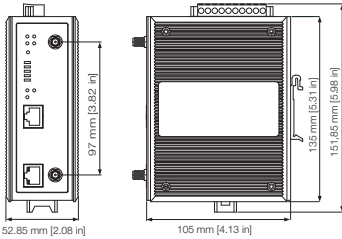


Industrial Wireless - Access point/bridge/client

- IEEE 802.11a/b/g compatible single radio module (2.4 GHz or 5 GHz band)
- Power input by redundant 24 V DC power inputs or Power-over-Ethernet
- Multi-SSID and VLAN support
- Turbo Roaming for seamless wireless connections
- Integrated DI/DO for on-site monitoring and warning
- QoS (WMM) support



Technical data

WLAN Interface	
Standards	IEEE 802.11a/b/g for Wireless LAN IEEE 802.11i for Wireless Security IEEE 802.3u for 10/100BaseT(X) IEEE 802.3af for Power-over-Ethernet IEEE 802.1D for Spanning Tree Protocol IEEE 802.1w for Rapid STP IEEE 802.1Q VLAN
Spread Spectrum and Modulation (typical)	<ul style="list-style-type: none"> <li>• DSSS with DBPSK, DQPSK, CCK</li> <li>• OFDM with BPSK, QPSK, 16QAM, 64QAM</li> <li>• 802.11b: CCK @ 11/5.5 Mbps, DQPSK @ 2 Mbps, DBPSK @ 11 Mbps</li> <li>• 802.11a/g: 64QAM @ 54/48 Mbps, 16QAM @ 36/24 Mbps, QPSK @ 18/12 Mbps, BPSK @ 9/6 Mbps</li> </ul>
Operating Channels (central frequency)	US: 2.412 to 2.462 GHz (11 channels) 5.18 to 5.24 GHz (4 channels) EU: 2.412 to 2.472 GHz (13 channels) 5.18 to 5.24 GHz (4 channels)
Security	<ul style="list-style-type: none"> <li>• SSID broadcast enable/disable</li> <li>• Firewall for MAC/IP/Protocol/Port-based filtering</li> <li>• 64-bit and 128-bit WEP encryption, WPA /WPA2-Personal and Enterprise (IEEE 802.1X/RADIUS, TKIP and AES)</li> </ul>
Transmission Rates	802.11b: 1, 2, 5.5, 11 Mbps 802.11a/g: 6, 9, 12, 18, 24, 36, 48, 54 Mbps
TX Transmit Power	802.11b: Typ. 23±1.5 dBm @ 1 to 11 Mbps 802.11g: Typ. 20±1.5 dBm @ 6 to 24 Mbps, Typ. 19±1.5 dBm @ 36 Mbps, Typ. 18±1.5 dBm @ 48 Mbps, Typ. 17±1.5 dBm @ 54 Mbps 802.11a: Typ. 18±1.5 dBm @ 6 to 24 Mbps, Typ. 16±1.5 dBm @ 36 to 48 Mbps, Typ. 15±1.5 dBm @ 54 Mbps
RX Sensitivity	802.11b: -97 dBm @ 1 Mbps, -94 dBm @ 2 Mbps, -92 dBm @ 5.5 Mbps, -90 dBm @ 11 Mbps 802.11g: -93 dBm @ 6 Mbps, -91 dBm @ 9 Mbps, -90 dBm @ 12 Mbps, -88 dBm @ 18 Mbps, -84 dBm @ 24 Mbps, -80 dBm @ 36 Mbps, -76 dBm @ 48 Mbps, -74 dBm @ 54 Mbps 802.11a: -90 dBm @ 6 Mbps, -89 dBm @ 9 Mbps, -89 dBm @ 12 Mbps, -85 dBm @ 18 Mbps, -83 dBm @ 24 Mbps, -79 dBm @ 36 Mbps, -75 dBm @ 48 Mbps, -74 dBm @ 54 Mbps
Protocol Support	
General Protocols:	Proxy ARP, DNS, HTTP, HTTPS, IP, ICMP, SNMP, TCP, UDP, RADIUS, SNMP, PPPoE, DHCP
AP-only Protocols:	ARP, BOOTP, DHCP, dynamic VLAN-Tags for 802.1X-Clients, STP/RSTP (IEEE 802.1D/w)

