



system type ARS1

INTERFERENCE DIRECTION-FINDING SYSTEM

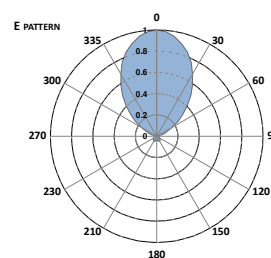
108 ÷ 170 MHz



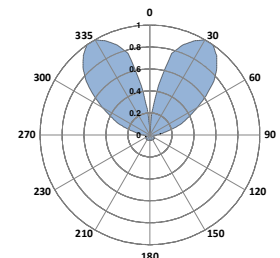
- ENGINEERED FOR AERONAUTICAL FREQUENCY BANDS
- FIXED OR MOBILE INSTALLATION
- EXCELLENT PRECISION $\leq 2^\circ$
- LINEAR POLARIZATION
- PHASE VARIATION SYSTEM
- HIGHT MECHANICAL PERFORMANCE

- Sistema di antenna direzionale a variazione di fase, per la rapida individuazione della direzione di provenienza di segnali interferenti. Studiato specificatamente per le bande VHF aeronautiche e servizi adiacenti. Lo stretto angolo di rilevamento $\leq 2^\circ$ sul bersaglio interferente consente con estrema precisione di determinare la direzione di qualsiasi segnale indesiderato.
- *Phase-variable directional antenna system for rapid and precise direction finding of interfering signals. Optimized for aeronautical VHF bands and adjacent spectrum allocations, it features a narrow detection beam ($\leq 2^\circ$), ensuring highly accurate localization of interference sources.*
- *Système d'antenne directionnelle à phase variable permettant d'identifier rapidement la direction d'origine des signaux interférents. Conçu spécifiquement pour les bandes VHF aéronautiques et les services adjacents. L'angle de détection étroit $\leq 2^\circ$ sur la cible interférente vous permet de déterminer la direction de tout signal indésirable avec une précision extrême.*
- *Sistema de antena direccional de fase variable para identificar rápidamente la dirección de origen de señales interferentes. Diseñado específicamente para las bandas aeronáuticas VHF y servicios adyacentes. El estrecho ángulo de detección $\leq 2^\circ$ en el objetivo que interfiere permite determinar la dirección de cualquier señal no deseada con extrema precisión.*

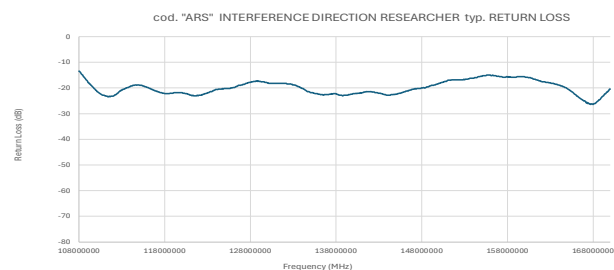
ELECTRICAL DATA		
Frequency range	MHz	108÷170
Bandwidth	MHz	62
Gain max .	dBi	11
Return loss	dB	≥ -14
VSWR		$\leq 1.5:1$
Nominal impedance	Ω	50
Polarization	Ω	V
angle towards the point of interference	$^\circ$	2
Attenuation Vs. interference direction	dB	≥ 35
E beamwidth 108 Mhz	-3 dB	58°
E beamwidth 140 Mhz	-3 dB	55°
E beamwidth 170 Mhz	-3 dB	52°
Max Power	W	200 W
Connector		Nf
Lightning protection	All metal parts are D.C. grounded	
MECHANICAL DATA		
Dimension length	mm	2X 1733Xh1384x130
Antenna elements		9+9
Weight without clamp	kg	11
Mouting	mm	$\varnothing 60$
Mating support	mm.	FIBERGLASS
MATERIALS		
Anticorodal alluminium - Brass - Teflon - Polyvinyl chloride		
all materials are RoHS compliance		
ORDERING AND PACKAGING INFORMATIONS		
ARS1	With unscrewed elements	
ARS1F	With folding elements (only for tactical use)	
PACKAGING	3xbox 1800x200x200 mm./ weight 11 Kg	



