

## Industrial Ethernet Solutions



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# Industrial Ethernet Solutions Selection Guide

## Ethernet Switches

	Model Name	EKI-6558	EKI-6538	EKI-6728
	Description	8-port 10/100 Mbps Industrial Managed Redundant Ethernet Switch	8-port 10/100 Mbps Industrial Smart Ethernet Switch	8-port Gigabit Industrial Ethernet Switch
Communications	Standard	IEEE 802.3, 802.3ad, 802.3u, 802.3x, 802.1p, 802.1Q, 802.1W	IEEE 802.3, 802.3ad, 802.3u, 802.3x, 802.1p, 802.1Q	IEEE 802.3, 802.3u, 802.3x, 802.3ab
	LAN	10/100Base-TX	10/100Base-TX	10/100/1000Base-TX
	I/O Type	2 Digital Input - Logic Level 0 : close to GND Logic Level 1 : open 2 Digital Output - Open collector to 30 V, 200 mA (Max. load)	2 Digital Input - Logic Level 0 : close to GND Logic Level 1 : open 2 Digital Output - Open collector to 30 V, 200 mA (Max. load)	N/A
	Transmission Distance	Up to 100 m	Up to 100 m	Up to 100 m (Cat.5e, Cat.6 RJ-45 cable suggested)
	Transmission Speed	Up to 100 Mbps	Up to 100 Mbps	Up to 1000 Mbps
Interface	Connectors	8 x RJ-45 (Ethernet) 7-pin removable screw terminal (power) 5-pin removable screw terminal (DI/O)	8 x RJ-45 7-pin removable screw terminal (power) 5-pin removable screw terminal (DI/O)	8 x RJ-45 7-pin removable screw terminal (power)
	LED Indicators	P1, P2, P-Fail, Fault, LINK, 10/100 Mbps	P1, P2, P-Fail, Fault, LINK, 10/100 Mbps	P1, P2, P-Fail, LINK, 10/100/1000 Mbps
	Console	RS-232 (RJ-48)	RS-232 (RJ-48)	N/A
Network Management	Redundancy	Advantech Smart Ring (recovery time < 100 ms at 50 pcs full loading ring structure), 802.1W RSTP	N/A	N/A
	Diagnostics	Push button for port diagnostic Port Mirroring Real-time traffic statistic	Push button for port diagnostic Port Mirroring Real-time traffic statistic	
	VLAN	IEEE 802.1Q tagged VLAN Port-based VLAN	IEEE 802.1Q tagged VLAN Port-based VLAN	
	Configuration	Web browser, Telnet/Serial console, Speed/duplex auto-negotiation	Web browser, RS-232 console, Speed/duplex auto-negotiation	
	SNMP	SNMP v1, Advantech Utility	N/A	
	Security	MAC-based security per port	MAC-based security per port	
	Traffic Control	IGMP Snooping for multicast group management IEEE 802.3ad Link Aggregation Rate limit and storm control IEEE 802.1p QoS DSCP/TOS/CoS priority queuing IEEE 802.3x flow control	IEEE 802.3ad Link Aggregation Rate limit and storm control IEEE 802.1p QoS IEEE 802.3x flow control	
	Others	DHCP Client, Trap	N/A	
Power	Power Consumption	Max. 8 W	Max. 7 W	Max. 9 W
	Power Input	2 x Unregulated 10 ~ 48 V <sub>DC</sub>	2 x Unregulated 10 ~ 48 V <sub>DC</sub>	2 x Unregulated 10 ~ 48 V <sub>DC</sub>
	Power Fault Output	1 Relay Output	1 Relay Output	1 Relay Output
Mechanism	Dimensions (W x H x D)	46 x 162 x 126 mm	46 x 162 x 126 mm	46 x 162 x 126 mm
	Enclosure	IP30, ABS+PC with solid mounting kits	IP30, ABS+PC with solid mounting kits	IP30, ABS+PC with solid mounting kits
	Mounting	DIN 35 rail, Wall	DIN 35 rail, Wall	DIN 35 rail, Wall
Protection	ESD (Ethernet)	4,000 V <sub>DC</sub>	4,000 V <sub>DC</sub>	4,000 V <sub>DC</sub>
	Surge (EFT for power)	3000 V <sub>DC</sub>	3000 V <sub>DC</sub>	3000 V <sub>DC</sub>
	Power Reverse	Yes	Yes	Yes
	Overload	4 A/125 V Replaceable Fuse	4 A/125 V Replaceable Fuse	2.5 A/125 V Replaceable Fuse
Environment	Operating Temperature	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)
	Storage Temperature	-10 ~ 70 °C (14 ~ 158 °F)	-10 ~ 70 °C (14 ~ 158 °F)	-10 ~ 70 °C (14 ~ 158 °F)
	Operating Humidity	20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)
	Storage Humidity	0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)
	MTBF	230,000 hrs	230,000 hrs	230,000 hrs
Certifications	Safety	UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950
	EMC	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2

1

PAC &amp; Software

2

BAS

3

UNO

4

RS-485 I/O

5

Ethernet I/O

6

TPC

7

IPPC

8

FPM

9

AWS

10

Plug-in I/O

11

CompactPCI

12

Signal Conditioning

13

USB I/O

14

Motion Control I/O

15

Ethernet Switch

16

EDG

17

ICOM

EKI-6628F	EKI-7629C	EKI-2528/EKI-2525	EDG-6528 Series
Industrial Gigabit Ethernet Switch with 6 10/100Base-TX Ports & 2 SFP (mini-GBIC) Ports	Industrial Gigabit Ethernet Switch with 8 10/100Base-TX Ports & 2 Combo 10/100/1000Base-TX/ SFP (mini-GBIC) Ports	8/5-port 10/100 Mbps Industrial Unmanaged Ethernet Switch	8-port 10/100 Mbps Industrial Ethernet Switch
IEEE 802.3, 802.3u, 802.3x, 802.3z	IEEE 802.3, 802.3ab, 802.3u, 802.3x, 802.3z	IEEE 802.3, 802.3u, 802.3x	IEEE 802.3, 802.3u, 802.3x
10/100Base-TX, 1000Base-SX/LX	10/100/1000Base-TX, 1000Base-FX, 1000Base-SX/LX	10/100Base-TX	10/100Base-TX
N/A	N/A	N/A	N/A
Ethernet : Up to 100 m Gigabit Fiber : Up to 110 km (depends on the SFP module)	Ethernet : Up to 100 m Gigabit Fiber : Up to 110 km (depends on the SFP module)	Up to 100m	Up to 100m
Ethernet : Up to 100 Mbps Gigabit Fiber : Up to 1000 Mbps	Ethernet : Up to 100 Mbps Gigabit Copper : Up to 1000 Mbps Gigabit Fiber : Up to 1000 Mbps	Up to 100 Mbps	Up to 100 Mbps
6 x RJ-45 2 x mini-GBIC socket 7-pin removable screw terminal (power)	8 x RJ-45 2 x mini-GBIC socket 6-pin removable screw terminal (power)	8 x RJ-45 (EKI-2528) or 5 x RJ-45 (EKI-2525)	8 x RJ-45 5-pin removable screw terminal (power)
P1, P2, P-Fail, LINK, 10/100/1000 Mbps	Unit: PWR1, PWR2, P-Fail TX Port: Link/Active, Duplex/Collision Gigabit Port: Link/Active	P1, P2, P-Fail	PWR, P1, P2, FAULT, LINK, 10/100 Mbps
N/A	N/A	N/A	N/A
N/A	N/A	N/A	N/A
Max. 6 W	Max. 6.5 W	EKI-2528: Max. 4 W EKI-2525: Max. 3 W	Max. 3.1 W
2 x Unregulated 10 ~ 48 V <sub>DC</sub>	2 x Unregulated 12 ~ 48 V <sub>DC</sub>	2 x Unregulated 12 ~ 48 V <sub>DC</sub>	EDG-6528/6528L: 2 x Unregulated 10 ~ 48 V <sub>DC</sub> EDG-6528L: 1 x Unregulated 10 ~ 48 V <sub>DC</sub>
1 Relay Output	1 Relay Output	1 Relay Output	1 Relay Output (EDG-6528L not equipped)
46 x 162 x 126 mm	79 x 152 x 105 mm	37 x 140 x 95 mm	56 x 134 x 114 mm
IP30, ABS+PC with solid mounting kits	IP30, Metal shell with solid mounting kits	IP30, Metal shell with solid mounting kits	IP30, Metal shell with PC side panel (mounting kits included)
DIN 35 rail, Wall	DIN 35 rail, Wall	DIN 35 rail, Wall	DIN 35 rail, Wall
4,000 V <sub>DC</sub>	4,000 V <sub>DC</sub>	4,000 V <sub>DC</sub>	4,000 V <sub>DC</sub> (EDG-6528L not equipped)
3000 V <sub>DC</sub>	3000 V <sub>DC</sub>	3,000 V <sub>DC</sub>	3000 V <sub>DC</sub>
Yes	Yes	Yes	Yes
2 A/125 V Replaceable Fuse	3.2 A/60 V Resettable Fuse	1.8 A/60 V Resettable Fuse	N/A
0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	0 ~ 60 °C (32 ~ 140 °F)	EDG-6528, EDG-6528L: 0 ~ 70 °C (32 ~ 158 °F) EDG-6528L: -40 ~ 85 °C (-40 ~ 185 °F)
-10 ~ 70 °C (14 ~ 158 °F)	-10 ~ 70 °C (14 ~ 158 °F)	-10 ~ 70 °C (14 ~ 158 °F)	EDG-6528, EDG-6528L: -10 ~ 80 °C (14 ~ 176 °F) EDG-6528L: -50 ~ 95 °C (-58 ~ 203 °F)
20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)
0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)
230,000 hrs	295,000 hrs	1,260,000 hrs	1,260,000 hrs
UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950
U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2

# Industrial Ethernet Solutions Selection Guide

	Model Name	EKI-6527 Series	ADAM-6520 Series	ADAM-6521 Series
	<b>Description</b>	Industrial Ethernet Switch with 6 10/100Base-TX Ports & 1 100Base-FX Fiber Port	5-port 10/100 Mbps Industrial Ethernet Switch	Industrial Ethernet Switch with 4 10/100Base-TX Ports & 1 100Base-FX Fiber Port
<b>Communications</b>	<b>Standard</b>	IEEE 802.3, 802.3u, 802.3x	IEEE 802.3, 802.3u, 802.3x	IEEE 802.3, 802.3u, 802.3x
	<b>LAN</b>	10/100Base-TX, 100Base-FX	10/100Base-TX	10/100Base-TX, 100Base-FX
	<b>I/O Type</b>	N/A	N/A	N/A
	<b>Transmission Distance</b>	Ethernet : Up to 100 m Multi-mode Fiber : Up to 2 km Single-mode Fiber : Up to 15 km	Up to 100m	Ethernet : Up to 100 m Multi-mode Fiber : Up to 2 km Single-mode Fiber : Up to 15 km
	<b>Transmission Speed</b>	Up to 100 Mbps	Up to 100 Mbps	Up to 100 Mbps
<b>Interface</b>	<b>Connectors</b>	6 x RJ-45 1 x SC type fiber connector 7-pin removable screw terminal (power)	5 x RJ-45 2-pin removable screw terminal (power)	4 x RJ-45 1 x SC type fiber connector (ADAM-6521, ADAM-6521S) or 1 x ST type fiber connector (ADAM-6521/ST) 2-pin removable screw terminal (power)
	<b>LED Indicators</b>	P1, P2, P-Fail, LINK, 10/100 Mbps	Power, Link/Speed	Power, Link (100BASE-FX), 100/10M (Ethernet)
	<b>Console</b>	N/A	N/A	N/A
<b>Network Management</b>	<b>Redundancy</b>	N/A	N/A	N/A
	<b>Diagnostics</b>			
	<b>VLAN</b>			
	<b>Configuration</b>			
	<b>SNMP</b>			
	<b>Security</b>			
	<b>Traffic Control</b>			
	<b>Others</b>			
<b>Power</b>	<b>Power Consumption</b>	Max. 5W	ADAM-6520, ADAM-6520L: Max. 2.4 W ADAM-6520L: Max. 3 W	ADAM-6521, ADAM-6521/ST: Max. 3 W ADAM-6521S: Max. 4 W
	<b>Power Input</b>	2 x Unregulated 10 ~ 48 V <sub>DC</sub>	1 x Unregulated 10 ~ 30 V <sub>DC</sub>	1 x Unregulated 10 ~ 30 V <sub>DC</sub>
	<b>Power Fault Output</b>	1 Relay Output	N/A	N/A
<b>Mechanism</b>	<b>Dimensions (W x H x D)</b>	46 x 162 x 126 mm	70 x 102 x 27 mm	70 x 112 x 27 mm
	<b>Enclosure</b>	IP30, ABS+PC with solid mounting kits	IP30, ABS+PC with solid mounting kits	IP30, ABS+PC with solid mounting kits
	<b>Mounting</b>	DIN 35 rail, Wall	DIN 35 rail, Wall, Stack	DIN 35 rail, Wall, Stack
<b>Protection</b>	<b>ESD (Ethernet)</b>	4,000 V <sub>DC</sub>	4,000 V <sub>DC</sub> (ADAM-6520L not equipped)	4,000 V <sub>DC</sub>
	<b>Surge (EFT for power)</b>	3000 V <sub>DC</sub>	3000 V <sub>DC</sub> (ADAM-6520L not equipped)	3000 V <sub>DC</sub>
	<b>Power Reverse</b>	Yes	N/A	N/A
	<b>Overload</b>	4 A/125 V Replaceable Fuse	N/A	N/A
<b>Environment</b>	<b>Operating Temperature</b>	0 ~ 60 °C (32 ~ 140 °F)	ADAM-6520: -10 ~ 70 °C (14 ~ 158 °F) -10 ~ 60 °C (14 ~ 140 °F) (Stack) ADAM-6520L: -40 ~ 85 °C (-40 ~ 185 °F) -40 ~ 75 °C (-40 ~ 167 °F) (Stack) ADAM-6520L: 0 ~ 60 °C (32 ~ 140 °F) 0 ~ 50 °C (32 ~ 122 °F) (Stack)	-10 ~ 65 °C (14 ~ 149 °F) -10 ~ 55 °C (14 ~ 131 °F) (Stack)
	<b>Storage Temperature</b>	-10 ~ 70 °C (14 ~ 158 °F)	ADAM-6520: -20 ~ 80 °C (-4 ~ 176 °F) ADAM-6520L: -50 ~ 95 °C (-58 ~ 203 °F) ADAM-6520L: -10 ~ 70 °C (14 ~ 158 °F)	-20 ~ 80 °C (-4 ~ 176 °F)
	<b>Operating Humidity</b>	20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)
	<b>Storage Humidity</b>	0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)
	<b>MTBF</b>	230,000 hrs	1,580,000 hrs	1,150,000 hrs
<b>Certifications</b>	<b>Safety</b>	UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950
	<b>EMC</b>	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2

