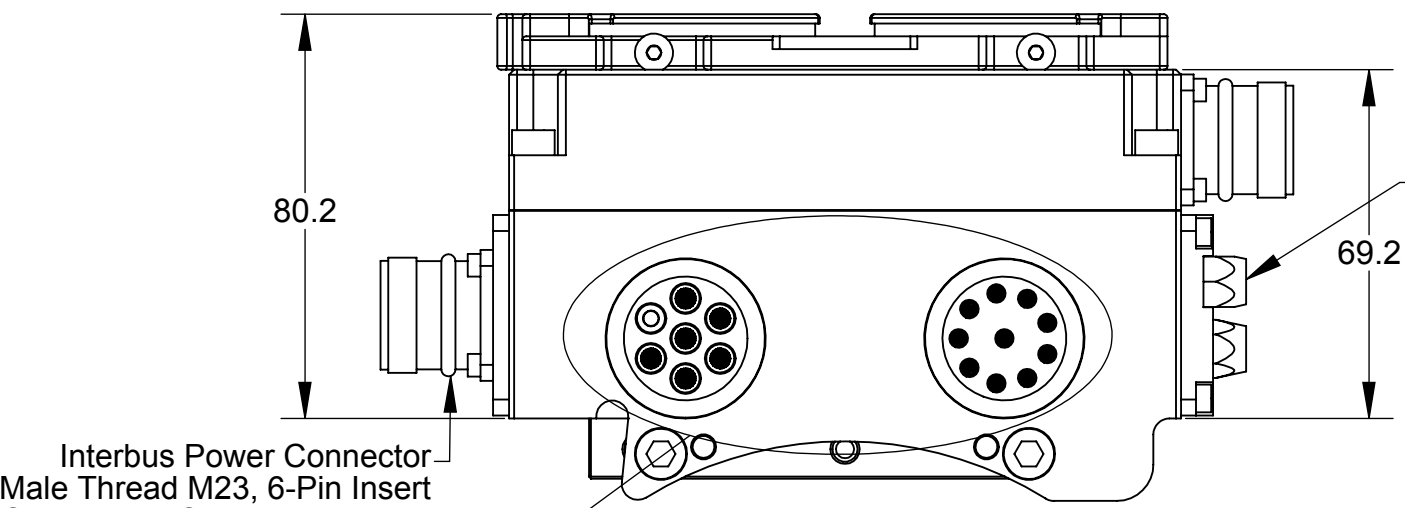


9121-VJ4-T



VJ4 Tool Module
9121-VJ4-T

B
Sheet 2



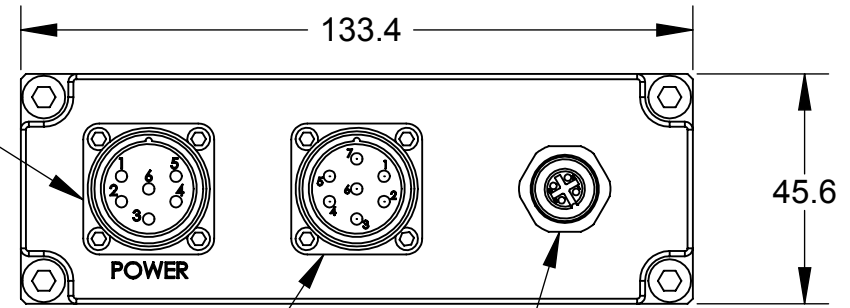
Interbus Power Connector
Male Thread M23, 6-Pin Insert
Coninvers RC-06P1N12WB00

A
Sheet 2

(Integrated Tool Changer Sensor
Cables Supplied by ATI, Not Shown)

4X Integrated Tool
Changer Proximity
Sensor Connections
Turck MFKS-3

Interbus Power Connector
Male Thread M23, 6-Socket Insert
Coninvers RC-06S1N12WB00



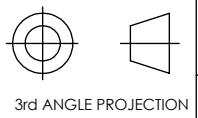
Weld Feedback Connector
Male Thread M23, 7-Pin Insert
Coninvers RC-07P1N12WB00

TSI Connector
M12, 4-Pin Female Receptacle
Turck FK4.4-0.5/18.25

- Notes:
1. Pin block signal assignments shown on Sheet 2.
 2. Connector pin designations shown on Sheet 3.
 3. Electrical schematic of VJ4 Master and Tool shown on Sheet 4. Partial spare parts list on Sheet 5.

