32 CHANNEL 10G ETHERNET 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 interoperation 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 (also supporting 25G Base-SR). The switching throughput is up to 320 Gbps 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 at full line rate and PRBS 2^{31}.

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:

- Eight channels of Copper – 10/100/1G/10GBase-T
  - Compliant to IEEE 802.3 an 10GBase -T
- 24 channels of Fiber – configured as 1GBase-SX or 10GBase-SR
  - Compliant to IEEE 802.3 Clause 49 & 52
- 320 gigabits 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
- Support for PTP boundary clock
- 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
- Rear mounting panel is paint free for electrical bonding. The surface is coated with a conductive finish such as alodine or iridite.

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SOFTWARE FEATURES

Amphenol Aerospace

Stacking
Stacking Ring Topology
Stacking Chain Topology
Stacking Members and Unit ID
Removing and Replacing Stacking Members
Exchanging Stacking Members
Switching the Stacking Master
Configuring System Time
Configuring Daylight Savings Time
Configuring SNTP
Polling for Unicast Time Information
Polling for Anycast Time Information
Broadcast Time Information
Defining SNTP Settings
Configuring Device Security
Configuring Management Security
Configuring Authentication Methods
Defining Access Profiles
Defining Profile Rules
Defining Authentication Profiles
Mapping Authentication Methods
Defining RADIUS Settings
Defining TACACS+ Authentication
Configuring Passwords
Defining Local Users
Defining Line Passwords
Defining Enable Passwords
Configuring Network Security
Network Security Overview
Port-Based Authentication
Advanced Port-Based Authentication
Defining Port Authentication Properties
Defining Port Authentication
Configuring Multiple Hosts
Defining Authentication Hosts
Viewing EAP Statistics
Defining Access Control Lists
Defining IP Based Access Control Lists
Defining MAC Based Access Control Lists
Binding Device Security ACLs
Managing Port Security
Enabling Storm Control
Configuring System Logs
Defining General Log Properties
Viewing Memory Logs
Viewing Flash Logs
Configuring Interfaces
Configuring Ports
Aggregating Ports
Configuring LACP
Configuring VLANs
Defining VLAN Properties
Defining VLAN Membership
Defining VLAN Interface Settings
Configuring GARP
Defining GARP
Defining GVRP
Viewing GVRP Statistics

Defining IP Addresses
Configuring IP Addressing
Defining IP Addresses
Defining ARP
Defining Domain Name Servers
Defining DNS Servers
Defining DNS Host Mapping
Defining the Forwarding Database
Defining Static Forwarding Database Entries
Defining Dynamic Forwarding Database Entries
Configuring Spanning Tree
Defining Classic Spanning Tree
Defining STP on Interfaces
Defining Rapid Spanning Tree
Defining Multiple Spanning Tree
Defining MSTP Instance Settings
Defining MSTP Interface Settings
Configuring SNMP
SNMP v1 and v2c
SNMP v3
Configuring SNMP Security
Defining SNMP Security
Defining SNMP View
Defining SNMP Group Profiles
Defining SNMP Group Members
Defining SNMP Communities
SNMP Communities Basic Table
SNMP Communities Advanced Table
Configuring SNMP Notifications
Defining SNMP Notification Global Parameters .
Defining SNMP Notification Filters
Defining SNMP Notification Recipients
SNMPv1,2c Notification Recipients
SNMPv3 Notification Recipients
Configuring Multicast Forwarding
Multicast Forwarding
Typical Multicast Setup
Multicast Operation
Multicast Registration
Multicast Address Properties
Defining Multicast Properties
Adding MAC Group Address
Adding IP Multicast Groups
Configuring IGMP Snooping
Configuring MLD Snooping
Viewing IGMP/MLD IP Multicast Groups
Defining Multicast Router Ports
Defining Forward All Multicast
Defining Unregistered Multicast Settings

Managing System Files
Downloading System Files
Firmware Download
Configuration Download
Uploading System Files
Upload Type
Software Image Upload
Configuration Upload
Copying Files
Restoring the Default Configuration File
Configuring Quality of Service
Quality of Service Overview
VPT Classification Information
CoS Services
Defining General QoS Settings
Configuring QoS General Settings
Restoring Factory Default QoS Interface Settings
Defining Queues
Defining Bandwidth Settings
Mapping CoS Values to Queues
Mapping DSCP Values to Queues
Defining QoS Basic Mode
Defining Basic Mode Settings
Rewriting Basic Mode DSCP Values
Defining QoS Advanced Mode
Setting Policy Binding
Managing Device Diagnostics
Configuring Port Mirroring
Viewing Statistics
Viewing Interface Statistics
Viewing Interface Statistics
Receive Statistics
Transmit Statistics
Viewing Etherlike Statistics
Managing RMON Statistics
Viewing RMON Statistics
Configuring RMON History
Defining RMON History Control
Viewing the RMON History Table
Configuring RMON Events
Defining RMON Events Control
Viewing the RMON Events Logs
Defining RMON Alarms