## Ethernet Media Converters

	Model Name	ADAM-6841 Series	ADAM-6541 Series	ADAM-6542 Series
	<b>Description</b>	Gigabit Ethernet to Fiber Optic Converter	Ethernet to Fiber Optic Converter	Ethernet to WDM Fiber Optic Converter
<b>Communications</b>	<b>Standard</b>	IEEE 802.3ab, 802.3z	IEEE 802.3, 802.3u, 802.3x	IEEE 802.3, 802.3u, 802.3x
	<b>LAN</b>	1000Base-T, 1000Base-SX, 1000Base-LX	10/100Base-TX, 100Base-FX	10/100Base-TX, 100Base-FX
	<b>Transmission Distance</b>	Ethernet : Up to 100m (Cat.5e, Cat.6) Multi-mode Fiber : Up to 2 km Single-mode Fiber : Up to 25 km	Ethernet : Up to 100 m Multi-mode Fiber : Up to 2 km Single-mode Fiber : Up to 20 km	Ethernet : Up to 100 m Fiber : Up to 20 km
	<b>Transmission Speed</b>	Up to 1000 Mbps	Up to 100 Mbps	Up to 100 Mbps
	<b>Link Fault Pass Through</b>	N/A	ADAM-6541, ADAM-6541/ST: N/A ADAM-6541P, ADAM-6541S: YES	N/A
<b>Interface</b>	<b>Connectors</b>	1 x RJ-45 1 x SC type fiber connector 2-pin removable screw terminal (power)	1 x RJ-45 1 x SC type fiber connector (ADAM-6541, ADAM-6541P, ADAM-6541S) or 1 x ST type fiber connector (ADAM-6541/ST) 2-pin removable screw terminal (power)	1 x RJ-45 1 x SC type fiber connector 2-pin removable screw terminal (power)
	<b>LED Indicators</b>	Power, Link/Active (Fiber), Link/Active (Ethernet)	ADAM-6541, ADAM-6541/ST: Power, Full/ Link (100BASE-FX), 100/10M (Ethernet) ADAM-6541P, ADAM-6541S: Power, Link/Speed (Fiber), Link/Speed (Ethernet), LFS/Duplex (TX)	Power, Link (100BASE-FX), 100/10M (Ethernet)
<b>Power</b>	<b>Power Consumption</b>	Max. 3.5 W	ADAM-6541, ADAM-6541/ST : Max. 3 W ADAM-6541P, ADAM-6541S : Max. 3.5 W	Max. 3 W
	<b>Power Input</b>	1 x Unregulated 10 ~ 30 V <sub>DC</sub>	1 x Unregulated 10 ~ 30 V <sub>DC</sub>	1 x Unregulated 10 ~ 30 V <sub>DC</sub>
<b>Mechanism</b>	<b>Dimensions (W x H x D)</b>	70 x 112 x 27 mm	70 x 112 x 27 mm	70 x 112 x 27 mm
	<b>Enclosure</b>	IP30, ABS+PC with solid mounting kits	IP30, ABS+PC with solid mounting kits	IP30, ABS+PC with solid mounting kits
	<b>Mounting</b>	DIN 35 rail, Wall, Stack	DIN 35 rail, Wall, Stack	DIN 35 rail, Wall, Stack
<b>Protection</b>	<b>ESD (Ethernet)</b>	4,000 V <sub>DC</sub>	4,000 V <sub>DC</sub>	4,000 V <sub>DC</sub>
	<b>Isolation (Ethernet)</b>	1,500Vrms	1,500Vrms	1,500Vrms
	<b>Surge (EFT for power)</b>	3000 V <sub>DC</sub>	3000 V <sub>DC</sub>	3000 V <sub>DC</sub>
	<b>Power Reverse</b>	Yes	ADAM-6541, ADAM-6541/ST: N/A ADAM-6541P, ADAM-6541S: YES	N/A
	<b>Overload</b>	1A/125V Replaceable Fuse	ADAM-6541, ADAM-6541/ST: N/A ADAM-6541P, ADAM-6541S: 1A/125V Replaceable Fuse	N/A
<b>Environment</b>	<b>Operating Temperature</b>	0 ~ 60 °C (32 ~ 140 °F) 0 ~ 55 °C (32 ~ 131 °F) (Stack)	0 ~ 60 °C (32 ~ 140 °F) 0 ~ 55 °C (32 ~ 131 °F) (Stack)	0 ~ 60 °C (32 ~ 140 °F) 0 ~ 55 °C (32 ~ 131 °F) (Stack)
	<b>Storage Temperature</b>	-10 ~ 70 °C (14 ~ 158 °F)	-10 ~ 70 °C (14 ~ 158 °F)	-10 ~ 70 °C (14 ~ 158 °F)
	<b>Operating Humidity</b>	20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)	20 ~ 95 % (non-condensing)
	<b>Storage Humidity</b>	0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)	0 ~ 95 % (non-condensing)
	<b>MTBF</b>	550,000 hrs	550,000 hrs	550,000 hrs
<b>Certifications</b>	<b>Safety</b>	UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950	UL 60950-1, CAN/CSA-C22.2 No.60950
	<b>EMC</b>	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2	U.S.A.: FCC Part 15 CISPR 22 EU: EN55011, EN61000-6-4 EN55022 Class A, EN61000-3-2/3 EN55024 IEC61000-4-2/3/4/5/6/8/11 EN61000-6-2

1  
PAC & Software

2  
BAS

3  
UNO

4  
RS-485 I/O

5  
Ethernet I/O

6  
TPC

7  
IPPC

8  
FPM

9  
AWS

10  
Plug-in I/O

11  
CompactPCI

12  
Signal Conditioning

13  
USB I/O

14  
Motion Control I/O

15  
Ethernet Switch

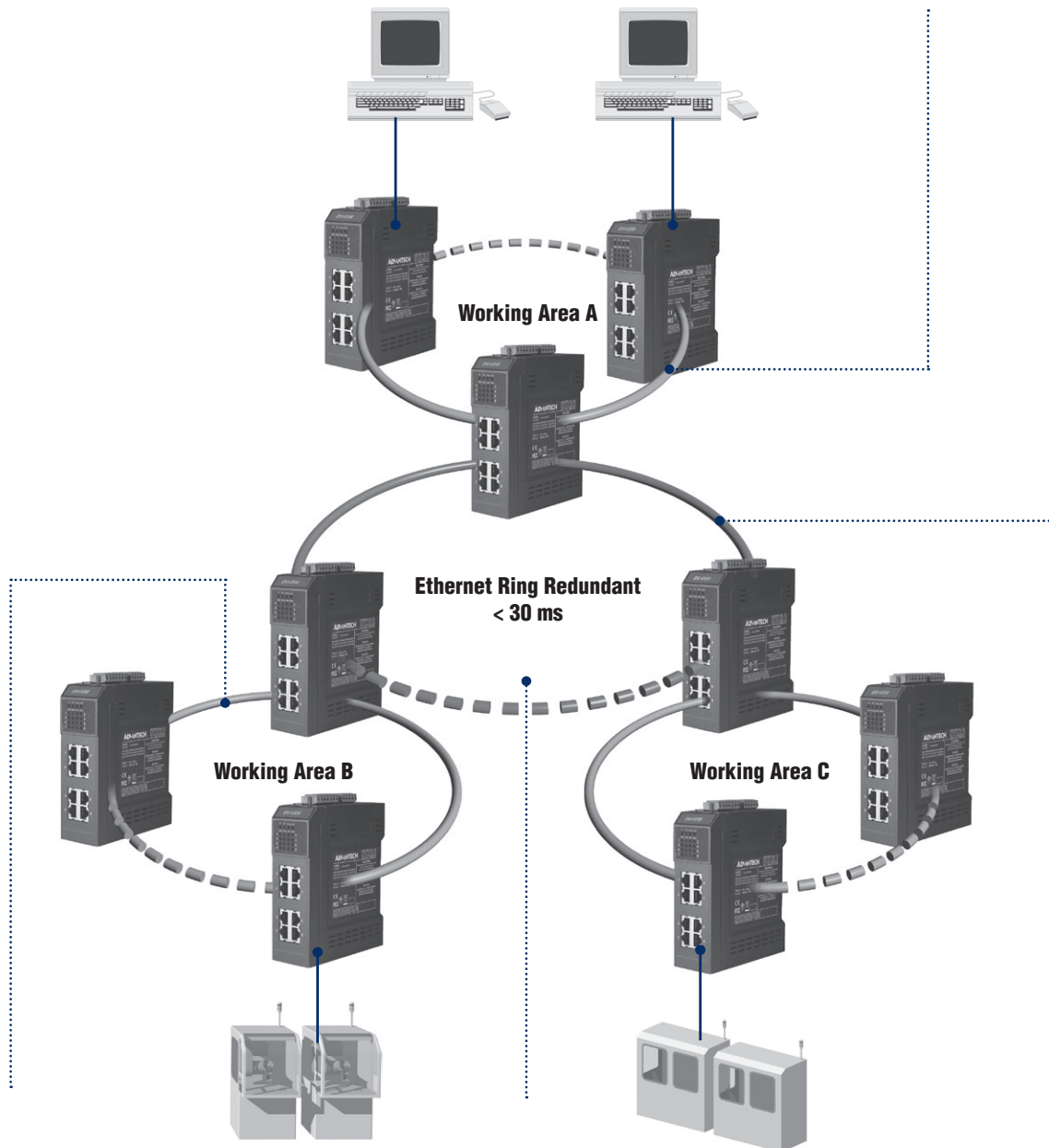
16  
EDG

17  
ICOM

# Non-stop Ethernet Redundant Ring

## Non-stop communication

The Redundant Ethernet Ring feature provides reliable communications that can find a backup path automatically if the field Ethernet path is broken.



## Easy to Install Without a Dedicated Master

Simple configuration setup that allows users to easily build their own Redundant Ethernet Ring networks. Unlike generally managed Ethernet switches, EKI-6558 doesn't need to setup a master/client device; the EKI-6558 will enable a redundant Ethernet ring system actively.

## Deterministic Recovery Time

EKI-6558 supports the Redundant Ethernet Ring Network. If the field Ethernet path is broken, the system will recover communications with deterministic recovery time in less than 30 ms. (at 50 pcs full loading ring structure)

## Double Rings, Double Defenses

EKI-6558 is featuring with interconnection redundant ring which improves the reliability of Ethernet networks.

