B+B SmartWorx

Powered by ADVANTECH

SELECTING AN ETHERNET SWITCH
FOR YOUR NEXT PROJECT

Use the selection tables on pages 2 and 3 to quickly narrow your search for an Ethernet Switch that best suits your next project. Below are a few helpful questions to ask at the beginning of the project:

- **Does the application require Managed, Monitored or Unmanaged Ethernet Switches?**
  - Choose Unmanaged for simple plug and play connectivity.
  - Choose Monitored for SNMP management.
  - Choose Managed for applications requiring network traffic monitoring or segmentation.
- **What data speeds are required?**
  - 10/100Mbps
  - Gigabit (10/100/1000Mbps)
- **Does the application require PoE functionality?**
  - PoE (802.3af) 15.4W
  - PoE+ (802.3at) 30W
- **Is there a need for Fiber Ports, either for distance or noise immunity purposes?**
  - First, choose between Multi-mode or Single-mode fiber types.
  - Then choose your fiber connectors, some common ones are SC, ST, LC.
  - SFP ports for fiber connectivity offers great flexibility. Do you need MM, SM fiber, or copper SFPs?
- **How many Ethernet Ports does the application require?**
  - Does it make sense to select a switch with a few additional ports for future expansion?
  - Does it make sense to select a switch that supports Gigabit speeds for future bandwidth requirements?
- **Review your Mounting, Temperature or Power requirements.**
  - Does the application require a compact switch or a particular mounting format?
  - What are the temperature requirements for the application?
  - Where power sources are available to power not only the switch but other devices, as well?
- **Are there other Specification considerations?** For instance, an Oil & Gas application may require Class 1/Division 2 certification, traffic applications may require NEMA TS2, etc.
- **Once you have a switch selected, you should start asking a few more questions.**
  - Do you have all the accessories needed to make all the connections? Patch Cords, Power Supplies, Cabinets, Surge Protection, Optional Mounting Hardware and Wiring.
  - When do you need product samples for proof of concept and full production?

Assistance

If you need additional product selection help, contact Advantech B+B SmartWorx technical support online.

Key Differentiators	Managed Switches	Monitored Switches	Unmanaged Switches
Configuration	Requires setup	Requires setup	Plug & Play
Cost	High cost	Mid-level cost	Low cost
Monitoring Protocols	Yes	Yes	No
Spanning Tree/Ring Technology	Yes	No	No
VLAN's	Yes	No	No

COMMON FEATURES

– for Managed, Monitored and Unmanaged Switches

- LEDs for local monitoring
- Form factor will vary depending on port count and features
- Operating temperatures can support extreme conditions
- Various power input options
- Flexible mounting options

POWER-OVER-ETHERNET EXPLAINED

PoE(IEEE802.3af) and PoE+(IEEE802.3at)

"PoE" stands for Power-over-Ethernet – which is just what it says. Power is transmitted over the Ethernet cable along with data lines. Each PoE/PoE+ switch has a set of ports classified as Power Source Equipment ("PSE"). These ports can power PoE/PoE+ compliant Powered Devices ("PD"), eliminating the need to run a separate power line to each end device. Many new applications are possible with PoE/PoE+ switches due to reduced installation cost, ease of setup and ability to remotely power end devices like access points, IP/PTZ cameras, CCTV, serial servers and Ethernet I/O. Switches require a 24 to 57VDC power supply.

ETHERNET SWITCHES | PRODUCT SELECTION GUIDE |

UNMANAGED						MONITORED	MANAGED				
Series / Model Number:	 **ESW100 series**	 **ESW200 series**	 **EIR410 series**	 **ESW600 & ESWG600 series**	eworx  *NEW!* **SE200 series**	eworx  *NEW!* **SE300 series**	eworx  *NEW!* **SE500 series**	 **ESW500 series**	 **EIR508-T model**	 **EIR600 series**	 **ESW700 series ESWG700 series**
FUNCTION	***Unmanaged***					***Monitored***	***Managed***				
10/100 Base	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔
Gigabit	-	-	✔	ESWG600 series	-	✔	✔	-	-	✔	ESWG700
PoE	-	-	-	-	-	-	-	-	-	-	-
PORTS											
Total Port Count	5,8	5,8	10,18	26	5,8	5,8,10,16	10	8,16	8	8,10,18	26
Fiber Option	✔	✔	-	ESWG600 series	✔	-	-	✔	-	-	-
SFP Fiber Option	-	-	✔	ESWG600 series		✔	✔	-	-	✔	ESWG700
SPECIFICATIONS											
Temperature	-10 to 60°C	-10 to 60°C	-	-10 to 60°C	-10 to 60°C	-40 to 75°C	-40 to 75°C	-10 to 60°C	-	-10 to 60°C	-10 to 60°C
Wide Temp. Option	-	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 75°C
Power DC	12 to 36VDC	12 to 36VDC	12 to 48VDC	18 to 36VDC	12 to 48VDC	12 to 48VDC	12 to 48VDC	12 to 36VDC	12 to 48VDC	12 to 48VDC	18 to 36VDC
Power AC	10 to 24VAC	10 to 24VAC	-	-	-	-	-	10 to 24VAC	-	-	-
Dual Power Inputs	✔	✔	✔	-	✔	✔	✔	✔	✔	✔	-
Relay Output/s	-	-	✔	-	✔	✔	✔	✔	✔	✔	✔
DIN/Panel Mount	✔	✔	✔	-	✔	✔	✔	✔	✔	✔	-
19-inch Rack	-	-	-	✔	-	-	-	-	-	-	✔
MANAGEMENT											
iView2 NMS	-	-	-	-	-	✔	✔	-	-	-	-
VLANs	-	-	-	-	-	-	✔	✔	✔	✔	✔
SNMP	-	-	-	-	-	✔	✔	v1/2c	1/2c	v1/2c/3	v1/2c/3
RSTP	-	-	-	-	-	-	✔	✔	✔	✔	✔
Web Browser Interface	-	-	-	-	-	-	✔	✔	✔	✔	✔
MODEL#/SKU#		* "-T" suffix for wide temperature option:									
	ESW105	ESW205 (-T)*	EIR410-2SFP-T	ESW626	SE205	SE305-T	SEC510-2SFP-T	ESW508	EIR508-T	EIR608-2SFP	ESW726
	ESW105-ML	ESW205-MC (-T)*	EIR418-2SFP-T	ESW626-T	SE205-T	SE308-T	SEG510-2SFP-T	ESW508-2MC-T		EIR608-4SFP	ESW726-T
	ESW105-SL	ESW205-MT (-T)*		ESWG626-2SFP	SE208	SE316-T		ESW508-2SC-T		EIR610-3SFP-T	ESWG726-2SFP
	ESW108	ESW205-SC (-T)*		ESWG626-2SFP-T	SE208-T	SEG305-T		ESW508-T		EIR618-2SFP-T	ESWG726-2SFP-T
	ESW108-ML	ESW205-ST (-T)*			SE205-MMSC	SEG308-T		ESW516			
	ESW108-SL	ESW208 (-T)*			SE205-SMSC	SEC310-2SFP-T		ESW516-T			
		ESW208-2MC (-T)*				SEG316-T					
		ESW208-2MT (-T)*				SEC318-2SFP-T					
		ESW208-2SC (-T)*									
		ESW208-2ST (-T)*									
		ESW208-4MC-T									
		ESW208-4MT-T									
		ESW208-4SC-T									
		ESW208-4ST-T									

