



Guide to Gigabit Switches

Solutions for fast ethernet and gigabit

Optical fiber solutions not included in this quick select tool, please consult www.phoenixcontact.ca for all solutions

1000 and 1100 series Unmanaged Switches

The FL SWITCH 1000 and 1100 series of unmanaged switches are the latest generation in our portfolio of unmanaged Ethernet switches. These switches are suitable for many automation applications and feature different transmission speeds and installation options.

Your advantages

- ✓ Requires minimal space thanks to very compact design
- ✓ Gigabit versions with jumbo frames for high data throughput
- ✓ Flexible installation options
- ✓ Enhanced traffic prioritization for automation protocols
- ✓ PROFINET Conformance Class A for real-time data exchange, alarms, and diagnostics
- ✓ The PTCP filter ensures reliable data transmission in PROFINET networks
- ✓ Standard series offers cUL Listed EX and the Extended series is triple rated featuring ATEX, IEC as well as cUL EX

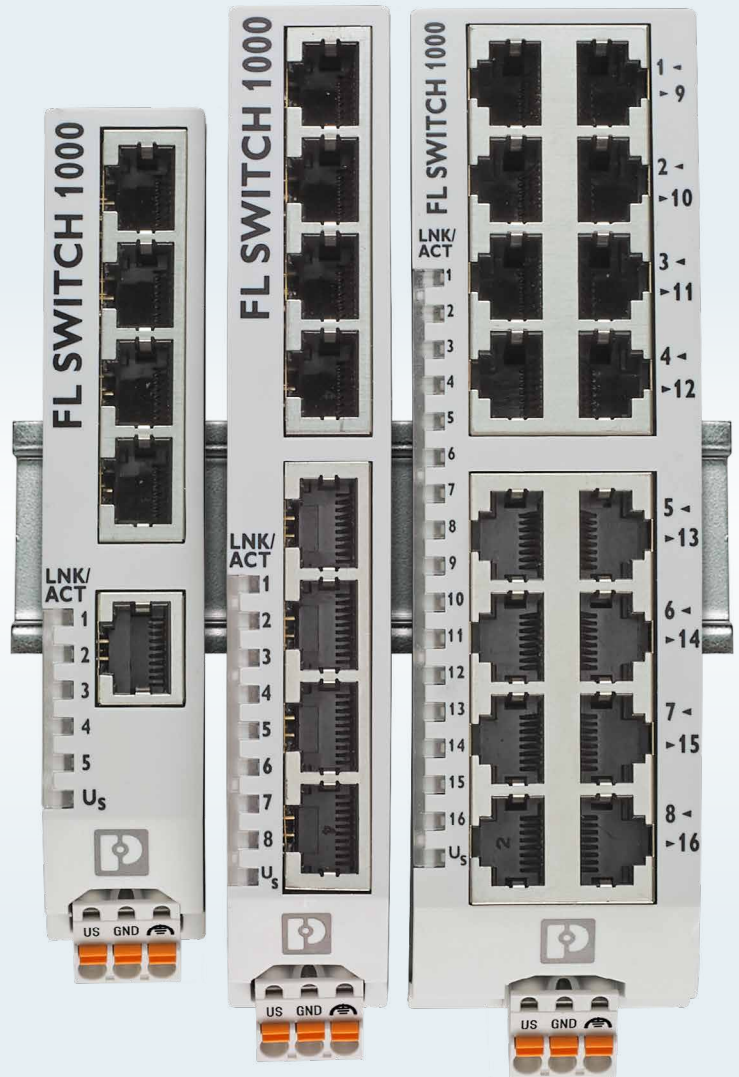
Main features



Suitable for industry operating temperature range -10°C to +60°C

Very narrow, only 22.5 mm

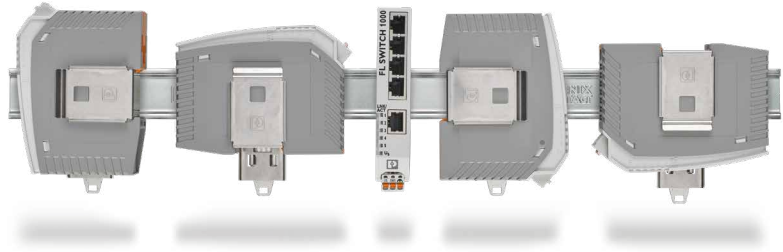
Power supply
9 - 32 VDC
18 - 30 VAC



[Learn more online...](#)


