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DAP800 Industrial Wi-Fi 6 Access Points

Industrial wireless for rail, automation, and harsh environments

Product Bulletin

The DAP800 family delivers industrial Wi-Fi 6 for rail, automation, and harsh environments. For metro operators facing too many components at metro line trackside location, the DAP849 consolidates Access Point, managed switch, AC power, and fiber in one IP67 enclosure. The DAP847-C onboard client provides fast roaming along the metro line trackside, ensuring uninterrupted connectivity to meet critical communication requirements.

- **Replaces four separate trackside components with one wall-mounted unit,** eliminating trackside cabinets, converters, and patch panels at every location along the line.
- **Integrated Layer 2 ring redundancy protocol** keeps the network running even if a link or node fails, with no external switches required.
- **Fast roaming along trackside and depot** at around 100 km/h train speed for mission critical and real time CCTV communication.
- **Built for tunnels, depots, and outdoor track** with EN 50121-4 and EN 45545-2 HL3 railway certifications, conformal coating, and operation from -40°C to 70°C.

Key Features

- Dual Wi-Fi 6 radios: 4 × 4 MIMO at 5 GHz, 2 × 2 MIMO at 2.4 GHz
- Dedicated 1 × 1 scanning radio for WIDS/WIPS security monitoring
- Fiber optic and Ethernet uplinks with managed Layer 2 switching (MRP, RSTP, ERPS), supported by DAP849
- 802.11k/v/r and fast roaming for reliable train-to-ground wireless connectivity at speeds around 100 km/h
- Direct AC power input (110V/230VAC) with no external converter needed, supported by DAP849
- IP67 die-cast aluminum enclosure with conformal coating, 3.5 kg, wall mount
- DAP849 managed through Belden Wireless Orchestration and Industrial HiVision
- DAP847 managed through Belden Wireless Orchestration, DAC, and Industrial HiVision

The DAP847 and DAP849 share the same Wi-Fi 6 radio platform. The DAP849 adds integrated switching, dual fiber optic ports, and direct AC power input, consolidating four separate trackside components into a single wall-mounted enclosure.

Your Benefits

A typical metro line deploys 200 to 1,000 or more trackside Access Points, each traditionally requiring its own switch, AC-DC converter, fiber patch panel, and equipment cabinet. The DAP849 eliminates all of that. One unit per location means fewer failure points, less cabling, and lower installation and maintenance costs across the entire line. The built-in managed switch functionalities connect units in a fiber ring, so if any link goes down, traffic reroutes automatically. Two variants let operators choose from devices for different use cases like signaling and high-throughput multi-media applications. The DAP847 remains available for DC-powered sites, copper uplinks, and onboard client roles.

Applications

The primary application is metro rail train-to-ground communication. DAP849 Access Points provide dedicated wireless connections for train-to-ground signaling communication, real-time CCTV streaming, passenger information, and operations center links. Groups of Access Points form redundant ring segments across stations, and the DAP847-C onboard client roams seamlessly at around 100 km/h. Additionally, the DAP847-C provides high-throughput at 802.11ax levels along with fast roaming. Beyond rail, the DAP800 family supports AGV and forklift coverage, crane connectivity, and mesh links in factories, warehouses, ports, and energy facilities.

Markets

The DAP800 family is deployed in metro rail systems with proven performance across multiple lines and system integrators. Target customers include metro and mass transit operators, rail system integrators building next-generation communication-based train control networks, and industrial end users in discrete and process automation. The ruggedized IP67 construction, conformal coating, and extended temperature range suit trackside tunnels, train depots, factories, warehouses, mining operations, water treatment plants, and energy infrastructure. The DAP849 fits any site with AC power and fiber backbone already in place.

DAP847 Industrial Access Points

Technical Information

Product Description								
Type	DAP847-RWAP-KT899EHH	DAP847-RWAK-KT899EHH	DAP847-RWCP-KT899EHH	DAP847-RWCK-KT899EHH	DAP847-USAP-KT899EHH	DAP847-USAK-KT899EHH	DAP847-USCP-KT899EHH	DAP847-USCK-KT899EHH
								