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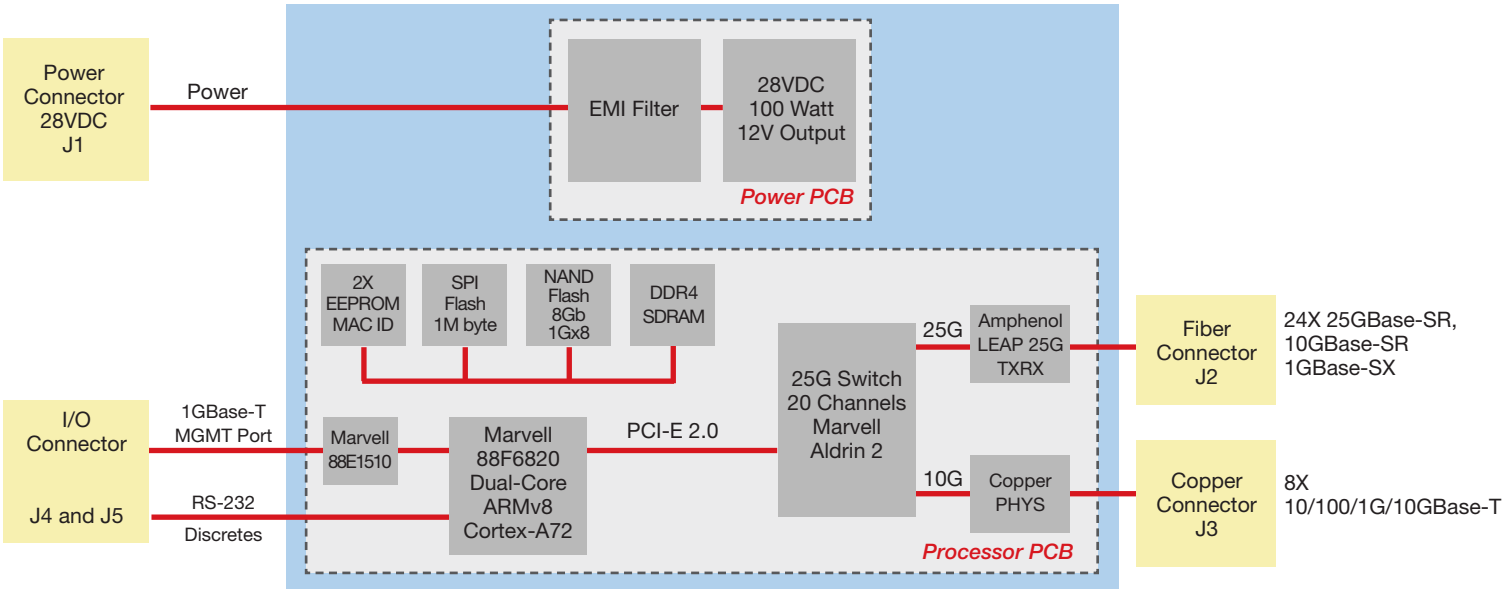
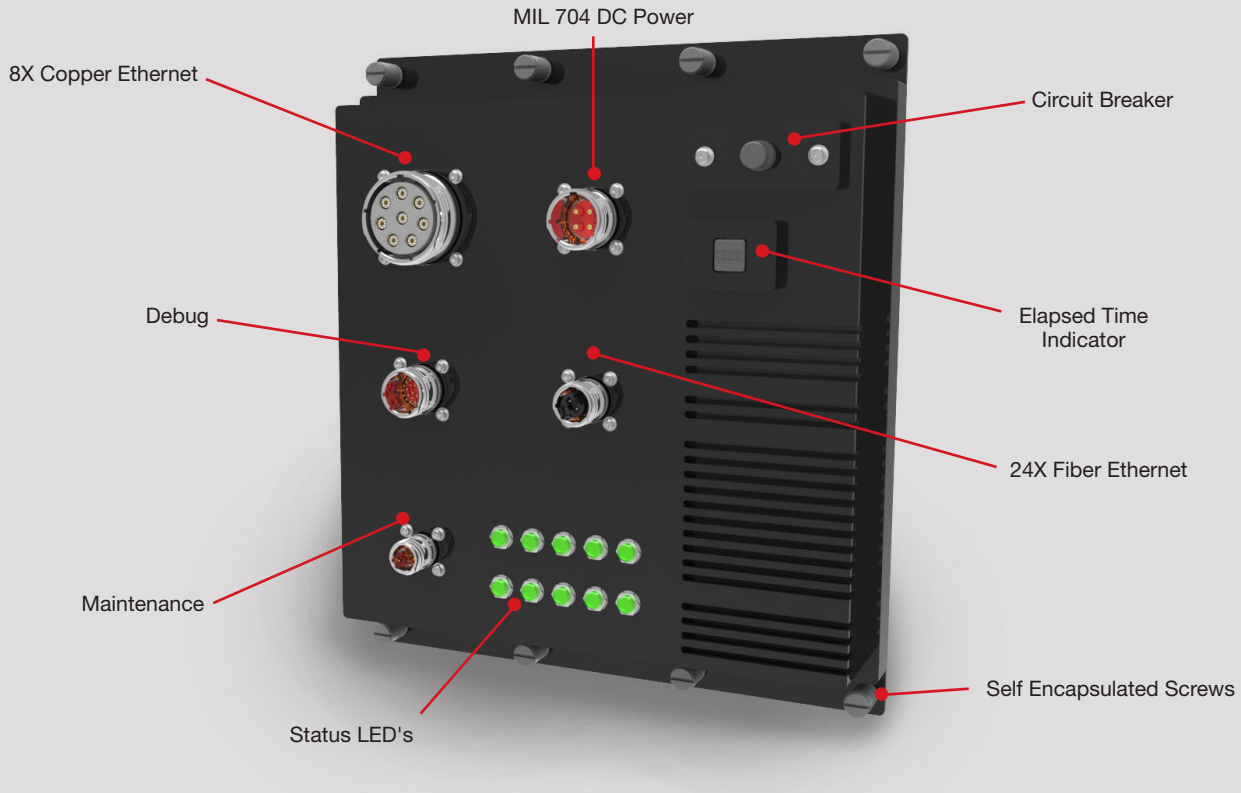
BLOCK DIAGRAM