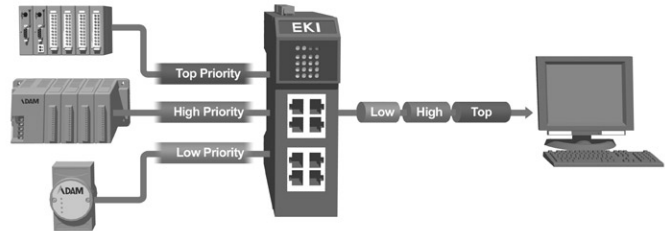


# Efficient Network Management

## Optimized Network Performance

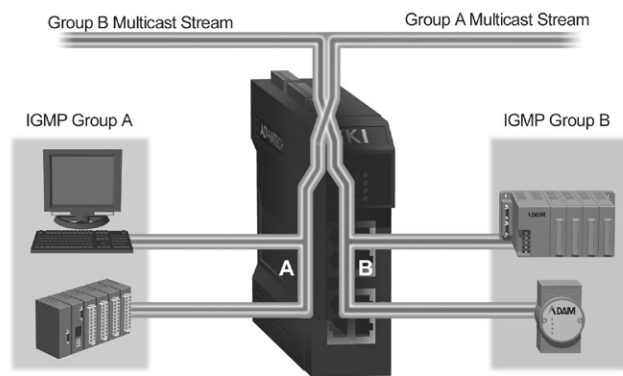
### Traffic Prioritization - Quality of Service (QoS)

Quality of Service (QoS) ensures critical data is delivered consistently and predictably. Advantech's EKI series supports Layer 2 802.1p priority queue control to prioritize network packets depending on customer's needs. The feature of QoS is useful in improving determinism.



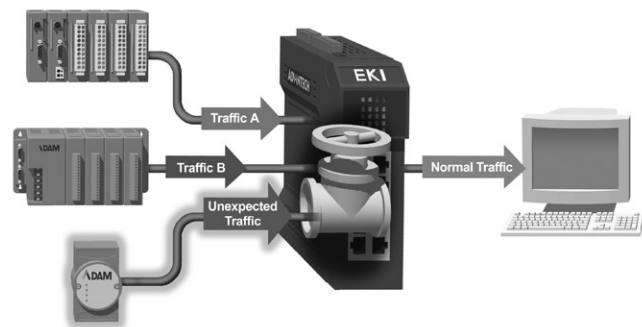
### Filters Unnecessary Multicast Traffic - IGMP Snooping

Internet Group Management Protocol (IGMP) snooping can automatically filter multicast/broadcast frames to only the devices which have requested them. It is also able to refine multicast traffic and improve the utilization of Ethernet network bandwidth.



### Bandwidth Administration Avoids Unexpected Network Traffic

Network broadcast storms or malfunctioning network devices will generate unexpected, large packets which can block network traffic. Advantech's EKI series is able to configure the ingress/egress rate of unicast/multicast/broadcast packets in parts and limit the bandwidth of each individual port to prevent unexpected network traffic.



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PAC & Software

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BAS

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UNO

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RS-485 I/O

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Ethernet I/O

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TPC

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IPPC

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FPM

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AWS

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Plug-in I/O

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CompactPCI

12  
Signal Conditioning

13  
USB I/O

14  
Motion Control I/O

15  
Ethernet Switch

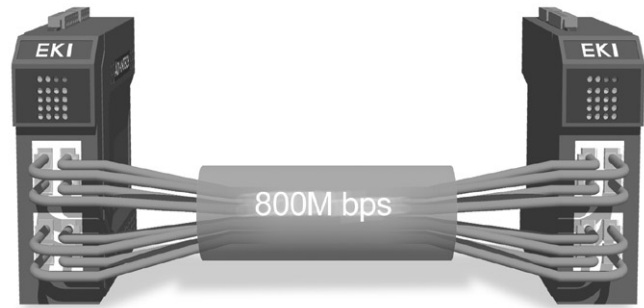
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EDG

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ICOM

# Efficient Network Management

## Grouped Bandwidths for Flexible Networking - Port Trunking

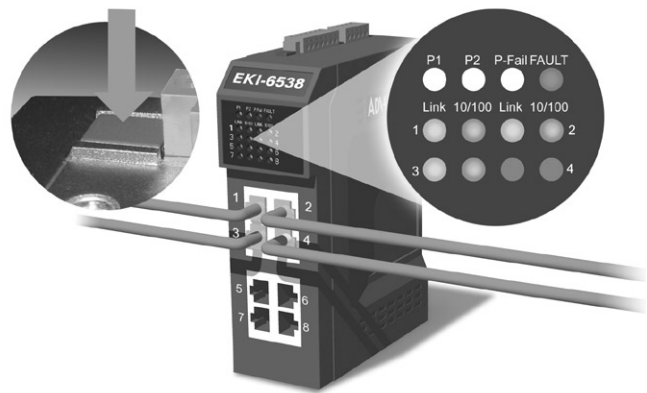
Port trunking is grouping two or more ports together and working as a logical path. This can be used to increase the bandwidth up to 800 Mbps between two cascaded switches.



## Easy to Maintain

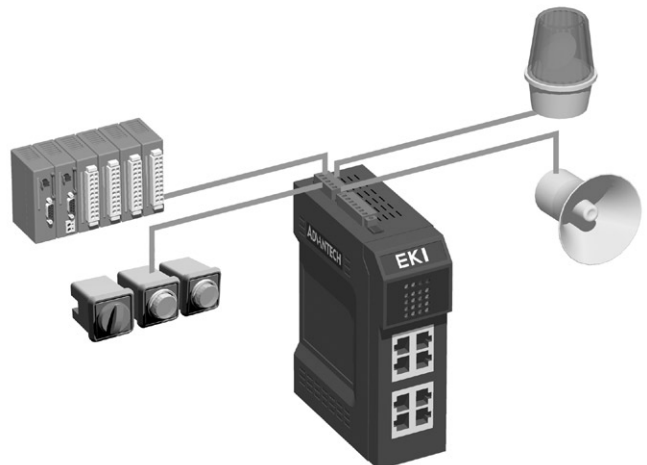
### Convenient Self Diagnosis Button

Advantech's EKI series come with a self diagnosis button and front-viewable LEDs for field troubleshooting. Without the need for extra tools, you can recognize the hardware status of the Ethernet port instantly through one single button.



### Onboard DI/O's to Integrate Field Alarm Devices

By simply setting up a web-based configuration, you can manage the connection between two digital inputs and two digital outputs that are built into EKI. These are invaluable when integrating field indicators or alarm devices that will respond to messages according to individual user's configured settings.

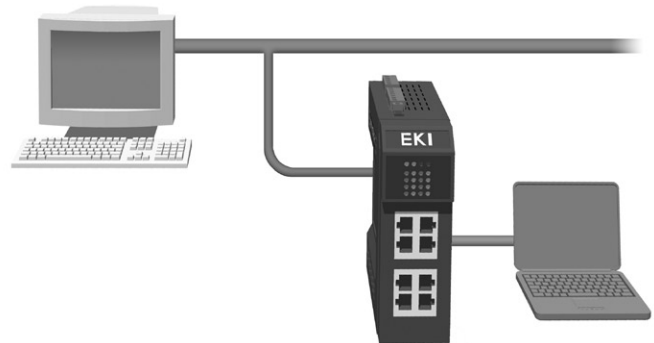




# Efficient Network Management

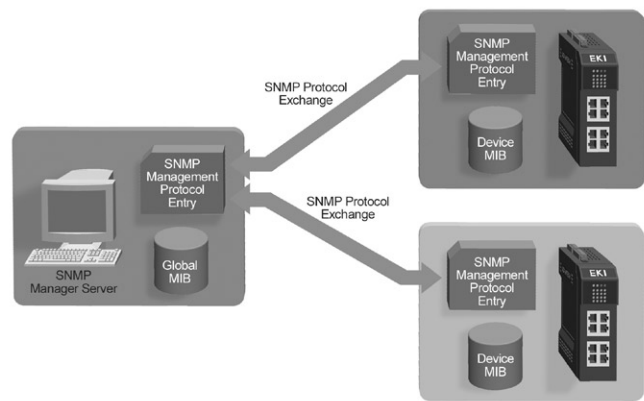
## Flexible Configuration Modes for Different Applications

Advantech's EKI series supports web and console based configurations for different applications. You can configure EKI through a web browser remotely without extra utilities or by using a direct connection to the console port of EKI through a single serial cable.



## Simple Network Management Protocol (SNMP)

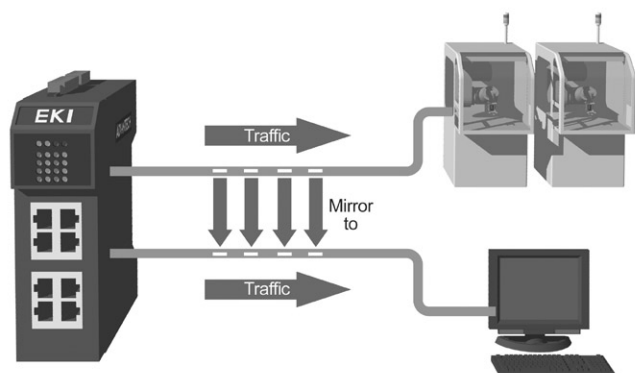
Advantech's EKI-6558 supports the Simple Network Management Protocol (SNMP), which is an application-layer protocol designed to facilitate the exchange of management and performance information between networked devices. Using SNMP facilitates monitoring of device and network performance, and easier diagnosis and solution of problems.



## Secured Communication Mechanism

### Traffic Monitoring & Analysis - Port Mirroring

Port mirroring allows one port of the switch to monitor the traffic transmitted/received by the other port of the switch. The network administrator with a protocol analyzer is allowed to capture packets from mirrored port to evaluate and monitor without affecting the operation of clients on the original port.



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PAC & Software

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BAS

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UNO

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RS-485 I/O

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Ethernet I/O

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TPC

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IPPC

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FPM

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AWS

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Plug-in I/O

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CompactPCI

12  
Signal Conditioning

13  
USB I/O

14  
Motion Control I/O

15  
Ethernet Switch

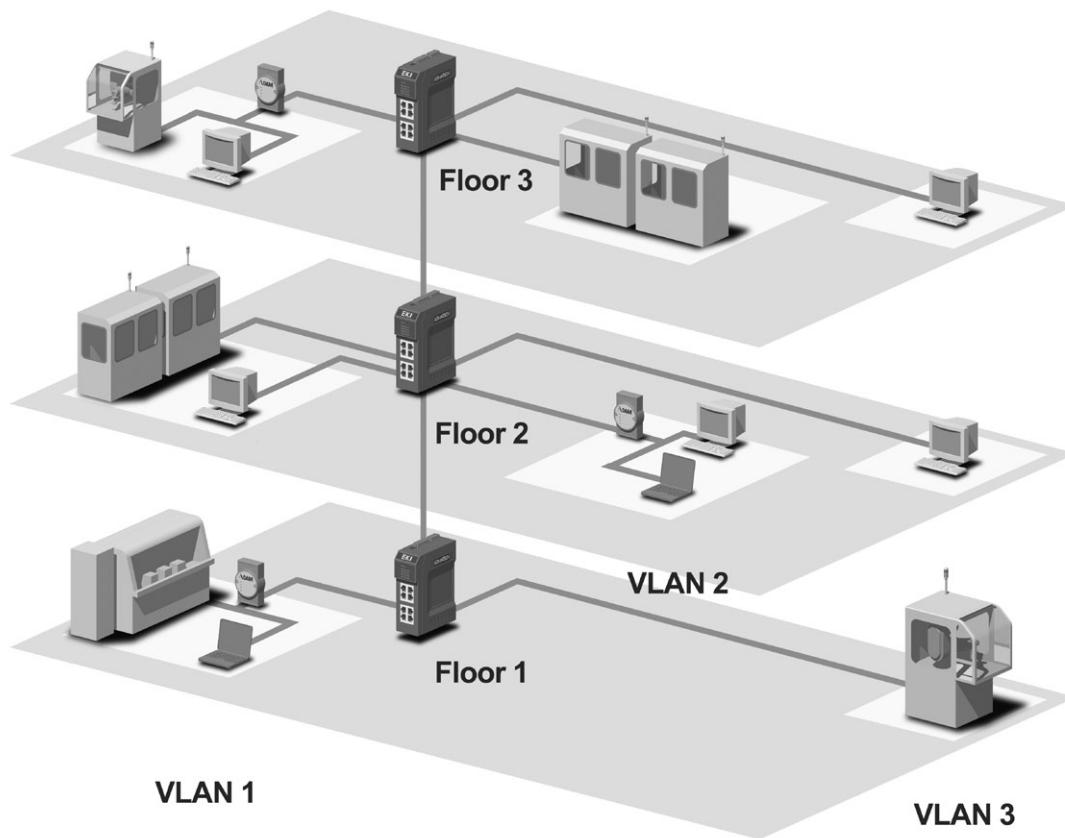
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EDG

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ICOM

# Efficient Network Management

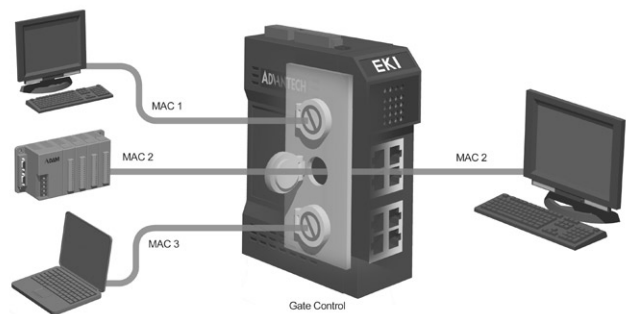
## Virtual Local Area Network (VLAN)

Virtual Local Area Network (VLAN) improves the security by grouping Ethernet devices locally and confining traffic between these groups even if the devices all share the same physical switch.



