

COMPUTING

ATCA-F125

10G AdvancedTCA Switch Blade

Data Sheet

High density, cost-effective 10G switch blade design for AdvancedTCA platforms

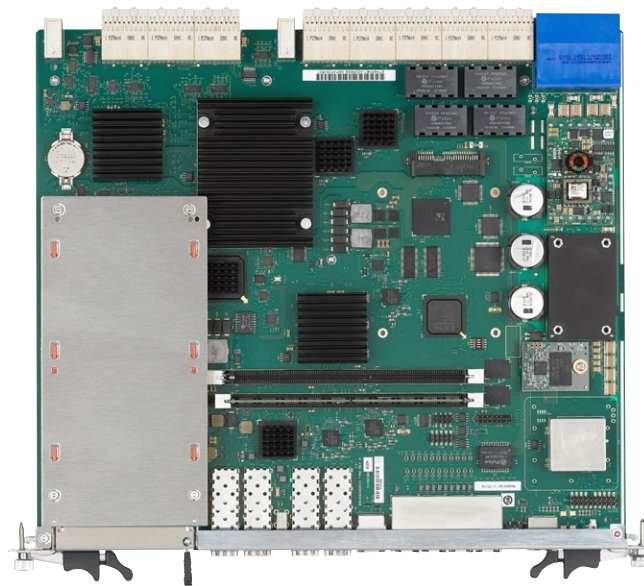
- PICMG® 3.0 compliant base interface switch
- PICMG 3.1, Option 1, 9 fabric interface switch (1G/10G)
- Single AMC site
- Optional SATA HDD or SSD
- Optional Telecom clocking support
- Integrated software package
- Designed for NEBS/ETSI compliance

The ATCA-F125 from Artesyn Embedded Technologies is a high density, cost-effective 10G switch blade providing the networking infrastructure for Artesyn Centellis 4410 platforms. This product is ideal for creating network edge telecom applications with cost sensitive moderate bandwidth requirements. Combining several ATCA® functions within a single blade design optimizes slot usage helping end users to reach best Centellis 4410 platform price/performance ratio values.

Optional functions include telecom clock generation and distribution, SATA based drive devices (HDD or SSD) and an AdvancedMC™ (AMC) site for general processing and/or packet processing functions.

Different configuration options allow for maximum external I/O via 1G and 10G Ethernet interfaces at the front panel and/or at the optional Rear Transition Module.

A powerful on-board service processor executes all L2 and L3 switch functions, blade setup and hardware platform management functions independent of any processor AMC and/or SATA drive installed. This allows full, 100% utilization of the AMC based processor for end-user applications.



AdvancedTCA®

ARTESYN™
EMBEDDED TECHNOLOGIES

Hardware

SERVICE PROCESSOR

- Freescale QorIQ™ P2020, dual-core processor, 1.0 GHz

MEMORY

- Up to 4GB ECC-protected SDRAM, via (2) DDR3 memory DIMMs
 - Factory default – 2GB
- 64MB boot flash (NOR), dual-bank architecture
- 2GB application flash (NAND), via eUSB
- 16MB CPU reset-persistent memory

COUNTERS/TIMERS

- Four (4) 32-bit programmable timer/counters
- Watchdog timer

BASE AND FABRIC INTERFACES

- Dual star configuration
- PICMG 3.0 base interface switching – Gigabit Ethernet (1.0Gbps)
- PICMG 3.1, Option 1, 9 fabric interface – Gigabit Ethernet (1.0Gbps, 10Gbps)

AMC SITE

- Single AMC slot
- Mid-size AMC (AMC.0, AMC.1, AMC.2 and AMC.3 compliant)

STORAGE BAY

- Single hard drive device (HDD) bay
- Direct mount installation
- Standard SATA interface
 - Default configuration – P2020 service processor via SATA bridge
 - Optional configuration – connection to AMC, port 2

FRONT PANEL INTERFACES

- Service processor
 - 1G Ethernet, RJ-45
 - RS-232 serial, RJ-45
 - USB 2.0

- Base interface
 - 2x 10G Ethernet, SFP
- Fabric interface
 - 2x 10G Ethernet, SFP
- Telecom clock interfaces
 - 5x Inter-shelf interfaces, RJ-45
 - 1x Master/Slave interface, RJ-45
- 2x BITS/SSU interfaces, RJ-45

REAR TRANSITION MODULE (RTM)

RTM-ATCA-F125

- Base interface
 - 2x 10G Ethernet, SFP
 - 4x 1G Ethernet, SFP
- Fabric interface
 - 6x 10G Ethernet, SFP

BLADE DIMENSIONS

- 8U form factor, 280 mm x 322.5 mm, single slot

RELEVANT STANDARDS

- PICMG 3.0 (form factor, IPMI, base interface, hot swap, RTM)
- PICMG 3.1, Options 1 and 9
- Telcordia GR-1244-CORE [5] (if equipped with Telecom Clock function)
- ANSI T1.101 [9] (if equipped with Telecom Clock function)

POWER CHARACTERISTICS

- Dual redundant -48V rails
- Input range: -40 VDC to -72 VDC
- Power draw (typical)
 - ATCA-F125-14S: 80 watts
 - RTM-ATCA-F125: 20 watts

OPERATING ENVIRONMENT

- Operating Temperature range: -5 °C to +55 °C @ 90% non-condensing humidity
- Storage temperature range: -40 °C to +70 °C @ 95% relative humidity

