Industrially hardened, managed and unmanaged Ethernet switches provide reliable, robust performance across complex networks in a wide range of control and monitoring applications

Industrial-control applications require complex networks with high data-rates and time-sensitive devices whilst harsh environments on the plant floor create vibration, heat and other hazards. Direct-Link® Ethernet switches meet the 3 main challenges posed by industrial Ethernet applications: determinism, robustness and integration. Determinism is the assurance that control communication will occur in a set period of time. Delivery of information in the prescribed time requires the use of industrialized protocols: EtherNet/IP*, PROFINET† or Modbus TCP‡.

Unmanaged, standard duty (SD) switches in tough, Lexan plastic enclosures provide a cost-effective network solution for a multitude of low-end applications.

Heavy-duty (HD) aluminum enclosures with wide temperature operation are the solution for tougher industrial applications.

Easy configuration of managed switches with advanced flexibility and diagnostics provides a superior user experience. For additional information visit: www.molex.com/link/bradindethernet.html.

Brad® Direct-Link® Industrial Ethernet Switches

112036 Series 200 Unmanaged Switches
Series 300 Managed Switches

Direct-Link® Industrial Ethernet Switches

FEATURES AND BENEFITS

MANAGED and UNMANAGED SWITCHES

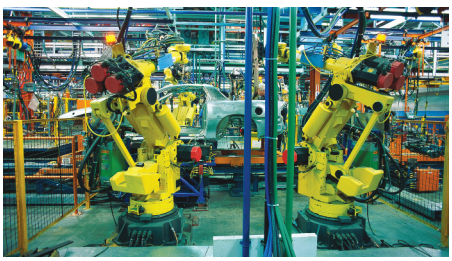
• Plug-and-play simplicity at power up	• No software or configuration required; fast and easy integration
• Transparent bridging	• Receives message from source and transmits it only to the frame destination port
• Supports all standard IEEE 802.3 protocols	• Ensures reliable performance
• IP30 or IP40 enclosure designs for DIN-rail or direct-panel mounting	• Rugged cases with flexible mounting options to suit customer applications
• UL508 and UL1604 approved	• Broad industry acceptance

MANAGED SWITCHES

• IGMP (Internet Group Management Protocol)	• Multicast filtering; saves downstream devices from dealing with unneeded traffic
• VLAN (Virtual Local Area Networks)	• Convenient, programmable traffic segregation
• Real-Time Ring™	• Redundant ring with rapid recovery for minimum interruption
• SNMPv1 and v2 and SNMPv3 (Simplified Network Management Protocol)	• Network management tools for monitoring and configuration
• QoS/CoS (Priority Queuing)	• Authentication and encryption for security • Supports real-time operation
• Easy configuration via web, Telnet or CLI (Command-Line Interface)	• Remote access saves time on set-up

MARKETS AND APPLICATIONS

- Automotive
- Semiconductor
- Material handling
- Water and wastewater
- Pulp and paper
- Food and beverage
- Mining and metal
- HMI/SCADA systems
- Industrial I/O connections
- Robot cell control
- Packaging line control systems
- Substation control



*EtherNet/IP is a trademark of ODVA. †PROFINET is a trademark of PROFIBUS International (PI). ‡Modbus TCP is a trademark of Modbus IDA

SPECIFICATIONS

Brad® Direct-Link® Industrial Ethernet Switches

112036 Series 200 Unmanaged Switches
Series 300 Managed Switches

	Unmanaged Plastic Case (DRL-2xxP)	Unmanaged Metal Case (DRL-2xxM)	Managed 5 to 8 port	Managed 16/18 port
Ethernet protocols supported	IEEE 802.3 protocols			
RJ45 ports	10/100 Mbps auto-detecting, full or half duplex, auto-mdi/mdix-crossover, auto-polarity			Ports 1-16 are 10/100 Base TX Ports 17-18 are 10/100/1000 Base TX
Fiber optic ports	100 Mbps, full duplex, SC or ST connector			1000 Mbps LC
Fiber optic multimode	4 km typical, 1310 nm, for 50-62.5/125 um fiber			0.55 km, 850 nm, 50-62.5/125 um
Fiber optic singlemode	20 km typical, 1310 nm, for 9-10/125 um fiber			10 km, 1310 nm, 9-10/125 um
Typical Latency	5 us for 100 Mbps (plus frame time) 16 us for 10 Mbps (plus frame time)			
Ethernet Isolation	1500 Vrms 1 minute			
MAC addresses supported	1024		2048	8192
Memory bandwidth	3.2 Gbps			32 Gbps
Input voltage	10 – 30V DC, dual redundant power inputs, reverse polarity protection			
Power consumption (all ports active)	2.0 to 5.0W		3.6 to 6.3W	8.0 to 10.0W
Industrial surge and spike protection	Transient: 15,000W peak Spike: 5,000W (10 times for 10 us)			
Alarm output			Same voltage as power input 0.5A max.	