Description	DAP800 Outdoor Wi-Fi 6 (802.11ax) Access Point, 24V/110VDC (optional), PoE, 2.5G ETH, extended temperature with conformal coating				DAP800 Outdoor Wi-Fi 6 (802.11ax) Access Point, 24V/110VDC (optional), PoE, 2.5G ETH, extended temperature with conformal coating			
Port type and quantity	1 × 10/100/1000/2500Mbps M12 X-code, Eth, PoE PD (IEEE 802.3at, 802.3bt) 1 × Reset button 1 × V.24 M12 A-coded 1 × Air Valve				1 × 10/100/1000/2500Mbps M12 X-code, Eth, PoE PD (IEEE 802.3at, 802.3bt) 1 × Reset button 1 × V.24 M12 A-coded 1 × Air Valve			
Order No.	9AA101002	9AA101004	9AA101006	9AA101008	9AA101102	9AA101104	9AA101106	9AA101108
Radio technology								
Antenna connector	External antennas, 2 × 2:2 @ 2.4 GHz, 4 × 4:4 @ 5 GHz, 1 × 1:1 for scanning, 7 × N female connectors, ANT1-ANT4 for 5GHz band, ANT5-ANT6 for 2.4GHz band				External antennas, 2 × 2:2 @ 2.4 GHz, 4 × 4:4 @ 5 GHz, 1 × 1:1 for scanning, 7 × N female connectors, ANT1-ANT4 for 5GHz band, ANT5-ANT6 for 2.4GHz band			
Frequency band	2.400 to 2.4835 GHz 5.150 to 5.250 GHz 5.250 to 5.350 GHz 5.470 to 5.725 GHz 5.725 to 5.850 GHz *Available channels: Dependent on configured regulatory domain				2.400 to 2.4835 GHz 5.150 to 5.250 GHz 5.250 to 5.350 GHz 5.470 to 5.725 GHz 5.725 to 5.850 GHz *Available channels: Dependent on configured regulatory domain			
Modulation	802.11b: BPSK, QPSK, CCK 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM 802.11ax: BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM				802.11b: BPSK, QPSK, CCK 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM 802.11ax: BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM			
Additional radio feature	Scanning and security function				Scanning and security function			
Mechanical construction								
Dimensions (W×D×H)	284 mm × 200 mm × 57 mm				284 mm × 200 mm × 57 mm			
Weight	2.5 kg				2.5 kg			
Mounting	Wall mounting				Wall mounting			
Power requirement								
Operating voltage	Support Power over Ethernet (IEEE 802.3at, 802.3bt)	Support Power over Ethernet (IEEE 802.3at, 802.3bt), PSU 24V/ 110VDC	Support Power over Ethernet (IEEE 802.3at, 802.3bt)	Support Power over Ethernet (IEEE 802.3at, 802.3bt), PSU 24V/ 110VDC	Support Power over Ethernet (IEEE 802.3at, 802.3bt)	Support Power over Ethernet (IEEE 802.3at, 802.3bt), PSU 24V/ 110VDC	Support Power over Ethernet (IEEE 802.3at, 802.3bt)	Support Power over Ethernet (IEEE 802.3at, 802.3bt), PSU 24V/ 110VDC
Power consumption	24 W				24 W			
Ambient conditions								
Operating temperature	-40°C to +70°C				-40°C to +70°C			
Storage/ transport temperature	-40°C to +85°C				-40°C to +85°C			
Relative humidity (non-condensing)	10% to 95%				10% to 95%			
Protection class	IP67				IP67			

DAP847 Industrial Access Points

Technical Information

Software

Type	DAP847-RWAP-KT899EHH	DAP847-RWAK-KT899EHH	DAP847-RWCP-KT899EHH	DAP847-RWCK-KT899EHH	DAP847-USAP-KT899EHH	DAP847-USAK-KT899EHH	DAP847-USCP-KT899EHH	DAP847-USCK-KT899EHH
								