## Security Gate Control Avoids Unauthorized Access

Advantech's EKI series provides specific gate controls for each individual port to improve network security. Only the packets from authorized MAC addresses are allowed to pass through the switch. You can block unwanted invasions and usage thru this defense mechanism.



# EKI-6558

## 8-port 10/100 Mbps Industrial Managed Redundant Ethernet Switch

**NEW**



### Features

- Redundant Ethernet Ring (recovery time < 100 ms at 50 pcs full loading ring structure) and RSTP (IEEE 802.1W)
- IGMP Snooping for filtering multicast traffic from industrial Ethernet
- Provides push button for port diagnostic
- Supports web browser and telnet/RS-232 console for configuration
- Supports IEEE 802.1Q VLAN and GVRP protocol to ease network planning
- Supports QoS -- IEEE 802.1p/1Q and TOS/DiffServ to increase determinism
- Supports SNMP V1 for network management security and Trap for automatic alarm and warning by utility or exception through email
- Supports 802.3ad link aggregation control protocol
- Provides 2-ch DI/O and power fail relay output for field event control
- Supports dual 10 ~ 48 V<sub>DC</sub> power input, wide operating temperature (0 ~ 60° C)

### Introduction

For many industrial automation applications, redundancy helps increase the reliability of your system. To create reliability in your network, the EKI-6558 comes equipped with a proprietary redundant network protocol -- Smart Ring that was developed by Advantech, which provides users with an easy way to establish a redundant Ethernet network with ultra high-speed recovery time less than 30 ms. Furthermore, EKI-6558 also supports many advanced network standards to optimize network performance, ease maintenance issues, and secure network safety. With many additional industrial features such as dual wide power inputs (10 ~ 48 V<sub>DC</sub>), a wide operating temperature (0 ~ 60° C) and a rugged, flexible design, the EKI-6558 is an ideal Ethernet solution for any industrial environment.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3ad, 802.3u, 802.3x, 802.1p, 802.1Q, 802.1W.
- **LAN** 10/100Base-TX
- **I/O Type**
  - 2 Digital Input - Logic Level 0 : close to GND  
Logic Level 1 : open
  - 2 Digital Output - Open collector to 30 V, 200 mA (Max. load)
- **Transmission Distance** Up to 100 m
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Connectors**
  - 8 x RJ-45 (Ethernet)
  - 7-pin removable screw terminal (power)
  - 5-pin removable screw terminal (DI/O)
- **LED Indicators** P1, P2, P-Fail, Fault, LINK, 10/100 Mbps
- **Console** RS-232 (RJ-48)

#### Network Management

- **Diagnostics**
  - Push button for port diagnostic
  - Port Mirroring
  - Real-time traffic statistic
- **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Port-based VLAN
- **Configuration** Web browser, Telnet/Serial console, Speed/duplex auto-negotiation
- **Redundancy** ADVANTECH Smart Ring (recovery time < 100 ms at 50 pcs full loading ring structure), 802.1W/D RSTP/STP
- **Security** MAC-based security per port
- **Traffic Control**
  - IGMP Snooping for multicast group management
  - IEEE 802.3ad Link Aggregation
  - Rate limit and storm control
  - IEEE 802.1p QoS DSCP/TOS/CoS priority queuing
  - IEEE 802.3x flow control

#### Mechanism

- **Enclosure** IP30, ABS+PC with solid mounting kits
- **Dimensions (W x H x D)** 46 x 162 x 126 mm
- **Mounting** DIN 35 rail, wall

#### Power

- **Power Consumption** Max. 8 W
- **Power Input** 2 x Unregulated 10 ~ 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Power Reverse** YES
- **Overload** 4 A/125 V Replaceable Fuse

#### Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Storage Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 230,000 hours

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC**
  - EU: EN55011, EN61000-6-4
  - EN55022 Class A,
  - EN61000-3-2/3
  - EN55024
  - IEC61000-4-2/3/4/5/6/8/11
  - EN61000-6-2

### Ordering Information

- **EKI-6558** 8-port 10/100 Mbps Industrial Managed Redundant Ethernet Switch

1  
PAC & Software

2  
BAS

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UNO

4  
RS-485 I/O

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Ethernet I/O

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TPC

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IPPC

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FPM

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AWS

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Plug-in I/O

11  
CompactPCI

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Signal Conditioning

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USB I/O

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Motion Control I/O

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Ethernet Switch

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EDG

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ICOM

# EKI-6538

## 8-port 10/100 Mbps Industrial Smart Ethernet Switch



### Features

- Provides push button for port diagnostic
- Supports web browser configuration and RS-232 console
- Supports IEEE 802.1Q tagged VLAN
- Supports ports aggregation, aggregated ports auto failed over and load balance per trunk
- Supports port mirroring for traffic monitoring
- Supports IEEE 802.1p QoS for traffic classification and prioritization
- Provides port configuration for auto-negotiation setting of speed/flow control
- Supports ingress/egress rate control per port and broadcast storm protection
- Supports MAC-based security per port
- Supports traffic statistic monitor per port
- Supports two individual +10 ~ 48 V<sub>DC</sub> power inputs
- Supports operating temperatures from 0 ~ 60° C

### Introduction

Equipped with 8 10/100Base-TX Fast Ethernet ports with RJ-45 connector, Advantech EKI-6538 Industrial Smart Ethernet Switch presents as a cost-effective solution for the industrial customers to implement Ethernet packet switching with easy configuration of network performance and security in the harsh environment. Besides of the compliance with standard industrial design, like wide dual power input (10 ~ 48 V<sub>DC</sub>), wide operating temperature (0 ~ 60° C), rugged mechanism design and multiple mounting ways, EKI-6538 plays smarter than other unmanaged switches in the network management: VLAN, QoS, Port Mirroring, and Port Trunk.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3ad, 802.3u, 802.3x, 802.1p, 802.1Q
- **LAN** 10/100Base-TX
- **I/O Type**
  - 2 Digital Input - Logic Level 0 : close to GND  
Logic Level 1 : open
  - 2 Digital Output - Open collector to 30 V, 200 mA (Max.load)
- **Transmission Distance** Up to 100 m
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Connectors**
  - 8 x RJ-45 (Ethernet)
  - 7-pin removable screw terminal (power)
  - 5-pin removable screw terminal (DI/O)
- **LED Indicators** P1, P2, P-Fail, FAULT, LINK, 10/100 Mbps
- **Console** RS-232 (RJ-48)

#### Network Management

- **Diagnostics**
  - Push button for port diagnostic
  - Port Mirroring
  - Real-time traffic statistic
- **VLAN**
  - IEEE 802.1Q tagged VLAN
  - Port-based VLAN
- **Configuration**
  - Web browser, RS-232 console, Speed/duplex auto-negotiation
- **Security**
  - MAC-based security per port
- **Traffic Control**
  - IEEE 802.3ad Link Aggregation
  - Rate limit and storm control
  - IEEE 802.1p QoS
  - IEEE 802.3x flow control

#### Power

- **Power Consumption** Max. 7 W
- **Power Input** 2 x Unregulated 10 ~ 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 46 x 162 x 126 mm
- **Enclosure** IP30, ABS+PC with solid mounting kits
- **Mounting** DIN 35 rail, Wall

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Power Reverse** YES
- **Overload** 4 A/125 V Replaceable Fuse

#### Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Storage Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 230,000 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

### Ordering Information

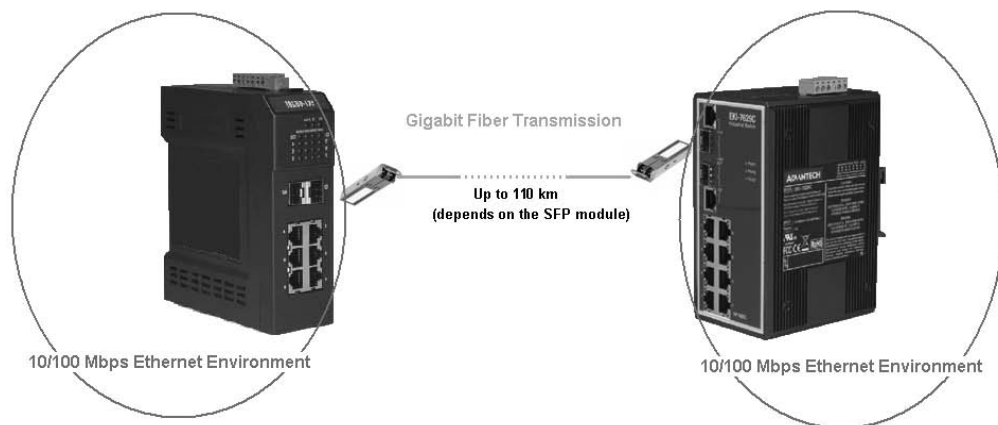
- **EKI-6538** 8-port 10/100 Mbps Industrial Smart Ethernet Switch

# Gigabit Solution Introduction

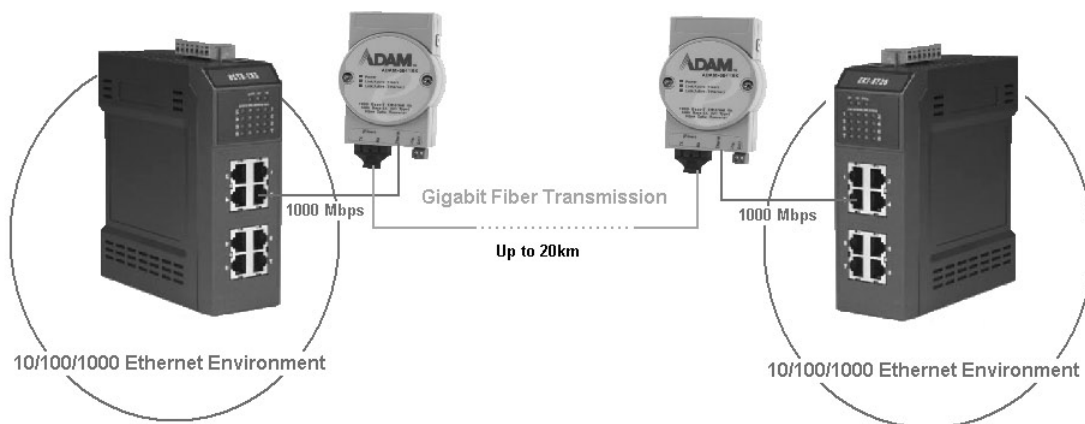
## Gigabit Ethernet Solutions

Gigabit Ethernet is the latest development in Ethernet communications and is rapidly becoming an accepted standard, not just for use in high speed transmissions, but also for links between PCs and servers. As the name suggests, Gigabit Ethernet allows data transfer speeds up to 1Gbps (or 1000 Mbps). Many PCs already have Gigabit Ethernet, which means that networks are beginning to add Gigabit Ethernet switches, routers, etc. It is particularly easy to install because the 100Base-T variant is designed to run over Cat 5 UTP (unshielded twisted pair) that is widely and cheaply available. That means that Gigabit Ethernet will rapidly take over from the previous variants of Ethernet, allowing speeds to steadily increase.

Advantech has developed a series of rugged Gigabit switches and converters for industrial use. For high speed and large data transmissions, the EKI-7629C and EKI-6628F come equipped with two mini-GBIC ports which provide long distance, anti-noise, high speed and wide-band transmissions via optional SFP module.



