



# ICE9128

24 Gigabit Ports 10/100/1000Tx + 4 x 10G Fiber Ports Managed Switch

## FEATURES DESCRIPTION

The ICE9128 - Next Generation Gigabit SNMP managed switch series, offering 24 gigabit ports + 4 x 10G fiber ports. It is designed to operate under harsh environment and complies with all new standards IEC61850-3 and IEEE1613. ICE9128 is capable operating in environment of -40°C to +85°C, providing Layer-2, Layer-3 and Layer-4 capabilities.

The ICE9128 next generation managed switch supports web, telnet, CLI, SNMP based management and

advanced features such as RMON-I, RMON-II, IGMP V2, IGMP V3, 802.1Q VLAN tagging, 802.1D spanning tree, 802.1S Rapid Spanning Tree, 802.1w Multiple spanning Tree for low latency recovery time, 802.1x security and many more. The advanced management features together with the rugged environment capabilities make the ICE9128 switch a powerful solution for daisy chain and ring topology networks usually deployed for security surveillance and monitoring applications.

## SPECIFICATIONS

<b>ETHERNET PORTS:</b>	<ul style="list-style-type: none"> <li>• 24 x 1G Ports 10/100/1000Tx</li> <li>• 4 x 10G Fiber Ports</li> </ul>
<b>NETWORKING:</b>	<ul style="list-style-type: none"> <li>• Wire-speed hardware-based 28 ports Gigabit and 10 Gigabit Ethernet Switch – L2, L3, L4 Capabilities</li> <li>• L3-Routing capabilities: static, RIPv1, V2, OSPF V2/V3 Multicast Routing, BGP4*, VRRP, ECMP Routing</li> <li>• Multicasting (IGMP Snooping), GARP, GMRP, MLD and GVRP up to 8K groups for both IPv4 and IPv6</li> <li>• Broadcasting and flooding Control up to 8K Groups</li> <li>• 802.1q Tagged based VLAN up to 4K VLAN groups</li> <li>• Bridge Support for VLAN Q-in-Q</li> <li>• Link Aggregation 802.3ad</li> <li>• Link Aggregation mechanism based on L2/ L3/ L4 parameters</li> <li>• Jumbo Frame support up to 10K</li> <li>• WEB, CLI, Telnet , SNMP V2/V3 management</li> </ul>
<b>NETWORKING:</b> Quality of Service:	<ul style="list-style-type: none"> <li>• QoS Multi-Layer Classifier: 802.1p, EtherType, VLAN-ID, IPv4/6 DSCP/ToS, and UDP/TCP ports &amp; ranges traffic classification</li> <li>• Per port WFQ and Strict Queuing scheduling</li> <li>• DSCP remarking for both IPv4 and IPv6 frames</li> <li>• Ingress policer and ingress shaper per port with 500Kbps granularity</li> <li>• Egress shaper per port with 500Kbps granularity</li> <li>• Full-duplex flow control (IEEE802.3X) and half-duplex backpressure</li> </ul>



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<p><b>NETWORKING:</b> Security:</p> <p>Redundancy and ring protection:</p>	<ul style="list-style-type: none"> <li>• Security via Radius Authentication 802.1x, Port / MAC access control</li> <li>• Port Security</li> <li>• Per port ingress and egress port mirroring including 10G mirroring</li> <li>• Mirroring per VLAN and per content awareness match</li> <li>• Private VLAN support per VLAN (Isolated and Promiscuous ports)</li> <li>• Content Aware Policers:             <ul style="list-style-type: none"> <li>• 128 Content Aware Policers</li> <li>• 16 Content Aware rate policers with rates from 1fps to 32 million fps</li> <li>• 8 UDP/TCP port range policers</li> <li>• Advanced ACL through hardware based match patterns</li> <li>• Content Aware Policers for generic MAC, ARP, IPv4, IPv6 protocols</li> <li>• No restriction on any mix of entries to Content Aware Policers</li> <li>• Content Aware Policers actions are permit/deny, police, count, snoop and mirror</li> <li>• Special support for IP fragments, UDP/TCP port ranges</li> <li>• Extensive CPU DoS prevention</li> <li>• Surveillance functions by Content Aware Policers counters</li> <li>• Multiple ACLs per port for optimal usage of Content Aware Policers</li> </ul> </li> <li>• Storm controllers for flooded broadcast, multicast and unicast</li> </ul> <ul style="list-style-type: none"> <li>• Spanning Tree (802.1d), RSTP (802.1w) and multiple Spanning Tree (802.1S) for fast recovery rings</li> <li>• RPR for up to 30 units per ring with recovery time &lt;50ms hardware based</li> <li>• 20-Gbps bandwidth for ring topology</li> <li>• QoS consistency across stack / ring</li> <li>• Mirroring across stack / ring</li> <li>• Link aggregation groups spanning multiple switches in stack / ring</li> </ul>
<p><b>CONNECTORS:</b></p>	<ul style="list-style-type: none"> <li>• Power connector: IEC230</li> <li>• 24 - RJ 45 ports</li> <li>• 4 - SFP</li> <li>• Per port LED indication (Link/Act, Speed) via serial GPIO</li> </ul>
<p><b>STANDARDS:</b></p>	<p>Design to meet:</p> <ul style="list-style-type: none"> <li>• IEEE1613 Class 2, IEC61850-3, IEC61800-3</li> <li>• NEMA TS1/2, CE &amp; FCC &amp; UL 60950, EN055022</li> </ul>
<p><b>PERFORMANCE:</b></p>	<ul style="list-style-type: none"> <li>• 96.8 Mpps wire speed forwarding rate</li> <li>• 56 Gbps maximum forwarding bandwidth</li> <li>• 8K MAC Address</li> </ul>
<p><b>POWER:</b></p>	<ul style="list-style-type: none"> <li>• Power Supply: 100~260VAC</li> </ul>
<p><b>PHYSICAL:</b></p>	<ul style="list-style-type: none"> <li>• Dimensions: 440mm (L) x 354mm (W) x 44.5mm (H)</li> <li>• Dimensions: 17.3" (L) x 13.9" (W) x 1.75" (H)</li> <li>• Weight: 3.5Kg</li> <li>• Mounting Holes: Standard 19" rack-mount size</li> </ul>
<p><b>COOLING:</b></p>	<ul style="list-style-type: none"> <li>• No Moving Parts. Passive Cooling</li> </ul>
<p><b>OPERATING TEMP:</b></p>	<ul style="list-style-type: none"> <li>• -40°C to +85°C (-40°F to +185°F) Cold Start-Up</li> </ul>
<p><b>STORAGE TEMP:</b></p>	<ul style="list-style-type: none"> <li>• -45°C to +90°C (-49°F to +194°F)</li> </ul>



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## ORDERING INFORMATION

PART NUMBER	DESCRIPTION
1-ICE9128-000	<ul style="list-style-type: none"> <li>24 Gigabit Ports 10/100/1000Tx + 4 x 10G Fiber Ports Managed Switch</li> </ul>
1-ICE9128-001	<ul style="list-style-type: none"> <li>24 Gigabit Ports 10/100/1000Tx</li> </ul>
SFP1000TX	<ul style="list-style-type: none"> <li>SFP Module, Gigabit Fiber - TX</li> </ul>
SFP1000iSX	<ul style="list-style-type: none"> <li>SFP Module, Gigabit Fiber, Multi-mode, 500m</li> </ul>
SFP1000iLX30	<ul style="list-style-type: none"> <li>SFP Module, Gigabit Fiber, Single-mode, 30km</li> </ul>
SFP10GSR+	<ul style="list-style-type: none"> <li>SR SFP+ Module, 10Gb Fiber, 850nm, Multi-mode, 300m</li> </ul>
SFP10GLR+	<ul style="list-style-type: none"> <li>LR SFP+ Module, 10Gb Fiber, 1310nm, Single-mode, 200m</li> </ul>