	Unmanaged Plastic Case (DRL-2xxP)	Unmanaged Metal Case (DRL-2xxM)	Managed 5-8 port	Managed 16/18 port
Operating temperature	-10 to +60°C	-40 to +85°C	-40 to +75°C	
Storage temperature	-40 to +85°C			
Enclosure rating	IP30	IP40	IP30	IP40
Enclosure dimensions	5 port: 2.54cm (1.00") wide 10.03cm (3.95") high 8.28cm (3.26") deep 8 port: 3.81cm (1.50") wide 10.03cm (3.95") high 8.28cm (3.26") deep	5 port: 2.71cm (1.07") wide 13.21cm (5.20") high 10.69cm (4.21") deep 8 port: 4.07cm (1.60") wide 13.21cm (5.20") high 10.69cm (4.21") deep		16 port: 5.40cm (2.13") wide 15.29cm (6.02") high 11.80cm (4.65") deep 18 port: 7.31cm (2.88") wide 15.29cm (6.02") high 11.80cm (4.65") deep
Humidity	5 to 95% RH (non-condensing)			
Vibration and shock	IEC60068-2-6, -27 and -32			
Electrical safety	UL508, CSA C22.2/14, EN61010-1, CE			
EMC	FCC part 15, ICES-003, EN610006-2/4, CE			
Hazardous locations	UL 1604, CSA C22.2/213 (Class I, Div 2, Groups) EN60079-15 (Zone 2, Category 3), CE (ATEX)			
RoHS	Yes			

ORDERING INFORMATION

Brad® Direct-Link® Industrial Ethernet Switches

112036 Series 200 Unmanaged Switches
Series 300 Managed Switches

Unmanaged Industrial Ethernet Switches

Order No.	Engineering No.	Ports	Housing
112036-0035	DRL-250P	5 RJ45	Corrosion-proof Lexan polycarbonate
112036-0036	DRL-250M		Corrosion-resistant aluminum (powder coated)
112036-0037	DRL-280P	8 RJ45	Corrosion-proof Lexan polycarbonate
112036-0038	DRL-280M		Corrosion-resistant aluminum (powder coated)
112036-0043	DRL-241P-MSC	4 RJ45 1 Multimode SC fiber	Corrosion-proof Lexan polycarbonate
112036-0044	DRL-241P-MST	4 RJ45 1 Multimode ST fiber	
112036-0045	DRL-281P-MSC	8 RJ45 1 Multimode SC fiber	
112036-0046	DRL-281P-MST	8 RJ45 1 Multimode ST fiber	

Managed Industrial Ethernet Switches

Order No.	Engineering No.	Ports	Housing
112036-0039	DRL-350M	5 RJ45	Corrosion-resistant aluminum (powder coated)
112036-0040	DRL-380M	8 RJ45	
112036-0047	DRL-332M-MSC	3 RJ45 2 Multimode SC Fiber	
112036-0048	DRL-332M-MST	3 RJ45 2 Multimode ST Fiber	
112036-0049	DRL-332M-SSC	3 RJ45 2 Singlemode SC Fiber	
112036-0050	DRL-332M-SST	3 RJ45 2 Singlemode ST Fiber	
112036-0051	DRL-362M-MSC	6 RJ45 2 Multimode SC Fiber	
112036-0052	DRL-362M-MST	6 RJ45 2 Multimode ST Fiber	
112036-0053	DRL-362M-SSC	6 RJ45 2 Singlemode SC Fiber	
112036-0058	DRL-362M-SST	6 RJ45 2 Singlemode ST Fiber	

16/18 Port Managed Industrial Ethernet Switches

Order No.	Catalog No.	Ports	Housing
112036-0041	DRL-3F0M	16 RJ45	Corrosion-resistant aluminum (powder coated)
112036-0042	DRL-3H0M	16 RJ45 2 Gigabit RJ45	
112036-0054	DRL-3H0M-1MLC	16 RJ45 1 Gigabit RJ45 1 Gigabit Multimode LC Fiber	
112036-0055	DRL-3H0M-1SLC	16 RJ45 1 RJ45 Gigabit 1 Gigabit Singlemode LC Fiber	
112036-0056	DRL-3H0M-2MLC	16 RJ45 2 Gigabit Multimode LC Fiber	
112036-0057	DRL-3H0M-2SLC	16 RJ45 2 Gigabit Singlemode LC Fiber	

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