NOTES: UNLESS OTHERWISE
SPECIFIED.

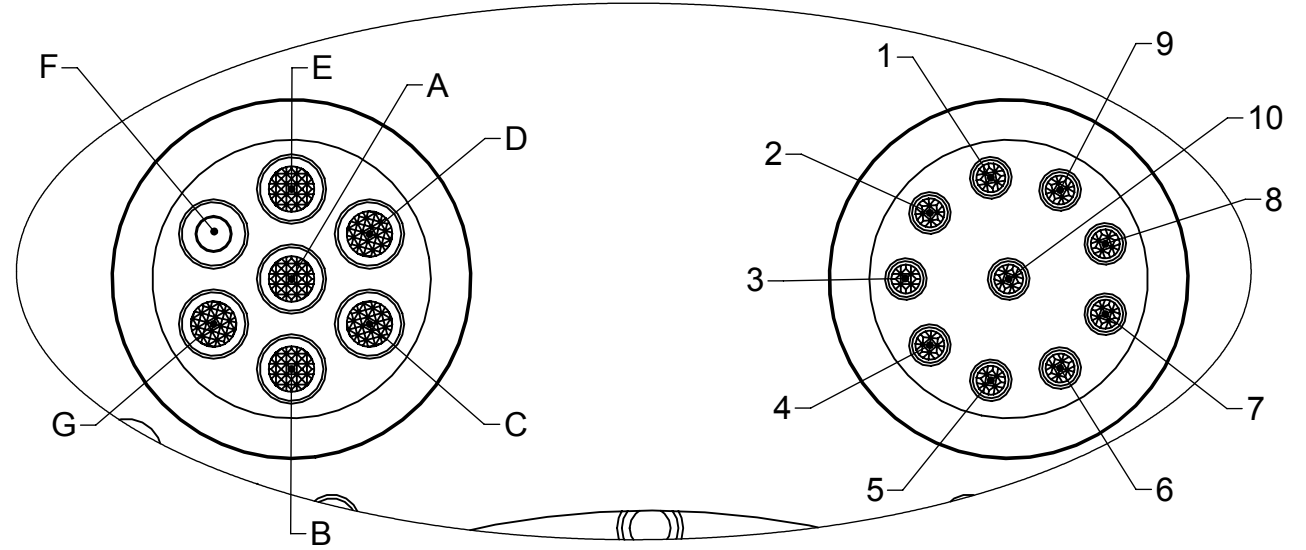
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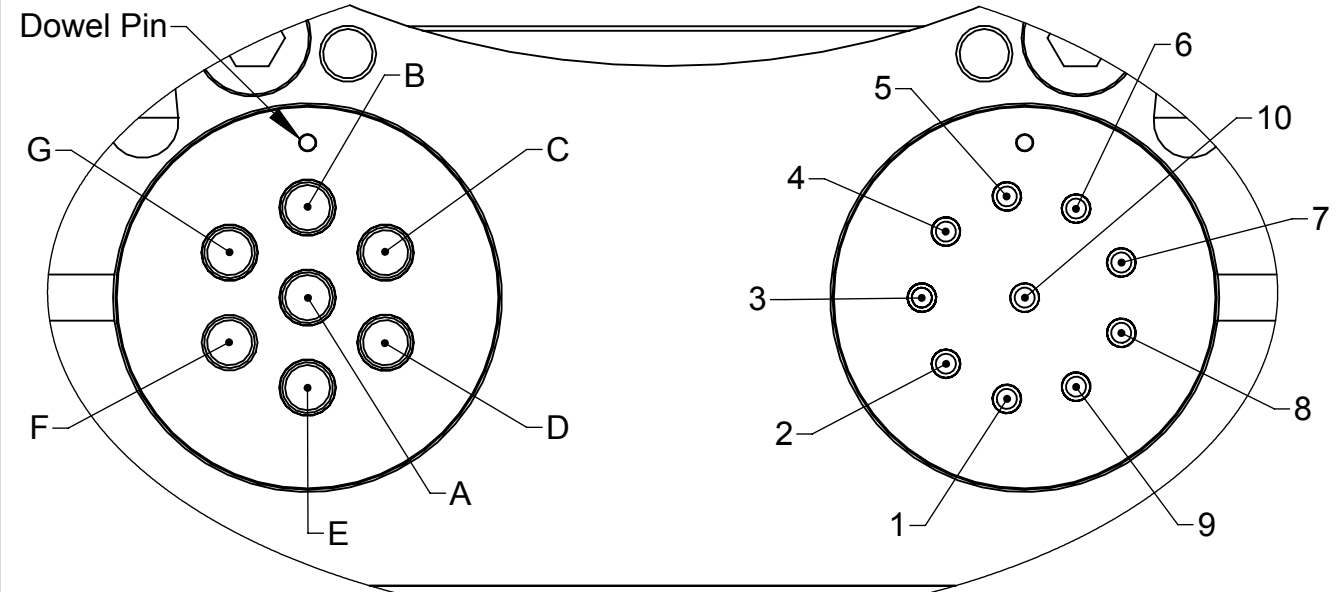
DRAWN BY: W. Berrocal, 5/11/11		TITLE	
CHECKED BY: A. Strotzer, 5/17/11		VJ4 Discrete Module for Rugged Line Interbus I/O Block	
PROJECT #	080918-1	SHEET	OF 5
SCALE	1:2	SIZE	B
DRAWING NUMBER	9630-20-VJ4	REVISION	07



