

# 32 CHANNEL ETHERNET 10G SWITCH

## HIGH SPEED SOLUTIONS

PDS - 319



Amphenol's Rugged 32 Channel Ethernet Switch Box provides an unmatched level of flexibility to meet any system requirement. The switch box is a 32 port standalone Ethernet Switch box that is configurable for system connectivity, speeds, port types, and interoperability with various high-speed media converters and connectors for system interfacing.

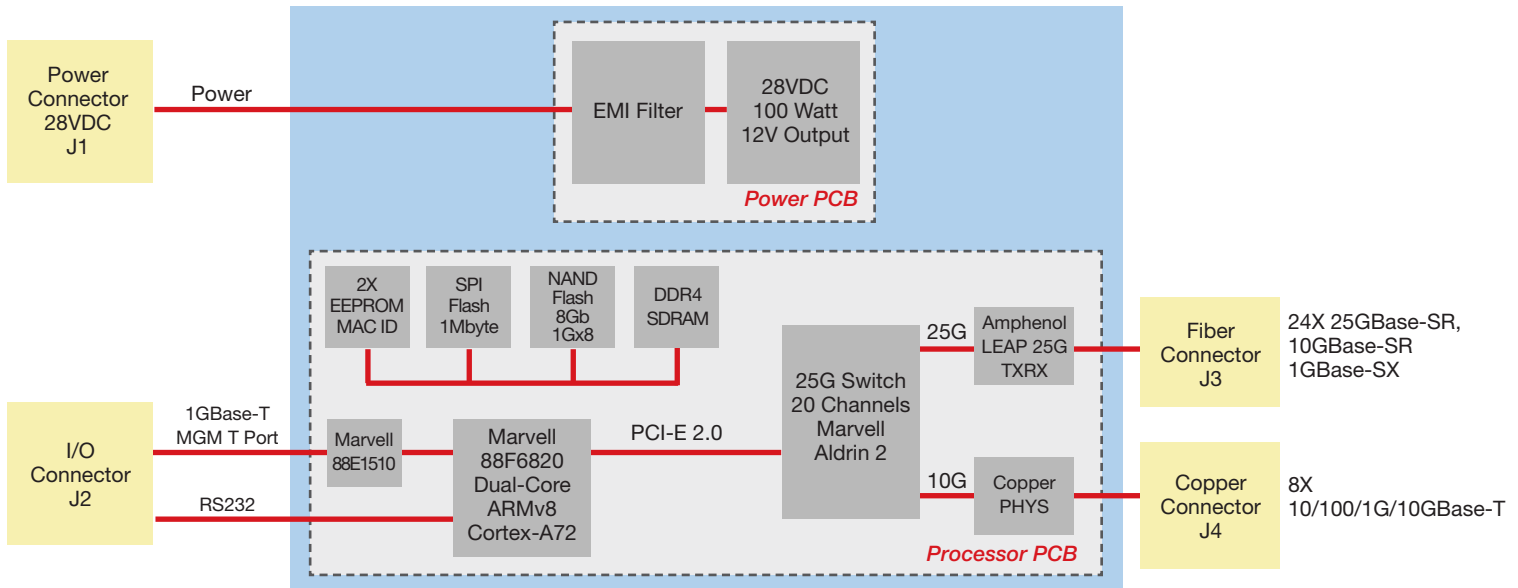
Each port is capable of 10G Ethernet – some ports can either be configured as 10G-Base-T (also supporting 100-Base-T and 1G-Base-T) or 10G-Base-SR and 1G-Base-SX. The switching throughput is up to 320 Tbps when using all 32 ports on the switch box. In addition, the switch is non-blocking and low-latency for high-throughput architectures and applications. In Amphenol's state of the art Spirent communications testing center, the switch box is tested aggressively at line rates to RFC 2889 for switching and RFC 2544 for L2/L3 performance, latency, packet forwarding, and other key items.

The switch is manufactured using Amphenol's MIL Qualified MIL-DTL-38999 Series III connectors. These connectors contain standard AS39029 qualified Size 22D contacts, Octonet contacts and 48F MT Ferrule Fiber Optic contact assemblies.

### FEATURES AND BENEFITS:

- 8 channels of Copper – 10/100/1G/10GBase-T
- 24 channels of Fiber – configured as 1GBase-SX or 10GBase-SR
- 320 terabits per second non-blocking L2/L3 switch
- Dual core ARM processor with flash, SPI, EEPROMs, and DDR3 and mgmt. Ethernet connection
- Uboot and Linux OS for L2 / L3 switching
- Web browser, SSH, CLI, telnet
- Embedded reset and status CPLD
- Service micro-controller for power down, reset, and restart in overheat event
- 28VDC mil-spec power supply with EMI filter
- 100 Watts typical power consumption at room temperature
- ETI, Circuit breaker, power supply status LEDs
- Power connector, debug connector, maintenance connector – all D38999's
- MIL-Spec black painted chassis with cold plate external conduction cooling
- Environmental requirements nearly identical to current product

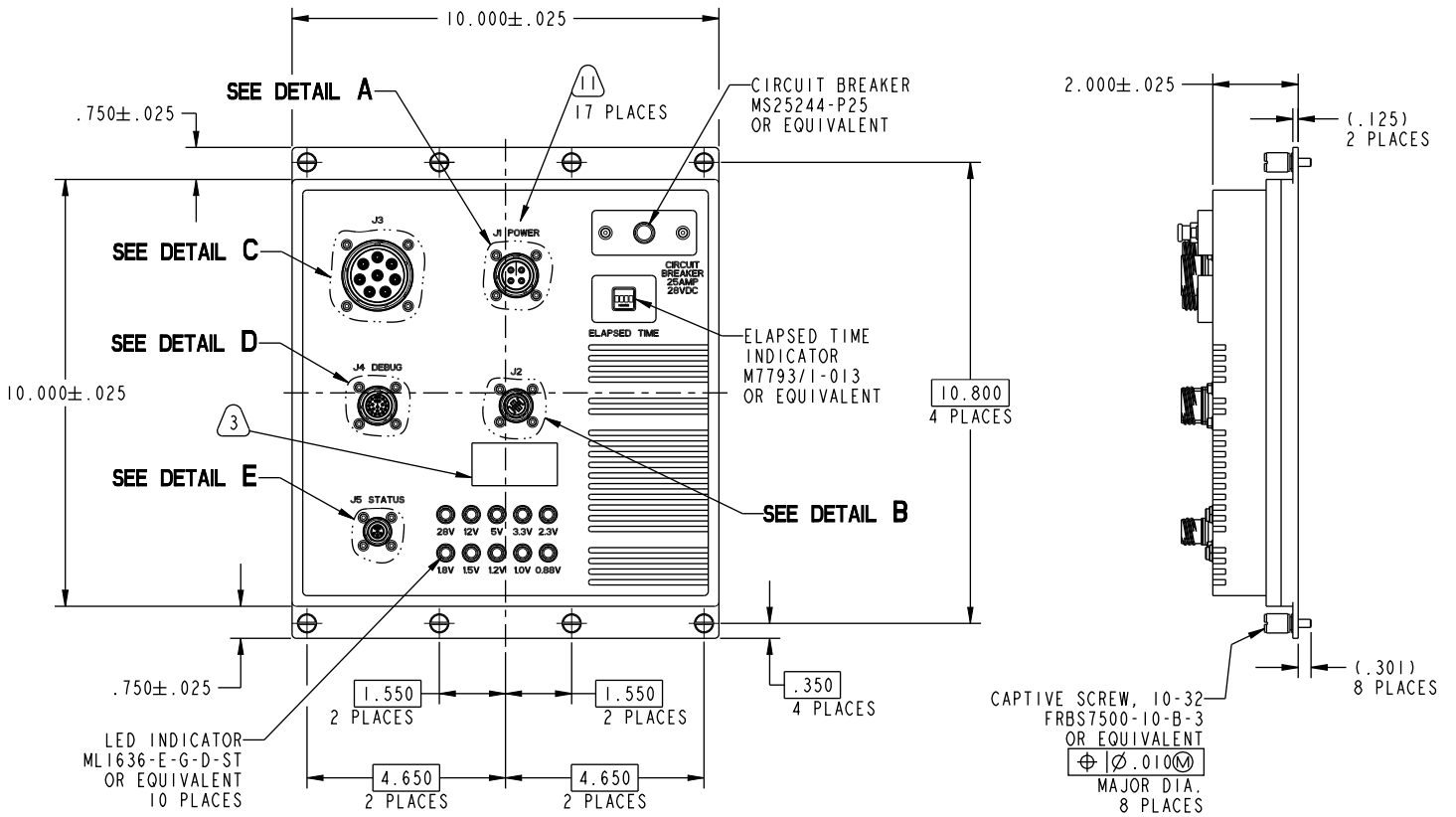
# BLOCK DIAGRAM



# VISUAL DESCRIPTION

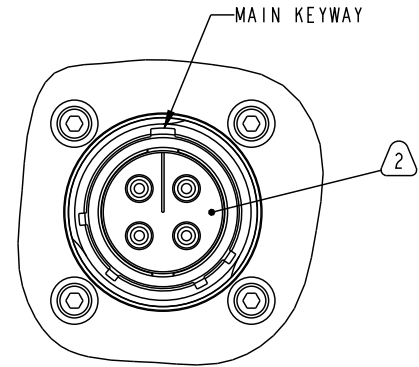


# DRAWING

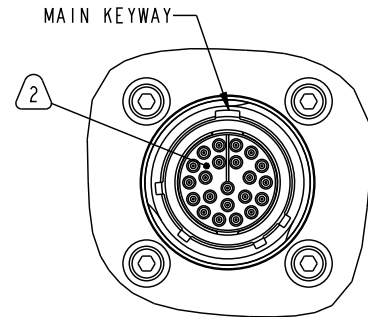