PoE/PoE+ ETHERNET SWITCHES | PRODUCT SELECTION GUIDE |

	UNMANAGED					MANAGED			
						eworx NEW! 			
Model #	**ESWP205-1SFP-T**	**ESWGP206-2SFP-T**	**EIRP305-T & EIRP305-24V-T**	**EIRHP305-T**	**EIRP410-2SFP-T**	**SECP510-2SFP-T SEGP510-2SFP-T**	**ESWGP506-2SFP-T**	**ESWGP510-2SFP-T ESWGP512-4SFP-T**	**EIRP610-2SFP-T**
PORTS									
Total Ports	5	6	5	5	10	10	6	10, 12	10
10/100 Base	4	-	5	5	8	8 (SECP510-2SFP-T)	-	-	8
10/100/1000 Base	-	4	-	-	(2)*	8 (SEGP510-2SFP-T) +(2)*	4	8	(2)*
PoE/PoE+ Ports	**PoE+** 4 (30W)	**PoE+** 4 (30W)	**PoE** 4 (15.4W)	**PoE+** 4 (30W)	**PoE** 8 (15.4W)	**PoE+** 8 (30W)	**PoE+** 4 (30W)	**PoE+** 8 (30W)	**PoE** 8 (15.4W)
Fiber Ports	1 SFP	2 SFP (GB)	-	-	(2)* SFP (GB)	(2)* SFP (GB)	2 SFP (GB)	2 SFP/GB (ESWGP510-2SFP-T) 4 SFP/GB (ESWGP512-4SFP-T	(2)* (SFP/GB)
SPECIFICATIONS									
MTU (bytes)	1536	9720	1518	1518	1518	9216	1518 (10/100) 9720 (1000)	1518 (10/100) 16K (1000)	1518
Temperature	-40 to 85°C	-40 to 85°C	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 75°C	-40 to 85°C	-40 to 85°C	-40 to 75°C
Power DC	24 to 52VDC	24 to 52VDC	48VDC (EIRP305-T), 24-48VDC (EIRP205-24V-T)	48VDC	48VDC	24to 48VDC	24 to 52VDC	44 to 57VDC	48VDC
Dual Power Inputs	✔	✔	✔	✔	✔	✔	✔	✔	✔
Relay Output/s	-	-	✔	✔	✔	✔	✔	✔	✔
Ring Redundancy	-	-	-	-	-	✔	✔	✔	✔
DIN/Panel Mount	✔	✔	✔	✔	✔	✔	✔	✔	✔
Power Supply Required	✔	✔	✔	✔	✔	✔	✔	✔	✔
NEMA TS1/TS2	-	-	-	-	-	✔	-	-	✔
Shock/Vibration	-	-	EIRP205-24V-T	-	-	✔	✔	✔	✔
Class1/Division2	-	-	EIRP205-24V-T	✔	-	✔	-	-	-
MANAGEMENT									
iView2 NMS	-	-	-	-	-	✔	-	-	-
VLANs	-	-	-	-	-	✔	✔	✔	✔
SNMP V1/2c/3	-	-	-	-	-	✔	✔	✔	✔
RSTP	-	-	-	-	-	✔	✔	✔	✔
Web Browser	-	-	-	-	-	✔	✔	✔	✔
Dynamic Power	-	-	-	-	-	✔	✔	ESWGP512-4SFP-T	-
MODEL# / SKU#	ESWP205-1SFP-T	ESWGP206-2SFP-T	EIRP305-T EIRP305-24V-T	EIRHP305-T	EIRP410-2SFP-T	SECP510-2SFP-T SEGP510-2SFP-T	ESWGP506-2SFP-T	ESWGP510-2SFP-T	EIRP610-2SFP-T

* Port counts in ( ) indicate shared copper and SFP ports ("combo ports"). If the SFP port is enabled, the copper port is disabled.

PRODUCT CASE STUDIES

| CUSTOMER SUCCESS STORIES |

CHALLENGE

When a remote electrical substation is disrupted, a technician must be dispatched – time consuming and costly. Multiple trips may be required to resolve the problem.

SOLUTION

B+B SmartWorx Ethernet managed switches network-enable substation control devices so that the technician can remotely assess and manage the situation and determine if a site visit is necessary.

CHALLENGE

Geotek specializes in onshore and offshore analysis of geological cores. Its Multi-Sensor Core Logger ("MSCL") system uses a wide array of equipment and sensors to collect data from sediment and rock cores. This expanse of equipment, sensors, protocols – and suppliers – created a data communication challenge with proprietary PC software.

SOLUTION

Geotek wanted comprehensive Ethernet communication and data access for their software. It had to withstand tough environments where the MSCL systems are typically used. B+B SmartWorx s5-port Ethernet switches now provide full Ethernet access to equipment, sensors and data signals.

CHALLENGE

A B+B SmartWorx customer was tasked with installing a security system to monitor mall and store entrances, corridors, restrooms, kiosks, parking lots and more - on a tight budget.

SOLUTION

Strategically placed, B+B SmartWorx Ethernet Gigabit & PoE switches provide security coverage for the entire mall. They network-enable RFID readers, cameras, wireless access points and VoIP phones and send the data back to security locations. Power-over-Ethernet "PoE" powers devices in remote locations where AC power runs are impractical and costly.

CHALLENGE

A wind farm covers a wide expanse of area. The turbines need network connections for monitoring and control. Network installations must withstand hazardous electrical interferences, extreme temperatures, dust, moisture and vibration.

SOLUTION

B+B SmartWorx unmanaged Ethernet switches convert copper Ethernet to fiber optic signals. Fiber is immune to electromagnetic interference and can carry data tremendous distances. The combination of these two features was precisely what the wind farm needed.