

UHF Interferometer

100 – 500 MHz

Product Code: DF-A0100

VERSION: 1.4



PRODUCT DESCRIPTION:

The DF-A0100 is single band 100 to 500 MHz antenna array for use in high precision DF applications. The antenna features hardening against lightning-induced surges with an optional lightning conductor attachment available for added protection. Alternately, an optional omni-directional monitoring antenna attachment can be used to provide an additional monitoring channel.

The full-size elements give excellent DF sensitivity. Ultimate angular resolution for strong signals is well under 1°. Dipole elements provide good crosspolarisation rejection, and fair performance for signals arriving from above or below the horison.

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

RELATED PRODUCTS:

DF-A0101: Calibration switch (see pane) DF-A0102: Calibration and commutation switch MISC-A0088: Lightning conductor attachment OMNI-A0274: Monitoring antenna attachment

SPECIFICATIONS:

Electrical: DF		
Frequency range	100 – 500 MHz	
Channels/elements	5 Correlative interferemeter	
DF method	Correlative interferometer	
RMS accuracy	< 1 ° (see note 1)	
Polarisation	Vertical	
Omni-output	With optional monitoring antenna attachment	
Nominal input impedance	50 Ω	
Interfaces:	••••	
Antenna outputs	5 x TNC(m) pigtails extending 0.2 m from	
Maakaada	switch interface flange	
Mechanical	Flange for tower/shelter mounting	
	Switch interface flange	
Mechanical:		
Dimensions (ø x h)	1480 mm x 2135 mm	
	2000 mm x 2120 mm (with MISC-A0088)	
Total mass	< 50 kg	
F	4	
Environmental: designed		
Wind survival	180 km/h (without ice)	
Temperature (operation)	-40 °C to +70 °C	
Lightning	- Protected against lightning induced surges	
	- Optional lightning conductor attachment	
	(MISC-A0088) will provide a measure of	
	protection against dire	ect strikes (see note 2)
Humidity	protection against dire 95%, non-condensing	ect strikes (see note 2)
Humidity Water proofing	protection against dire	ect strikes (see note 2)
Water proofing	protection against dire 95%, non-condensing IP65 rain proof	ect strikes (see note 2)
	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro	ect strikes (see note 2)
Water proofing Electrical: optional RF sw	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101	oducts') DF-A0102
Water proofing	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between	oducts') DF-A0102 5-to-3 channel
Water proofing Electrical: optional RF sw	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal	oducts') DF-A0102 5-to-3 channel commutation, switch
Water proofing Electrical: optional RF sw	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration
Water proofing Electrical: optional RF sw	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal	bducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected
Water proofing Electrical: optional RF sw Switching function	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs	bducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels
Water proofing Electrical: optional RF sw	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal	bducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected
Water proofing Electrical: optional RF sw Switching function	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud
Water proofing Electrical: optional RF sw Switching function	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe
Water proofing Electrical: optional RF sw Switching function	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels,
Water proofing Electrical: optional RF sw Switching function Control	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair)
Water proofing Electrical: optional RF sw Switching function Control Commutation speed	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs
Water proofing Electrical: optional RF sw Switching function Control Commutation speed Switching time	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 μs using serial of	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs commands
Water proofing Electrical: optional RF sw Switching function Control Commutation speed	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 μs using serial of 5 x TNC(f) bulkhead (again the second serial of a second second second serial of a second	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs commands antenna inputs)
Water proofing Electrical: optional RF sw Switching function Control Commutation speed Switching time RF interface (inputs)	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 µs using serial of 5 x TNC(f) bulkhead (at x N(f) bulkhead (ext.	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs commands antenna inputs) cal signal)
Water proofing Electrical: optional RF sw Switching function Control Commutation speed Switching time RF interface (inputs) RF interface (outputs)	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 μs using serial of 5 x TNC(f) bulkhead (at x N(f) bulkhead (ext. 5 x N(f) bulkhead	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs commands antenna inputs) cal signal) 3 x N(f) bulkhead
Water proofing Electrical: optional RF sw Switching function Control Commutation speed Switching time RF interface (inputs) RF interface (outputs) Stored information	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 μs using serial of 5 x TNC(f) bulkhead (at 1 x N(f) bulkhead	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs commands antenna inputs) cal signal) 3 x N(f) bulkhead User data fields
Water proofing Electrical: optional RF sw Switching function Control Commutation speed Switching time RF interface (inputs) RF interface (outputs)	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 μs using serial of 5 x TNC(f) bulkhead (at 1 x N(f) bulkhead (ext. 5 x N(f) bulkhead	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs commands antenna inputs) cal signal) 3 x N(f) bulkhead user data fields bise source
Water proofing Electrical: optional RF sw Switching function Control Commutation speed Switching time RF interface (inputs) RF interface (outputs) Stored information RF calibration	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 μs using serial of 5 x TNC(f) bulkhead (at 1 x N(f) bulkhead (ext. 5 x N(f) bulkhead (from the former series)	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs commands antenna inputs) cal signal) 3 x N(f) bulkhead user data fields bise source
Water proofing Electrical: optional RF sw Switching function Control Commutation speed Switching time RF interface (inputs) Stored information RF calibration Power supply	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 μs using serial of 5 x TNC(f) bulkhead (at 1 x N(f) bulkhead (at 1 x N(f) bulkhead (at 1 x N(f) bulkhead (at 5 x N(f) bulkhead (bodel no., serial no., to - Internal wideband no., serial no., to - External calibration signal no., to - Start and to - Star	bducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15μs
Water proofing Electrical: optional RF sw Switching function Control Commutation speed Switching time RF interface (inputs) RF interface (outputs) Stored information RF calibration	protection against dire 95%, non-condensing IP65 rain proof vitches (see 'related pro DF-A0101 Switch between calibration signal and antenna outputs RS 485 115 kbaud N/A < 100 μs using serial of 5 x TNC(f) bulkhead (at 1 x N(f) bulkhead (ext. 5 x N(f) bulkhead (from the former series)	boducts') DF-A0102 5-to-3 channel commutation, switch between calibration signal and selected antenna channels RS 485 115 kbaud Commutation strobe line (RS485 levels, differential pair) < 15µs commands antenna inputs) cal signal) 3 x N(f) bulkhead user data fields bise source signal injection