Software	• **General features:** NTP client, EDCA based on WMM, DSCP/802.1p Mapping, BSS Coloring, PRP maintain trailer, Background scanning, MIMO configuration, DFS • **T2G features:** DFS falling back to original channel, Designated DFS channel selection • **Industrial features:** Wireless MESH P2P/P2MP, Auto channel selection, Auto transmit power control, Dynamic bandwidth selection, Band steering, Client smart load balance		• **General features:** EDCA based on WMM, DSCP/802.1p Mapping, PRP maintain tailer, NTP client, Background scanning, MIMO configuration • **T2G/Industrial features:** Fast Roaming, In-Trackside mode & In-Depot mode switching, Front-rear switching, Dedicated SSID access		• **General features:** NTP client, EDCA based on WMM, DSCP/802.1p Mapping, BSS Coloring, PRP maintain trailer, Background scanning, MIMO configuration, DFS • **T2G features:** DFS falling back to original channel, Designated DFS channel selection • **Industrial features:** Wireless MESH P2P/P2MP, Auto channel selection, Auto transmit power control, Dynamic bandwidth selection, Band steering, Client smart load balance		• **General features:** EDCA based on WMM, DSCP/802.1p Mapping, PRP maintain tailer,NTP client, Background scanning, MIMO configuration • **T2G/Industrial features:** Fast Roaming, In-Trackside mode & In-Depot mode switching, Front-rear switching, Dedicated SSID access	
Management	BWO/DAC management, Internal User Database, Zero-touch provisioning (ZTP), System log report, SNMP, SNMP Trap Notification with BWO/DAC software		Cluster mode management, System log report, SNMP		BWO/DAC management, Internal User Database, Zero-touch provisioning (ZTP), System log report, SNMP, SNMP Trap Notification with BWO/DAC software		Cluster mode management, System log report, SNMP	
Security	Captive Portal, Radius Client, Wireless QoS, Client sticky avoidance, User behavior tracking, Allow/block list, ACL, Rogue Accesd Point locating and suppression, Wireless Attack Detection, WIDS/WIPS based on BWO/DAC		Captive Portal, Wireless QoS, User behavior tracking		Captive Portal, Radius Client, Wireless QoS, Client sticky avoidance, User behavior tracking, Allow/block list, ACL, Rogue Accesd Point locating and suppression, Wireless Attack Detection, WIDS/WIPS based on BWO/DAC		Captive Portal, Wireless QoS, User behavior tracking	
Authentication & Encryption	802.11i, WPA2 (WPA2-Personal, WPA2-Enterprise), WPA3 (WPA3-Personal, WPA3-Enterprise) 802.1X Advanced Encryption Standard (AES)				802.11i, WPA2 (WPA2-Personal, WPA2-Enterprise), WPA3 (WPA3-Personal, WPA3-Enterprise) 802.1X Advanced Encryption Standard (AES)			
Management software	BWO, DAC, Industrial HiVision		Industrial HiVision		BWO, DAC, Industrial HiVision		Industrial HiVision	

Compliance

IEEE standard	• IEEE 802.11a/b/g/n/ac/ax • IEEE 802.11e WMM • IEEE 802.11h, 802.11i, 802.11e QoS • IEEE 802.11k Radio Resource Management • IEEE 802.11v BSS Transition Management • IEEE 802.11r Fast Roaming	• IEEE 802.11a/b/g/n/ac/ax • IEEE 802.11e WMM • IEEE 802.11h, 802.11i, 802.11e QoS • IEEE 802.11k Radio Resource Management • IEEE 802.11v BSS Transition Management • IEEE 802.11r Fast Roaming
Basic standard	CE, FCC, UL, CB	CE, FCC, UL, CB
Safety	EN 61131-2, EN 62368-1, EN 60950-22	EN 61131-2, EN 62368-1, EN 60950-22
Radio	EN 300 328 (2.4 GHz), EN 301 893 (5 GHz), EN 302 502 (5.8 GHz)	EN 300 328 (2.4 GHz), EN 301 893 (5 GHz), EN 302 502 (5.8 GHz)
Transportation	EN 50155, EN 50121-3-2, EN 50121-4, EN 45545-2 (HL3)	EN 50155, EN 50121-3-2, EN 50121-4, EN 45545-2 (HL3)
RoHS	RoHS (2011/65/EU, (EU) 2015/863) and RoHS (GB/T26572-2011) compliant	RoHS (2011/65/EU, (EU) 2015/863) and RoHS (GB/T26572-2011) compliant
Wi-Fi Alliance	Wi-Fi 6 certified, Passpoint	Wi-Fi 6 certified, Passpoint

DAP847 Industrial Access Points

Technical Information

Scope of delivery and accessories

Type	DAP847-RWAP-KT899EHH	DAP847-RWAK-KT899EHH	DAP847-RWCP-KT899EHH	DAP847-RWCK-KT899EHH	DAP847-USAP-KT899EHH	DAP847-USAK-KT899EHH	DAP847-USCP-KT899EHH	DAP847-USCK-KT899EHH
								