# KEY WAY DIAGRAM AND CHART

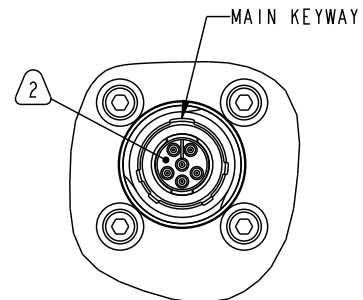
I/O CHART			
CONNECTOR DESCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME
J1 (POWER) 15-4P KEYING "N"	A	IN	280VDC_IN
	B	OUT	28VDC_RTN
	C	---	SAFETY GROUND / CHASSIS
	D	---	NOT CONNECTED
	SHELL	---	CHASSIS
J4 (DEBUG) 13-35P KEYING "N"	1	OUT	RS232_CONSOLE_TX
	2	IN	RS232_CONSOLE_RX
	3	--	RS232_CONSOLE_GND
	4	IN	DEBUG_JTAG_TCLK
	5	OUT	DEBUG_JTAG_TDO
	6	IN	DEBUG_JTAG_TDI
	7	IN	DEBUG_JTAG_TTMS
	8	IN	DEBUG_I2C_SCL
	9	BI	DEBUG_I2C_SDA
	10	--	NOT CONNECTED
	11	--	NOT CONNECTED
	12	BI	DEBUG_CPU_USB_D+
	13	BI	DEBUG_CPU_USB_D-
	14	BI	DEBUG_CPU_1GBASET_DA+
	15		DEBUG_CPU_1GBASET_DA-
	16		DEBUG_CPU_1GBASET_DB+
	17		DEBUG_CPU_1GBASET_DB-
	18		DEBUG_CPU_1GBASET_DC+
	19		DEBUG_CPU_1GBASET_DC-
	20		DEBUG_CPU_1GBASET_DD+
	21		DEBUG_CPU_1GBASET_DD-
	22	--	NOT CONNECTED
SHELL	--	CHASSIS	
J5 (STATUS/RESET) 9-35P KEYING "N"	1	IN	SWITCHBOX_RESET
	2	OUT	POWERSUPPLY_STATUS
	3	OUT	CHASSIS_STATUS
	4	OUT	TEMPERATURE_WARNING_STATUS
	5	--	RESET_RTN
	6	--	NOT CONNECTED
	SHELL	--	SHELL -- CHASSIS