VISUAL DESCRIPTION



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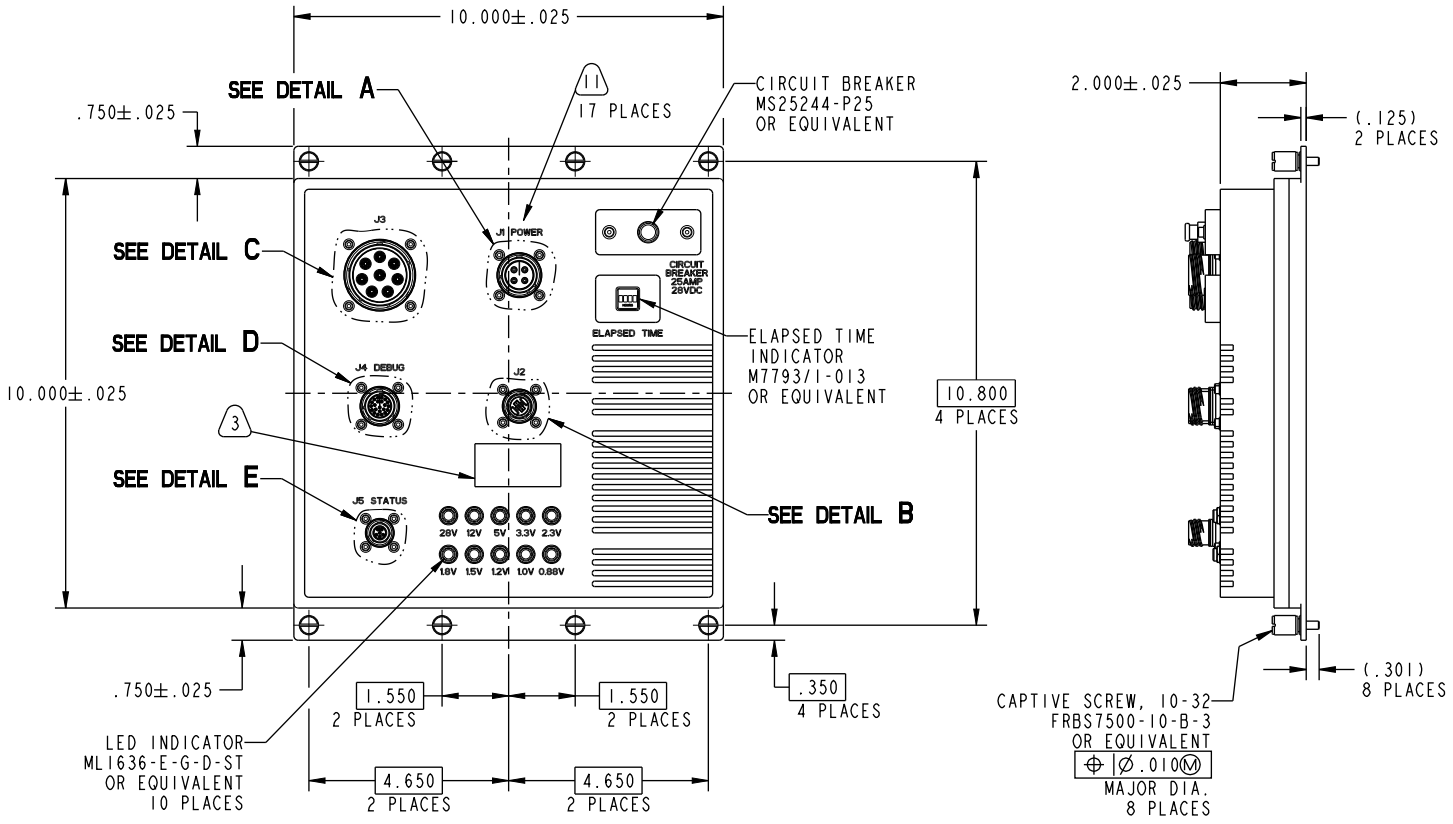
DRAWING



