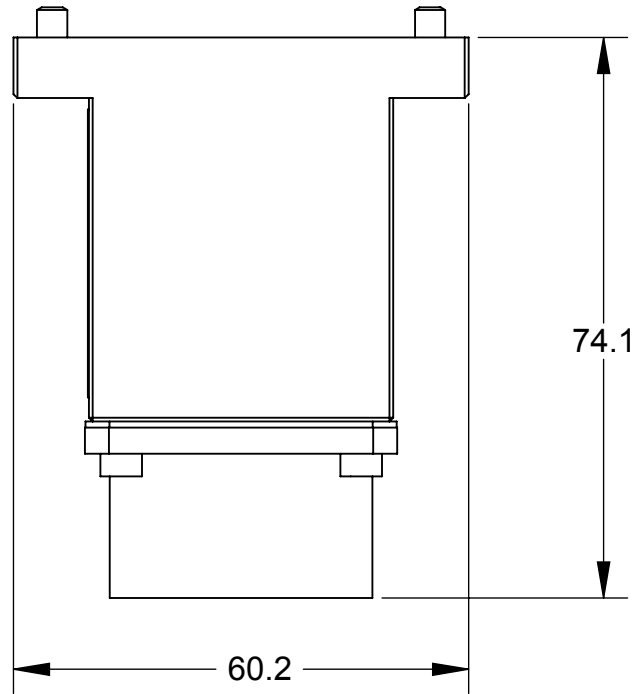


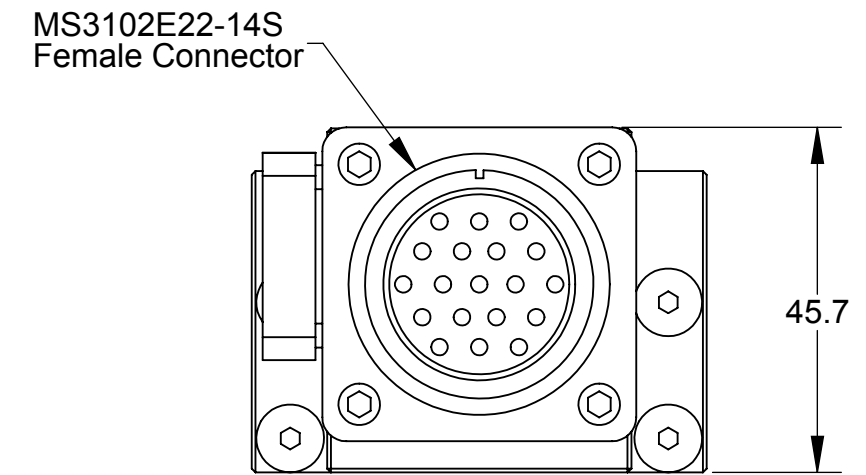
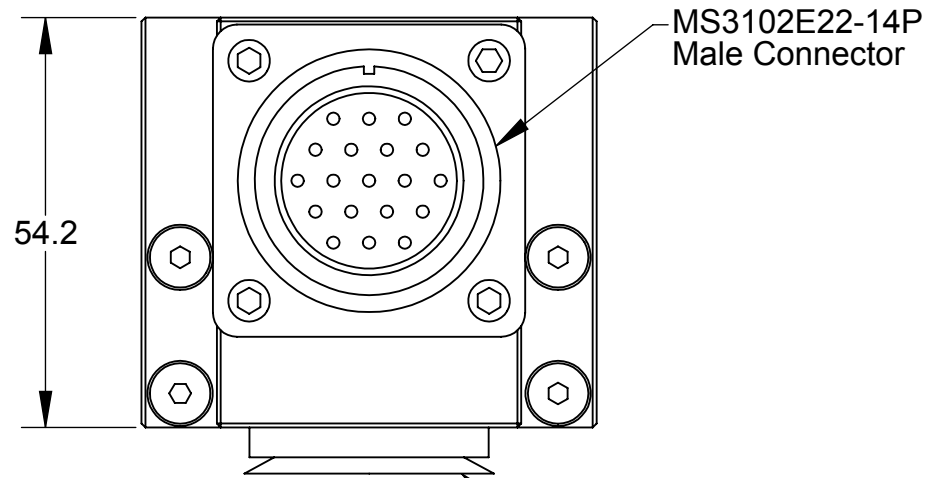
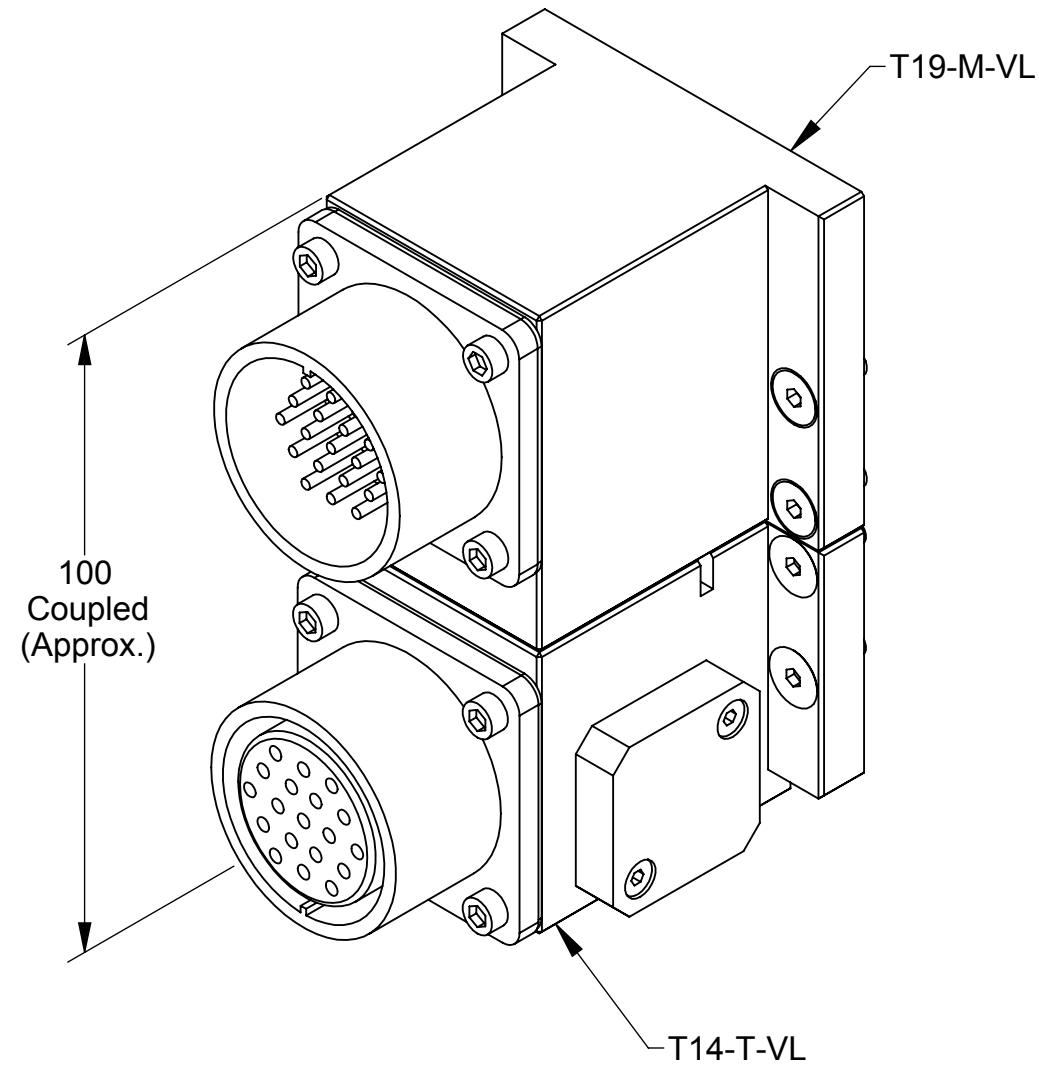
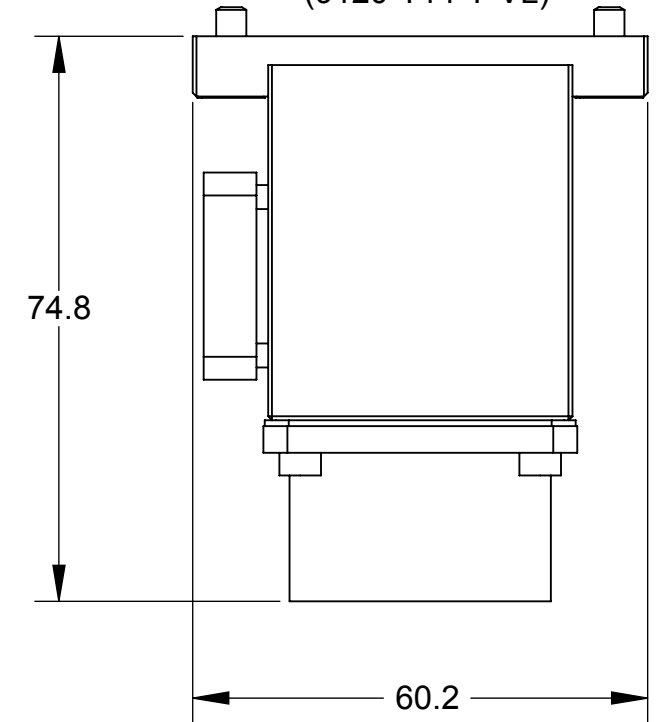
" DANGER! - For electrical modules using > 60VDC or 42 VAC, NO contact should be attempted before removing power. This especially includes separation or insertion of the mating connectors or any contact with the tool changer or its components."