Interface	
Default Antenna	2 dBi dual-band omni-directional antenna, RP-SMA (male)
Connector for External Antennas	RP-SMA (female)
LAN Port	10/100BaseT(X), auto negotiation speed (RJ45-type)
Console Port	RS-232 (RJ45-type)
LED Indicators	PWR1, PWR2, PoE, FAULT, STATE, signal strength, CLIENT MODE, BRIDGE MODE, WLAN, 10M, 100M
Alarm Contact	1 relay output with current carrying capacity of 1 A @ 24 V DC
Digital Inputs	2 electrically isolated inputs <ul style="list-style-type: none"> <li>• +13 to +30 V for state "1"</li> <li>• +3 to -30 V for state "0"</li> <li>• Max. input current: 8 mA</li> </ul>
Physical Characteristics	
Housing	Metal, IP30 protection
Weight	850 g
Dimensions	53.6 x 135 x 105 mm (2.11 x 5.31 x 4.13 in)
Installation	DIN-Rail mounting

Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5% to 95% (non-condensing)

Power Requirements	
Input Voltage	12 to 48 V DC, redundant dual DC power inputs or 48 V DC Power-over-Ethernet (IEEE 802.3af compliant)
Connector	10-pin removable terminal block
Power Consumption	<ul style="list-style-type: none"> <li>• 0.121 to 0.494 A @ 12 to 48 V DC</li> <li>• 0.3 A @ 24 V DC</li> </ul>
Reverse Polarity Protection	Present

Regulatory Approvals	
Safety	EN60950-1, UL60950-1
Radio	EN300 328, EN301 893,
EMC	EN301 489-1/-17, FCC Part 15 Subpart B Class B, EN55022/55024
Hazardous Location	UL/cUL Class I, Div. 2; ATEX Class I, Zone 2
MTBF	392.209 hrs

Warranty	
Warranty Period	5 years

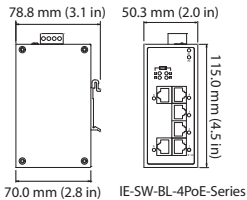
Ordering Information			
Models	Type	Operating Temperature	Order No.
IEEE 802.11a/b/g Wireless AP/Bridge/Client (European version)	IE-WL-AP-BR-CL-ABG-EU	0 to +60 °C	<b>1242100000</b>
	IE-WLT-AP-BR-CL-ABG-EU	-40 to +75 °C	<b>1286480000</b>
IEEE 802.11a/b/g Wireless AP/Bridge/Client (US version)	IE-WL-AP-BR-CL-ABG-US	0 to +60 °C	<b>1242110000</b>
	IE-WLT-AP-BR-CL-ABG-US	-40 to +75 °C	<b>1286490000</b>

Accessories		
	Type	Order No.
External Backup and Restore Module	EBR-Modul RS232	<b>1241430000</b>
19" Rack Mounting Kit	RM-KIT	<b>1241440000</b>



**6-port IEEE 802.3af/at PoE+ unmanaged Ethernet Switch**

- 4 IEEE 802.3af/at compliant PoE and Ethernet combo ports
- Up to 30 watts per PoE port
- 24/48 V DC redundant wide-range power supply
- Integrated DC/DC converter can supply 48V-PoE devices across the entire input voltage range of 24 to 48 V DC
- Intelligent power consumption detection and classification
- Redundant dual V DC power inputs
- Broadcast Storm Protection



**Technical data**

Technology	
Standards	IEEE 802.3at for Power-over-Ethernet IEEE 802.3 for 10BaseT IEEE 802.3u for 100BaseT(X) IEEE 802.3x for Flow Control
Processing Type	Store and Forward
Flow Control	IEEE 802.3x flow control, back pressure flow control
Interface	
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode and auto MDI/MDI-X connection
LED Indicators	PWR1, PWR2, 10/100M, PoE
Power Requirements	
Input Voltage	24/48 (20 to 60 V) V DC
Input Current	Max 7.5 A @ 24 V DC (supports up to 4 ports at 30 watts per PoE port)
Overload Current Protection	Present
Connection	1 removable 4-contact terminal block
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions	50 x 115 x 70 mm (1.96 x 4.52 x 2.76 in)
Weight	375 g
Installation	DIN-Rail mounting, wall mounting (with optional kit)
Environmental Limits	
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Temp. Models: -40 to 75 °C (-40 to 167 °F)
Storage Temperature	-40 to 85 °C (-40 to 185 °F)
Ambient Relative Humidity	5 to 95 % (non-condensing)
Regulatory Approvals	
Safety	UL508
EMI	FCC Part 15, CISPR (EN55022) class A
EMS	EN61000-4-2 (ESD), level 3; EN61000-4-3 (RS), level 3; EN61000-4-4 (EFT), level 4; EN61000-4-5 (Surge), level 4; EN61000-4-6 (CS), level 3; EN61000-4-8
Shock	IEC 60068-2-27
Freefall	IEC 60068-2-32
Vibration	IEC 60068-2-6
Warranty	
Warranty Period	5 years