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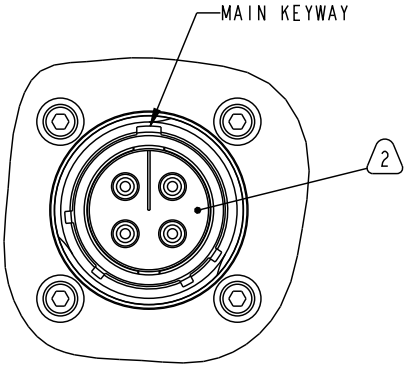
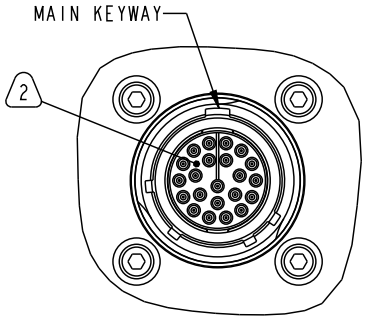
KEY WAY DIAGRAM AND CHART

Amphenol Aerospace

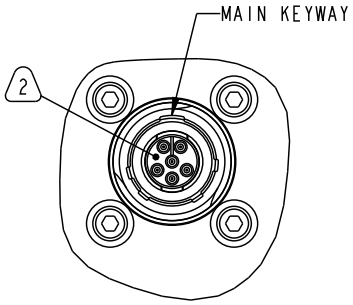
I/O CHART			
CONNECTOR DE-SCRIPTION	PIN NO.	DATA DIRECTION	SIGNAL NAME
J1 (POWER) 15-4P KEYING "N"	A	IN	280VDC_IN
	B	OUT	28VDC_RTN
	C	---	SAFETY GROUND / CHASSIS
	D	---	NOT CONNECTED
	SHELL	---	CHASSIS
J4 (DEBUG) 13-35P KEYING "N"	1	OUT	RS232_CONSOLE_TX
	2	IN	RS232_CONSOLE_RX
	3	--	RS232_CONSOLE_GND
	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	OUT	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

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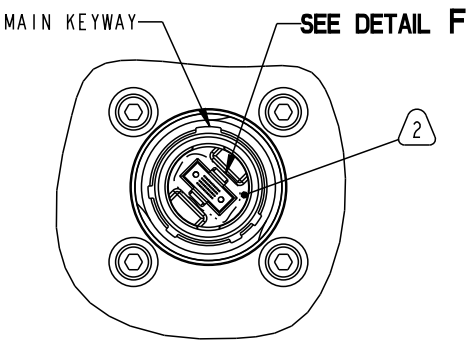
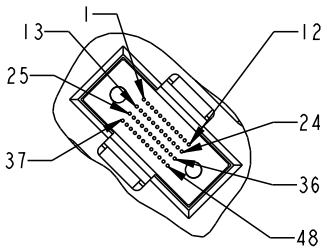
KEY WAY DIAGRAM AND CHART



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
	12		PORT1_10GBASESR_RX
	13	OUT	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
	36		PORT13_10GBASESR_RX
	37	OUT	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

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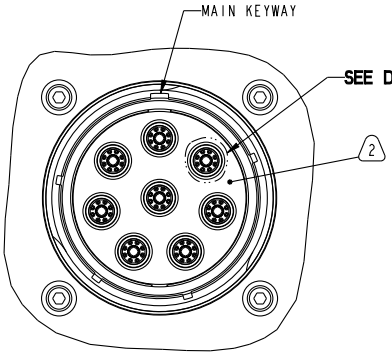
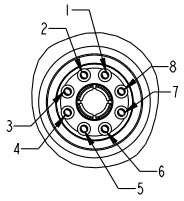
KEY WAY DIAGRAM AND CHART