| Rev. | Description | Initiator | Date |
|------|--|-----------|------------|
| 01 | Initial Issue | PS | 1/25/2006 |
| 02 | ECO 5942; Added "Danger! remove power" note. | CDM | 12/27/2007 |

T19 VL Master Module
(9120-T19-M-VL)



T14 VL Tool Module
(9120-T14-T-VL)

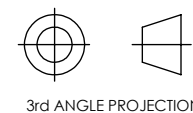


Serviceable Part:
(V-Ring)
4010-0000042-01

NOTES: UNLESS OTHERWISE SPECIFIED
 DO NOT SCALE DRAWING. DRAWN IN SOLIDWORKS.
 ALL DIMENSIONS ARE IN MILLIMETERS.



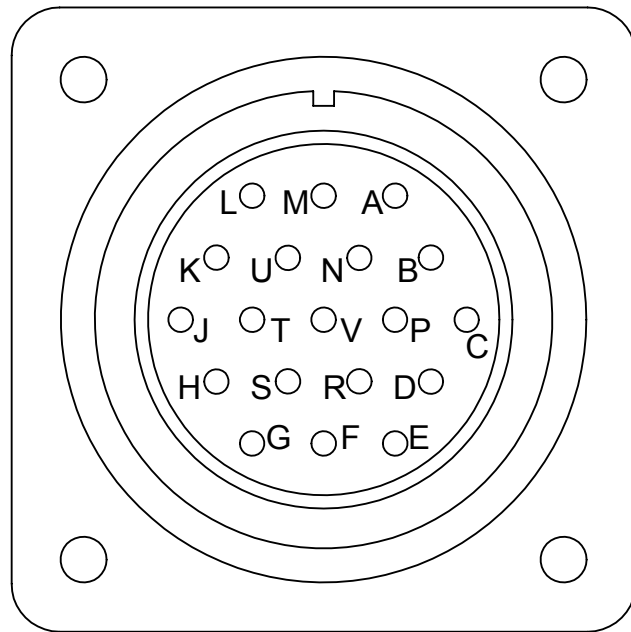
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 Fax: +1.919.772.8259 www.ati-ia.com
 ISO 9001 Registered Company



| | | | |
|-------------------------------|--|-----------|--|
| DRAWN BY: P.Sparrow, 1/25/06 | TITLE T19-M-VL with T14-T-VL Module Drawing | | |
| CHECKED BY: D.Lawson, 1/25/06 | SCALE 1:1 | SIZE B | DRAWING NUMBER 9630-20-T19MVL T14TVL-02 |
| WEIGHT LBS: | PRODUCT RELEASE # 060112-1 | | DATE: |
| ASSEMBLY REF: | SHEET 1 OF 2 | | |

| Rev. | Description | Initiator | Date |
|------|-------------|-----------|------|
| - | See Sheet1 | - | - |

T19-M-VL
 Master Side
 (MS3102E22-14P)



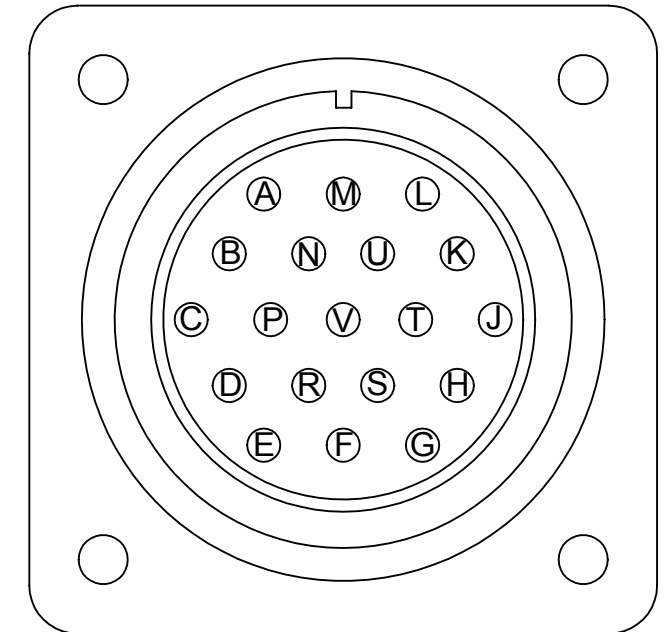
T19-M-VL MS3102E22-14P Male Connector
 T19-M-VL to T14-T-VL Pin Out
 T14-T-VL MS3102E22-14S Female Connector