Scope of delivery	• 1 x DAP847 device • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors	• 1 x DAP847 device • 1 x RKC40/9, 7/8" socket: 7/8" connector, 4-pin for Power supply • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors	• 1 x DAP847 device • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors	• 1 x DAP847 device • 1 x RKC40/9, 7/8" socket: 7/8" connector, 4-pin for Power supply • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors	• 1 x DAP847 device • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors	• 1 x DAP847 device • 1 x RKC40/9, 7/8" socket: 7/8" connector, 4-pin for Power supply • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors	• 1 x DAP847 device • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors	• 1 x DAP847 device • 1 x RKC40/9, 7/8" socket: 7/8" connector, 4-pin for Power supply • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors
Accessories to order separately	• EM12G OCTOPUS: Field attachable Gigabit Ethernet connector, M12 male, 8-pole, "X"-coded • Terminal Cable, M12-4pin to DB9: Terminal cable, Side A: M12 "A"-coded 4-pin connector, Side B: Sub-D connector, 9-pin • ANT-Protector m-f, BAT-ANT-Protector m-f • N-Abschl-Wdst. 50 Ohm • ANT-CLB-RG142-1 N m-m, ANT-CLB-RG142-3 N m-m, ANT-CLB-RG142-5 N m-m, ANT-CLB-RG142-1 N m-f, ANT-CLB-RG142-3 N m-f, ANT-CLB-RG142-5 N m-f, ANT-CLB-RG142-1 N f-f, ANT-CLB-RG142-3 N f-f, ANT-CLB-RG142-5 N f-f				• EM12G OCTOPUS: Field attachable Gigabit Ethernet connector, M12 male, 8-pole, "X"-coded • Terminal Cable, M12-4pin to DB9: Terminal cable, Side A: M12 "A"-coded 4-pin connector, Side B: Sub-D connector, 9-pin • ANT-Protector m-f, BAT-ANT-Protector m-f • N-Abschl-Wdst. 50 Ohm • ANT-CLB-RG142-1 N m-m, ANT-CLB-RG142-3 N m-m, ANT-CLB-RG142-5 N m-m, ANT-CLB-RG142-1 N m-f, ANT-CLB-RG142-3 N m-f, ANT-CLB-RG142-5 N m-f, ANT-CLB-RG142-1 N f-f, ANT-CLB-RG142-3 N f-f, ANT-CLB-RG142-5 N f-f			

DAP849 Industrial Access Points

Technical Information

Product Description		
Type	DAP849-RWAAZT6O6EHH	DAP849-RWAAZT6O8EHH
		
Description	DAP800 Outdoor Wi-Fi 6 (802.11ax) Access Point, 110V/230VAC, 1G ETH, 1G Fiber Optic, extended temperature with conformal coating	DAP800 Outdoor Wi-Fi 6 (802.11ax) Access Point, 110V/230VAC, 1G ETH, 2.5G Fiber Optic, extended temperature with conformal coating
Port type and quantity	• 2 × 10/100/1000Mbps M12 X-coded, Eth • 2 × 1000Mbps Fiber-Optic* • 2 × V.24 M12 A-coded • 1 × Air Valve • 1 × PSU 7/8'' connector *: LC connector Single mode fiber (SM) 9/125 µm: 0 - 10 km (Link Budget at 1310 nm = 0 - 10,5 dB, A = 0,4 dB/km, D = 3,5 ps/(nm*km))	• 2 × 10/100/1000Mbps M12 X-coded, Eth • 2 × 2500Mbps Fiber-Optic* • 2 × V.24 M12 A-coded • 1 × Air Valve • 1 × PSU 7/8'' connector *: LC connector Single mode fiber (SM) 9/125 µm: 0 to 5 km, 1310 nm, 8.5 dB link budget, 0.55 dB/km
Order No.	9AA102001	9AA102002

Radio technology	
Antenna connector	External antennas, 2 × 2:2 @ 2.4 GHz, 4 × 4:4 @ 5 GHz, 1 × 1:1 for scanning, 7 × N female connectors, ANT1-ANT4 for 5GHz band, ANT5-ANT6 for 2.4GHz band
Frequency band	2.400 to 2.4835 GHz 5.150 to 5.250 GHz 5.250 to 5.350 GHz 5.470 to 5.725 GHz 5.725 to 5.850 GHz *Available channels: Dependent on configured regulatory domain
Modulation	802.11b: BPSK, QPSK, CCK 802.11a/g/n/ac: BPSK, QPSK, 16-QAM, 64-QAM, 256-QAM 802.11ax: BPSK, QPSK, CCK, 16-QAM, 64-QAM, 256-QAM, 1024-QAM
Additional radio feature	Scanning and security function

Mechanical construction	
Dimensions (W×D×H)	370 mm × 260 mm × 74 mm
Weight	3.5 kg
Mounting	Wall mounting

Power requirement	
Operating voltage	PSU 110V/230VAC
Power consumption	30 W

Ambient conditions	
Operating temperature	-40°C to +70°C
Storage/ transport temperature	-40°C to +85°C
Relative humidity(non-condensing)	10% to 95%
Protection class	IP67

