

## 8x10/100TX + 2x1000SX(LX) Industrial Gigabit Ethernet Switch (Managed / Ring)



### Benefits

|  |   |
|--|---|
| <ul style="list-style-type: none"> <li>■ System Interface/Performance           <ul style="list-style-type: none"> <li>➢ RJ-45 port support Auto MDI/MDI-X Function</li> <li>➢ Store-and-Forward Switching Architecture</li> <li>➢ Back-plane (Switching Fabric): 5.6Gbps</li> <li>➢ 1Mbits Packet Buffer</li> <li>➢ 8K MAC Address Table</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>■ Case/Installation           <ul style="list-style-type: none"> <li>➢ IP-30 Protection</li> <li>➢ DIN Rail and Wall Mount Design</li> </ul> </li> </ul>   |
| <ul style="list-style-type: none"> <li>■ Power Supply           <ul style="list-style-type: none"> <li>➢ Input Power Isolation design for Telcom application, Pass Hi-Pot test~1.5KV</li> <li>➢ Wide-range Redundant Power Design</li> <li>➢ Power Polarity Reverse Protect</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>■ Spanning Tree           <ul style="list-style-type: none"> <li>➢ Support IEEE802.1d Spanning Tree</li> <li>➢ Support IEEE802.1w Rapid Spanning Tree</li> </ul> </li> </ul>   |
| <ul style="list-style-type: none"> <li>■ VLAN           <ul style="list-style-type: none"> <li>➢ Port Based VLAN</li> <li>➢ Support 802.1 Q Tag VLAN</li> <li>➢ GVRP</li> <li>➢ Double Tag VLAN (Q in Q)*</li> <li>➢ Private VLAN**</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>■ Ring           <ul style="list-style-type: none"> <li>➢ Ring, Dual Homing, and Couple Ring Topology</li> <li>➢ Provide redundant backup feature and the recovery time below 300ms</li> </ul> </li> </ul>                           |
| <ul style="list-style-type: none"> <li>■ Port Trunk with LACP</li> </ul>   | <ul style="list-style-type: none"> <li>■ Support IEEE802.1ab LLDP**</li> </ul>  |
| <ul style="list-style-type: none"> <li>■ QoS (Quality of Service)           <ul style="list-style-type: none"> <li>➢ Support IEEE 802.1p Class of Service,</li> <li>➢ Per port provides 4 priority queues</li> <li>➢ Port Base, Tag Base and Type of Service Priority</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>■ Bandwidth Control           <ul style="list-style-type: none"> <li>➢ Ingress Packet Filter and Egress Rate Limit</li> <li>➢ Broadcast/Multicast Packet Filter Control</li> </ul> </li> </ul>                                       |
| <ul style="list-style-type: none"> <li>■ Port Mirror: Monitor traffic in switched networks.           <ul style="list-style-type: none"> <li>➢ TX Packet only</li> <li>➢ RX Packet only</li> <li>➢ Both of TX and RX Packet</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>■ System Event Log           <ul style="list-style-type: none"> <li>➢ System Log Server/Client</li> <li>➢ SMTP e-mail Alert</li> <li>➢ Relay Alarm Output System Events</li> </ul> </li> </ul>                                       |
| <ul style="list-style-type: none"> <li>■ Security           <ul style="list-style-type: none"> <li>➢ Port Security: MAC address entries/filter</li> <li>➢ IP Security IP address security management to prevent unauthorized intruder.</li> <li>➢ Login Security: IEEE802.1X/RADIUS</li> </ul> </li> </ul>   | <ul style="list-style-type: none"> <li>■ SNMP Trap           <ul style="list-style-type: none"> <li>➢ Device cold start</li> <li>➢ Power status</li> <li>➢ Authentication failure</li> <li>➢ Ring topology changed</li> <li>➢ Port Link up/Link down</li> </ul> </li> </ul> |
| <ul style="list-style-type: none"> <li>■ IGMP with Query mode for Multi Media Application</li> </ul>   | <ul style="list-style-type: none"> <li>■ TFTP Firmware Update and System Configure Restore and Backup</li> </ul>  |

## Standard Compliance

|               |   |
|---------------|---|
| IEEE Standard | IEEE 802.3 10Base-T Ethernet<br>IEEE 802.3u 100Base-TX<br>IEEE802.3z Gigabit fiber<br>IEEE802.3x Flow Control and Back Pressure<br>IEEE802.3ad Port trunk with LACP<br>IEEE802.1d Spanning Tree/ IEEE802.1w Rapid Spanning Tree<br>IEEE802.1p Class of Service<br>IEEE802.1Q VLAN Tag<br>IEEE 802.1x User Authentication (Radius)<br>IEEE802.1ab LLDP** |
|---------------|---|

## Hardware Specification

|                       |  |
|-----------------------|--|
| Switch Architecture   | Back-plane (Switching Fabric): 5.6Gbps<br>Packet throughput ability(Full-Duplex): 8.3Mpps @64bytes   |
| Transfer Rate         | 14,880pps for Ethernet port<br>148,800pps for Fast Ethernet port<br>1,488,000pps for Gigabit Fiber Ethernet port   |
| Packet Buffer         | 1Mbits   |
| Mac Address           | 8K MAC address table   |
| Flash ROM             | 4Mbytes  |
| DRAM                  | 32Mbytes   |
| Connector             | 10/100TX: 8 x RJ-45 with auto MDI/MDI-X function<br>100M fiber: 2 x SC type connector for single-mode or multi-mode type fiber cable<br>RS-232 connector: RJ-45 type                     |
| Network Cable         | 10Base-T: 2-pair UTP/STP Cat. 3, 4, 5 cable<br>EIA/TIA-568 100-ohm (100m)<br>100Base-TX: 2-pair UTP/STP Cat. 5/ 5E cable<br>EIA/TIA-568 100-ohm (100m)                                   |
| Optical Cable         | Multi-mode: 50/125µm~62.5/125µm<br>Single mode: 9/125µm<br>Available distance: 2km (Multimode)/30km (Singlemode)<br>Wavelength: 1310nm (Multimode/Singlemode)                            |
| Protocol              | CSMA/CD  |
| LED                   | Per unit: Power (Green), Power 1 (Green), Power 2 (Green), Fault (Orange), Master (Green)<br>8 10/100: Link/Activity (Green), Full duplex/Collision (Orange)<br>Giga port: Link/Activity |
| Power Supply          | DC 24 ~48V<br>Redundant power with polarity reverse protect function and removable terminal block.<br>Input Power Isolation design for Telcom application, Pass Hi-Pot test~1.5KV        |
| Power Consumption     | 7.15Watt   |
| Operating Humidity    | 5% to 95% (Non-condensing)   |
| Operating Temperature | Standard 0°C to 60°C<br>Wide Operating Temperature (-40°C~75°C) *  |
| Storage Temperature   | -40°C to 85°C  |
| Case Dimension        | IP-30, 72mm (W) x 105mm (D) x 152mm (H)  |
| Fan Number            | 0  |
| Installation          | DIN rail and wall mount ear  |
| EMI                   | FCC Class A, CE EN61000-4-2, CE EN61000-4-3, CE EN-61000-4-4, CE EN61000-4-5, CE EN61000-4-6, CE EN61000-4-8, CE EN61000-4-11, CE EN61000-4-12   |
| Safety                | UL, cUL, CE/EN60950-1  |
| Stability Testing     | IEC60068-2-32 (Free fall), IEC60068-2-27 (Shock), IEC60068-2-6 (Vibration)   |