In an advanced factory, 10/100/1000 Mbps compliant devices and PCs may set up together with the original 10/100 Mbps equipment. With 8 x 10/100/1000 Mbps ports, the EKI-6728 acts as a bridge to connect devices from different generations. Together with a Gigabit converter, such as the ADAM-6841, you can realize Gigabit fiber optic transmission between two zones and across great distances.



- 1 PAC & Software
- 2 BAS
- 3 UNO
- 4 RS-485 I/O
- 5 Ethernet I/O
- 6 TPC
- 7 IPPC
- 8 FPM
- 9 AWS
- 10 Plug-in I/O
- 11 CompactPCI
- 12 Signal Conditioning
- 13 USB I/O
- 14 Motion Control I/O
- 15 Ethernet Switch
- 16 EDG
- 17 ICOM

# EKI-6728

## 8-port 10/100/1000 Mbps Industrial Gigabit Ethernet Switch

NEW



### Features

- Provides 8 x 10/100/1000 Mbps Ethernet ports with RJ45 connector
- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with a memory buffer, supports store and forward transmission
- Provides surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Supports 4,000 V<sub>DC</sub> Ethernet ESD protection
- Supports redundant +10 ~ 48 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail, Panel Mounting
- Supports operating temperatures from 0 ~ 60° C

### Introduction

EKI-6728 is an industrial-grade Ethernet switch that realizes fast and efficient Gigabit industrial networks. With 8 x 10/100/1000 Mbps Ethernet ports, EKI-6728 is a good solution for mixed fast/Gigabit networking environments without external converters. The long MTBF (Mean Time Between Failures) ensure EKI-6728 will work continue till the Gigabit network infrastructure is built-in without any extra upgrade cost.

EKI-6728 includes a switch controller that can automatically sense transmission speeds. (10/100/1000 Mbps) The RJ-45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a cross-over cable is not required. All Ethernet ports have memory buffers that support the store-and-forward mechanism. This assures that data can be transmitted properly. Furthermore, the power line of EKI-6728 supports up to 3,000 V<sub>DC</sub> surge (EFT) protection, which secure equipment against unregulated voltage and make systems safer and more reliable.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x, 802.3ab
- **LAN** 10/100/1000Base-TX
- **Transmission Distance** Up to 100 m (Cat.5e, Cat.6 RJ-45 cable suggested)
- **Transmission Speed** Up to 1000 Mbps

#### Interface

- **Connectors** 8 x RJ-45 (Ethernet)  
7-pin removable screw terminal (power)
- **LED Indicators** P1, P2, P-Fail, LINK,  
10/100/1000 Mbps

#### Power

- **Power Consumption** Max. 9 W
- **Power Input** 2 x Unregulated 10 ~ 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 46 x 162 x 126 mm
- **Enclosure** IP30, ABS+PC with solid mounting kits
- **Mounting** DIN 35 rail, Wall

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Power Reverse** YES
- **Overload** 2.5 A/125 V Replaceable Fuse

#### Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Storage Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 230,000 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

### Ordering Information

- **EKI-6728** 8-port 10/100/1000 Mbps Industrial Gigabit Ethernet Switch



# EKI-6628F

## Industrial Gigabit Ethernet Switch with 6 x 10/100Base-TX Ports & 2 SFP (mini-GBIC) Ports

**NEW**



### Features

- Provides 6 x 10/100 Mbps Ethernet ports with RJ45 connector
- Provides 2 x 1000 Mbps SFP type fiber ports for optional 1000Base-SX/LX device
- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Supports surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Supports 4,000 V<sub>DC</sub> Ethernet ESD protection
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with a memory buffer, supports store and forward transmission
- Supports redundant +10 ~ 48 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail, Panel Mounting
- Supports operating temperatures from 0 ~ 60° C

### Introduction

Equipped with 6 x 10/100Base-TX fast Ethernet ports and 2 mini-GBIC expansion ports, EKI-6628F is an ideal solution for the application of wideband upload and long distance transmissions. Users can choose the appropriate replaceable SFP module to fit the field request flexibly. Also, the long MTBF (Mean Time Between Failures) ensure EKI-6628F will continue to operate until the Gigabit network infrastructure is built-in without any extra upgrade costs.

EKI-6628F includes a switch controller that can automatically sense transmission speeds (10/100 Mbps). The RJ-45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a cross-over cable is not required. All Ethernet ports have memory buffers that support the store-and-forward mechanism, which assures that data can be transmitted properly. Furthermore, the power line of EKI-6628F supports up to 3,000 V<sub>DC</sub> surge (EFT) protection, which secure equipment against unregulated voltage and make systems safer and more reliable.

### Specifications

#### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x, 802.3z
- LAN** 10/100Base-TX, 1000Base-SX/LX
- Transmission Distance** Ethernet : Up to 100 m  
Gigabit Fiber : Up to 110 km  
(depends on the SFP module)
- Transmission Speed** Ethernet : Up to 100 Mbps  
Gigabit Fiber : Up to 1000 Mbps

#### Interface

- Connectors** 6 x RJ-45  
2 x mini-GBIC socket  
7-pin removable screw terminal (power)
- LED Indicators** P1, P2, P-Fail, LINK,  
10/100/1000 Mbps

#### Power

- Power Consumption** Max. 6W
- Power Input** 2 x Unregulated 10 ~ 48 V<sub>DC</sub>
- Fault Output** 1 Relay Output

#### Mechanism

- Dimensions (W x H x D)** 46 x 162 x 126 mm
- Enclosure** IP30, ABS+PC with solid mounting kits
- Mounting** DIN 35 rail, Wall

#### Protection

- ESD (Ethernet)** 4,000 V<sub>DC</sub>
- Surge (EFT for power)** 3,000 V<sub>DC</sub>
- Power Reverse** YES
- Overload** 2 A/125 V Replaceable Fuse

#### Environment

- Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- Storage Temperature** -10 ~ 70° C (14 ~ 158° F)
- Operating Humidity** 20 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 230,000 hrs

#### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

### Ordering Information

- EKI-6628F** Industrial Gigabit Ethernet Switch with 6 x 10/100Base-TX Ports & 2 SFP (mini-GBIC) Ports
- SFP-GSX/LC** Pluggable LC Type Gigabit Fiber Transceiver, 1000Base-SX, 500 m
- SFP-GLX/LC-10** Pluggable LC Type Gigabit Fiber Transceiver, 1000Base-LX, 10 km
- SFP-GLX/LC-20** Pluggable LC Type Gigabit Fiber Transceiver, 1000Base-LX, 20 km
- SFP-GLX/LC-40** Pluggable LC Type Gigabit Fiber Transceiver, 1000Base-LX, 40 km

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PAC & Software

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RS-485 I/O

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Ethernet I/O

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TPC

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IPPC

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FPM

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AWS

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Plug-in I/O

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CompactPCI

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Signal Conditioning

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USB I/O

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Motion Control I/O

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Ethernet Switch

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EDG

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ICOM

# EKI-7629C

## Industrial Gigabit Ethernet Switch with 8 x 10/100Base-TX Ports & 2 Combo 10/100/1000Base-TX/SFP (mini-GBIC) Ports

NEW



### Features

- Provides 8 x 10/100 Mbps Ethernet ports with RJ45 connector
- Provides 2 combo 10/100/1000 Mbps Ethernet ports/SFP type fiber ports for optional 100Base-FX or 1000Base-SX/LX device
- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Supports surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Supports 4,000 V<sub>DC</sub> Ethernet ESD protection
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with a memory buffer, supports store and forward transmission
- Supports redundant 12 ~ 48 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail, Panel Mounting
- Supports operating temperature from 0 ~ 60° C

### Introduction

Aside from 8 x 10/100Base-TX fast Ethernet ports, the EKI-7629C comes equipped with 2 combo 10/100/1000 Mbps RJ-45 copper ports or mini-GBIC expansion ports. Traditional RJ-45 ports can be used for uplinking wide-band paths in short distance (< 100 m), or the appropriate replaceable SFP module can be used for the application of wideband uploading and long distance transmissions to fit the field request flexibly. Also, the long MTBF (Mean Time Between Failures) ensures that the EKI-7629C will continue to operate until a Gigabit network infrastructure has been established, without requiring any extra upgrade costs.

EKI-7629C includes a switch controller that can automatically sense transmission speeds (10/100 Mbps). The RJ-45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a cross-over cable is not required. All Ethernet ports have memory buffers that support the store-and-forward mechanism, which assures that data can be transmitted properly. Furthermore, the power line of EKI-7629C supports up to 3,000 V<sub>DC</sub> surge (EFT) protection, which secures equipment against unregulated voltage and makes systems safer and more reliable.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3ab, 802.3u, 802.3x, 802.3z
- **LAN** 10/100/1000Base-TX, 100Base-FX, 1000Base-SX/LX
- **Transmission Distance** Ethernet : Up to 100 m (Cat.5e, Cat.6 RJ-45 cable suggested for Gigabit port)  
Gigabit Fiber : Up to 110 km (depends on the SFP module)
- **Transmission Speed** Ethernet : Up to 100 Mbps  
Gigabit Copper : Up to 1000 Mbps  
Gigabit Fiber : Up to 1000 Mbps

#### Interface

- **Connectors** 8 x RJ-45  
2 x mini-GBIC socket  
6-pin removable screw terminal (power)
- **LED Indicators** Unit: PWR1, PWR2, P-Fail  
TX Port: Link/Active, Duplex/Collision  
Gigabit Port: Link/Active

#### Power

- **Power Consumption** Max. 6.5W
- **Power Input** 2 x Unregulated 12 ~ 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 79 x 152 x 105 mm
- **Enclosure** IP30, Metal shell with solid mounting kits
- **Mounting** DIN 35 rail, Wall

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3000 V<sub>DC</sub>
- **Power Reverse** YES
- **Overload** 3.2A/60V Resettable Fuse

#### Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 158° F)
- **Storage Temperature** -10 ~ 70° C (14 ~ 176° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 295,000 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

### Ordering Information

- **EKI-7629C** Industrial Gigabit Ethernet Switch with 8 x 10/100Base-TX Ports & 2 Combo 10/100/1000Base-TX/ SFP (mini-GBIC) Ports
- **SFP-GSX/LC** Pluggable LC Type Gigabit Fiber Transceiver, 1000Base-SX, 500 m
- **SFP-GLX/LC-10** Pluggable LC Type Gigabit Fiber Transceiver, 1000Base-LX, 10 km
- **SFP-GLX/LC-20** Pluggable LC Type Gigabit Fiber Transceiver, 1000Base-LX, 20 km
- **SFP-GLX/LC-40** Pluggable LC Type Gigabit Fiber Transceiver, 1000Base-LX, 40 km

# EKI-2528

# EKI-2525

## 8-port 10/100 Mbps Industrial Unmanaged Ethernet Switch

## 5-port 10/100 Mbps Industrial Unmanaged Ethernet Switch

**NEW**



EKI-2525



EKI-2528

### Features

- Provides 8 or 5 x 10/100 Mbps Ethernet ports with RJ45 connector
- Slim design with IP30 metal mechanism
- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with a memory buffer, supports store and forward transmission
- Provides surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Supports 4,000 V<sub>DC</sub> Ethernet ESD protection
- Supports redundant 12 ~ 48 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail, Panel Mounting
- Supports operating temperatures from 0 ~ 60° C

### Introduction

EKI-2528/2525 is an entry-level industrial-grade unmanaged Ethernet switch that realizes fast and cost-effective expansion with special designed IP30 slim metal mechanism. EKI-2528 has eight 10/100 Mbps Ethernet ports for connection with up to eight Ethernet devices while EKI-2525 has five 10/100 Mbps Ethernet ports.

The EKI-2528/2525 is extremely compact (37 x 140 x 95 mm) and can be mounted on a DIN-rail or a panel, so it is suitable for any space-constrained environment. The power line of EKI-2528/2525 supports up to 3,000 V<sub>DC</sub> surge protection, which secure equipment against unregulated voltage and make systems safer and more reliable. Meanwhile, EKI-2528/2525 operates at temperature ranging from 0 ~ 60°C, and be equipped with redundant 12 ~ 48 V<sub>DC</sub> power inputs with simply 3 LEDs for easily diagnosis. Which are rugged enough for any harsh industrial environment.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x
- **LAN** 10/100Base-TX
- **Transmission Distance** Up to 100 m
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Connectors** 8 x RJ-45 (EKI-2528) or 5 x RJ-45 (EKI-2525)  
6-pin removable screw terminal (power)
- **LED Indicators** P1, P2, P-Fail

#### Power

- **Power Consumption** EKI-2528: Max. 4 W  
EKI-2525: Max. 3 W
- **Power Input** 2 x Unregulated 12 ~ 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output

#### Mechanism

- **Dimensions (W x H x D)** 37 x 140 x 95 mm
- **Enclosure** IP30, Metal shell with solid mounting kits
- **Mounting** DIN 35 rail, Wall

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Power Reverse** Yes
- **Overload** 1.8A/60V Resetable Fuse

#### Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Storage Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 1,260,000 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

### Ordering Information

- **EKI-2528** 8-port 10/100 Mbps Industrial Unmanaged Ethernet Switch
- **EKI-2525** 5-port 10/100 Mbps Industrial Unmanaged Ethernet Switch

1  
PAC & Software

2  
BAS

3  
UNO

4  
RS-485 I/O

5  
Ethernet I/O

6  
TPC

7  
IPPC

8  
FPM

9  
AWS

10  
Plug-in I/O

11  
CompactPCI

12  
Signal Conditioning

13  
USB I/O

14  
Motion Control I/O

15  
Ethernet Switch

16  
EDG

17  
ICOM

# EKI-6527 Series

**Industrial Ethernet Switches  
with 6 x 10/100Base-TX Ports  
& 1 x 100Base-FX Fiber Port**

**NEW**



## Features

- Provides 6 x 10/100 Mbps Ethernet ports with RJ45 connector
- Provides 1 x 100 Mbps multi-mode (EKI-6527M/SC)/single-mode (EKI-6527S/SC) SC type fiber port
- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Supports surge (EFT) protection (3,000 V<sub>DC</sub>)
- Supports 4,000 V<sub>DC</sub> Ethernet ESD protection
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with a memory buffer, supports store and forward transmission
- Supports redundant +10 ~ 48 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail, Panel Mounting
- Supports operating temperatures from 0 ~ 60° C

## Introduction

The EKI-6527M and EKI-6527S are industrial-grade Ethernet switches that enable you to expand your industrial network fast and cost-effectively. The EKI-6527M/6527S have six 10/100 Mbps Ethernet ports, and additionally the EKI-6527M provides one multi-mode fiber optic port, while the EKI-6527S provides one single-mode fiber optic port with an SC-type connector. Using fiber optics, you can prevent noise from interfering with your system and support high-speed (100 Mbps) and high-distance (up to 15 km) transmissions. EKI-6527M and EKI-6527S have industrial-grade designs that assures high reliability and stability in harsh industrial environments, which makes it a robust bridge between enterprise fiber backbones and Ethernet devices.

EKI-6527M and EKI-6527S includes a switch controller that can automatically sense transmission speeds. (10/100 Mbps) The RJ-45 interface can also be auto-detected, so MDI or MDI-X is automatically selected and a cross-over cable is not required. All the Ethernet ports have memory buffers that support the store-and-forward mechanism, assuring that all data can be transmitted properly and reliably.

## Specifications

### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x
- **LAN** 10/100Base-TX, 100Base-FX
- **Transmission Distance** Ethernet : Up to 100 m  
Multi-mode Fiber : Up to 2 km  
Single-mode Fiber : Up to 15 km
- **Transmission Speed** Up to 100 Mbps

### Interface

- **Connectors** 6 x RJ-45  
1 x SC type fiber connector  
7-pin removable screw terminal (power)
- **LED Indicators** P1, P2, P-Fail, LINK, 10/100 Mbps

### Power

- **Power Consumption** Max. 5W
- **Power Input** 2 x Unregulated 10 ~ 48 V<sub>DC</sub>
- **Fault Output** 1 Relay Output

### Mechanism

- **Dimensions (W x H x D)** 46 x 162 x 126 mm
- **Enclosure** IP30, ABS+PC with solid mounting kits
- **Mounting** DIN 35 rail, Wall

### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Power Reverse** YES
- **Overload** 4 A/125 V Replaceable Fuse

### Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)
- **Storage Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 230,000 hrs

### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

## Ordering Information

- **EKI-6527M/SC** Industrial Ethernet Switch with 6 x 10/100Base-TX Ports & 1 Multi-mode SC Type Fiber Optic Port
- **EKI-6527S/SC** Industrial Ethernet Switch with 6 x 10/100Base-TX Ports & 1 Single-mode SC Type Fiber Optic Port

# EDG-6528 Series

## 8-port 10/100 Mbps Industrial Ethernet Switches



### Features

- Provides 8 x 10/100 Mbps Ethernet ports with RJ-45 connector
- Supports full/half duplex flow control
- Supports MDI/MDIX auto crossover
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Embedded with the memory buffer, supports store-and-forward transmission
- Supports +12 ~ 48 V<sub>DC</sub> voltage
- Provides surge protection 3,000 V<sub>DC</sub> for power line
- Supports 4000 V<sub>DC</sub> Ethernet ESD protection (6528 and 6528L only)
- Provides flexible mounting: DIN-rail and panel-mounting
- Supports wide-range operating temperature: -40 ~ 85° C (EDG-6528L)
- Supports two individual power sources (6528 and 6528L only)

### Introduction

EDG-6528 is an industrial-grade Ethernet switch that realizes fast and cost-effective expansion of industrial networks. EDG-6528 has eight 10/100 Mbps Ethernet ports for connection with up to eight Ethernet devices. Moreover, EDG-6528 has industrial-grade design that assures high reliability and stability. Therefore, EDG-6528 is an excellent solution for industrial environments with Ethernet networking, such as semi-conductor factories, inventory control environments, assembly lines and production.

EDG-6528 includes a switch controller that can automatically sense transmission speeds. (10/100 Mbps) The RJ-45 interface can also be auto-detected, so MDI or MDIX is automatically selected and a cross-over cable is not required. All Ethernet ports have memory buffers that support the store-and-forward mechanism. This assures that data can be transmitted properly. The EDG-6528 is extremely compact and can be mounted on a DIN-rail or a panel, so it is suitable for any space-constrained environment. The power line of EDG-6528 supports up to 3,000 V<sub>DC</sub> surge protection, which secure equipment against unregulated voltage and make systems safer and more reliable.

### Specifications

#### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x
- LAN** 10/100 Base-TX
- Transmission Distance** Up to 100 m
- Transmission Speed** Up to 100 Mbps

#### Interface

- Connectors** 8 x RJ-45  
5-pin removable screw terminal (power)
- LED Indicators** EDG-6528/6528L: PWR, P1, P2, FAULT, LINK, 10/100 Mbps  
EDG-6528L: PWR, LINK, 10/100 Mbps

#### Power

- Power Consumption** Max. 3.1 W
- Power Input** EDG-6528, EDG-6528L: 2 x Unregulated 10 ~ 48 V<sub>DC</sub>  
EDG-6528L: 1 x Unregulated 10 ~ 48 V<sub>DC</sub>
- Fault Output** 1 Relay Output (EDG-6528L not equipped)

#### Mechanism

- Dimensions (W x H x D)** 56 x 134 x 114 mm
- Enclosure** IP30, Metal shell with PC side panel (mounting kits included)
- Mounting** DIN 35 rail, Wall

#### Protection

- ESD (Ethernet)** 4,000 V<sub>DC</sub> (EDG-6528L not equipped)
- Surge (EFT for power)** 3,000 V<sub>DC</sub>
- Power Reverse** YES

#### Environment

- Operating Temperature** EDG-6528, EDG-6528L: 0 ~ 70° C (32 ~ 158° F)  
EDG-6528L: -40 ~ 85° C (-40 ~ 185° F)
- Storage Temperature** EDG-6528, EDG-6528L: -10 ~ 80° C (14 ~ 176° F)  
EDG-6528L: -50 ~ 95° C (-58 ~ 203° F)
- Operating Humidity** 20~95% (non-condensing)
- Storage Humidity** 0~95% (non-condensing)
- MTBF** 1,260,000 hrs

#### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3,  
EN55024,  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

### Ordering Information

- EDG-6528** 8-port 10/100 Mbps Industrial Ethernet Switch
- EDG-6528L** 8-port 10/100 Mbps Industrial Unmanaged Ethernet Switch
- EDG-6528I** 8-port 10/100 Mbps Industrial Ethernet Switch w/Wide Operating Temperature

1  
PAC & Software

2  
BAS

3  
UNO

4  
RS-485 I/O

5  
Ethernet I/O

6  
TPC

7  
IPPC

8  
FPM

9  
AWS

10  
Plug-in I/O

11  
CompactPCI

12  
Signal Conditioning

13  
USB I/O

14  
Motion Control I/O

15  
Ethernet Switch

16  
EDG

17  
ICOM



# ADAM-6520 Series

## 5-port 10/100 Mbps Industrial Ethernet Switches



### Features

- Supports full/half duplex flow control
- Supports MDI/MDI-X auto crossover
- Provides broadcast storm protection
- Embedded with a switch controller, supports auto-negotiation
- Supports +10 ~ 30 V<sub>DC</sub> voltage power input
- Provides surge (EFT) protection 3,000 V<sub>DC</sub> for power line (ADAM-6520L not equipped)
- Supports 4,000 V<sub>DC</sub> Ethernet ESD protection (ADAM-6520L not equipped)
- Provides flexible mounting: DIN-rail, Wall, Stack
- Supports wide operating temperature range : -40 ~ 85° C (ADAM-6520I)

### Introduction

ADAM-6520 is a 5-port industrial-grade switch with Ethernet connectivity and from 10 to 100 Mbps transfer rates. (Auto-negotiation). Just like any other product in the ADAM family, ADAM-6520 can be mounted in three different ways: DIN rail, Wall and Stack. Solid industrial-grade design assures reliable operation in common application areas like: semi-conductor factories, inventory control environments, assembly lines, manufacturing and many more.

All modules support a wide voltage range of +10 ~ 30 V<sub>DC</sub> over the terminal block, and 3,000 V<sub>DC</sub> surge (EFT) protection ensures that over-voltage is no concern. The wide operating temperature of ADAM-6520 goes from -10 ~ 70°, while ADAM-6520I from -40 ~ 85°. This permits them to be functional in harsh environments.

The six inclusive LED indicators make troubleshooting of the modules easier. Each port has a pair of LEDs that indicate link status and port activities. This easily informs users of any collisions, the link status, power failure and data receipts for immediate on-site diagnosis.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x
- **LAN** 10/100Base-TX
- **Transmission Distance** Up to 100 m
- **Transmission Speed** Up to 100Mbps

#### Interface

- **Connectors** 5 x RJ-45  
2-pin removable screw terminal (power)
- **LED Indicators** Power, Link/Speed

#### Power

- **Power Consumption** ADAM-6520L: Max. 3W  
ADAM-6520/6520I: Max. 2.4 W
- **Power Input** 1 x Unregulated 10 ~ 30 V<sub>DC</sub>

#### Mechanism

- **Dimensions (W x H x D)** 70 x 102 x 27 mm
- **Enclosure** IP30, ABS+PC with solid mounting kits
- **Mounting** DIN 35 rail, Wall, Stack

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub> (ADAM-6520L not equipped)
- **Surge (EFT for power)** 3,000 V<sub>DC</sub> (ADAM-6520L not equipped)

#### Environment

- **Operating Temperature**  
ADAM-6520 : -10 ~ 70° C (14 ~ 158° F), Stack : -10 ~ 60° C (14 ~ 140° F)  
ADAM-6520L : 0 ~ 60° C (32 ~ 140° F), Stack : 0 ~ 50° C (32 ~ 122° F)  
ADAM-6520I : -40 ~ 85° C (-40 ~ 185° F), Stack : -40 ~ 75° C (-40 ~ 167° F)
- **Storage Temperature**  
ADAM-6520 : -20 ~ 80° C (-4 ~ 176° F)  
ADAM-6520L : -10 ~ 70° C (14 ~ 158° F)  
ADAM-6520I : -50 ~ 95° C (-58 ~ 203° F)
- **Operating Humidity** 20 ~ 95 % (non-condensing)
- **Storing Humidity** 0 ~ 95 % (non-condensing)
- **MTBF** 1,580,000 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024,  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

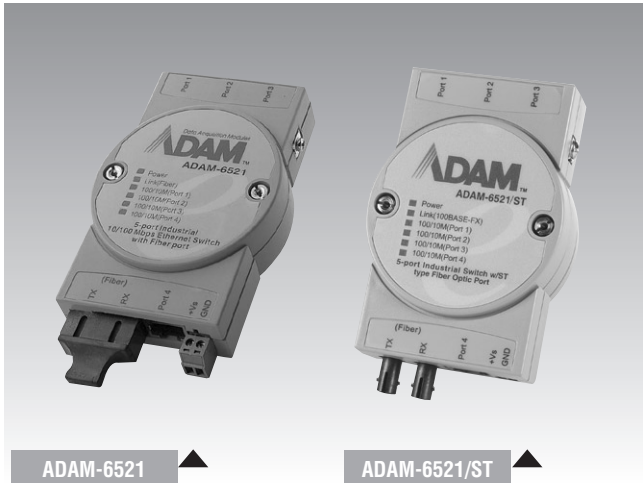
### Ordering Information

- **ADAM-6520** 5-port 10/100 Mbps Industrial Ethernet Switch
- **ADAM-6520L** 5-port 10/100 Mbps Industrial Unmanaged Ethernet Switch
- **ADAM-6520I** 5-port 10/100 Mbps Industrial Ethernet Switch w/Wide Operating Temperature



# ADAM-6521 Series

**Industrial Ethernet  
Switches with 4 x  
10/100Base-TX Ports  
& 1 x 100Base-FX  
Fiber Optic Port**



ADAM-6521

ADAM-6521/ST



## Features

- Provides 4 x 10/100 Mbps Ethernet ports with RJ-45 connector
- Provides 1 x 100 Mbps multi/single-mode fiber port with SC/ST connector
- Supports full/half duplex flow control
- Supports Integrated Loop-up engine
- Supports MDI/MDI-X auto crossover
- Provides broadcast storm protection
- Supports +10 ~ 30 V<sub>DC</sub> voltage power input
- Provides surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Supports 4,000 VDC Ethernet ESD protection
- Provides flexible mounting: DIN-rail, Wall, Stack
- Supports operating temperatures from -10 ~ 65° C

## Introduction

ADAM-6521 and ADAM-6521S are industrial-grade Ethernet switch with a fiber optic port that makes it possible to expand industrial networks fast and cost-effectively. ADAM-6521 and ADAM-6521S of 1 fiber port and 4-RJ-45 ports. With fiber optics, you can prevent noise interfering with your system and implement transmission distances up to 15 km.