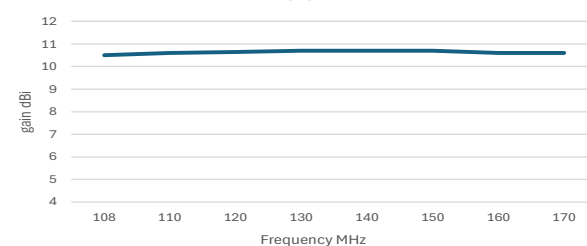
TYP. E PLANE



TYP. H PLANE



ARS GAIN



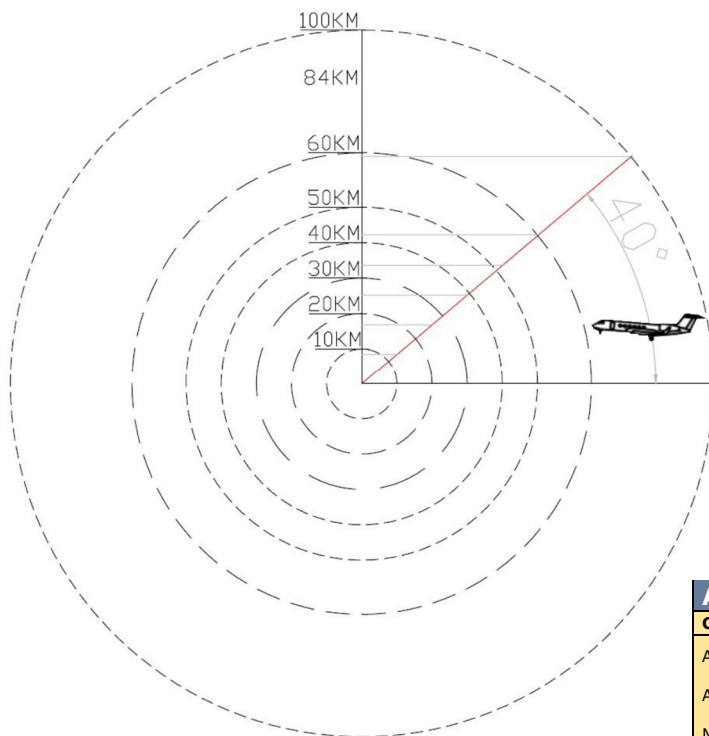
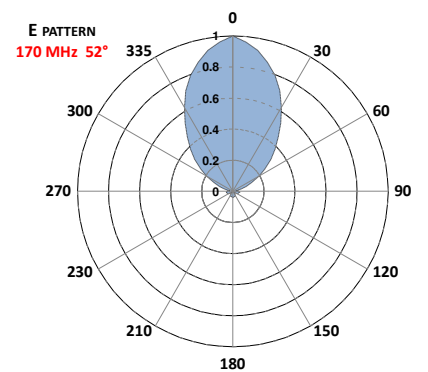
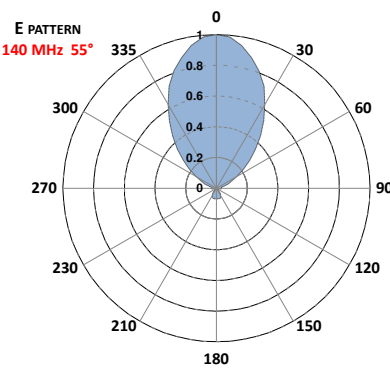
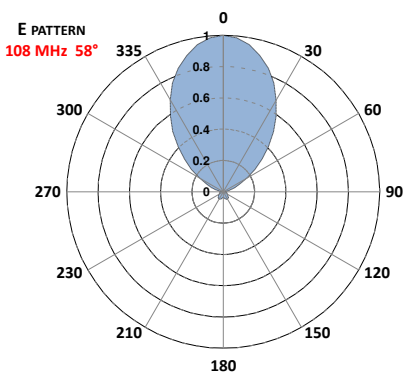
In relazione alle normative in materia di responsabilità sui prodotti, segnaliamo che nel caso di utilizzo delle nostre antenne in condizioni operative particolari, quali ad esempio forti sollecitazioni dinamiche dovute a vento, vibrazioni o deformazioni delle strutture di sostegno, si possono verificare rotture del prodotto stesso e/o la caduta a terra. L'installatore che deve essere altamente qualificato, deve conoscere le normative nazionali di sicurezza in vigore, deve seguire le informazioni contenute nelle nostre istruzioni, deve verificare sempre l'adeguatezza del prodotto stesso alle condizioni operative del sito di installazione e deve controllare l'installazione operando la manutenzione periodica dell'impianto. ---- In relation to the laws concerning product liability, we notify you that in case you use our antennas in severe operative conditions such as, for example, strong wind, vibrations or distortions of the support structure, the product can break and/or fall down. The person who install the product must be skilled, must know the national security law in force, must follow the product instructions, must check that the product is compatible with the installation site and must control the installation with periodical maintenance.