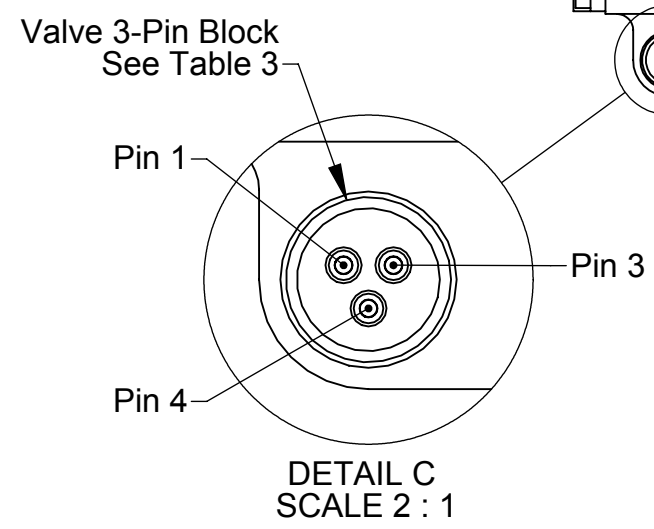
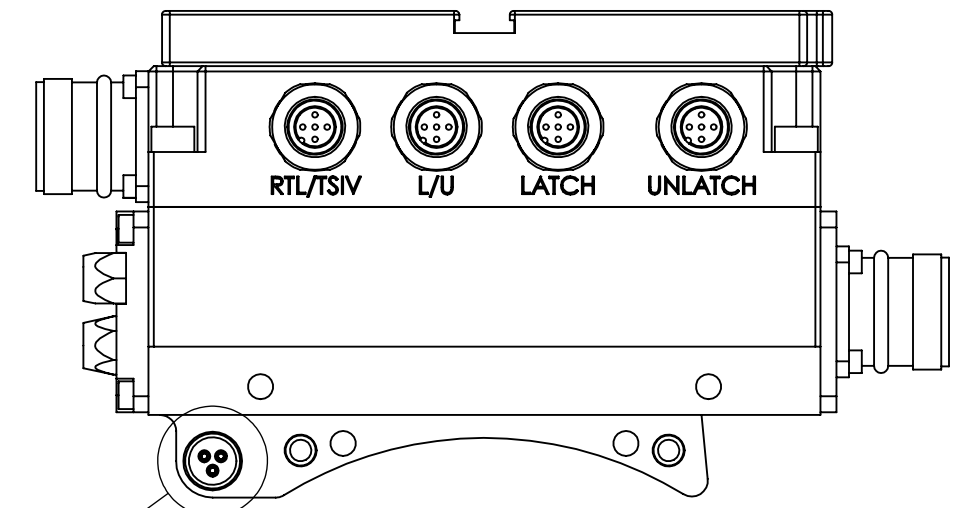
Master Side Pin Blocks
DETAIL A
SCALE 1.5 : 1