**DETAIL A**  
J1  
SCALE 2.000

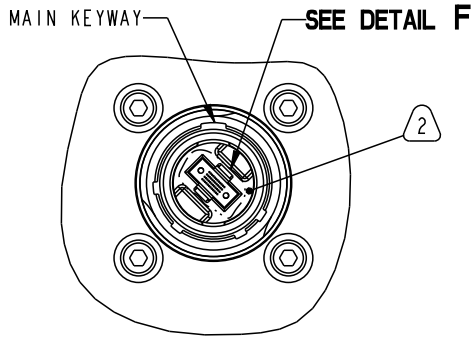


**DETAIL D**  
J4  
SCALE 2.000

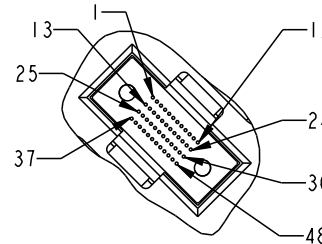


**DETAIL E**  
J5  
SCALE 2.000

# KEY WAY DIAGRAM AND CHART



**DETAIL B**  
J2  
SCALE 2.000

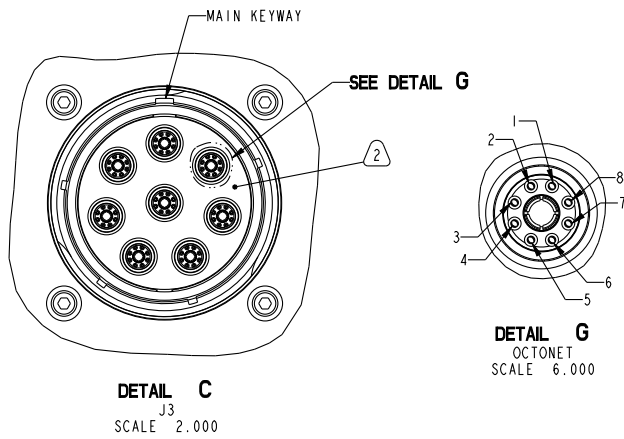


**DETAIL F**  
48F MT  
SCALE 6.000

I/O CHART (CONTINUED)			
Connector Description	PIN NO.	DATA DIRECTION	SIGNAL NAME
J2 11-1S 48F MT KEYING "N"	1	IN	PORT12_10GBASESR_RX
	2		PORT11_10GBASESR_RX
	3		PORT10_10GBASESR_RX
	4		PORT9_10GBASESR_RX
	5		PORT8_10GBASESR_RX
	6		PORT7_10GBASESR_RX
	7		PORT6_10GBASESR_RX
	8		PORT5_10GBASESR_RX
	9		PORT4_10GBASESR_RX
	10		PORT3_10GBASESR_RX
	11	PORT2_10GBASESR_RX	OUT
	12	PORT1_10GBASESR_RX	
	13	PORT12_10GBASESR_TX	
	14	PORT11_10GBASESR_TX	
	15	PORT10_10GBASESR_TX	
	16	PORT9_10GBASESR_TX	
	17	PORT8_10GBASESR_TX	
	18	PORT7_10GBASESR_TX	
	19	PORT6_10GBASESR_TX	
	20	PORT5_10GBASESR_TX	
	21	PORT4_10GBASESR_TX	
	22	PORT3_10GBASESR_TX	
	23	PORT2_10GBASESR_TX	
	24	PORT1_10GBASESR_TX	

I/O CHART (CONTINUED)			
Connector Description	PIN NO.	DATA DIRECTION	SIGNAL NAME
J2 11-1S 48F MT KEYING "N"	25	IN	PORT24_10GBASESR_RX
	26		PORT23_10GBASESR_RX
	27		PORT22_10GBASESR_RX
	28		PORT21_10GBASESR_RX
	29		PORT20_10GBASESR_RX
	30		PORT19_10GBASESR_RX
	31		PORT18_10GBASESR_RX
	32		PORT17_10GBASESR_RX
	33		PORT16_10GBASESR_RX
	34		PORT15_10GBASESR_RX
	35	PORT14_10GBASESR_RX	OUT
	36	PORT13_10GBASESR_RX	
	37	PORT24_10GBASESR_TX	
	38	PORT23_10GBASESR_TX	
	39	PORT22_10GBASESR_TX	
	40	PORT21_10GBASESR_TX	
	41	PORT20_10GBASESR_TX	
	42	PORT19_10GBASESR_TX	
	43	PORT18_10GBASESR_TX	
	44	PORT17_10GBASESR_TX	
	45	PORT16_10GBASESR_TX	
	46	PORT15_10GBASESR_TX	
	47	PORT14_10GBASESR_TX	
	48	PORT13_10GBASESR_TX	
SHELL	--		CHASSIS

# KEY WAY DIAGRAM AND CHART



I/O CHART (CONTINUED)			
Connector Description	PIN NO.	DATA DIRECTION	SIGNAL NAME
J3 25-8S KEYING "N"	A-1	BI	PORT25_10GBASET_DA+
	A-2		PORT25_10GBASET_DAA-
	A-3		PORT25_10GBASET_DB+
	A-4		PORT25_10GBASET_DBA-
	A-5		PORT25_10GBASET_DC+
	A-6		PORT25_10GBASET_DCA-
	A-7		PORT25_10GBASET_DD+
	A-8		PORT25_10GBASET_DDB-
	B-1		PORT26_10GBASET_DA+
	B-2		PORT26_10GBASET_DAB-
	B-3		PORT26_10GBASET_DB+
	B-4		PORT26_10GBASET_DBB-
	B-5		PORT26_10GBASET_DC+
	B-6		PORT26_10GBASET_DCB-
	B-7		PORT26_10GBASET_DD+
	B-8		PORT26_10GBASET_DDC-
	C-1		PORT27_10GBASET_DA+
	C-2		PORT27_10GBASET_DAC-
	C-3		PORT27_10GBASET_DB+
	C-4		PORT27_10GBASET_DBC-
	C-5		PORT27_10GBASET_DC+
	C-6		PORT27_10GBASET_DCC-
	C-7		PORT27_10GBASET_DD+
	C-8		PORT27_10GBASET_DDD-
	D-1		PORT28_10GBASET_DA+
	D-2		PORT28_10GBASET_DAD-
	D-3		PORT28_10GBASET_DB+
	D-4		PORT28_10GBASET_DBD-
	D-5		PORT28_10GBASET_DC+
	D-6		PORT28_10GBASET_DCD-
	D-7		PORT28_10GBASET_DD+
	D-8		PORT28_10GBASET_DD-