**Ordering Information**

Port Variants	Type	Operating Temperature	Order No.
2 * RJ45 10/100 BaseT(X), 4 *	IE-SW-BL06-2TX-4POE	0 to 60 °C	<b>1241380000</b>
RJ45 10/100 BaseT(X) PoE+	IE-SW-BL06T-2TX-4POE	-40 to +75 °C	<b>1286920000</b>

Models with Fiber optic ports on request

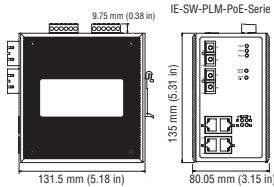
**Accessories**

Type	Order No.
19" Rack Mounting Kit	RM-KIT <b>1241440000</b>



### 6-port IEEE 802.3af/at PoE+ managed Ethernet Switch

- 4 IEEE 802.3af/at compliant PoE and Ethernet combo ports
- Up to 30 watts per PoE port
- 24/48 V DC redundant wide-range power supply
- Integrated DC/DC converter can supply 48 V-PoE devices across the entire input voltage range of 24 to 48 V DC
- Extended PoE management functions, including PoE error checking or configuring the operational times of connected PoE devices



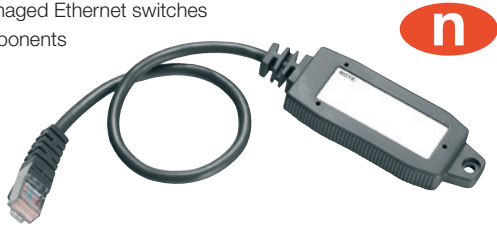
### Technical data

Standards	
IEEE 802.3at/af for Power-over-Ethernet ▪ IEEE 802.3 for 10BaseT ▪ IEEE 802.3u for 100BaseT (X) and 100BaseFX ▪ IEEE 802.3x for Flow Control ▪ IEEE 802.1D for Spanning Tree Protocol ▪ IEEE 802.1w for Rapid STP ▪ IEEE 802.1Q for VLAN Tagging ▪ IEEE 802.1p for Class of Service ▪ IEEE 802.1X for Authentication ▪ IEEE 802.3ad for Port Trunk with LACP	
Protocols	
IGMPv1/v2 ▪ GMRP ▪ GVRP ▪ SNMPv1/v2c/v3 ▪ DHCP Server/Client ▪ DHCP Option 66/67/82 ▪ BootP ▪ TFTP ▪ SNTP ▪ SMTP ▪ RARP ▪ RMON ▪ HTTP ▪ HTTPS ▪ Telnet ▪ SSH ▪ Syslog ▪ Modbus/TCP ▪ SNMP Inform ▪ LLDP ▪ IEEE 1588 PTP ▪ IPv6	
MIB	
MIB-II ▪ Ethernet-Like MIB ▪ P-BRIDGE MIB ▪ Q-BRIDGE MIB ▪ Bridge MIB ▪ RSTP MIB ▪ RMON MIB Group 1, 2, 3, 9	
Flow Control	
IEEE 802.3x flow control ▪ back pressure flow control	
Switch Properties	
Priority Queues	4
Max. Number of Available VLANs	64
VLAN ID Range	VID 1 to 4094
IGMP Groups	256
MAC Table Size	8 K
Packet Buffer Size	1 Mbit
Interface	
RJ45 Ports	10/100BaseT(X) auto negotiation speed, Full/Half duplex mode, and auto MDI/MDI-X connection
Console Port	RS-232 (RJ45 connector)
DIP Switches	Turbo Ring, Master, Coupler, Reserve
LED Indicators	PWR1, PWR2, FAULT, 10/100M, MSTR/HEAD, CPLR/TAIL, PoE
Alarm Contact	2 relay outputs with current carrying capacity of 1 A @ 24 V DC
Digital Inputs	2 inputs with the same ground, electrically isolated <ul style="list-style-type: none"> <li>• +13 to +30 V for state "1"</li> <li>• -30 to +3 V for state "0"</li> <li>• Max. input current: 8 mA</li> </ul>
Power Requirements	
Input Voltage	24/48 (20 to 60 V) V DC
Input Current	Max. 7.8 A @ 24 V DC (supports up to 4 ports at 30 watts per PoE port)
Overload Current Protection	Present
Connection	2 removable 6-contact terminal blocks
Reverse Polarity Protection	Present
Physical Characteristics	
Housing	Metal, IP30 protection
Dimensions	80 x 135 x 131.5 mm (3.15 x 5.31 x 5.18 in)
Weight	1270 g
Installation	DIN-Rail mounting