DETAIL C
J3
SCALE 2.000



DETAIL G
OCTONET
SCALE 6.000

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_DA-
	A-3		PORT25_10GBASET_DB+
	A-4		PORT25_10GBASET_DB-
	A-5		PORT25_10GBASET_DC+
	A-6		PORT25_10GBASET_DC-
	A-7		PORT25_10GBASET_DD+
	A-8		PORT25_10GBASET_DD-
	B-1		PORT26_10GBASET_DA+
	B-2		PORT26_10GBASET_DA-
	B-3		PORT26_10GBASET_DB+
	B-4		PORT26_10GBASET_DB-
	B-5		PORT26_10GBASET_DC+
	B-6		PORT26_10GBASET_DC-
	B-7		PORT26_10GBASET_DD+
	B-8		PORT26_10GBASET_DD-
	C-1		PORT27_10GBASET_DA+
	C-2		PORT27_10GBASET_DA-
	C-3		PORT27_10GBASET_DB+
	C-4		PORT27_10GBASET_DB-
	C-5		PORT27_10GBASET_DC+
	C-6		PORT27_10GBASET_DC-
	C-7		PORT27_10GBASET_DD+
	C-8		PORT27_10GBASET_DD-
	D-1		PORT28_10GBASET_DA+
	D-2		PORT28_10GBASET_DA-
	D-3		PORT28_10GBASET_DB+
	D-4		PORT28_10GBASET_DB-
	D-5		PORT28_10GBASET_DC+
	D-6		PORT28_10GBASET_DC-
	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_DA-
	E-3		PORT29_10GBASET_DB+
	E-4		PORT29_10GBASET_DB-
	E-5		PORT29_10GBASET_DC+
	E-6		PORT29_10GBASET_DC-
	E-7		PORT29_10GBASET_DD+
	E-8		PORT29_10GBASET_DD-
	F-1		PORT30_10GBASET_DA+
	F-2		PORT30_10GBASET_DA-
	F-3		PORT30_10GBASET_DB+
	F-4		PORT30_10GBASET_DB-
	F-5		PORT30_10GBASET_DC+
	F-6		PORT30_10GBASET_DC-
	F-7		PORT30_10GBASET_DD+
	F-8		PORT30_10GBASET_DD-
	G-1		PORT31_10GBASET_DA+
	G-2		PORT31_10GBASET_DA-
	G-3		PORT31_10GBASET_DB+
	G-4		PORT31_10GBASET_DB-
	G-5		PORT31_10GBASET_DC+
	G-6		PORT31_10GBASET_DC-
	G-7		PORT31_10GBASET_DD+
	G-8		PORT31_10GBASET_DD-
	H-1		PORT32_10GBASET_DA+
	H-2		PORT32_10GBASET_DA-
	H-3		PORT32_10GBASET_DB+
	H-4		PORT32_10GBASET_DB-
	H-5		PORT32_10GBASET_DC+
	H-6		PORT32_10GBASET_DC-
	H-7		PORT32_10GBASET_DD+
	H-8		PORT32_10GBASET_DD-
	A OUTER	--	CHASSIS
	B OUTER		
	C OUTER		
	D OUTER		
	E OUTER		
	F OUTER		
	G OUTER		
	H OUTER		
	SHELL		

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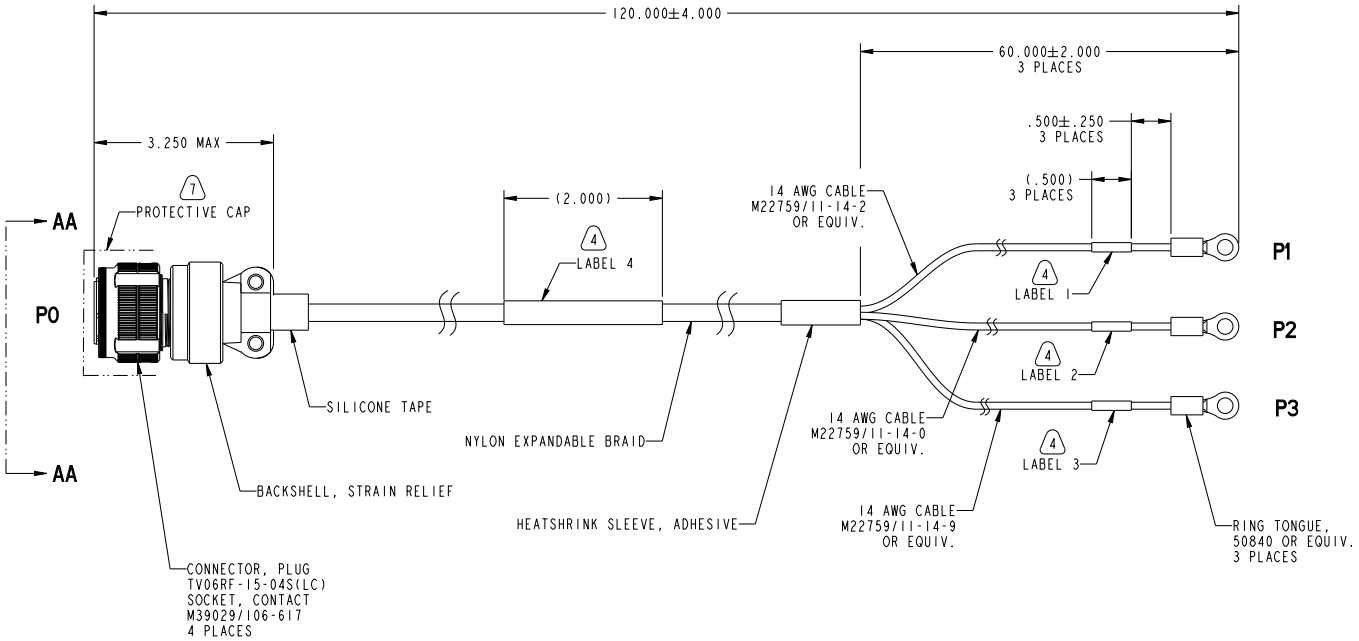
CONNECTOR LIST