Versatile installation options

Unique mounting adapters allow you to mount the FL SWITCH 1000 and 1100 series devices flat on the DIN rail and directly on a surface. As a result, the switches can also be used in compact and flat control cabinets where space is very limited. Since the adapters are rotatable, you are free to choose the outlet direction of the connections.




Standard unmanaged switches — Temperature range: -10°C to +60°C

Speed	Ports	Description	Order no.
10/100 Mbps	5	FL SWITCH 1005N	1085039
	8	FL SWITCH 1008N	1085256
	16	FL SWITCH 1016N	1085255

Speed	Ports	Description	Order no.
	5	FL SWITCH 1105N	1085254
	8	FL SWITCH 1108N	1085243
	16	FL SWITCH 1116N	1085219

Extended unmanaged switches — Temperature range: -40°C to +75°C. EX and shipbuilding approvals

Speed	Ports	Description	Order no.
10/100 Mbps	5	FL SWITCH 1005NT	1085170
	8	FL SWITCH 1008NT	1085165
	24	FL SWITCH 1024T*	1343027

Speed	Ports	Description	Order no.
	5	FL SWITCH 1105NT	1085163
	8	FL SWITCH 1108NT	1085162
	16	FL SWITCH 1116T*	1085115

*Pending UL approval at the time of publication. Please consult www.phoenixcontact.ca for current status.

Unmanaged switches with IP67 degree of protection

The new 1608 and 1708 variants of the FL SWITCH 1000 product family feature the IP65/IP66/IP67 degrees of protection and make it easier to integrate distributed sensors, actuators, cameras, and I/O stations into the network.

The robust housing design provides practically limitless options when selecting the mounting position. The flexible M12 connection technology lets the user choose between using classic M12 connectors with screw connection and the M12 PUSH-PULL fast locking system from Phoenix Contact. The unmanaged switches support the Quality of Service (QoS) functionalities of the FL Switch 1000 product series for customary use of automation protocol prioritization.



IP67

Unmanaged machine mounted IP67 switch

Class 1 Div 2	Total ports	Speed	Description	Order no.
✓	8	10/100 Mbps	FL SWITCH 1608	1196227
		10/100/1000 Mbps	FL SWITCH 1708	1196228

2000 series Managed Switches

The 2000 series managed switches offer clear configuration and diagnostic options as well as automatic error detection and troubleshooting. In addition to the extended scope of functions, the 2200 and 2300 versions offer communication via fiberglass as well as approvals for the process industry and maritime sector.

Your advantages — 2000 and 2100 Managed Switches

- ✓ Fast Ethernet switches and Gigabit switches (incl. Jumbo Frame support)
- ✓ Unmanaged mode: network stability without configuration effort
- ✓ Multicast filters (IGMP snooping) to reduce the data load in the network
- ✓ Redundancy functions (RSTP, MRP) for failsafe networks
- ✓ Easy and flexible configuration



Your advantages — 2200 and 2300 Managed Switches

- ✓ An extended temperature range (-40°C ... +70°C), redundant power supply, and alarm output
- ✓ FO ports (SC, ST/BFOC, SFP)
- ✓ Approvals for maritime applications (GL/DNV, BV, ABS, LR, RINA) and the process industry (ATEX, IECEx)
- ✓ PROFINET conformance class B
- ✓ Security functions (RADIUS authentication, MAC-based port security)

[Learn more online...](#)


2000 and 2100 Managed Switches

Simple unmanaged switch or powerful managed switch? The intelligent 2000 switches (Fast Ethernet switch) and 2100 switches (Gigabit switch) combine the best of both worlds. They are as easy to use as an unmanaged switch yet provide the features of a managed switch. This improves the stability and robustness of your machine network.