## Software Feature

|                                   |   |
|-----------------------------------|---|
| Management                        | SNMP v1 v2c, v3/ Web/Telnet/CLI/Menu Driven** Management  |
| SNMP MIB                          | RFC 1215 Trap, RFC1213 MIBII, RFC 1157 SNMP MIB, RFC 1493 Bridge MIB, RFC 2674 VLAN MIB, RFC 1643 , RFC 1757, RSTP MIB, Private MIB   |
| VLAN                              | Port Based VLAN<br>IEEE 802.1Q Tag VLAN (256 entries)/ VLAN ID (Up to 4K, VLAN ID can be assigned from 1 to 4096.)<br>GVRP (256 Groups)<br>Double Tag VLAN (Q in Q)*<br>Private VLAN**  |
| Port Trunk with LACP              | LACP Port Trunk: 4 Trunk groups/Maximum 4 trunk members   |
| LLDP**                            | Support LLDP to allow switch to advise its identification and capability on the LAN   |
| Spanning Tree                     | Support IEEE802.1d Spanning Tree and IEEE802.1w Rapid Spanning Tree   |
| Ring                              | Support Ring, Dual Homing, and Couple Ring<br>Provide redundant backup feature and the recovery time below 300ms  |
| Quality of Service                | The quality of service determined by port, Tag and IPv4 Type of service, IPv4/IPv6 Different Service  |
| Class of Service                  | Support IEEE802.1p class of service, per port provides 4 priority queues  |
| Port Security                     | Support 100 entries of MAC address for static MAC and another 100 for MAC filter  |
| Port Mirror                       | Support 3 mirroring types: "RX, TX and Both packet".  |
| IGMP                              | Support IGMP snooping v1,v2<br>256 multicast groups and IGMP query  |
| IP Security                       | Support 10 IP addresses that have permission to access the switch management and to prevent unauthorized intruder.  |
| Login Security                    | Support IEEE802.1X Authentication/RADIUS  |
| Bandwidth Control                 | Support ingress packet filter and egress packet limit<br>The egress rate control supports all of packet type and the limit rates are 100K~250Mbps<br>Ingress filter packet type combination rules are Broadcast/Multicast/Unknown Unicast packet, Broadcast/Multicast packet, Broadcast packet only and all of packet. The packet filter rate can be set from 100k to 250Mbps |
| Flow Control                      | Support Flow Control for Full-duplex and Back Pressure for Half-duplex  |
| System Log                        | Support System log record and remote system log server  |
| SMTP                              | Support SMTP Server and 6 e-mail accounts for receiving event alert   |
| Relay Alarm                       | Provides one relay output for port breakdown, power fail<br>Alarm Relay current carry ability: 1A @ DC24V   |
| SNMP Trap                         | Up to 3 Trap stations<br>Cold start, Port link up, Port link down, Authentication Failure, Private Trap for power status, Port Alarm configuration, Fault alarm, Ring topology change   |
| DHCP                              | Provide DHCP Client/ DHCP Server/ IP Relay functions  |
| DNS                               | Provide DNS client feature and support Primary and Secondary DNS server.  |
| SNTP                              | Support SNTP to synchronize system clock in Internet  |
| Firmware Update                   | Support TFTP firmware update, TFTP backup and restore.  |
| Configuration upload and download | Support binary configuration file for system quick installation   |
| * Future release                  |   |
| ** Optional                       |   |

## Order Information

| Part Number  | Product Family | Description  |
|--------------|----------------|--|
| 26 1870 302  | DragonLine     | 8x10/100TX + 2x1000SX<br>Industrial Gigabit Ethernet Switch (Managed/Ring/SC/MM/550m)  |
| 26 1870 352  | DragonLine     | 8x10/100TX + 2x1000SX<br>Industrial Gigabit Ethernet Switch (Managed/Ring/SC/SM/10km)  |
| 26 1870 302E | DragonLine *   | 8x10/100TX + 2x1000SX<br>Industrial Gigabit Ethernet Switch (Managed/Ring/SC/MM/550m)<br>Wide Temperature Range (-40°C~75°C) |
| 26 1870 352E | DragonLine *   | 8x10/100TX + 2x1000SX<br>Industrial Gigabit Ethernet Switch (Managed/Ring/SC/SM/10km)<br>Wide Temperature Range (-40°C~75°C) |