

L2 & L3 Gigabit Ethernet Switch PICMG2.16 & Vita31.1

4050a

24 10/100/1000 Ethernet ports with a full-wire speed switching capacity of up to 37Mpps.

Layer2 Switching capabilities :

- 16K entrie forwarding database
- Automatic or controlled learning and aging routing table
- Full-line rate switching engine
- Port and MAC access control
- Flow control and backpressure
- 9 KB Jumbo Frame
- IPV4 IGMP IPV6 MLD snooping
- MAC address transplanting for Rapid Reconfiguration 802.1w.

Link aggregation static or LACP

Bandwidth management :

- Multicast rate limiting
- Egress rate shaping with rate ranging port from 64K to 1Gbs.
- Minimal bandwidth guarantee per traffic Class

VLANs services :

- 4K actives VLANs
- 4K Bridge mulcticast groups
- Flexible VLAN assignment 802.1Q port -based, protocol based 802.1v, service Vlans 802.1ad, Policy-based Vlans

Quality of Service engine :

- 8 priority queues per port
- Traffic Class assignment according to 802-1p tag, MAC address, Port, DiffServ CP or Policy engine.

L3 IP V4 & V6 routing :

- 1K UC ARP entries
- RIPV2, OSPF V2 Routing
- proxy-ARP
- DHCP relay

Security features :

- 802.1X Port authentication
- Multicast/Broadcast limiting
- STP/RSTP protocol
- Virtual cable tester On-Line

Flexible management tools :

- Web or CLI management
- Standard & private MIBs
- Enhanced Port mirroring
- Easy software updating



Description

ComEth4050a is built on the latest generation of Gigabit switch engine and PHY transceiver. It combines in a single equipment a layer 2+ switch and a full layer 3 router with an optimized power consumption.

ComEth4050a supports full-wire speed L2 bridging and L3 routing with L2-L4 advanced traffic classification, filtering and prioritization. For instance, it can provide strict priority traffic needed for delay-sensitive or critical applications.

ComEth4050a ports are compatible both with PICMG 2.16 or VITA 31.1 system. Twenty Giga Ethernet are routed on rear I/O in compliance with PICMG 2.16. The remaining Giga Ethernet channels are available on the front or on the rear panel through a RTM. The front copper ports use RJ45. The **four** optional fiber ports use LC connectors. The Gigabit transceivers select automatically the media with activity.

Auto-crossover, auto-polarity, auto-negotiation and automatic MAC address management make ComEth4050a a true Plug&Play switch.

The Marvell Virtual Cable tester allows a remote identification of potential cable malfunctions as excessive pair skew, cable opens, impedance mismatch...

This switch is fully upward compatible with ComEth40x0 range.

Management Capabilities

The ComEth4050a can be monitored from a browser, a CLI or SNMP. The whole system can be easily managed and handled. A comprehensive Built-in test makes easier the maintenance of this switch. Many additional functions are provided on this full-managed version :

- Configuration of all the PHY and switch parameters: ports monitoring, static MAC address, QoS policy, Multicast and VLAN control, STP/RSTP protocols, MAC security.
- Monitoring of all statistical counters and an extensive list of RMON counters.

The Switchware software provides layer 3 functions, allowing local IP forwarding (IPv4/IPv6), static and dynamic protocols (RIP, OSPF) routing, proxy-ARP and DHCP-relay. These L3 functions are managed through a CLI interface. The IP routing and the L3 protocols are carried out by the processor and the forwarding by a full-wire speed L3 engine router.

ComEth4050a can be used as an open switching platform to implement specific functionalities.

Flexible configurations

Its 6U form factor allows the ComEth4050a to be integrated in VME Vita31, cPCI 2.16 or stand-alone applications. ComEth4050a is available from Standard to Conduction-Cooled grade.

COMETH 4050a

L2 & L3 Gigabit Ethernet Switch—PICMG2.16 & Vita31.1

Main features

Physical layer

24 auto-sensing 10/100/1000Mbps ports.
Optional front SX or LX Fiber (LC) interface 802.3u compliant.
Auto-Negotiation with Downshift.
Automatic MDI/MDIX crossover for all 3 speeds of operation.
Automatic polarity correction.
Online virtual cable tester.
Optional fast Ethernet out of band management port.