Lightly managed switch

Speed	Ports	Description	Order no.
10/100 Mbps	5	FL SWITCH 2005	2702323
	8	FL SWITCH 2008	2702324
	16	FL SWITCH 2016	2702903

Speed	Ports	Description	Order no.
	5	FL SWITCH 2105	2702665
	8	FL SWITCH 2108	2702666
	16	FL SWITCH 2116	2702908


2200 and 2300 Managed Switches

With easy startup and a variety of versions with functions graded according to the application, the 2200 and 2300 managed switches enable cost-effective management of your Ethernet network. In addition to the extended scope of functions, the switches offer communication via fiberglass, as well as approvals for the maritime sector and the process industry.



Extended switches. -40°C to +75°C. EX and shipbuilding approvals, MAC security, extended VLAN

Speed	Ports	Description	Order no.
10/100 Mbps	5	FL SWITCH 2205	2702326
	8	FL SWITCH 2208	2702327
	16	FL SWITCH 2216	2702904

Speed	Ports	Description	Order no.
	5	N/A	—
	8	FL SWITCH 2308	2702652
	16	FL SWITCH 2316	2702909

Managed switches with IP67 degree of protection

The managed switches 2600 and 2700 allow you to create a decentralized Ethernet network with high IP65/IP66/IP67 degrees of protection, robust M12 connection technology, and a large range of functions. Integrate decentralized sensors, actuators, cameras, and I/O stations into the network directly in the field, regardless of the ambient conditions.

The metal housing and slim-line design of the FL SWITCH 2600 and 2700 give you practically limitless opportunities when selecting the mounting location.



IP67

Managed machine mounted IP67 switch

Class 1 Div 2	Total ports	Speed	Description	Order no.
✓	8	10/100 Mbps	FL SWITCH 2608	1106500
		10/100/1000 Mbps	FL SWITCH 2708	1106615

FL MGuard 1100, 2100, and 4300 security routers









Thanks to comprehensive security functions, the mGuard security routers protect your industrial network against unauthorized access by people or malware. The proven mGuard security technology enables you to control and safeguard communication within your production network.

Your advantages

- ✓ High level of security through proven mGuard security technology and over 20 years of experience in cybersecurity
- ✓ Security is part of the entire product lifecycle – from the certified development process in accordance with IEC 62443-4-1 to the integration of important security functions
- ✓ mGuard devices have low vulnerability due to hardening and the application of secure-by-design principles
- ✓ Long-term software maintenance and high security through timely updates enable many years of use
- ✓ PSIRT monitors vulnerabilities on a daily basis. They are evaluated and eliminated based on the severity of the problem



 Gigabit Data Rate	 Firewall	 Network Address Translation (NAT)
 Network Segmentation	 Stealth Mode	 Secure Remote Maintenance

[Learn more online...](#)

Applications



Protection of networked production

The mGuard security routers provide optimum protection for networked production. The mGuard devices are positioned upstream of individual production or machine cells. Communication from the production network into or out of individual production and machine cells is reduced.



Protection of existing system

In the case of an existing system, there is often a requirement that existing network structures are not changed. The creation of subnetworks should be prevented in order to avoid the high effort required to assign new addresses to the individual network devices.



Secure remote communication

In addition to protecting networked production, you can also use the 2000 and 4000 series mGuard devices to connect external service technicians and data centers. Encrypted communication is performed via VPN connections.

FL MGUARD 1100 Series

The FL MGUARD 1100 security router is optimized for the secure networking and integration of subnetworks such as machine networks or system segments within a production network. With functions such as the integrated Firewall Assistant, the 1000 series devices enable easy and supported firewall configuration.



Gigabit	✓
Firewall	✓
NAT	✓
Network segmentation	✓
VPN / Remote access	✗
Temperature range	0°C ... +60°C
Description	FL MGUARD 1102
Order no.	1153079

FL MGUARD 2100 Series

Thanks to secure VPN access, the 2000 series mGuard security routers enable easy remote maintenance of machines and systems. The devices are ideal for machine builders and system manufacturers who require fast integration into the production network in addition to secure remote maintenance.