Environmental Limits			
Operating Temperature	Standard Models: 0 to 60 °C (32 to 140 °F) Wide Operating Temp. Models: -40 to 75 °C (-40 to 167 °F)		
Storage Temperature	-40 to 85 °C (-40 to 185 °F)		
Ambient Relative Humidity	5 to 95 % (non-condensing)		
Regulatory Approvals			
Safety	UL508 (Pending)		
EMI	FCC Part 15, CISPR (EN55022) class A		
EMS	EN61000-4-2 (ESD), level 3; EN61000-4-3 (RS), level 3; EN61000-4-4 (EFT), level 3; EN61000-4-5 (Surge), level 3; EN61000-4-6 (CS), level 3; EN61000-4-8		
Shock	IEC 60068-2-27		
Freefall	IEC 60068-2-32		
Vibration	IEC 60068-2-6		
Warranty			
Warranty Period	5 years		
Ordering Information			
Port Variants	Type	Operating Temperature	Order No.
2 * RJ45 10/100 BaseT(X), 4 *	IE-SW-PL06M-2TX-4PoE	0 to 60 °C	1241390000
RJ45 10/100 BaseT(X) PoE+	IE-SW-PL06MT-2TX-4PoE	-40 to +75 °C	1286910000
Models with Fiber optic ports on request			
Accessories			
	Type		Order No.
External Backup and Restore Module	EBR-Modul RS232		1241430000
19" Rack Mounting Kit	RM-KIT		1241440000

### External Backup and Restore Module for System Configuration

- Reduce system downtime by simple reconfiguration in case of replacing devices
- Plug-n-Play system backup and restoration
- Compact, rugged, reliable design
- Supports all managed Ethernet switches and WLAN components



#### Technical data

Basic Operation		
Connector	RS232-Interface with RJ45-Connector	
Configuration	Use the WEB-Console of managed Switches	
Power Requirements		
Input Voltage	3 to 5 V DC (through the RS-232 port's RTS signal)	
Physical Characteristics		
Housing	PVC molding, IP40 protection	
Dimensions	32.5 x 97 x 12 mm (8.07 x 3.82 x 0.47 in)	
Weight	50 g	
Mounting possibility	M4 screw (< 4 mm)	
Cable Length	35 cm (including connector)	
Environmental Limits		
Operating Temperature	0 to 60 °C (32 to 140 °F)	
Storage Temperature	-20 to 70 °C (-4 to 158 °F)	
Ambient Relative Humidity	5 to 95 % (non-condensing)	
Regulatory Approvals		
EMI	FCC Part 15, CISPR (EN55022) Class A	
EMS	EN61000-4-2 (ESD), level 2; EN61000-4-3 (RS), level 3; EN61000-4-4 (EFT), level 3; EN61000-4-5 (Surge), level 3; EN61000-4-6 (CS), level 3	
Warranty		
Warranty Period	5 years	
Ordering Information		
Models	Type	Order No.
External Backup and Restore Module	EBR-Modul RS232	1241430000

### Kit for 19"-rack mounting

- For mounting DIN-rail based devices in 19" racks



#### Technical data

Physical Characteristics		
Dimensions	481 x 177.8 x 202.4 mm	
Ordering Information		
Models	Type	Order No.
19" Rack Mounting Kit	RM-KIT	1241440000