5-Element Direction Finding Antenna

20 – 3600 MHz

Product Code: DF-A0001 and DF-A0007

VERSION: 3.2

SPECIFICATIONS:

Product codes and related products:	
DF-A0001	20 – 3600 MHz 5-element DF antenna
DF-A0001-01	20 – 3600 MHz 5-element DF tactical antenna, with integrated dust caps.
DF-A0001-02	20 – 3600 MHz 5-element DF fixed site antenna, with integrated dust caps.
DF-A0007	20 – 3000 MHz 5-element DF antenna, optimised for 2-channel receivers.
DF-A0007-01	20 – 3000 MHz 5-element DF antenna, optimised for 2-channel receivers, with integrated dust caps.

Electrical:	
Frequency range Bands	Band 1: 20 – 300 MHz; Band 2: 300 – 1000 MHz; Band 3: 1000 – 3600 MHz
Nominal input impedance	50 Ω
Antenna type	5-element DF interferometer
Polarisation	Vertical
Output cables	RG 400 cables (qty 15)
Connectors	TNC male
Mechanical:	
Cross-sectional wind load area	0.75 m²
Maximum wind speed	150 km/h (without ice)
Antenna weight	44.5 kg
Assembled height	2.582 m ± 10 mm
Assembled diameter (max)	2.584 m ± 10 mm
Packaging length	1.550 m
Shipping container dimensions	1550 mm x 600 mm x 500 mm
Weight of 5-element DF including wooden container	48 kg 106 kg

PRODUCT DESCRIPTION:

The DF-A0001 wideband direction finding antenna covers a frequency range of 20 MHz to 3.6 GHz. Shipped in a compact storage and transport box, the antenna can be assembled by one person in 30 minutes, without special tools.

The full-size elements on all bands give excellent DF sensitivity. Ultimate angular resolution for strong signals is well under 1º for most of the frequency range. Dipole elements provide good cross-polarisation rejection, and fair performance for signals arriving from up to 15º above or below the horizon.

This DF antenna is designed to be used with a 5-channel phase-sensitive receiver, and correlative algorithm. Calibration of the antenna can be performed on request.

ELECTRICAL FEATURES:

- Full-size DF
- Wideband DF
- 5-element interferometer

MECHANICAL FEATURES:

- Robust construction
- Waterproof
- Quick assembly

RELATED PRODUCTS:

- **DF-A0038** (Direction finding antenna with integrated monitoring system)
- **MISC-A0067** (Weatherproof carry case for DF elements)

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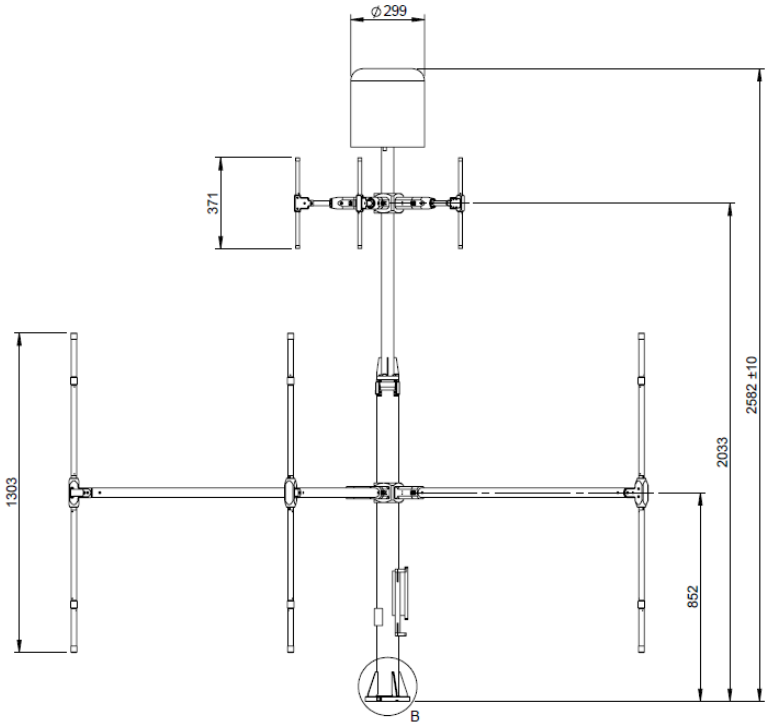
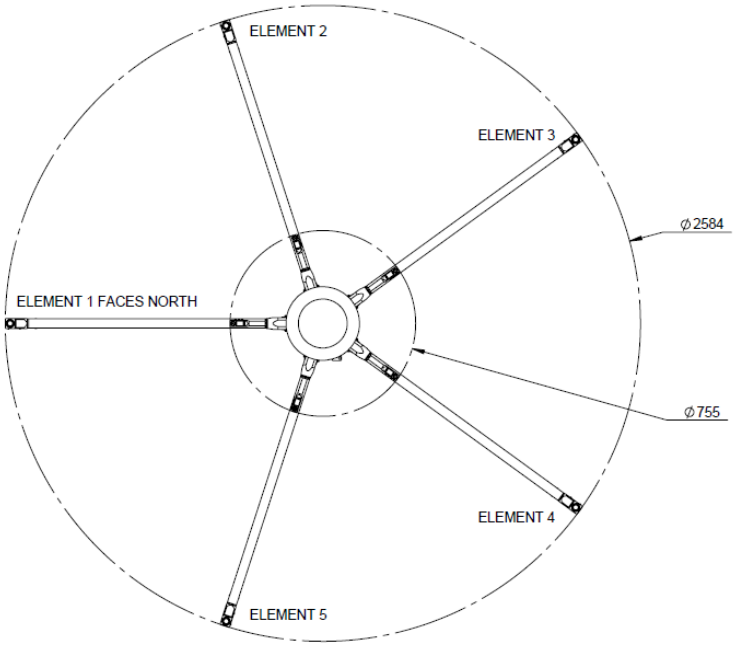
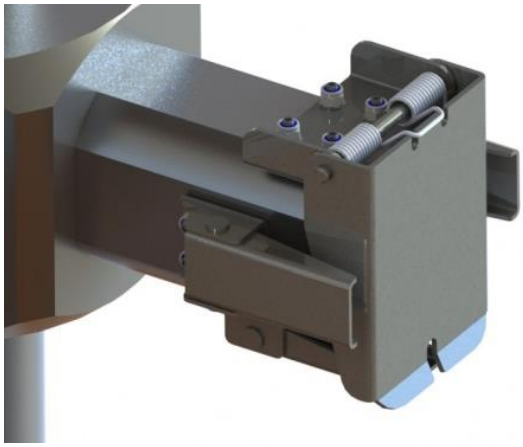
DF antenna dimensions:





TOP VIEW SHOWING ELEMENT POSITIONS



Example of an integrated dust cap for the -01 versions.

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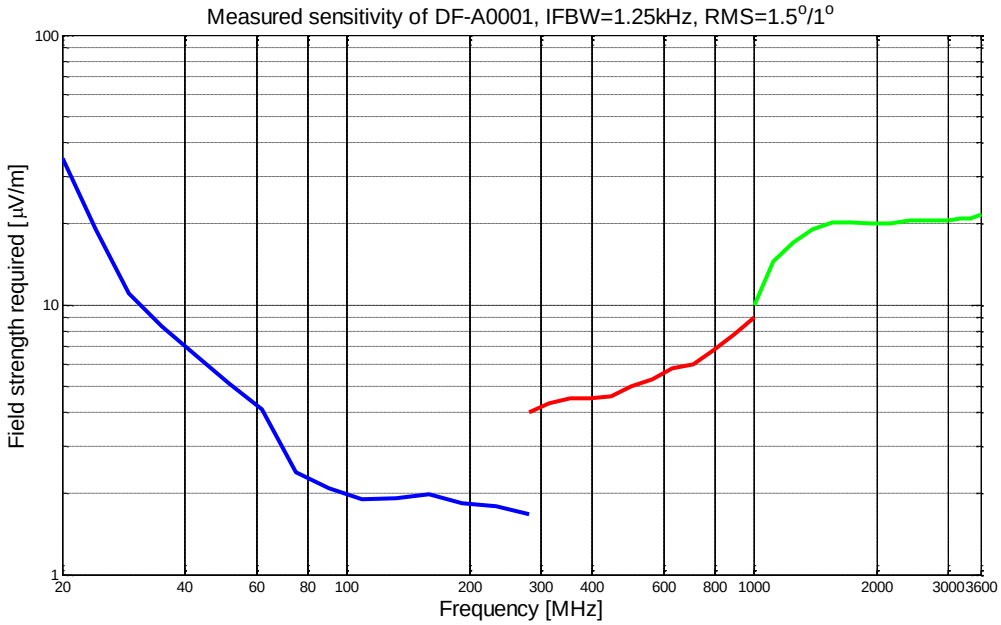
DF sensitivity graph:



The graph illustrates the direction finding sensitivity of a typical system measured under specific electrical conditions.

The sensitivity is measured using an IF bandwidth of 1.25 kHz and without averaging.

The graph shows the minimum signal required to obtain a bearing fluctuation of less than 1º for the frequency range 20 to 280 MHz and less than 1º for the frequency range 280 to 3600 MHz.

Two-channel version, DF-A0007

A version of the antenna is available with Band C optimised for operation with a commutated 2-channel receiver. Special attention has been paid to the nulls which usually occur in this band. Receiver systems with two channels, commutated to measure five antennas, are sensitive to nulls in the element patterns. Depending on the receiver and algorithm, reducing the null depth leads to a more reliable system. This Band C element only operates correctly up to 3 GHz.

-01 versions

The -01 versions of the antenna have a boltable centre break, integrated dust caps and is weatherproof at any angle.

-02 versions

The -02 versions of the antenna have a standard centre break with integrated dust caps.