Telecom Clock Characteristics (if equipped)

TELECOM CLOCK CHIP

- Semtech Tpsync ACS9510

SUPPORTED CONFIGURATIONS

- Input: BITS/SSU / Output: Backplane CLK 1/2
- Input: Backplane CLK 3 / Output: Backplane CLK 1/2
- Input: Backplane CLK 3 / Output: BITS/SSU

TIMING REFERENCE

- Traditional signal-based reference as defined by Telcordia GR-1244-CORE [5]

PERFORMANCE

Stratum 3

Software

- L2 and L3 switch management software based on Carrier Grade Linux (Wind River PNE 3.0) providing a rich selection of features and protocols, e.g.
 - STP/RSTP/MSTP
 - VLAN, VLAN stacking (Q-in-Q)
 - LACP
 - Flow Control
 - Class of Service
 - GARP/GMRP/GVRP
 - SNMPv2, SNMPv3
 - ACL
 - IGMP v1/v2/v3, IGMP snooping/proxy
 - RIPv2, RIPv6
 - OSPFv2
 - VRRP
- Multi-shelf capable Service Availability Forum™ Hardware Platform Interface (HPI) support

Regulatory Compliance	
Designed to comply with NEBS	Telcordia GR-63-CORE, NEBS Physical Protection, Level 3
	Telcordia GR-1089-CORE, Electromagnetic Compatibility and Electrical Safety — Generic Criteria for Network Telecommunications Equipment. Level 3, Equipment Type 2
Designed to comply with ETSI	ETSI Storage, ETS 300 019-2-1, Class 1.2 equipment, Weatherprotected, not Temperature Controlled Storage Locations
	ETSI Transportation, ETS 300 019-1-2, Class 2.3 equipment, Public Transportation
	ETSI Operation, ETS 300 019-1-3, Class 3.1(E) equipment, Partly Temperature Controlled Locations
	ETSI EN 300-132-2 Environmental Engineering (EE); Power supply interface at the input to telecommunications equipment; Part 2: Operated by direct current (dc)
	ETS-300-753, Equipment Engineering (EE); Acoustic noise emitted by telecommunications equipment
EMC	ETSI EN 300 386 Electromagnetic compatibility and Radio spectrum Matters (ERM); telecommunication network equipment; ElectroMagnetic Compatibility (EMC) requirements, Telecommunication equipment room (attended)
	FCC 47 CFR Part 15 Subpart B (US), Class A
	ECISPR 22, Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment
	AS/NZS CISPR 22 (Australia/New Zealand), Limits and Methods of Measurement of Radio Disturbance Characteristics of Information Technology Equipment
	VCCI Class A (Japan), Voluntary Control Council for Interference by Information Technology Equipment
	Industry Canada ICES-003 Class A
Safety	Compliance to UL/CSA 60950-1, EN 60950-1 and IEC 60950-1 CB Scheme. Marked with U.S. NRTL, Canadian Safety and CE Mark.
RoHS compliance	DIRECTIVE 2002/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on the restriction of the use of certain hazardous substances in electrical and electronic equipment (RoHS)
	DIRECTIVE 2002/96/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL on waste electrical and electronic equipment
	Directive 2011/65/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 8 June 2011 on the restriction of the use of certain hazardous substances in electrical and electronic equipment.
CE Conformity	Directive 2004/108/EC, Directive 2006/95/EC

Ordering Information

<i>Part Number</i>	<i>Description</i>
Switch Blade Products	
ATCA-F125-14S	10G ATCA hub blade, one AMC slot, and optional storage
ATCA-F125-TCLK3	10G ATCA hub blade, one AMC slot, optional storage, telecom clock Stratum 3
Optional Switch Blade Products	
RTM-ATCA-F125	RTM for the ATCA-F125 with SFP & SFPP receptacles
SFP-MM-SX-LC	1G single form factor (SFP) module - 850NM, SX, LC connector
SFP-CO-RJ-45	1G copper single form factor (SFP) module - RJ-45 connector
SFPP-MM-SR-LC	10G single form factor plus (SFPP) module - 850NM, SR, LC connector
SFPP-SM-LR-LC	10G single form factor plus (SFPP) module - 1310NM, LR, LC connector
SFPP-CO-RJ-45-3M	10G copper single form factor plus (SFPP) modules with molded cable (3M)
CABLE-OPT-F102-5M	Optical cable for multi-mode, SFP and SFPP connections (5M)
PRAMC-7311	AMC with Intel® Core™ i7 processor, 4GB DDR3, mid-size
SW-WR-PRAMC-7311	CD with Wind River PNE 3.0 and Basic Blade Services for the PrAMC-7311, single blade license
PRAMC-7311-16GB	AMC with Intel® Core™ i7 processor, 16GB DDR3, mid-size
HDD-500G-SATA	Direct mount 500GB HDD for ATCA-F125 & ATCA-F140, high durability - SATA
SSD-480G-SATA-F140-1	480GB MLC Solid State Disk with mounting kit

SOLUTION SERVICES

Artesyn Embedded Technologies provides a portfolio of solution services optimized to meet your needs throughout the product lifecycle. Design services help speed time-to-market. Deployment services include global 24x7 technical support. Renewal services enable product longevity and technology refresh.

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