

# Industrial Networking Solutions for Mission Critical Applications









Be certain. Belden. Industry-specific solutions that can improve productivity and operational efficiency today, while laying the foundations for tomorrow's IIoT opportunities.



#### **Ethernet Products at a Glance**

#### **Unmanaged DIN Rail Mount Switches**

#### SPIDER, SPIDER II, SPIDER III

Cost-effective, plug & play unmanaged switches

- SPIDER 2, 3, 5 or 8 ports
- SPIDER 2 or 5 ports with PoE PD
- SPIDER PoE Injector
- SPIDER II 8, 9, 10, 16 and 18 ports
- SPIDER II PoE 4 PoE and 4 standard ports
- · SPIDER II GIGA 5 or 7 ports, all Gigabit
- SPIDER III Standard Line up to 8 ports
- SPIDER III Premium Line up to 9 ports

#### RS20, RS30

Feature-rich unmanaged switches with selectable port types, features and approvals



- RS20 4, 8, 9, 16, 17, 24 or 25 ports
- RS30 10, 18, or 26 ports, two of which are Gigabit

#### **Managed DIN Rail Mount Switches**

#### **GECKO**

Lite managed switch

- GECKO 4TX 4 ports
- GECKO 5TX 5 ports



#### **RSB20**

Fast Ethernet RSB switches with basic software version

RSB20 8 or 9 ports



#### RS20, RS30, RS40, RS22, RS32

Fully configurable managed switches with selectable features and approvals

- RS20 4, 8, 9, 16, 17, 24 or 25 ports
- RS30 10, 18, or 26 ports, two of which are Gigabit
- RS40 9 ports, all Gigabit

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- RS22 4, 8, 9, 16, 17, 24 or 25 ports, four of which are PoE
- RS32 10, 18, or 26 ports, four of which are PoE and two are Gigabit

# MS20, MS30, MSP30, MSP32, MSP40, MSP42

Full Gigabit managed modular switches



with selectable features and approvals as well as user hot-swappable media modules for almost limitless copper/fiber combinations.

- MS20/30 up to 26 ports, two of which can be Gigabit
- MSP30/32 HiOS advanced Layer 2 and Layer 3 switch, up to 28 ports, four of which can be Gigabit
- MSP40/42 HiOS advanced Layer 2 and Layer 3 switch, up to 28 Gigabit ports, four of which on the first slot can be 2.5 Gigabit

#### RED25

Cost-effective Fast Ethernet redundancy entry-level switch supporting PRP, HSR or DLR.
Offered in two, four-port versions:



- · Four FE TX ports
- Two FE TX ports, plus two FE small formfactor pluggable (SFP) ports

#### **RSP Series**

Hardened managed switches with the new HiOS operating system

 RSP: uninterrupted redundancy thanks to PRP, HSR and DLR, on all ports IEEE 1588v2 time synchronization,



- comprehensive security functions, variants with 3 GE SFP and 8 FE ports, up to 7 FE SFP slots, Layer 2 and Layer 3 versions
- RSPS: optional PRP, HSR and DLR, on all ports IEEE 1588v2 time synchronization, variants with 6 FE ports, up to 4 FE SFP slots
- RSPL: comprehensive security functions, variants with 2 GE combo and 8 FE ports, up to 4 FE SFP slots
- RSPE: best-possible investment protection thanks to the maximum flexibility provided by the media modules, Layer 2 and Layer 3 versions

#### **RSR20, RSR30**

Ultra-hardened switches, operating temperature -40°C to +85°C, DC or AC power input



- RSR20: 8 or 9 ports
- RSR30: 9 or 10 ports, two or three of which are Gigabit

#### **IP67 Waterproof Switches**

#### **OCTOPUS**

 OCTOPUS 5TX unmanaged, 5 ports, M12 D-code



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- OCTOPUS 8TX-EEC unmanaged configurable, 8 ports, M12 D-code
- OCTOPUS 8TX PoE-EEC unmanaged configurable, 8 ports, M12 D-code
- OCTOPUS 8M/16M/24M managed, 8, 16 and 24 ports, M12 D-code
- OCTOPUS 8M-6PoE and 8M-8PoE managed, 8 ports, M12 D-code, 6 and 8 of which are PoE
- OCTOPUS 16M-8PoE and 24M-8PoE managed, 16 and 24 ports, M12 D-code, 8 of which are PoE
- OCTOPUS OS2x/3x: IP65/67; from 8 up to 28 ports; M12 D-code; several options available: multi- or singlemode fiber ports, Power over Ethernet with up to 15 PoE/PoE+ ports, 2 or 4 GE ports M12 X-code, managed or unmanaged types, Layer 3 software support, power supply options from 24 to 110 V DC and 100 to 230 V AC, certified for trains, ships and for use in road vehicles.

#### 19" Rack Mount Switches

#### **MACH100**



Hardened Enterprise-grade switches

- MACH102-8TP modular switch, up to 26 ports, 10 fixed ports, two of which are Gigabit (modules available for MM/SM fiber, RJ45, PoE/PoE+ and SFP)
- MACH102-8TP-F 10 fixed ports, two of which are Gigabit
- MACH102-24TP-F 26 fixed ports, two of which are Gigabit
- MACH104 All Gigabit, 4 RJ45/SFP combo ports and 20 RJ45 ports (4 of which can be PoE)
- MACH104 All Gigabit, 4 RJ45/SFP combo ports, 16 RJ45 PoE+ ports (optional with 2 XFP 10G uplink ports)

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## Be Certain with Belden



#### 19" Rack Mount Switches

### **GREYHOUND** Fast/Gigabit Ethernet switch

designed for use in harsh industrial environments.

- From entry level types with 16 Fast Ethernet up 28 ports Full Gigabit Layer 3
- · Field exchangeable media modules
- Versions with hot swap power supplies
- 2.5 Gigabit uplink and full wire speed Layer 3 options

#### **MACH1000**



Ultra-hardened switches. fully configurable, operating temperature -40°C to +85°C, optionally for all variants 4 PoE ports

- MAR1020, up to 24 ports
- MAR1030, up to 28 ports, up to four of which are Gigabit
- MAR1120, up to 20 ports on rear of switch
- · MAR1130, up to 24 ports on rear of switch, up to four of which are Gigabit
- MAR1040, 16 Gigabit RJ45/SFP combo ports, in Layer 2 or Layer 3 version

#### **MACH4000**



High density and high speed backbone switch w/Layer 3/routing and speeds up to 10 Gigabit

- MACH4002-24G up to 24 Gigabit ports
- MACH4002-24G+3X, up to 24 Gigabit ports and three 10 Gigabit XFP ports
- MACH4002-48G up to 48 Gigabit ports
- MACH4002-48G+3X up to 48 Gigabit ports and three 10 Gigabit XFP ports

#### **Embedded Ethernet**

#### **Switches**



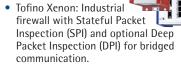




#### Security, Firewall and VPN Appliance

#### **EAGLE/Tofino Xenon**

Network segmentation, VPN and deep packet inspection.



- EAGLE20-0400 and EAGLE30-0402: Multi-port Stateful Packet Inspection (SPI) firewalls optional Deep Packet Inspection (DPI) in convection-cooled metal DIN Rail housings which support 6 LAN ports - two of which are Gigabit and two SHDSL ports
- EAGLE One: Industrial firewall providing Stateful Packet Inspection (SPI) for bridged or routed communication combined with a unique Firewall Learning Mode and comprehensive Network Address Translation (NAT) techniques.

# **Industrial Wireless LAN**

#### **BAT Access Points/Clients**

- OpenBAT family BAT-R and BAT-F rugged configurable wireless LAN access points and/or clients
- BAT450-F rugged compact and lightweight configurable wireless LAN access points and/or clients
- BAT867-R configurable wireless LAN access point and/or client featuring IEEE 802.11ac
- BAT Controller WLC for centralized management of large WLAN networks
- BAT-C Wireless LAN access client
- Extensive antenna and accessory offering

#### **Serial to Ethernet Media Converters**

#### **IOLAN DS/SDS**

End devices with a serial interface can be easily and reliably connected to Ethernet networks.

#### Hardened Fiber Transceivers/Modems

#### **FiberINTERFACES**

Extending the reach of copper for serial and fieldbus protocols via fiber.



#### **Industrial-strength Patch Panel**

#### **MIPP**

- Single Modules: 6 x SC Duplex, 6x LC Duplex, 12x LC Duplex, 4 x RJ45 Keystone Jack unshielded or shielded
- Double Modules: 12 x SC Duplex and 12 x LC Duplex
- · Accessories: Pigtails

#### **Secure Remote Access Solution**

#### **Secure Remote Access Solution**

A simple and secure way to provide remote network access and diagnostics through a three-component system:

- GateManager
- SiteManager
- LinkManager



#### Network Management Software

#### **Industrial HiVision**

Network visualization and configuration software with integrated OPC server.

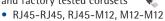


- Automatic topology dectection
- MultiConfig™ for simultaneous configuration of multiple devices
- Security Status Visualization
- Network dashboard
- Annual Maintenance Plan

#### Industrial Ethernet Media Cord Sets

#### **Ethernet Cord Sets**

Hardened pre-terminated and factory tested cordsets



- Unshielded and Shielded Versions
- PVC, TPE and TPE High-Flex Cat 5e UTP
- 17 lengths from 0.3 to 50 meters
- M12 bulkhead termination also available

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#### **Product, Feature and Approval Matrix**

	DIN RAIL	PANEL	19" KACK	MAXIMUM DATA SPEED MAXIMUM PORT DENSITY	UNMANAGED MANAGED/I AYER 2	MANAGED/LAYER 3 (ROUTING)	12 V DC	24 V DC	36 V DC	48 V DC	110/250 V DC	60/120/250 V DC	24 V AC	110/230 V AC	REDUNDANT POWER INPUTS	Poe (POWER SOURCE)	PoE+ (POWER SOURCE)	Poe (POWERED DEVICE)	PoE+ (POWERED DEVICE)	-40 °C/-40 °F	-20 °C/-4 °F	0 °C/32 °F	50 °C/122 °F	60 °C/140 °F	70 °C/158 °F	85 °C/185 °F	cUL508/cUL61010-1/-2-201	cUL1604/ISA 12.12.01/ FM3611 (CLASS 1 DIV 2)	GL (Germanischer Lloyd)	IEC 61850-3 (SUBSTATION)	IEEE 1613 (SUBSTATION)	EN 50155, EN 45545 (RAIL, ONBOARD)	EN 50121-4 (RAIL, TRACK-SIDE)	ATEX 100a, ZONE 2 (HAZARDOUS LOCATION)	cUL60950
Unmanaged Switches					_																														
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Tofino Xenon	•		-	100 2	G		0	0	0	0			0		0							•	•			$\rightarrow$	0	0	0		0		0		
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Serial to Ethernet Converter																																			
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FiberINTERFACES																																			
Fieldbus Repeater	•			3	0			0							0							•	•					•	•						•

 $\bigcirc$  O Hollow markers indicate that a non-standard/accessory mounting option is available.

Note: To advance to the appropriate product configurator, click on the product family name (first column) in the table above.

\* only 110 V DC

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