

# VSS-Y

## TOOL THEORY

## VSS/ART TEST

## VSS/ADR TEST

### VSS-Y (B Module) VOLTAGE SENSING SWITCH 2-1/8"

#### Purpose

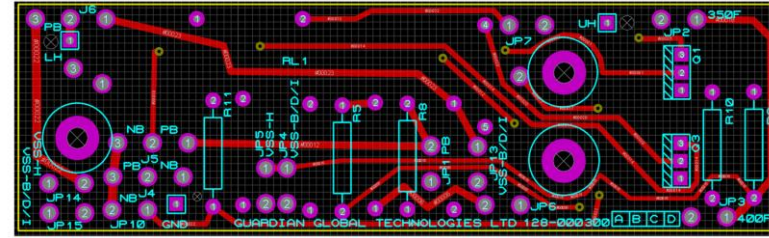
- To prevent short circuit in a fired perforating gun, which prevents operation of ART located above gun.
- Run below ART to prevent negative power provided to the ART from being transmitted to the perforating system

#### Operation

- As upper head voltage increases (negatively) a number of voltage sensing elements switch until the applied voltage reaches -120 to -160 vdc.
- Thyristor/IBGT/Relay is switched on, conducting between upper and lower heads.
- Module remains switched on, so even after applied voltage is reduced, VSS will still conduct
- B-type module is designed to block only negative voltages up to the switching threshold.

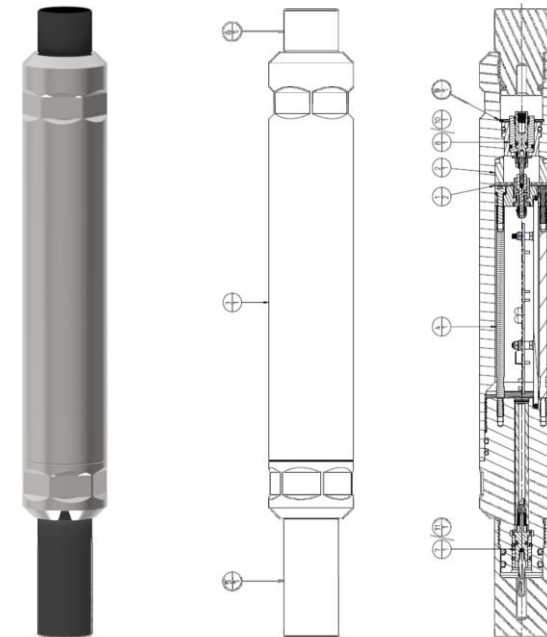
#### Specifications

Switching voltage:	-120/-30 vdc -160/-40 vdc
Max rated voltage:	+1250vdc -500vdc
Max Through Current:	1A
Connection Upper/Lower:	1-3/16" GO Type A



Polarity	Pos Blocking	JP1 (1-2)	J4(3-2)	J5(1-2)	J6(2-3)
	Neg Blocking	JP10 (1-2)	J4(1-2)	J5(2-3)	J6(1-2)
Mode	VSS-B Type with CCL bypass resistor	JP15(1-2)	JP13(1-2)	JP7(1-2)	-
	VSS-D Type	JP15(1-2)	JP13(1-2)	-	-
	VSS-I Type	JP15(1-2)	JP13(1-2)	-	-
	VSS-H Type	JP5(1-2)	JP6(1-2)	JP14(1-2)	-

#### Jumper Settings for different Module types



General Assembly Drawing

# VSS-Y

OPERATION

VSS/ART  
TEST

VSS/ADR  
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1. Setup tool string:  
Cable Head + ART.  
Address check on  
ACP (ART Control  
Panel) shows  
**address #1**

2. Using crocodile  
clip, short pin to  
body to  
simulate short  
circuit

3. Recheck address  
on ACP shows **no  
address found.**

4. Connect VSS to  
end of tool string.



5. Using crocodile  
clip, short VSS pin  
to body to simulate  
short circuit

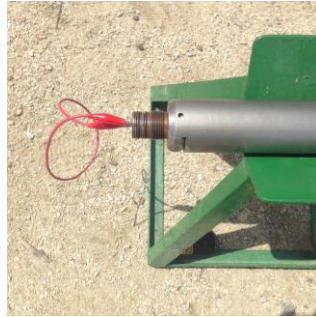
6. Rechecking  
address on ACP  
shows **address #1**

# VSS-Y

OPERATION

VSS/ART  
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VSS/ADR  
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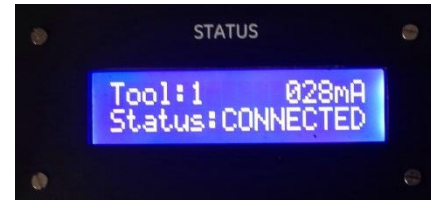


1. Setup tool string:  
Cable Head +  
ADR. Status check  
on ACP (ADR  
Control Panel)  
shows **Status :**  
**CONNECTED**

2. Using crocodile  
clip, short pin to  
body to create  
short circuit

3. Recheck status on  
ACP shows  
**FAULT: NO  
TOOLS.**

4. Connect VSS to  
end of tool string.



5. Using crocodile  
clip, short VSS pin  
to body to simulate  
short circuit

6. Rechecking status  
on ACP shows  
**Status :**  
**CONNECTED**