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

POWER TEST CABLE CA-628485-G08 FOR J1

J1 Insert Drawing and pinout from CA-628485-G08



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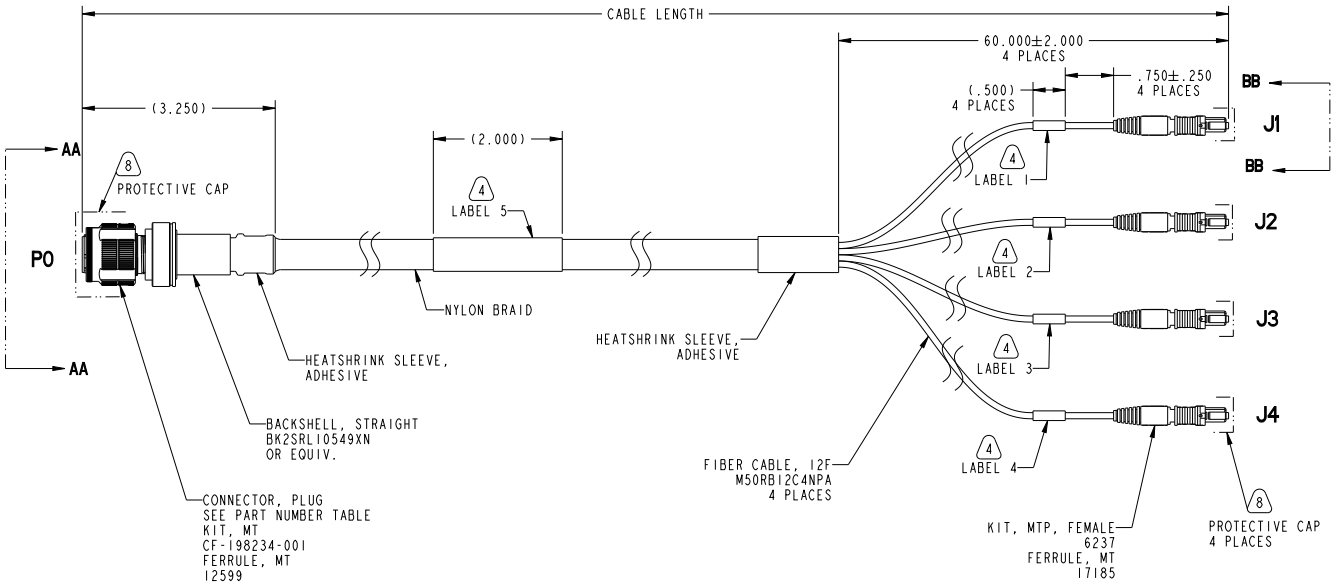
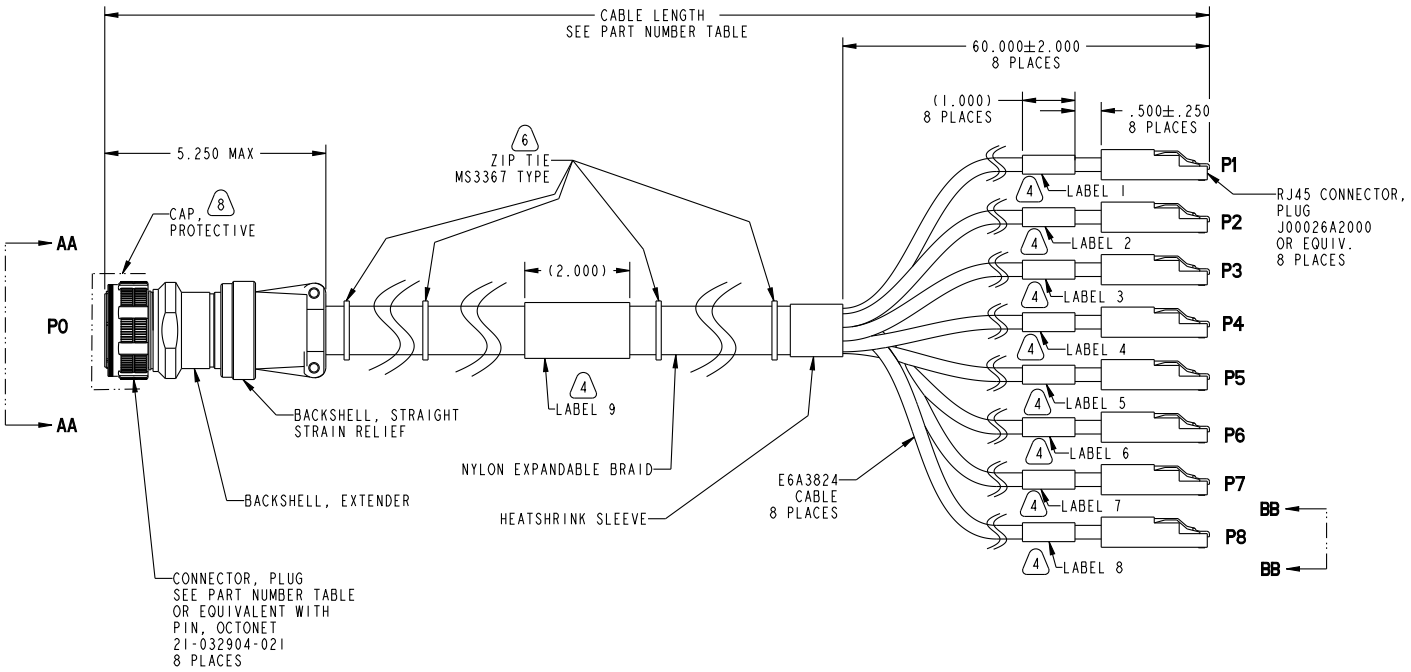
FIBER TEST CABLES CF-980062-10X FOR J2

