



DAMM® MultiTech Outdoor Base Station BS422

With the technology-independent DAMM BS422 it is possible to run TETRA, DMR Tier III, analog or a combination of these in a core-connected system. With its multiple carriers, frequency sharing functionality and a choice between UHF and VHF, it is flexibility in a box.

Full technology flexibility

DAMM BS422 can run as a state-of-the-art TETRA or DMR Tier III network. Alternatively, the core-connected design enables combination of different technologies in one box without the use of gateways or bridges.

Seamless integration

The BS422 can be set up as either a stand-alone system or be seamlessly integrated into any existing DAMM single-tech network.

Rugged and compact design

The BS422 is built to withstand harsh conditions – from extreme cold to extreme heat and also wet conditions thanks to its IP65 encapsulation. Its compact and light-weight design makes it easy to install everywhere from masts to tunnels and on the back of a truck.

Reduce frequency license costs

Frequency sharing allows adjacent BS422s to use the same frequencies. This is a significant benefit in low-density networks and gives the possibility to cover e.g. a railway line with just two frequency pairs instead of up to typically five pairs.

Simplify repeater systems

With frequency sharing an indoor repeater system can be built without optical fibres. The same hardware can be used as base station and repeater unit, increasing redundancy and simplifying the network architecture by having one unified network management system and reduced spare part stock.

Base station geo-redundancy

With the BS422 network availability can be brought to a new level. Two BS422s located at two sites can act as one fully redundant base station, sharing the same frequencies. This will add redundancy not only to the base station, but also to the whole antenna system.

Reduce infrastructure costs with VHF

Save on infrastructure costs by utilizing VHF frequencies to obtain the same coverage as UHF using fewer base stations.

Save time and resources

With just one type of hardware, operations, repairs and maintenance is easier and more cost-efficient. All technologies are covered by the same software, making network management and maintenance equally simplified.

No single point of failure

The decentralized architecture at the core of the BS422 ensures that all system information is constantly replicated to all sites in the network. This way, the system does not have any single point of failure, and local call and data traffic will run without interruption, even if one site loses its connection to the rest of the network.

Flexible and future-proof

The flat decentralized IP architecture and intuitive software also enable effortless, self-configuring site expansion. The BS422 can be used with single or multiple carriers as well as single or multiple technologies, giving maximum flexibility.



TETRA, DMR or Analog over LTE or Wi-Fi can be used with the DAMM TetraFlex PTT app.



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Key specifications

The DAMM MultiTech Outdoor Base Station BS422 is the first product in DAMM's MultiTech System. It features multi-technology, multi-carriers, multi-frequency and frequency sharing and is core-connected, eliminating the need for any bridges or internal gateways.

- Compact, low-weight and rugged outdoor base station
- Powerful integrated controller
- Built-in or external GNSS receiver available
- Antenna setup: Minimum one antenna per box, two antennas for diversity. Optimized for a setup with two boxes and two antennas
- Two-way receive diversity for all technology modes
- Synchronization: PTP (IEEE1588), GNSS (GPS, Galileo, Glonass)

Supported frequency ranges
68-87.5MHz
146-174MHz
216-225MHz
350-370MHz
380-400MHz
406-430MHz
430-450MHz DMR
450-470MHz
805-870MHz

RX sensitivity	
Static sensitivity, TETRA	-121dBm
Dynamic sensitivity with diversity (TU50 at 4% BER), TETRA	-118dBm
Dynamic sensitivity without diversity (TU50 at 4% BER), TETRA	-112dBm
Static sensitivity, DMR/Analog	-121dBm

Service Box SB422

- Max. distance SB422– BS422: 100m
- One SB422 controls up to two BS422s

	BS422 Base Station	SB422 Service Box
Power	Input voltage	-48VDC
	Power consumption	95W at 10W TETRA
		150W at 25W TETRA
	200W at 50W DMR/Analog	Max. 450W

Note: It is possible to connect an external battery to extend operation time in case of a power failure.

	BS422 Base Station	SB422 Service Box	
Mechanical	Dimensions (HxWxD) (excl. mounting bracket)	340x250x205mm	
	Weight	12kg	
	Wind area	0.08m ²	
	Operating temperature	-25°C to +55°C	
	Storage temperature	-40°C to +85°C	
	Encapsulation	IP65	
	Lightning protection	Internal	

TETRA mode

- Frequency sharing
- Market-leading power efficiency
- Integrated duplexer and diversity receiver

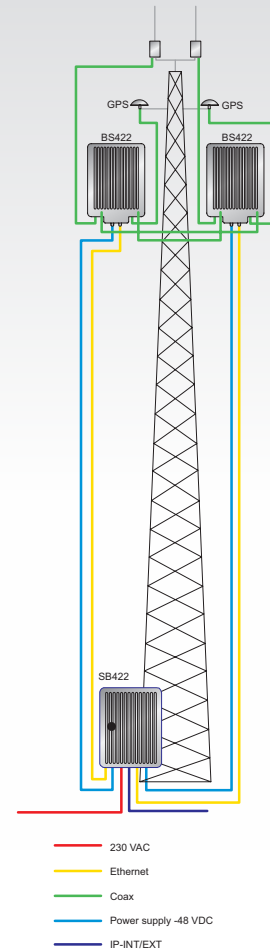
DMR Tier III mode

- DMR Tier III outdoor base station with integrated duplexer and diversity receiver
- Supports wide range of DMR terminals
- Frequency sharing

Analog mode

- Easy migration from Analog to TETRA or DMR III
- Frequency sharing option
- Supports conventional FM radio

DAMM MultiTech solution



Standards and approvals

- TETRA specification EN 300 394-1 v. 3.1.1; please refer to the DAMM TetraFlex feature list
- DMR specification, EN 300 113 v. 2.2.1
- Analog specification, EN 300 086 v. 2.1.2
- Multi-channel specification EN 303 039 v. 2.1.2
- IOP certification; please see www.tcca.info, www.dmrassociation.org and www.dammcellular.com for details
- DS/EN ISO 9001:2008, DS/EN ISO 14001:2004, DS/OHSAS 18001:2008, DS/EN 50121-4:2006

Specifications subject to change without notice

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