IEC 62443



Gigabit	✓
Firewall	✓
NAT	✓
Network segmentation	✓
VPN / Remote access	✓
Temperature range	-20°C ... +60°C
Description	FL MGUARD 2102
Order no.	1357828

FL MGUARD 4300 Series

The 4000 series mGuard devices are primarily aimed at system operators for whom the efficient management of many mGuard security appliances in their system is also important in addition to the security of their OT network infrastructure. The intelligent firewall with extended functions allows you to easily configure and implement comprehensive security rules in complex network structures.



IEC 62443

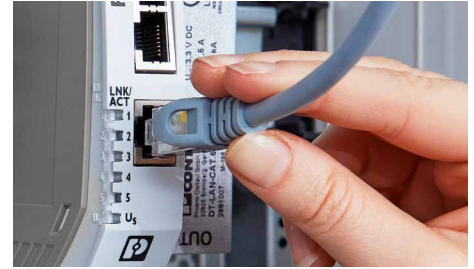


Gigabit	✓
Firewall	✓
NAT	✓
Network segmentation	✓
VPN / Remote access	✓
Temperature range	-40°C ... +60°C
Description	FL MGUARD 4302
Order no.	1357840

RJ45 STANDARD industrial ethernet patch cables

With the cable sheath in the **Low Smoke Zero Halogen (LSZH)** material class, the shielded patch cables are ideally suited for future-proof cabling solutions in building automation.


Data transmission speeds of up to 10 Gbps in accordance with CAT5 and CAT6_A allow demanding Ethernet applications to be implemented. The protected locking clip ensures a robust design and increased vibration resistance. Comprehensive approvals for the global market and cable lengths from 0.3 m to 20 m allow versatile applications.



Your advantages

- ✓ Ideal for demanding Ethernet applications with up to 10 Gbps data transmission in accordance with CAT6_A
- ✓ Ideal for building automation and control cabinet applications due to the use of cable sheath with LSZH material class
- ✓ Reliable due to the protected locking clip
- ✓ Standard lengths (0.3m to 20m)

RJ45 standard patch cables

	Length	Order no.	Order no.
		CAT5 (up to 1 Gbps)	CAT6 _A (up to 10 Gbps)
	0.3 m	1227558	1227572
	0.5 m	1227559	1227573
	1 m	1227560	1227575
	1.5 m	1227561	1227578
	2 m	1227562	1227580
	3 m	1227563	1227581
	5 m	1227564	1227583
	7.5 m	1227565	1227585
	10 m	1227566	1227588
	12.5 m	1227567	1227590
	15 m	1227570	1227591
	20 m	1227571	1227593

High-flex ethernet cordsets

The increased complexity of automated processes is driving demand for network cables that can do more in a limited amount of space. Ethernet cables and cordsets can be run next to power circuits, have Power over Ethernet (PoE) capability, and have increased longevity in demanding industrial and robotic applications.

In addition to where Ethernet cables can go, what Ethernet cables can do is also expanding. Flex ratings (with a proper bend radius) have increased to allow for use beyond static applications.



Your advantages

- ✓ Category 5, up to 1 Gbps
- ✓ -40°C ... +80°C
- ✓ UV-Resistant CMX outdoor jacket, 600V rating
- ✓ Up to 20 million lateral flex bend cycles
- ✓ Up to 4.8 million torsional flex cycles

Applications

- Robotics & factory automation
- Integrators/cabinet builders/panel shops
- Machine builders
- Surveillance (IP Cameras)
- Vision systems
- Network infrastructure

High-flex ethernet cordsets

RJ45 high-flex ethernet patch cables — Teal TPE 600 V cable jacket



Length	Order no.	
	4-wire (2-pair) Straight / Straight	8-wire (4-pair) Straight / Straight
0.3 m	1199417	1199422
0.5 m	1199415	1199427
1 m	1199413	1199426
2 m	1199412	1199425
3 m	1199411	1199424
5 m	1199410	1199423
10 m	1199408	1199421
15 m	1199405	1199420
20 m	1199404	1199418