ADAM-6521 and ADAM-6521S are especially suited for industrial environments with Ethernet networking needs such as: semi-conductor factories, inventory control environments, assembly line and production and more.

ADAM-6521 and ADAM-6521S support a wide voltage range of +10 ~ 30 V<sub>DC</sub> over the terminal block, and 3,000 V<sub>DC</sub> surge (EFT) protection to protect it from being damaged by over-voltage. A wide operating temperature range from -10 to 65° C (14 ~ 149° F), makes it functional in harsh operating environments. They also have six inclusive LED indicators which make troubleshooting the ADAM-6521 and ADAM-6521S easier. Each port has a pair of LEDs that indicate link status and transmission speed. This function conveniently informs users of any collisions, the link status, power failure and data receipts for immediate on-site diagnostics.

## Specifications

### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x
- LAN** 10/100Base-T, 100Base-FX
- Transmission Distance** Ethernet : Up to 100 m  
Multi-mode Fiber : Up to 2 km  
(ADAM-6521, ADAM-6521/ST)  
Single-mode Fiber : Up to 15 km (ADAM-6521S)
- Transmission Speed** Up to 100 Mbps

### Interface

- Connectors** 4 x RJ-45, 1 x SC type fiber connector (ADAM-6521, ADAM-6521S) or 1 x ST type fiber connector (ADAM-6521/ST)  
2-pin removable screw terminal (power)
- LED Indicators** Power, Link (100Base-FX), 100/10M (Ethernet)

### Power

- Power Consumption** ADAM-6521, ADAM-6521/ST: Max. 3 W  
ADAM-6521S: Max. 4 W
- Power Input** 1 x Unregulated 10 ~ 30 V<sub>DC</sub>

### Mechanism

- Dimensions (W x H x D)** 70 x 112 x 27 mm
- Enclosure** IP30, ABS+PC with solid mounting kits
- Mounting** DIN 35 rail, Wall, Stack

### Protection

- ESD (Ethernet)** 4,000 V<sub>DC</sub>
- Surge (EFT for power)** 3,000 V<sub>DC</sub>

### Environment

- Operating Temperature** -10 ~ 65° C (14 ~ 149° F)  
stack : -10 ~ 60° C (14 ~ 140° F)
- Storage Temperature** -20 ~ 80° C (-4 ~ 176° F)
- Operating Humidity** 20 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 1,150,000 hrs

### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3,  
EN55024,  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

## Ordering Information

- ADAM-6521** Industrial Ethernet Switch with 4 x 10/100Base-TX Ports & 1 Multi-mode SC Type Fiber Optic Port
- ADAM-6521/ST** Industrial Ethernet Switch with 4 x 10/100Base-TX Ports & 1 Multi-mode ST Type Fiber Optic Port
- ADAM-6521S** Industrial Ethernet Switch with 4 x 10/100Base-TX Ports & 1 Single-mode SC Type Fiber Optic Port

1  
PAC & Software

2  
BAS

3  
UNO

4  
RS-485 I/O

5  
Ethernet I/O

6  
TPC

7  
IPPC

8  
FPM

9  
AWS

10  
Plug-in I/O

11  
CompactPCI

12  
Signal Conditioning

13  
USB I/O

14  
Motion Control I/O

15  
Ethernet Switch

16  
EDG

17  
ICOM

# ADAM-6841 Series

## Gigabit Ethernet to Fiber Optic Converters



### Features

- Provides 1 x 1000 Mbps Ethernet port with RJ45 connector
- Provides 1 x 1000 Mbps fiber port with SC type connector for 1000Base-SX/LX device
- Provides internal jumper for full/half duplex setting
- Supports MDI/MDI-X auto crossover
- Supports auto-negotiation
- Supports surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Supports 4,000 V<sub>DC</sub> Ethernet ESD protection
- Supports +10 ~ 30 V<sub>DC</sub> power input
- Provides flexible mounting: DIN-rail, Panel Mounting, Piggy-back
- Supports operating temperatures from 0 ~ 60° C

### Introduction

As Gigabit networks becomes more and more popular, communications between different media in Gigabit transmission rates becomes more and more frequent. ADAM-6841 is designed to convert Gigabit Ethernet networks to Gigabit fiber networks. It does so by transparently converting Ethernet signals to optic signals. The advantages of fiber optics are wide bandwidth, EMI immunity and long-distance transmission capability. Therefore, ADAM-6841 is an ideal solution for "fiber to building" applications at central offices or local sites.

ADAM-6841 supports MDI/MDIX auto detection, so you don't need to use crossover wires. Meanwhile, ADAM-6841 also provides internal jumper for manual full/half duplex setting in specific application. Furthermore, the ADAM-6841 can work normally from 0 ~ 60° C and accepts a wide voltage range from +10 ~ 30 V<sub>DC</sub>. Besides, it also provides 3,000 V<sub>DC</sub> surge (EFT) protection against over-voltage, so it is suitable for harsh operating environments.

### Specifications

#### Communications

- **Standard** IEEE 802.3ab, 802.3z
- **LAN** 1000Base-T, 1000Base-SX or 1000Base-LX
- **Transmission Distance** Ethernet : Up to 100m  
Fiber :  
Multi-mode : Up to 500 m  
Single-mode : Up to 25 km
- **Transmission Speed** Up to 1000 Mbps

#### Interface

- **Connectors** 1 x RJ-45  
1 x SC type fiber connector  
2-pin removable screw terminal (power)
- **LED Indicators** Power,  
Link/Active (Fiber),  
Link/Active (Ethernet)

#### Power

- **Power Consumption** Max. 3.5W
- **Power Input** 1 x Unregulated 10 ~ 30 V<sub>DC</sub>

#### Mechanism

- **Dimensions (W x H x D)** 70 x 112 x 27 mm
- **Enclosure** IP30, ABS+PC with solid mounting kits
- **Mounting** DIN 35 rail, Wall, Stack

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Isolation (Ethernet)** 1,500 V<sub>rms</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>
- **Power Reverse** YES
- **Overload** 1 A/125 V Replaceable Fuse

#### Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)  
Stack: 0 ~ 55° C (32 ~ 131° F)
- **Storage Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 550,000 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

### Ordering Information

- **ADAM-6841SX** 1000Base-TX to 1000Base-SX SC Type Fiber Optic Converter
- **ADAM-6841LX** 1000Base-TX to 1000Base-LX SC Type Fiber Optic Converter

# ADAM-6541 Series

Ethernet to Fiber  
Optic Converters



## Features

- Provides 1 x 10/100 Mbps Ethernet port with RJ45 connector
- Provides 1 x 100 Mbps multi/single-mode fiber optic port
- Provides internal jumper for Link Fault Pass-through (LFP) setting (ADAM-6541P/6541S only)
- Supports full/half duplex flow control and internal jumper for setting
- Supports store and forward transmission
- Supports auto-negotiation
- Supports MDI/MDI-X auto crossover
- Provides surge protection (EFT) 3,000 VDC for power line
- Provides 4,000 VDC Ethernet ESD protection
- Supports +10 ~ 30 V<sub>DC</sub> power input
- Provides flexible mounting : DIN-rail, Panel Mounting, Piggy-back
- Supports operating temperature from 0 ~ 60 °C

## Introduction

ADAM-6541 is designed to convert Ethernet networks to fiber networks. It does so by transparently converting Ethernet signals to optic signals. The advantages of fiber optics are wide bandwidth, EMI immunity and long-distance transmission capability. Therefore, ADAM-6541 is an ideal solution for "fiber to building" applications at central offices or local sites.

ADAM-6541 supports MDI/MDIX auto detection, so you don't need to use crossover wires. It also includes a switch controller that can sense the transmission speed (10/100 Mbps) automatically. Both the Ethernet port and the fiber port have memory buffers that support store-and-forward mechanisms. This assures data can be transmitted properly.

ADAM-6541 is extremely compact and can be mounted in three different ways: DIN-rail, Wall and Stack. ADAM-6541 can work normally from 0 ~ 60 °C and accepts a wide voltage range from +10 ~ 30 V<sub>DC</sub>. Besides, it also provides 3,000 V<sub>DC</sub> surge (EFT) protection against over-voltage, so it is suitable for harsh operating environments.

## Link Fault Pass-Through (LFP)

ADAM-6541P/6541S is an enhanced Ethernet to fiber-optic converter. Aside from its standard features, the versatile ADAM-6541P/6541S also has the LFP (Link Fault Pass-through) feature. When one side of the link fails, the other side continues transmitting packets, and waiting for a response that never arrives from the disconnected side. Use the internal jumper to enable the LFP function, then ADAM-6541P/6541S will force the link to shut down as soon as noticed that the other link has failed, giving the application software a chance to react to the situation.

## Specifications

### Communications

- Standard** IEEE 802.3, 802.3u, 802.3x
- LAN** 10/100Base-TX, 100Base-FX
- Transmission Distance**
  - Ethernet : Up to 100 m
  - Fiber : Multi-mode : Up to 2 km
  - Single-mode : Up to 20 km
- Transmission Speed** Up to 100 Mbps

### Interface

- Connectors**
  - 1 x RJ-45
  - 1 x SC type fiber connector (ADAM-6541, ADAM-6541P, ADAM-6541S) or 1 x ST type fiber connector (ADAM-6541/ST)
  - 2-pin removable screw terminal (power)
- LED Indicators**
  - ADAM-6541, ADAM-6541/ST : Power, Full/Link (100BASE-FX), 100/10M (Ethernet)
  - ADAM-6541P, ADAM-6541S : Power, Link/Speed (Fiber), Link/Speed (Ethernet), LFS/Duplex(TX)

### Power

- Power Consumption** ADAM-6541, ADAM-6541/ST : Max. 3W  
ADAM-6541P, ADAM-6541S : Max. 3.5W
- Power Input** 1 x Unregulated 10 ~ 30 V<sub>DC</sub>

### Mechanism

- Dimensions (W x H x D)** 70 x 112 x 27 mm
- Enclosure** IP30, ABS+PC with solid mounting kits
- Mounting** DIN 35 rail, Wall, Stack

### Protection

- ESD (Ethernet)** 4,000 V<sub>DC</sub>
- Isolation (Ethernet)** 1,500 V<sub>rms</sub>
- Surge (EFT for power)** 3,000 V<sub>DC</sub>
- Power Reverse** ADAM-6541P/6541S only
- Overload** 1A/125V Replaceable Fuse (ADAM-6541P/6541S only)

### Environment

- Operating Temperature**
  - 0 ~ 60° C (32 ~ 140° F)
  - Stack: 0 ~ 55° C (32 ~ 131° F)
- Storage Temperature** -10 ~ 70° C (-14 ~ 158° F)
- Operating Humidity** 20 ~ 95% (non-condensing)
- Storage Humidity** 0 ~ 95% (non-condensing)
- MTBF** 550,000 hrs

### Certifications

- Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024,  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

## Ordering Information

- ADAM-6541** Ethernet to Multi-mode SC Type Fiber Optic Converter
- ADAM-6541/ST** Ethernet to Multi-mode ST Type Fiber Optic Converter
- ADAM-6541P** Ethernet to Multi-mode SC Type Fiber Optic Converter w/LFP
- ADAM-6541S** Ethernet to Single-mode SC Type Fiber Optic Converter w/LFP

1  
PAC & Software

2  
BAS

3  
UNO

4  
RS-485 I/O

5  
Ethernet I/O

6  
TPC

7  
IPPC

8  
FPM

9  
AWS

10  
Plug-in I/O

11  
CompactPCI

12  
Signal Conditioning

13  
USB I/O

14  
Motion Control I/O

15  
Ethernet Switch

16  
EDG

17  
ICOM

# ADAM-6542 Series

## Ethernet to WDM Fiber Optic Converters



### Features

- Supports 1-port 100 Mbps single strand fiber optic (ADAM-6542)
- Supports full/half duplex flow control
- Supports Integrated Loop-up engine
- Supports MDI/MDI-X auto crossover
- Provides broadcast storm protection
- Supports +10~ 30 V<sub>DC</sub> voltage power input
- Provides surge (EFT) protection 3,000 V<sub>DC</sub> for power line
- Provides flexible mounting: DIN-rail, Wall, Stack
- Supports operating temperatures from -10 ~ 65° C
- Embedded a switch controller-supports auto-negotiation
- Embedded a memory buffer-supports store and forward transmission

### Introduction

ADAM-6542 is designed to convert Ethernet networks to fiber networks. It does so by transparently converting Ethernet signals to optic signals. The advantages of fiber optics are wide bandwidth, EMI immunity and long-distance transmission capability. Therefore, ADAM-6542 is the ideal solution for “fiber to building” applications at central offices or local sites.