Update
11/2023

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- Il sistema Protel cod.ARS1 è in grado di rilevare la direzione di provenienza di un segnale, non per la sua massima intensità ma per la sua minima. Questo è possibile mediante l'estrema pulizia dei diagrammi di radiazione delle antenne della serie ARL e dallo sfasamento introdotto tra di esse. Ruotando il sistema di antenna ricevente ARS1 sul proprio asse, è possibile individuare la direzione dell'interferenza posizionata al centro delle due massime intensità di campo ricevute. Il livello minimo del segnale interferente individuato è inferiore rispetto ai suoi due massimi adiacenti ricevuti di un valore ≥ 30 dB con una precisione sulla direzione rilevata $\leq 2^\circ$.
- The Protel system cod. ARS1 determines the direction of a signal not by its maximum intensity, but by its minimum. This is achieved through the high purity of the radiation patterns of the ARL series antennas and the phase shift introduced between them. By rotating the ARS1 receiving antenna system along its axis, the interference direction can be identified at the midpoint between the two received maximum field intensities. The detected minimum level of the interfering signal is at least 30 dB lower than its adjacent maxima, with a directional accuracy of $\leq 2^\circ$.
- El sistema Protel cod.ARS1 es capaz de detectar la dirección de origen de una señal, no por su intensidad máxima sino por su mínima. Esto es posible gracias a los patrones de radiación extremadamente limpios de las antenas de la serie ARL y al desplazamiento de fase introducido entre ellos. Al girar el sistema de antena receptora ARS1 sobre su eje, es posible identificar la dirección de la interferencia posicionada en el centro de las dos intensidades máximas de campo recibidas. El nivel mínimo de la señal interferente detectada es inferior a sus dos máximos recibidos adyacentes en un valor ≥ 30 dB con una precisión en la dirección detectada $\leq 2^\circ$.
- Le système Protel cod.ARS1 est capable de détecter la direction d'origine d'un signal, non pas par son intensité maximale mais par son minimum. Ceci est possible grâce aux diagrammes de rayonnement extrêmement propres des antennes de la série ARL et au déphasage introduit entre elles. En faisant tourner le système d'antenne de réception ARS1 sur son axe, il est possible d'identifier la direction de l'interférence positionnée au centre des deux intensités de champ maximales reçues. Le niveau minimum du signal interférent détecté est inférieur à ses deux maximums reçus adjacents d'une valeur ≥ 30 dB avec une précision sur la direction détectée $\leq 2^\circ$.



GRAPH WITH DISTANCE-ALTITUDE RATIO AS A FUNCTION OF THE VERTICAL RADIATION PATTERN OF THE ARS1 RECEIVING SYSTEM

ACCESSORIES	
CODE	DESCRIPTION
ARO2A13S8A	Monitoring Omnidirectional antenna 118÷137 MHz TOP MAST INSTALLATION
ARDCKM-C-13X	Monitoring Omnidirectional antenna 118÷137 MHz SIDE MAST INSTALLATION
MU6	Telescopic pneumatic mast H=5883 mm. \varnothing 115 mm. Complete with clamps for wall fixing
MU6TGF	Telescopic pneumatic mast H=5883 mm. \varnothing 115 mm. Complete with tripod ground fixing

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