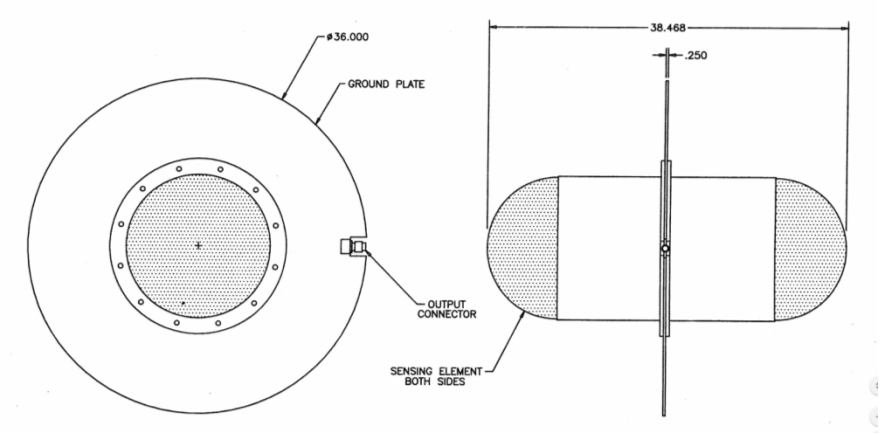
AD-65-R electric field sensors – D-DOT free field

The AD range of electric field D-DOTs are free-space, high frequency sensors that measure rate of change of electric displacement. Being differential they have two asymptotic sensing elements on opposite sides of a common ground plate and a radial output. The asymptotic design has reduced capacitance and increased upper 3dB point.



The sensor is a passive devices, therefore, external power is not required. Length of output, output style and connector type can be modified on request.

SPECIFICATION

	AD-20
Equivalent Area (Aeq)	1 m^2
Freq. Resp.(3 db pt.)	>51MHz
Risetime (tr 10-90)	<6.8ns
Maximum output (peak)	+/- 5kV
Output connector(s)	Twinaxial GR standard. Optional 2 type 'N' / 2 type SMA

EQUATION

$$V_0 = R\,A_{eq}\,\frac{dD}{dt}$$

Where V_o = sensor output (volts), R = sensor characteristic load impedance (100Ω), A_{eq} = sensor equivalent area (m^2), D = magnitude of electric displacement vector ($\vec{D} = \varepsilon_0 \vec{E}$ in coul/m^2)

RECOMMENDED BALUNS

Below are details of the recommended balun for the D-Dot based on output connector choice.

			Balun Output Connector		
D-Dot	D-Dot Output	Balun Input Connector	SMA (Female)	GR (Locking)	N-Type (Female)
AD-65R	GR (Twinax, TCC type)	GR (Twinax, TCC type)	BIB-160	BIB-110 BIB-150	BIB-135

N.B. Baluns are available with different bandwidths. See separate PPM documentation for details.