ADAM-6542 uses WDM (Wavelength Division Multiplexing) technology, which increases the information-carrying capacity of fiber by multiplex transmission and reception of signals at different wavelengths on a single strand cable. WDM technology is implemented in couples. One site uses an ADAM-6542/W15 where the transmission channel is 1550 nm and the reception channel is 1310nm. The other site installs an ADAM-6542/W13 where the transmission channel is 1310nm and the reception channel is 1550nm. Both the transmission and reception channels of ADAM-6542/W15 and ADAM-6542/W13 are multiplexed to a single strand cable. This means that cabling costs are halved when you use ADAM-6542/W15 and ADAM-6542/W13 instead of a dual fiber converter.

ADAM-6542 support MDI/MDIX auto detection, so you don't need to use crossover wires. It also includes a switch controller that can sense the transmission speed (10/100 Mbps) automatically. Both the Ethernet port and the fiber port have memory buffers that support store-and-forward mechanisms.

### Specifications

#### Communications

- **Standard** IEEE 802.3, 802.3u, 802.3x
- **LAN** 10/100Base-TX, 100Base-FX
- **Transmission Distance** Ethernet : Up to 100 m  
Fiber: Up to 20 km
- **Transmission Speed** Up to 100 Mbps

#### Interface

- **Connectors** 1 x RJ-45  
1 x SC type fiber connector  
2-pin removable screw terminal (power)
- **LED Indicators** Power, Link (100Base-FX),  
100/10 M (Ethernet)

#### Power

- **Power Consumption** Max. 3 W
- **Power Input** 1 x Unregulated 10 ~ 30 V<sub>DC</sub>

#### Mechanism

- **Dimensions (W x H x D)** 70 x 112 x 27 mm
- **Enclosure** IP30, ABS+PC with solid mounting kits
- **Mounting** DIN 35 rail, Wall, Stack

#### Protection

- **ESD (Ethernet)** 4,000 V<sub>DC</sub>
- **Isolation (Ethernet)** 1,500 V<sub>rms</sub>
- **Surge (EFT for power)** 3,000 V<sub>DC</sub>

#### Environment

- **Operating Temperature** 0 ~ 60° C (32 ~ 140° F)  
Stack : 0 ~ 55° C (32 ~ 131° F)
- **Storage Temperature** -10 ~ 70° C (-14 ~ 158° F)
- **Operating Humidity** 20 ~ 95% (non-condensing)
- **Storage Humidity** 0 ~ 95% (non-condensing)
- **MTBF** 550,000 hrs

#### Certifications

- **Safety** UL 60950-1, CAN/CSA-C22.2 No.60950
- **EMC** U.S.A.: FCC Part 15 CISPR 22  
EU: EN55011, EN61000-6-4  
EN55022 Class A,  
EN61000-3-2/3  
EN55024  
IEC61000-4-2/3/4/5/6/8/11  
EN61000-6-2

### Ordering Information

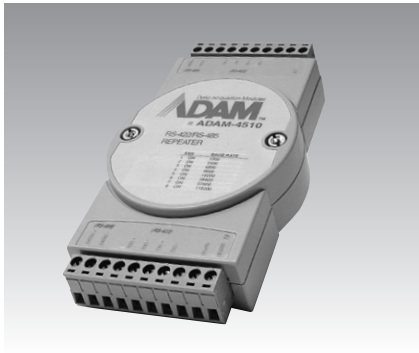
- **ADAM-6542/W15** Ethernet to WDM Single Strand Fiber Optic Converter  
(Tx : 1550 nm, Rx : 1310 nm)
- **ADAM-6542/W13** Ethernet to WDM Single Strand Fiber Optic Converter  
(Tx : 1310 nm, Rx : 1550 nm)

# ADAM-4510 ADAM-4520/4522 ADAM-4521

RS-422/485 Repeater

RS-232 to RS-422/485 Converters

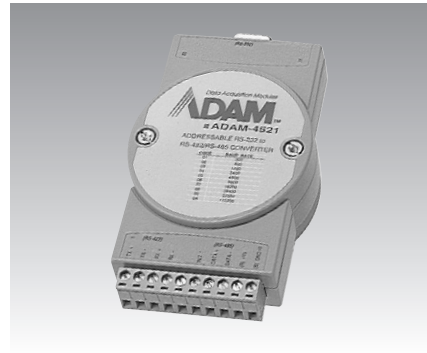
Addressable RS-422/485 to  
RS-232 Converter



ADAM-4510



ADAM-4520/4522



ADAM-4521



## Specifications

### General

- **Connectors** 2 x Plug-in terminal blocks (#14 ~ 22 AWG)
- **Isolation Protection** 3000 V<sub>DC</sub> (ADAM-4510S only)
- **Power Consumption** 1.4 W @ 24 V<sub>DC</sub>

### Communications

- **Input** RS-485 (2-wire) or RS-422 (4-wire)
- **Output** RS-485 (2-wire) or RS-422 (4-wire).
- **Speed Modes (bps)** 1200, 2400, 4800, 9600, 19.2 k, 38.4 k, 57.6 k, 115.2 k, RTS control and RS-422. (switchable)

### Environment

- **Operating Temperature**  
ADAM-4510/4510S: -10 ~ 70° C (14 ~ 158° F)  
ADAM-4510I: -40 ~ 85° C (-40 ~ 185° F)
- **Storage Temperature**  
ADAM-4510/4510S: -25 ~ 85° C (-13 ~ 185° F)  
ADAM-4510I: -40 ~ 85° C (-40 ~ 185° F)

## Specifications

### General

- **Connectors** 1 x Plug-in terminal block (#14 ~ 22 AWG) (RS-422, RS-485)  
1 x DB9-F (RS-232)
- **Isolation Protection** 3000 V<sub>DC</sub> (4520 only)
- **Power Consumption** 1.2 W @ 24 V<sub>DC</sub>

### Communications

- **Input** RS-232 (4-wire)
- **Output** RS-485 (2-wire) or RS-422 (4-wire).
- **Speed Modes (bps)** 1200, 2400, 4800, 9600, 19.2 k, 38.4 k, 57.6 k, 115.2 k, RTS control and RS-422. (switchable)

### Environment

- **Operating Temperature**  
ADAM-4520/4522: -10 ~ 70° C (14 ~ 158° F)  
ADAM-4520I: -40 ~ 85° C (-40 ~ 185° F)
- **Storage Temperature**  
ADAM-4520/4522: -25 ~ 85° C (-13 ~ 185° F)  
ADAM-4520I: -40 ~ 85° C (-40 ~ 185° F)

## Specifications

### General

- **Connectors** 1 x Plug-in terminal block (#14 ~ 22 AWG) (RS-422, RS-485)  
1 x DB9-F (RS-232)
- **Power Consumption** 1.0 W @ 24 V<sub>DC</sub>

### Communications

- Built-in microprocessor and watchdog timer
- RS-232 and 485 can be set to different baudrates
- RS-485 surge protection and automatic RS-485 data flow control
- Software configurable to either addressable or non-addressable mode
- **Speed Modes (bps)** 300, 600, 1200, 2400, 4800, 9600, 19.2 k, 38.4 k, 57.6 k, 115.2 k (software configurable)

### Environment

- **Operating Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Storage Temperature** -25 ~ 85° C (-13 ~ 185° F)

## Common Specifications

### General

- **Dimensions (W x H x D)** 70 x 122 x 30 mm
- **Enclosure** ABS + PC
- **Mounting** DIN 35 rail, stack, wall
- **Power Input** Unregulated 10 ~ 30 V<sub>DC</sub> w/power reversal protection

### Environment

- **Humidity** 5 ~ 95% RH

## Ordering Information

- **ADAM-4510** RS-422/RS-485 Repeater
- **ADAM-4510S** Isolated RS-422/RS-485 Repeater
- **ADAM-4510I** Robust Isolated RS-422/485 Repeater
- **ADAM-4520** Isolated RS-232 to RS-422/RS-485 Converter
- **ADAM-4520I** Robust Isolated RS-232 to RS-422/485 Converter
- **ADAM-4521** Addressable RS-422/485 to RS-232 Converter
- **ADAM-4522** RS-232 to RS-422/485 Converter

1  
PAC & Software

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BAS

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UNO

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RS-485 I/O

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Ethernet I/O

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TPC

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IPPC

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FPM

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AWS

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Plug-in I/O

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CompactPCI

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Signal Conditioning

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USB I/O

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Motion Control I/O

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Ethernet Switch

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EDG

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ICOM



# ADAM-4541

# ADAM-4542+

Multi-mode Fiber-Optic to  
RS-232/422/485 Converter

Single-mode Fiber-Optic to  
RS-232/422/485 Converter



ADAM-4541



## Specifications

### General

- **Connectors** 1 x Plug-in terminal block (#14 ~ 22 AWG) (RS-422, RS-485)  
2 x ST fiber connector
- **Power Consumption** 1 W (typical)  
1.5 W (max.)

### Serial Communications

- **Communication Mode** Asynchronous
- **Speed Modes (bps)** 1200, 2400, 4800, 9600, 19.2 k, 38.4 k, 57.6 k, 115.2 k and RS-232/422 mode (switchable)
- **Transmission Mode** Full/half duplex, bidirectional

### Fiber Optic Communications

- **Optical Power Budget (attenuation)** 12.5 db (measured with 62.5/125 mm)
- **Transmission Distance** 2.5 km
- **Transmission Mode** Multi mode (Send and receive)
- **Wavelength** 820 nm

## Common Specifications

### General

- **Dimensions (W x H x D)** 70 x 112 x 25 mm
- **Enclosure** ABS+PC
- **Mounting** DIN 35 rail, stack, wall
- **Power Input** Unregulated 10 ~ 30 V<sub>DC</sub>

### Environment

- **Humidity** 5 ~ 95% RH
- **Operating Temperature** -10 ~ 70° C (14 ~ 158° F)
- **Storage Temperature** -25 ~ 85° C (-13 ~ 185° F)



ADAM-4542+



## Specifications

### General

- **Connectors** 1 x Plug-in terminal block (#14 ~ 22 AWG) (RS-232/422/485)  
1 x SC fiber connector
- **Power Consumption** 1 W (typical)  
1.5 W (max.)

### Serial Communications

- **Communication Mode** Asynchronous
- **Speed Modes (bps)** 1200, 2400, 4800, 9600, 19.2 k, 38.4k, 57.6 k, 115.2 k
- **Transmission Mode** Full/half duplex, bidirectional

### Fiber Optic Communications

- **Optical Power Budget (attenuation)** 15 db (measured with 62.5/125 mm)
- **Transmission Distance** 15 km
- **Transmission Mode** Single mode (Send and receive)
- **Wavelength** 1310 nm

## Ordering Information

### Converter

- **ADAM-4541** Multi-mode Fiber Optic to RS-232/422/485 Converter
- **ADAM-4542+** Single-mode Fiber Optic to RS-232/422/485 Converter