M12 high-flex ethernet cordsets — Teal TPE 600 V cable jacket

Design	Configuration	0.5 m	1 m	2 m	5 m	10 m	15 m	20 m	30 m	40 m	CMAT
4-pos. D-code   	Male Straight / Open End	—	—	1406131	1408727	1408728	1418065	1418066	1418067	1418068	1405876/.../...
	Male 90° / Open End	—	—	1406126	1408734	1408735	—	—	—	—	1405871/.../...
	Female Straight / Open End	—	—	1406130	1408729	1408730	—	—	—	—	1405875/.../...
	Female 90° / Open End	—	—	1406125	1408736	1408738	—	—	—	—	1405870/.../...
	Male Straight / Male Straight	1408732	—	1406128	1418076	1418077	1418078	1418079	—	—	1405873/.../...
	Male Straight / Female Straight	1408731	—	1406129	—	—	—	—	—	—	1405874/.../...
	Male 90° / Male 90°	1408741	—	1406123	—	—	—	—	—	—	1405868/.../...
	Male 90° / Female 90°	1408739	—	1406124	—	—	—	—	—	—	1405869/.../...
	Male Straight / RJ45 Straight	1408733	—	1406127	1409860	1409861	1409862	1418087	—	—	1405872/.../...
Male 90° / RJ45 Straight	1408742	—	1406122	—	—	—	—	—	—	1405867/.../...	
8-pos. A-code   	Male Straight / Open End	—	—	1406121	1408743	1408744	1418069	1418071	1418072	1418075	1405865/.../...
	Male 90° / Open End	—	—	1406116	1408751	1408752	—	—	—	—	1405860/.../...
	Female Straight / Open End	—	—	1406120	1408745	1408746	—	—	—	—	1405864/.../...
	Female 90° / Open End	—	—	1406115	1408754	1408755	—	—	—	—	1405859/.../...
	Male Straight / Male Straight	1408748	—	1406118	1418080	1418081	1418082	1418083	—	—	1405862/.../...
	Male Straight / Female Straight	1408747	—	1406119	—	—	—	—	—	—	1405863/.../...
	Male 90° / Male 90°	1408757	—	1406113	—	—	—	—	—	—	1405857/.../...
	Male 90° / Female 90°	1408756	—	1406114	—	—	—	—	—	—	1405858/.../...
	Male Straight / RJ45 Straight	1408749	—	1406117	1409863	1409864	1409865	1417873	—	—	1405861/.../...
Male 90° / RJ45 Straight	1408758	—	1406112	—	—	—	—	—	—	1405856/.../...	
8-pos. X-code  	Male Straight / Open End	—	1407467	1407468	1407469	1407470	1440575	1440588	—	—	1408648/.../...
	Male Straight / Male Straight	1440465	1407483	1407484	1407485	1407486	1440517	1440520	—	—	1408644/.../...
	Male Straight / RJ45 Straight	1440591	1407471	1407472	1407473	1407474	1440643	1440656	—	—	1408647/.../...

IP20 (RJ45) to IP6X (M12) Control Cabinet Feedthrough



M12 connector type	A-coded 8 wire	X-coded 8 wire	D-coded 4 wire (100Mbps)
Category	CAT5	CAT6 _A	CAT5
180° version	1414396	1404549	1414398
90° version	1414393	1404548	1414397



Open communication with customers and partners worldwide

Phoenix Contact is a global market leader based in Germany. We are known for producing future-oriented products and solutions for the electrification, networking, and automation of all sectors of the economy and infrastructure. With a global network reaching across more than 100 countries with over 20,000 employees, we maintain close relationships with our customers, something we believe is essential for our common success.

Our wide range of innovative products makes it easy for our customers to implement the latest technology in a variety of applications and industries. This especially applies to the target markets of energy, infrastructure, industry, and mobility.

You will find our complete product range at:
[phoenixcontact.ca](https://www.phoenixcontact.ca)

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