Pin	Description
A	FE
B	+24 V U _{S1}
C	N/C
D	GND V U _{S1}
E	GND V U _{S2}
F	Arc Switch Enable
G	+24 V U _{S2}

Pin	Description
1	Available
2	Available
3	Available
4	Available
5	Available
6	TSI In
7	Available
8	TSI Out
9	Available
10	Weld Measure Line Connector Shield



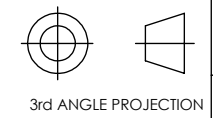
Tool Side Pin Blocks
DETAIL B
SCALE 1.5 : 1



Pin	V+	V-	Output
Pin 1	V+		Unlatch Output
Pin 3		V-	Common
Pin 4	V+		Latch Output

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			07

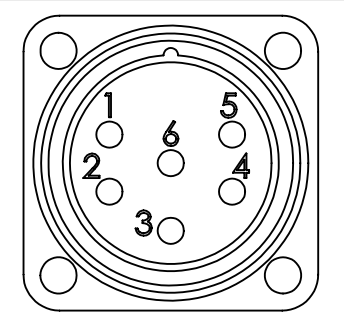
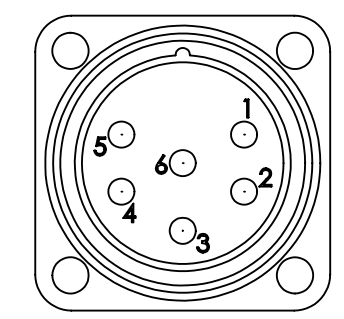
Rev.	Description	Initiator	Date
-	See Sheet1	-	-

Unlatch Connector
M12, 5-Pin Male Receptacle
Turck FSD 4.5-0.5/18.25
See Table 4
Note orientation

Latch Connector
M12, 5-Pin Male Receptacle
Turck FSD 4.5-0.5/18.25
See Table 4
Note orientation

Lock/Unlock Connector
M12, 5-Pin Male Receptacle
Turck FSD 4.5-0.5/18.25
See Table 4
Note orientation

RTL/TSIV Connector
M12, 5-Pin Male Receptacle
Turck FSD 4.5-0.5/18.25
See Table 4
Note orientation

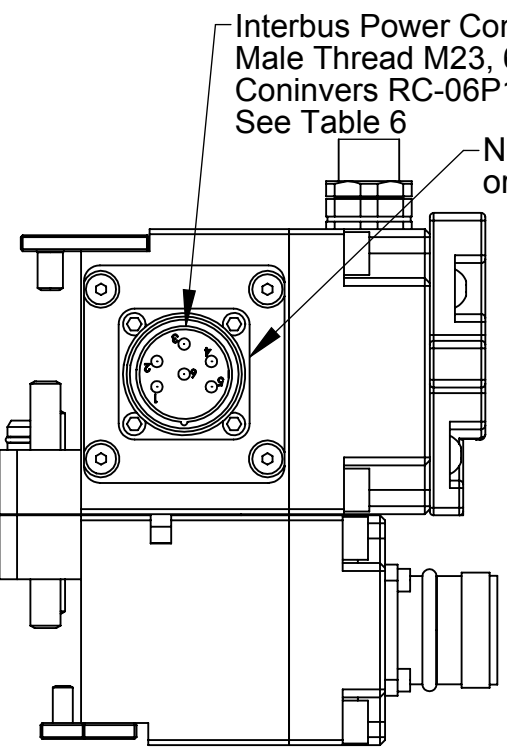


Interbus Power Connector (Master Side)
Male Thread M23, 6 Male Contacts
Scale 3:2