I/O CHART (CONTINUED)			
Connector Description	PIN NO.	DATA DIRECTION	SIGNAL NAME
J3 25-8S KEYING "N"	E-1	BI	PORT29_10GBASET_DA+
	E-2		PORT29_10GBASET_DAE-
	E-3		PORT29_10GBASET_DB+
	E-4		PORT29_10GBASET_DBE-
	E-5		PORT29_10GBASET_DC+
	E-6		PORT29_10GBASET_DCE-
	E-7		PORT29_10GBASET_DD+
	E-8		PORT29_10GBASET_DDF-
	F-1		PORT30_10GBASET_DA+
	F-2		PORT30_10GBASET_DAF-
	F-3		PORT30_10GBASET_DB+
	F-4		PORT30_10GBASET_DBF-
	F-5		PORT30_10GBASET_DC+
	F-6		PORT30_10GBASET_DCF-
	F-7		PORT30_10GBASET_DD+
	F-8		PORT30_10GBASET_DD-
	G-1		PORT31_10GBASET_DA+
	G-2		PORT31_10GBASET_DAG-
	G-3		PORT31_10GBASET_DB+
	G-4		PORT31_10GBASETDBG-
	G-5		PORT31_10GBASET_DC+
	G-6		PORT31_10GBASET_DCG-
	G-7		PORT31_10GBASET_DD+
	G-8		PORT31_10GBASETDDH-
	H-1		PORT32_10GBASET_DA+
	H-2		PORT32_10GBASETDAH-
	H-3		PORT32_10GBASET_DB+
	H-4		PORT32_10GBASETDBH-
	H-5		PORT32_10GBASET_DC+
	H-6		PORT32_10GBASET_DCH-
	H-7		PORT32_10GBASET_DD+
	H-8		PORT32_10GBASETDDA
A OUTER		--	CHASSIS
B OUTER			
C OUTER			
D OUTER			
E OUTER			
F OUTER			
G OUTER			
H OUTER			
SHELL			

# CONNECTOR LIST

CONNECTOR LIST				
CONNECTOR DESIGNATOR	CONNECTOR PART NUMBER	CONTACT(S) USED	MATING CONNECTOR (OR EQUIVALENT)	MATING CONTACT (OR EQUIVALENT)
J1 POWER	CF-971354-04P	4X) SIZE 12 PIN M39029/107-623	V06RF-15-4S(LC)	SIZE 12 SOCKET M39029/106-617
J2	CF-971332-01S	(1X) 48F MT FERRULE 12599 (1X) MT MALE KIT CF-198233-001	CF-594611-01P	48F MT FERRULE 12599 MT FEMALE KIT CF-198234-001
J3	10-646402-612N	8X) 21-032907-001 OCTONET, SOCKET	TV06RQF-25-8P(LC)	21-032904-021 OCTONET, PIN COMPATIBLE W/ PIC E6A3824 100OHM CABLE (OR EQUIVALENT)
J4 DEBUG	CF-971353-22P	(22X) SIZE 22D PIN M39029/107-620	V06RF-13-35S(LC)	SIZE 22D SOCKET M39029/106-614
J5 STATUS	CF-971351-35P	(6X) SIZE 22D PIN M39029/107-620	TV06RF-9-35S(LC)	SIZE 22D SOCKET M39029/106-614

## TEST CABLES

- J1 Insert Drawing and pinout from CA-628485-G08
- J2 Insert Drawing and pinout from CF-980062-101
- J3 Insert Drawing and pinout from CA-628485-G09
- J4 Insert Drawing and pinout from CA-628485-G10
- J5 Insert Drawing and pinout from CA-628485-G11