DAP849 Industrial Access Points

Technical Information

Software		
Type	DAP849-RWAAZT6O6EHH	DAP849-RWAAZT6O8EHH
		
Software	• **General features:** NTP client, EDCA based on WMM, DSCP/802.1p Mapping, BSS Coloring, PRP maintain trailer, Background scanning, MIMO configuration, DFS. Static Unicast/Multicast Address Entries, VLAN (802.1Q), Independent VLAN Learning, QoS/Port Prioritization (802.1D/p), TOS/DSCP Prioritization, CoS Queue Management. Queue-Shaping/Max. Queue Bandwidth, Jumbo Frames, IGMP Snooping/Querier (v1/v2/v3), Unknown Multicast Filtering, IGMP Group Filtering per Port, Flow Control (802.3X). Egress Interface Shaping, Ingress Storm Protection. MRP Client, RSTP 802.1D-2004 (IEC62439-1), ERPS (G.8032), ERPS v2 (G.8032). Management Address Conflict Detection, LEDs, Device Status Indication. • **T2G features:** DFS falling back to orginal channel, Designated DFS channel selection. • **Industrial features:** Wireless MESH P2P/P2MP, Auto channel selection, Auto transmit power control, Dynamic bandwidth selection, Band steering, Client smart load balance.	
Management	BWO mode management, Internal User Database, Zero-touch provisioning (ZTP), System log report, SNMP Trap Notification. LLDP (802.1AB), LLDP-MED, Password change on first login, SSHv2, HTTP, HTTPS, Responsive GUI, SNMP v1/v2/v3, Traps, Telnet, TFTP, Dual Software Image Support. System Information, SFP Management. Syslog, Link Speed and Duplex Monitoring, RMON (1, 2, 3, 9), Port Mirroring 1:1, Port Mirroring N:1.	
Security	Captive Portal, Radius Client, Wireless QoS, Client sticky avoidance, User behavior tracking, Allow/block list, ACL, Rogue AP locating and suppression, Wireless Attack Detection, WIDS/WIPS based on BWO/DAC. MAC Address Limit Per Port, Restricted Management Access, Appropriate Use Banner, Multiple Privilege Levels, Local User Management.	
Authentication & Encryption	802.11i, WPA2 (WPA2-Personal, WPA2-Enterprise), WPA3 (WPA3-Personal, WPA3-Enterprise) 802.1X Advanced Encryption Standard (AES)	
Management software	BWO, Industrial HiVision	
Compliance		
IEEE standard	• IEEE 802.11a/b/g/n/ac/ax • IEEE 802.11e WMM • IEEE 802.11h, 802.11i, 802.11e QoS • IEEE 802.11k Radio Resource Management • IEEE 802.11v BSS Transition Management • IEEE 802.11r Fast Roaming	
Basic standard	CE, FCC, UL, CB	
Safety	EN 61131-2, EN 62368-1, EN 60950-22	
Radio	EN 300 328 (2.4 GHz), EN 301 893 (5 GHz), EN 302 502 (5.8 GHz)	
Transportation	EN 50121-4, EN 45545-2 (HL3)	
RoHS	RoHS (2011/65/EU, (EU) 2015/863) and RoHS (GB/T26572-2011) compliant	

DAP849 Industrial Access Points

Technical Information

Scope of delivery and accessories

Type	DAP849-RWAAZT6O6EHH	DAP849-RWAAZT6O8EHH
		
Scope of delivery	• 1 x DAP849 device • 1 x RKC30/9, 7/8" socket 3-pol konfekt • 1 x Safety and general information sheet • 1 x Outdoor safety instructions • IP67 Caps for all connectors	
Accessories to order separately	• EM12G OCTOPUS: Field attachable Gigabit Ethernet connector, M12 male, 8-pole, “X”-coded • Terminal Cable, M12-4pin to DB9: Terminal cable, Side A: M12 “A”-coded 4-pin connector, Side B: Sub-D connector, 9-pin • ANT-Protector m-f, BAT-ANT-Protector m-f • N-Abschl-Wdst. 50 Ohm • ANT-CLB-RG142-1 N m-m, ANT-CLB-RG142-3 N m-m, ANT-CLB-RG142-5 N m-m, ANT-CLB-RG142-1 N m-f, ANT-CLB-RG142-3 N m-f, ANT-CLB-RG142-5 N m-f, ANT-CLB-RG142-1 N f-f, ANT-CLB-RG142-3 N f-f, ANT-CLB-RG142-5 N f-f • Fiber Connector (order at BTR NETCOM GmbH)