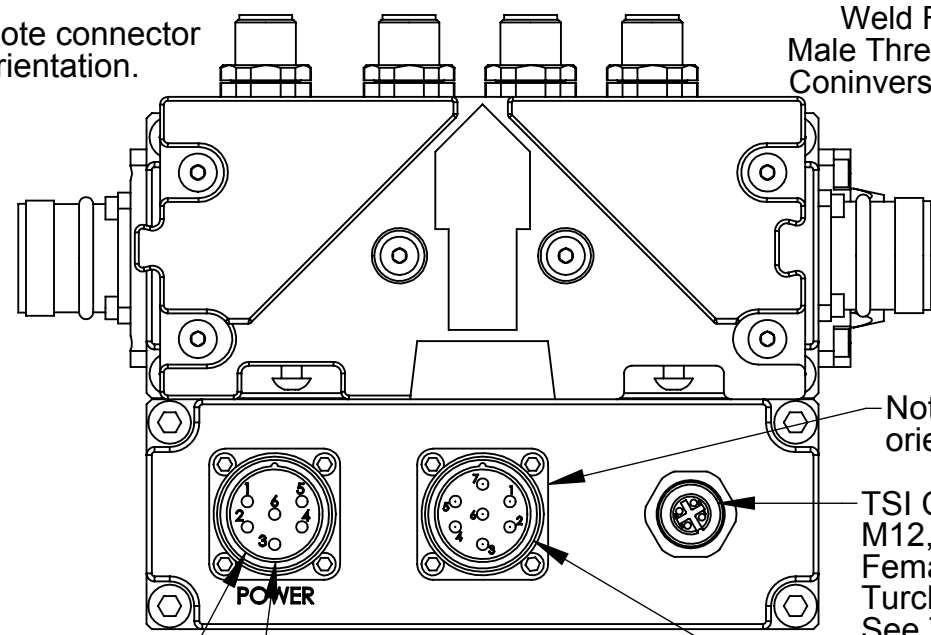
Interbus Power Connector (Tool Side)
Male Thread M23, 6 Female Contacts
Scale 3:2

Table 6
Interbus Power Connection

1	+24 V U _{S1}
2	GND V U _{S1}
3	+24 V U _{S2}
4	GND V U _{S2}
5	FE
6	N/C



Note connector orientation.



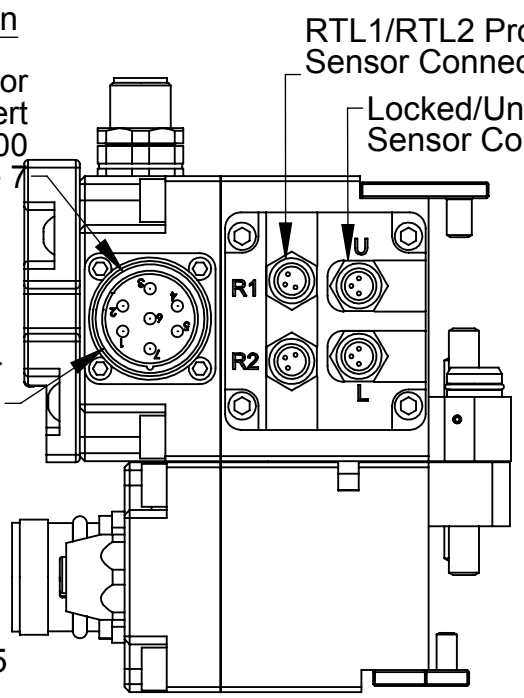
Weld Feedback Connector
Male Thread M23, 7-Pin Insert
Coninvers RC-07P1N12WB00
See Table 7

Note connector orientation

Note connector orientation

TSI Connector
M12, 5-Pin
Female Receptacle
Turck FK 4.5-0.5/18.25
See Table 5
Orientation not guaranteed.