J2 Insert Drawing and pinout from CF-980062-101



ETHERNET TEST CABLE CA-628485-G09 FOR J3

J3 Insert Drawing and pinout from CA-628485-G09



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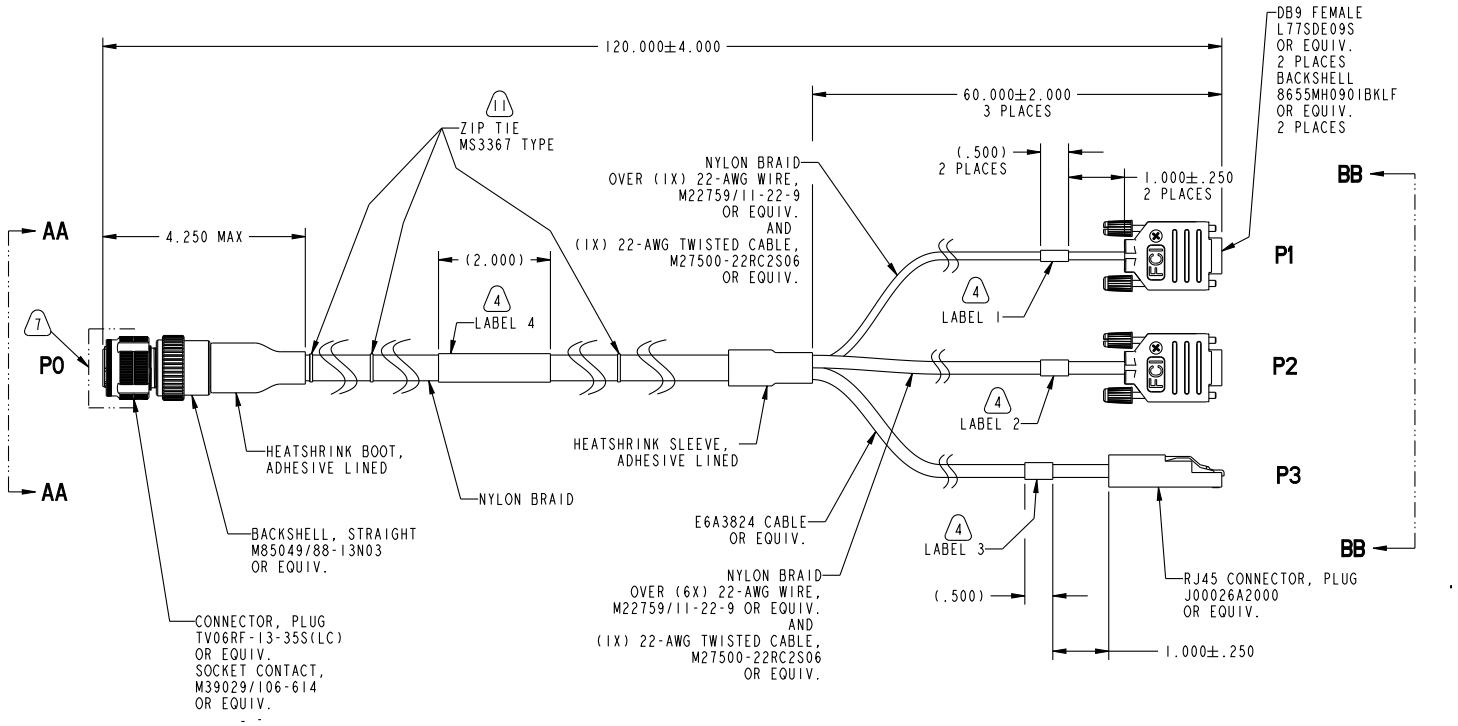
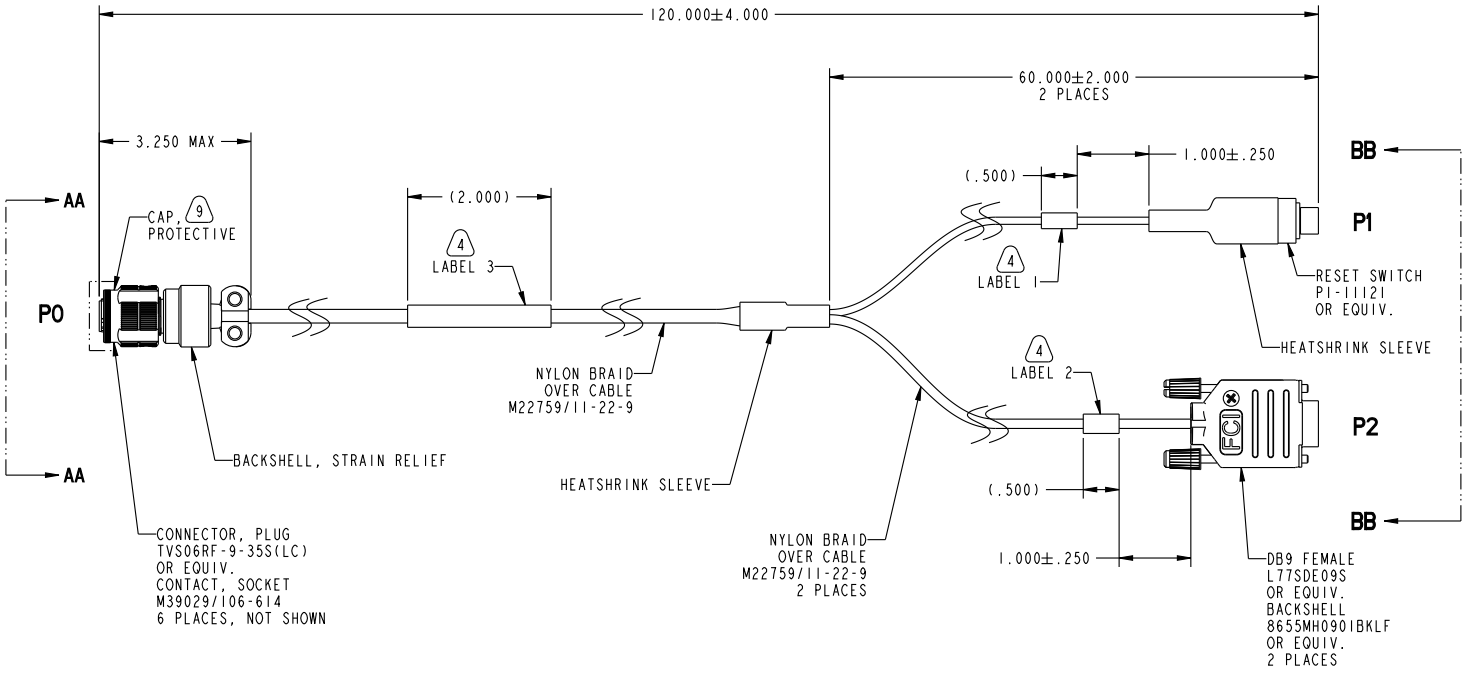
DEBUG TEST CABLE CA-628485-G11 FOR J5

J5 Insert Drawing and pinout from CA-628485-G11



MAINTENANCE TEST CABLE CA-628485-G10 FOR J4

J4 Insert Drawing and pinout from CA-628485-G10



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