Layer 2 switching

802.1D/Q Compliant with a full-line rate Ethernet switching engine.
16000 MAC address database.
Automatic or controlled aging and learning mechanism.
Tag extraction and insertion (802.1p), Jumbo frames up to 9KBytes.
Back pressure for half-duplex, IEEE802.3x for full-duplex.
Discard broadcasts above critical threshold.
Link aggregation with static or dynamic LACP (7 trunks of 8 channels).
Enhanced port mirroring.
IGMP & MLD snooping.

VLAN

802.1Q compliant : supports Layer 2 domain partitioning of up to 4000 active VLANs.
VLAN is flexibly programmed to any value from 1 to 4094 Protocol-based VLAN (802.1v) or Port-based VLAN (802.1v).

Security

Port and MAC access control compliant with 802.1X authentication.

L2/3 QoS

Eight queues per port.
Minimal and maximal bandwidth affectation per traffic class using weighted round robin and strict priority scheduling.
72 quality of services profiles for traffic class drop precedence.

L3 services

IGMP V2
RIP V2
OSPF V2
UDP relay
STP/RSTP provides redundant link support. Rapid STP capability for minimizing STP convergence.

Rear Transition module routes ports to the rear panel

Please refer to ordering information.

Front panel LEDs

Power supply and Switch status
Switched ports : activity & link

VME

3.3VDC Power Supply only

Power supply

Ptyp=32W

Switch Management

Onboard firmware is implemented with comprehensive Built-In Test (loop back mode used during the diagnostic), maintenance functions and network (BootP) updating functions.

Management software provides a wide range of configuration L2/3 functions on any port : transmission speed/mode, VLAN, STP parameters, mirroring, QoS, etc.

Supervision get lots of information in real time on the switch.

MIB, RMON counters and private informations are reachable from SNMP agent, web-browser and CLI for L3 functions.

This Open Application, named **SWITCHWARE**, is carried out by a PowerPC processor.

Standard Conformance

Emissions

EN55022 Class A

Immunity

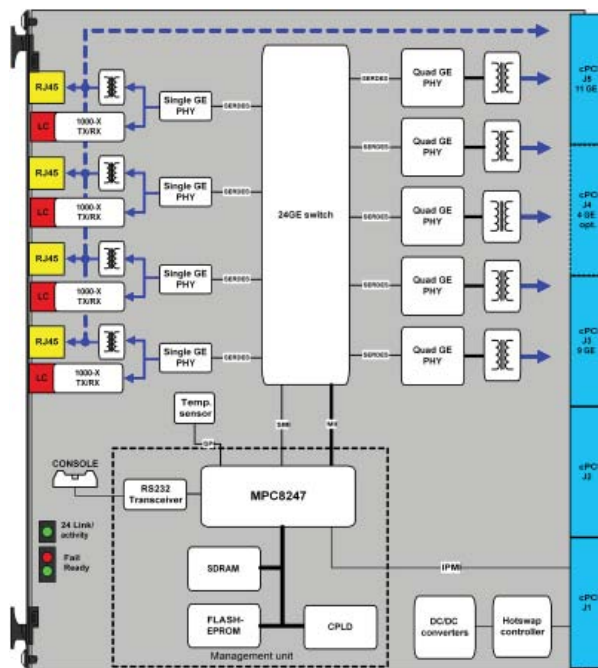
CEI 6000-4-2 (ESD), 6000-4-3 (Electric field), 6000-4-4 (Burst), 6000-4-5 (Surge).

Security

EN60950

Environment

See ordering grade Information.



Rear Transition Module:

Ref. RTM05 or RTM24

Environnement Specifications:

Please consult the **ComEth 4050a** page at www.interfaceconcept.com.

Ordering Information:

Please contact our sales department : tel. +33 (0)2 98 573 030 - email : info@interfaceconcept.com

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