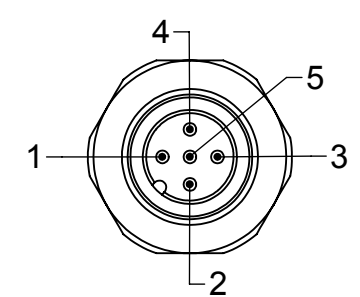
Welding Feedback Connector
Male Thread M23, 7-Pin Insert
Coninvers RC-07P1N12WB00
See Table 7



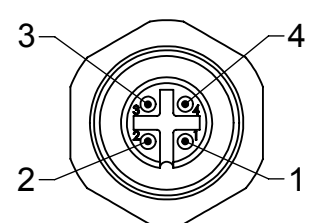
RTL1/RTL2 Proximity
Sensor Connectors
Locked/Unlocked
Sensor Connectors

Note connector orientation.

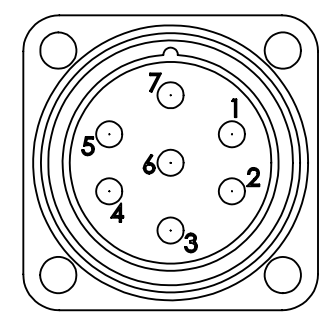
Interbus Power Connector
Male Thread M23, 6-Socket Insert
Coninvers RC-06S1N12WB00
See Table 6



M12, 5-Pin Male Receptacle (Master Side)
Turck FSD 4.5-0.5/18.25
Scale 3:2



M12, 4-Pin Female
Receptacle (Tool Side)
Turck FK 4.4-0.5/18.25
Scale 3:2



Welding Feedback Connector (Master and Tool Side)
Male Thread M23, 7 Male Contacts
Scale 3:2

Table 7
**Weld Feedback Connector
(Master and Tool)**

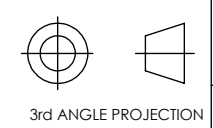
1	Available
2	Available
3	Available
4	Available
5	Available
6	Available
7	Available
Connector Shell	Shield

RTL/TSIV Connector	L/U Connector	LATCH Connector	UNLATCH Connector
1	V+	1	N/C
2	RTL	2	N/C
3	V-	3	V-
4	TSIV	4	Latch
5	N/C	5	N/C

Table 5
TSI Connector

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

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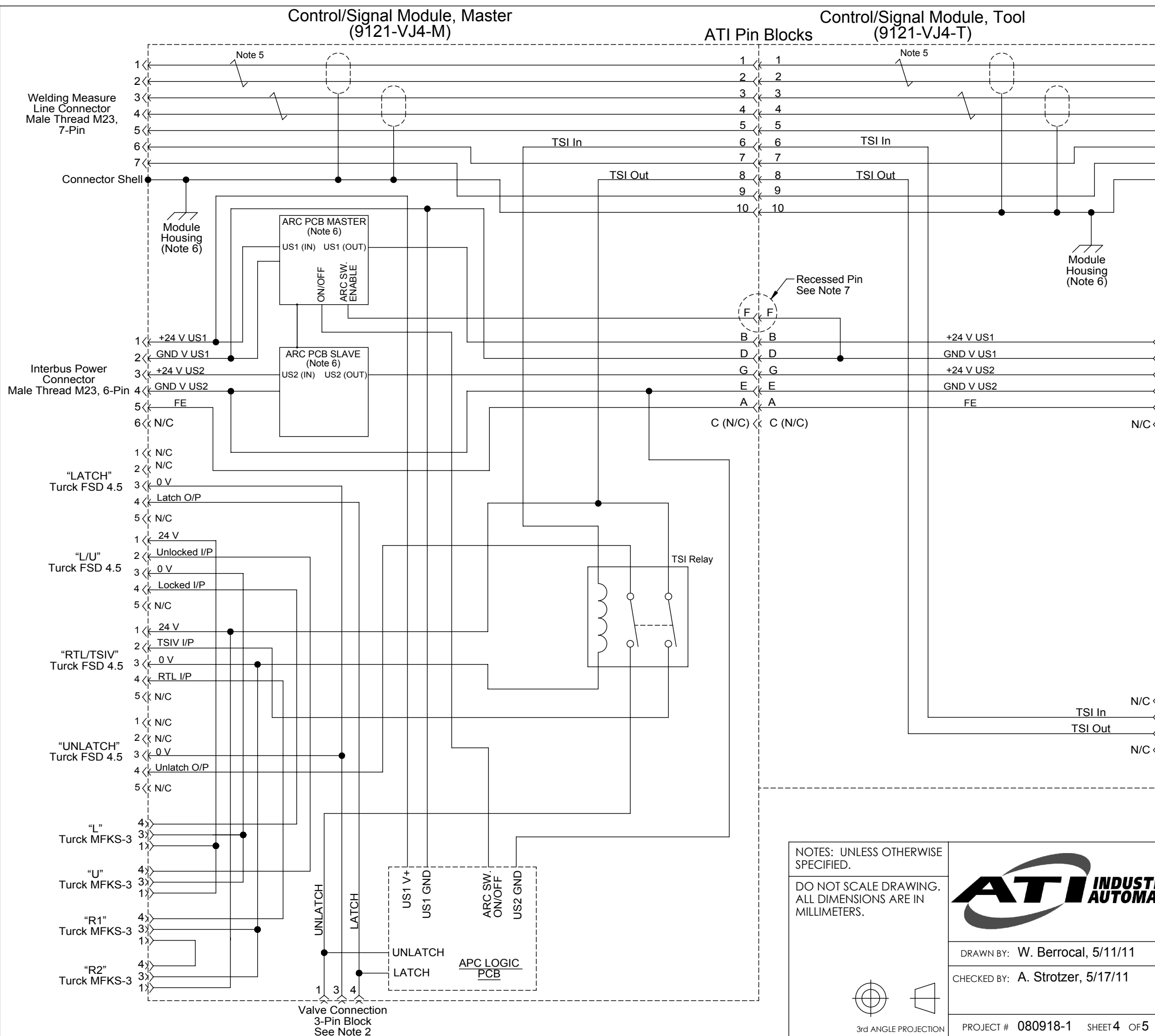


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DRAWN BY: W. Berrocal, 5/11/11	TITLE	VJ4 Discrete Module for Rugged Line Interbus I/O Block	
CHECKED BY: A. Strotzer, 5/17/11	SCALE	SIZE	DRAWING NUMBER
PROJECT # 080918-1 SHEET 3 OF 5	1:2	B	9630-20-VJ4
			REVISION
			07

Rev.	Description	Initiator	Date
-	See Sheet 1	-	-



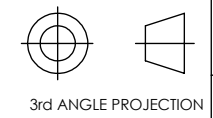
Welding Feedback Connector
Male Thread M23, 7-Pin

Interbus Power Connector
Male Thread M23, 6-Socket Insert

- Schematic Notes:**
1. The complete tool changer package comes equipped with external cables that are connected to the sensors.
 2. An internal pin block is used to transmit the Latch/Unlatch signal to the valve adapter, as shown in the schematic.
 3. Cables for the Power and Measure Line connectors are supplied by the customer.
 4. The Tool Stand Interlock (TSI) circuit is provided to ONLY allow tool release while in the stand or storage location as indicated by actuation of a customer-integrated mechanical switch. It is suggested that the customer integrate a single pole, single throw (Normally Open, spring return) limit switch to work with this feature. The limit switch must be mounted to the end effector in such a way that the switch is "made" only when the tool is in the stand or storage location.
 5. Indicated wire pairs are twisted and shielded.
 6. The 7-Pin Measure Line connector shells are electrically continuous with the Master and Tool module housings. The shield is passed from Master to Tool via Pin 10 of the 10-Pin Block.
 7. The Arc Prevention Circuits turn off US1 V+ and US2 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. Refer to the product manual for additional information.

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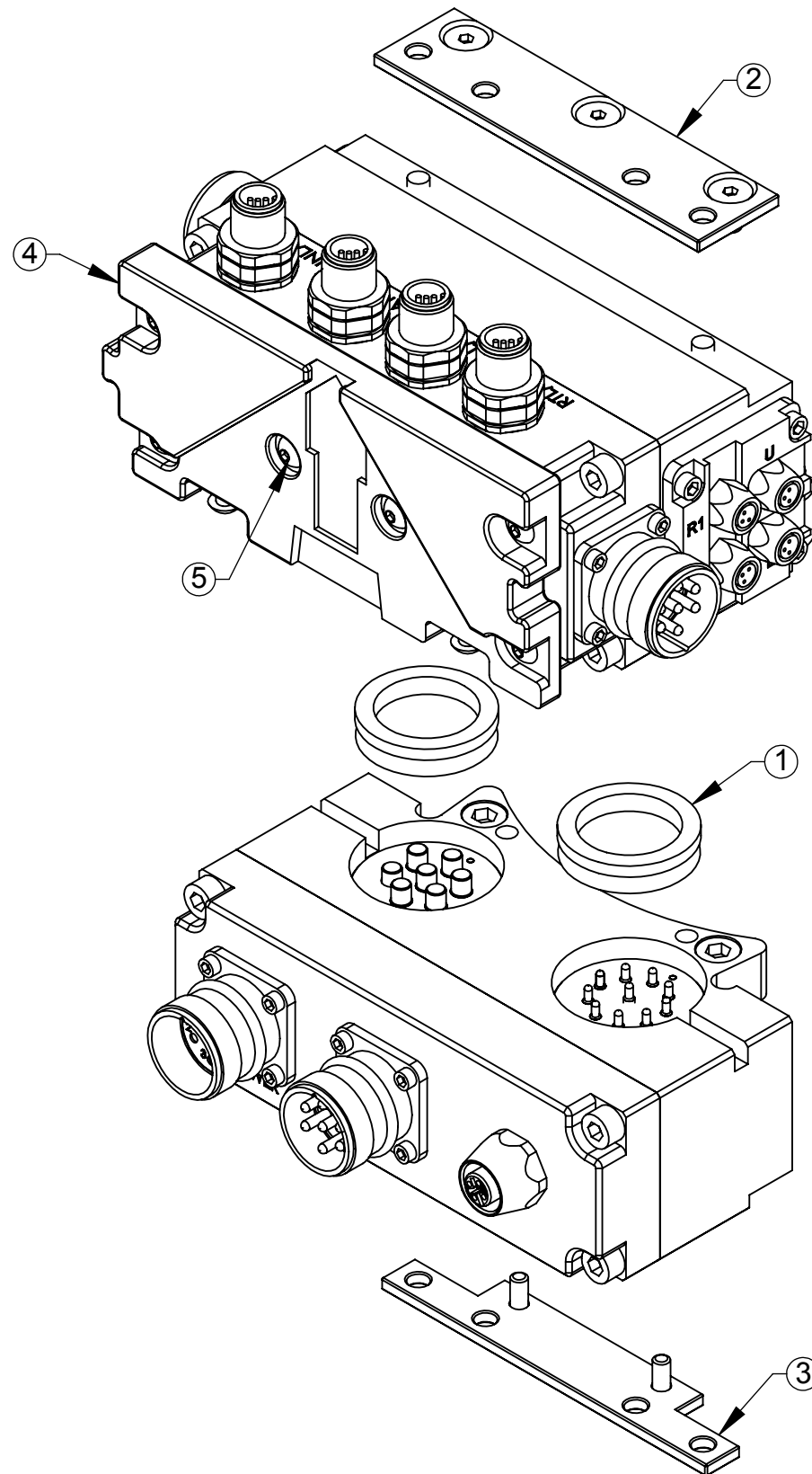
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CHECKED BY: A. Strotzer, 5/17/11		VJ4 Discrete Module for Rugged Line Interbus I/O Block	
PROJECT # 080918-1	SHEET 4 OF 5	SCALE 1:1	SIZE B
DRAWING NUMBER 9630-20-VJ4		REVISION 07	

Rev.	Description	Initiator	Date
-	See Sheet1	-	-

VJ4 Module Spare Parts



VJ4 SPARE PARTS			
ITEM NUMBER	QUANTITY	PART NUMBER	DESCRIPTION
1	2	4010-0000030-01	V-Ring Seal
2	1	9005-20-1198	Master Cleat Sub-Assembly
3	1	9005-20-1199	Tool Cleat Sub-Assembly
4	1	3710-20-3376	Phoenix Contact Mounting Plate, IBS RL AP
5	8	3500-1162010-21	BHCS, M4x10, SS

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3rd ANGLE PROJECTION



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