| | | |
|---|--------------|----------------|
| A | ----->>----- | A |
| B | ----->>----- | B |
| C | ----->>----- | C |
| D | ----->>----- | D |
| E | ----->>----- | E |
| F | ----->>----- | F |
| G | ----->>----- | G |
| H | ----->>----- | H |
| J | ----->>----- | J |
| K | ----->>----- | K |
| L | ----->>----- | L |
| M | ----->>----- | M |
| N | ----->>----- | N |
| P | ----->>----- | P(n/c) |
| R | ----->>----- | R(n/c) |
| S | ----->>----- | S(n/c) |
| T | ----->>----- | T(n/c) |
| U | ----->>----- | U(n/c) |
| V | ----->>----- | V (See Note 2) |

| | | |
|---|--------------|-------------|
| P | ----->>----- | Tool ID PCB |
| R | ----->>----- | |
| S | ----->>----- | |
| T | ----->>----- | |
| U | ----->>----- | |

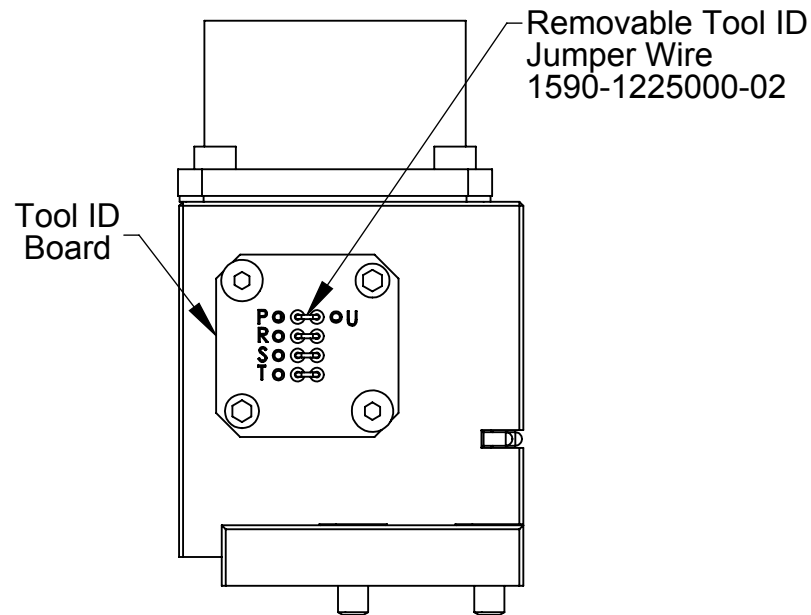
Signal Legend
 Pin V: 0 VDC (recommended)
 Pin U: 5-50 VDC 100mA Max (Tool ID)

T14-T-VL
 Tool Side
 (MS3102E22-14S)



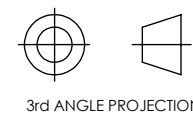
Binary Output of Tool ID

| Binary ID | Jumper Installed Pin U to.... | | | |
|-----------|-------------------------------|-------|-------|-------|
| | Pin P | Pin S | Pin R | Pin T |
| 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 |
| 10 | 1 | 0 | 1 | 0 |
| 11 | 1 | 0 | 1 | 1 |
| 12 | 1 | 1 | 0 | 0 |
| 13 | 1 | 1 | 0 | 1 |
| 14 | 1 | 1 | 1 | 0 |
| 15 | 1 | 1 | 1 | 1 |



- Notes:**
- Views of connectors are 2:1 scale.
 - Pin "V" on the connector is First-to-Mate Last-to-Break at Tool Changer interface. This pin is recommended for use as ground.

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| | | | |
|-------------------------------|--|-----------|--|
| DRAWN BY: P.Sparrow, 1/25/06 | TITLE T19-M-VL with T14-T-VL Module Drawing | | |
| CHECKED BY: D.Lawson, 1/25/06 | SCALE 1:1 | SIZE B | DRAWING NUMBER 9630-20-T19MVL T14TVL-02 |
| WEIGHT LBS: | PRODUCT RELEASE # 060112-1 DATE: | | SHEET 2 OF 2 |
| ASSEMBLY REF: | | | |