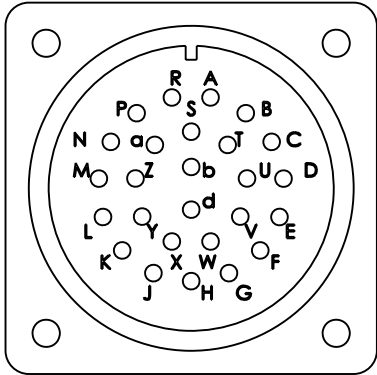


Rev.	Description	Initiator	Date
-	See Sheet1	-	-

VB2 Master with VB4 Tool (0-99 Tool ID)

VB2-M
Master Side
(MS3102E28-12P)



VB2 to VB4 Pin Out

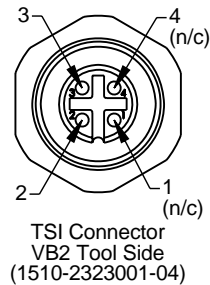
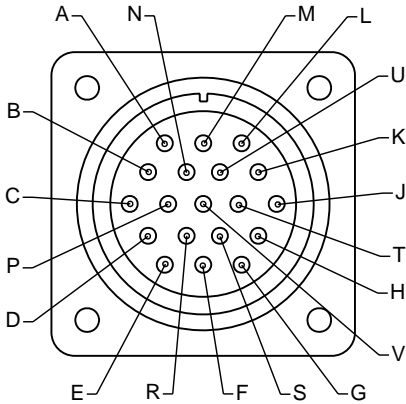
VB2 Master MS3102E28-12P Male Connector		VB4 Tool MS3102E22-14S Female Connector
--	--	--

0 VDC Reference	A ----- >>----- A	0 VDC Reference
+24 VDC	B ----- >>----- B	+24 VDC
available	C ----- >>----- C	available
available	D ----- >>----- D	available
available	E ----- >>----- E	available
available	F ----- >>----- F	available
available	G ----- >>----- G	available
available	H ----- >>----- H	available
Tool ID, Bit Value 8	J ----- >>----- J	not available
Tool ID, Bit Value 4	K ----- >>----- K	not available
Tool ID, Bit Value 2	L ----- >>----- L	not available
Tool ID, Bit Value 1	M ----- >>----- M	not available
Tool ID, Bit Value 8	N ----- >>----- N	not available
Tool ID, Bit Value 4	P ----- >>----- P	not available
Tool ID, Bit Value 2	R ----- >>----- R	not available
Tool ID, Bit Value 1	S ----- >>----- S	not available
not available	T ----- >>----- T	not available
not available	U ----- >>----- U	not available
not available	V ----- >>----- V	not available
Lock O/P	W ----- >>----- W	
Unlock O/P	X ----- >>----- X	
RTL V I/P	Y ----- >>----- Y	
RTL #1 I/P	Z ----- >>----- Z	4
RTL #2 I/P	a ----- >>----- a	3
Lock I/P	b ----- >>----- b	2
Unlock I/P	d ----- >>----- d	1

Tool ID Output

Position	Pin	Pin	Pin	Pin
Switch 2	"J"	"K"	"L"	"M"
Switch 1	"N"	"P"	"R"	"S"
0	0	0	0	0
1	0	0	0	1
2	0	0	1	0
3	0	0	1	1
4	0	1	0	0
5	0	1	0	1
6	0	1	1	0
7	0	1	1	1
8	1	0	0	0
9	1	0	0	1

VB4-T
Tool Side
(MS3102E22-14S)



TSI Connector
4-Pin Eurofast Female

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

Controller Outputs

Pin:	Signal:	Description:
A	0 VDC	Voltage Reference
B	24 VDC	Voltage Supply
X	24 VDC	Unlock Solenoid Supply
W	24 VDC	Lock Solenoid Supply (Double Solenoid)

Controller Inputs

Pin:	Signal:	Description:
N	Tool ID	Bit Value 8 (See Table)
P	Tool ID	Bit Value 4 (See Table)
R	Tool ID	Bit Value 2 (See Table)
S	Tool ID	Bit Value 1 (See Table)
J	Tool ID	Bit Value 8 (See Table)
K	Tool ID	Bit Value 4 (See Table)
L	Tool ID	Bit Value 2 (See Table)
M	Tool ID	Bit Value 1 (See Table)
Y	RTL V	RTL Verify Input
Z	RTL #1	Ready-To-Lock Input #1
a	RTL #2	Ready-To-Lock Input #2
b	Lock	Tool Changer Lock Input
d	Unlock	Tool Changer Unlock Input

Notes:

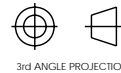
- Pin "A" on the MS connector is First-to-Mate Last-to-Break at the tool changer interface. This pin is recommended for use as 0 VDC / ground reference.
- The common for Tool ID is tied into the 24VDC line (Pin B). The Tool ID switches are Rated for service at 50V and 100 mA max. Refer to the Tool ID table for switch setup information.
- Large views of connectors are 1.5:1 scale.

Tool Stand Interlock (TSI) Operation:

- A hard-wired break in the Valve Unlock Output is provided on the tool module via the 4-pin Eurofast connector. It is suggested that the customer integrate a single throw, double pole (NO, spring return) limit switch to work with this feature. The limit switch should 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.
- The RTL sensor is very important to this TSI feature and therefore should be monitored for failure. RTL V Input is available for fault monitoring of this circuit. Please consult the product manual for operation and fault monitoring suggestions.
- Limit switches, trip dogs and cabling are also available from ATI.

NOTES: UNLESS OTHERWISE SPECIFIED

DO NOT SCALE DRAWING. DRAWN IN SOLIDWORKS.
ALL DIMENSIONS ARE IN MILLIMETERS.



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DRAWN BY: P.Sparrow, 4/22/05	TITLE: VB2 Family Module Drawing		
CHECKED BY: B.Digeso, 5/10/05	SCALE: 1:2	SIZE: B	DRAWING NUMBER: 9630-20-VB2 Family-05
WEIGHT LBS: 1.64	PRODUCT RELEASE #	DATE:	SHEET 5 OF 5
ASSEMBLY REF:			