1. PDU COMMANDS

a. PROGRAMMABLE OUTPUTS 1 THROUGH 9

Each bit in the binary value for the concatenated z variable(s) is equal to an increment of 10 mV for voltage or 2 mA for current. The values are unsigned. Maximum allowed values are 40.00 VDC and 5.000 ADC. When programming an active current mode of operation, the voltage should be programmed to 40 VDC for best accuracy. Current limits set to less than 5 Amperes at voltages less than maximum are still fully functional but the accuracy may degrade slightly.

b. PROGRAMMABLE OUTPUT 10

Each bit in the binary value for the concatenated z variable(s) is equal to an increment of 20 mV for voltage or 2 mA for current. The values are unsigned. Maximum allowed values are 65.00 VDC and 5.000 ADC. When programming an active current mode of operation, the voltage should be programmed to 65 VDC for best accuracy. Current limits set to less than 5 Amperes at voltages less than maximum are still fully functional but the accuracy may degrade slightly.

c. PDU IEEE-488 COMMANDS

IEEE TETS Commands			
HEX	Description	Variables	Range [Hex]
1s, 00, 00 1s, 01, 01 1s, 80, 80	RESET Supply (alternate command) (alternate command)	s	0 ≤ s ≤ A
2s, 4z, zz	Set Current Limit	s, zzz	1 ≤ s ≤ A
2s, Cz, 00	Set Current Limit to z00	s, z	1 ≤ s ≤ A
2s, 5z, zz	Set Voltage Level	s, zzz	1 ≤ s ≤ A
2s, Dz, 00	Set Voltage Level to z00	s, z	1 ≤ s ≤ A
4s, 00, 00	Execute BIT on s	s	1 ≤ s ≤ A
2s, 8-, - -	Bit mapped commands for PDU outputs The 4 least significant bits of byte 2 and byte 3 may be binary coded for compound actions	s	1 ≤ s ≤ A
2s, B0, 00	Close Relay on s		
2s, A0, 00	**Open Relay on s (default)**	s	1 ≤ s ≤ A
2s, 80, 03	Reverse Polarity on s	s	1 ≤ s ≤ A
2s, 80, 02	**Normal Polarity on s (default)**	s	1 ≤ s ≤ A
2s, 8C, 00	Slave Mode on s	s	1 ≤ s ≤ A
2s, 88, 00	**Master Mode on s (default)**	s	1 ≤ s ≤ A
2s, 83, 00	Remote Sense on s (Programming Remote Sense with the sense lines disconnected will result in degraded performance	s	1 ≤ s ≤ A
2s, 82, 00	**Local Sense on s (default)**	s	1 ≤ s ≤ A
2s, 80, 30	Constant Current Mode on s	s	1 ≤ s ≤ A
2s, 80, 20	**Constant Voltage Mode on s (default)**	s	1 ≤ s ≤ A
As, 4z, zz As, 5z, 00	Calibration Start location zzz for s	s, zzz	1 ≤ s ≤ A 0 ≤ zzz ≤ Note 1
Cs, 4z, zz Cs, 5z, 00	Calibration Next location zzz for s	s, zzz	1 ≤ s ≤ A 0 ≤ zzz ≤ Note 1
Es, 40, zz Es, 50, 00	Calibration Offset zz between Start and Next locations	s,zz	1 ≤ s ≤ A 0 ≤ zz ≤ FF
2s, 6z, zz 2s, Ez, 00	Voltage Set bypassing Cal. Constants	s, zzz	1 ≤ s ≤ A
9s, xx, xx	Calibration Finished for s	s	1 ≤ s ≤ A
2s, 80, 40	Place Supply s in No Fault Mode	s	1 ≤ s ≤ A
8s, 4F, Ax	Calibration Store Century Location	x = Location	A = Century B = Year C = Month D = Day
8s, 6x, zz	Calibration Store Data	zz	0 ≤ s ≤ 99
0s, 6F, Ax	Read Calibration Data (byte 5 of Status Query)	x = Location	A = Century B = Year C = Month D = Day
0s, 44, 00	Status query to s	s	1 ≤ s ≤ A
0s, 42, 00	Measurement query to s	s	1 ≤ s ≤ A
4B, 00, 00 4B, 41, 41	FPU On (alternate command)		

2B, 00, 00 2B, 41, 41	FPU Off (alternate command)		
0B, 20, 00	FPU in No Fault Mode		
0s, 48, 01	Internal Calibrate	s	$1 \leq s \leq A$
0s, 41, xx	Force Fault Mode Reporting	s	$1 \leq s \leq A$
40, xx, xx	Slot 0 Fail Safe Inhibit (to GPIB 5:0)		
10, xx, xx	Slot 0 Reset (to GPIB 5:0)		
2s, 80, 08	Disable Fail Safe	s	$1 \leq s \leq A$
0s, 40, 20	No-op (calibrate A/D converter previously)	s	$1 \leq s \leq A$
8F, 2F, FF	Ignore FPU fault conditions		
8F, 8F, FF	**Don't ignore FPU fault conditions (default)**		
20, 80, CF	Ignore PPU fault conditions		
20, 80, 8F	**Don't ignore PPU fault conditions (default)**		
IEEE Read STB	To secondary address 0 returns status		NOTE 2
IEEE Read	To secondary address 14 returns 96 byte Data Dump from the PFU and a random VXI chassis		

NOTE 1: Maximum address for 40 Volt modules is 0xFA0 and 0xCB2 for 65 volt module. The offset is a signed number added to the basic 12 bit voltage setting

NOTE 2: The response to the IEEE STB read command is per the following table

Data Dump	RQS	retrieval error	Module fault	A	D (28 VDC OK)	D (PRB)	R (RCVR)
Data Dump	1000 xxxx			0x80 = set 5:14 to talk			
Query Fail	0010 xxxx						
Mod Failed	0001 ADDR (of module)						
Action Byte	1011 xABC			0Bx = VXI Action Byte A = On, B = PRB, C = RCVR			
PDU Response	0011 xxxx						
Module Response	0100 ADDR						