Only in a phase and amplitude correlative system. RMS accuracy is measured over all azimuth using 1° characterization table, calculated per frequency point. A suitable SNR is required to accomplished specified accuracy.

Lightning conductor attachment will allow the antenna and switch to survive direct strikes of a limited magnitude. Severe strikes will still cause damage.

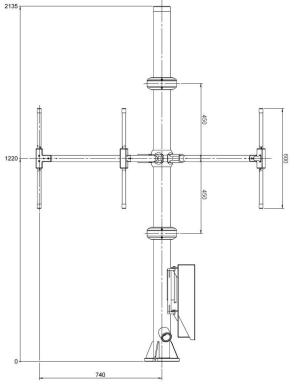
Updated 2023-11-29 Copyright © All rights reserved. We reserve the right to change the product specification without notice. Values may vary due to tolerances. www.antennas.alaris.tech

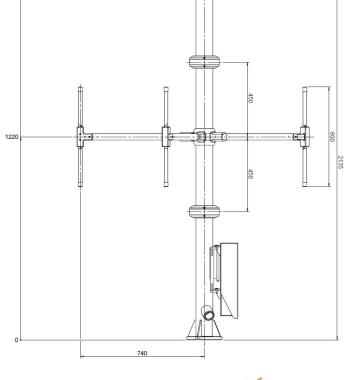
UHF Interferometer

100 – 500 MHz

Product Code: DF-A0100

ANTENNA DIMENSIONS:







INCLUDING MISC-A0088 LIGHTNING CONDUCTOR

STANDARD DF-A0100

2120

UHF Interferometer

100 – 500 MHz

Product Code: DF-A0100

SENSITIVITY:

