



PROTECTING PEOPLE AND ASSETS™

RANGER™ SPECIFICATIONS



X1 & X5 Models

Affordable 100W or 500W dual-polarity X-Band
Ideal for short and medium range applications
Compact design for permanent or portable installation



SYSTEM	RANGER X1	RANGER X5
Operating Frequency	9200-9700	9200-9700
Pulse Width	0.4-100.0 usec	0.4-100.0 usec
Pulse Repetition Frequency	100-2500 PRF	100-2500 PRF
Transmitter Output Power	100 Watts	500 Watts
Maximum Velocity (unambiguous)	64 m/s	64 m/s
Sensitivity-reflectivity	18dBz at 50km	18dBz at 120km
Data Output	UZ (h/v), Z (h/v), V, SW, Zdr, Phv, Φ_{dp} , KDP, LDR	UZ (h/v), Z (h/v), V, SW, Zdr, Phv, Φ_{dp} , KDP, LDR
Max. Sustained Wind Performance	65kts / 120km/hr	65kts / 120km/hr
Max. Wind Gust Performance	78kts / 144km/hr	78kts / 144km/hr
Max Wind Survival	130kts / 240km/hr	130kts / 240km/hr
Max Operating Temperature	60° C (140° F)	60° C (140° F)

ANTENNA/PEDESTAL	1m / 2.44m		1m / 2.44m	
Type	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector
Gain-Minimum	≥ 37.3 dB	≥ 45.0 dB	≥ 37.3 dB	≥ 45.0 dB
Half Power Beam Width (typical)	$\leq 2.3^\circ$	$\leq 0.95^\circ$	$\leq 2.3^\circ$	$\leq 0.95^\circ$
Polarization	Dual Polarization Orthogonal Feed (Simultaneous H + V)	Dual Polarization Orthogonal Feed (Simultaneous H + V)	Dual Polarization Orthogonal Feed (Simultaneous H + V)	Dual Polarization Orthogonal Feed (Simultaneous H + V)
Transportability	supports land, sea, and air deployment environments		supports land, sea, and air deployment environments	
Mounting Configurations	guyed pole, tower, vehicle, skid, trailer or conventional fixed installation		guyed pole, tower, vehicle, skid, trailer or conventional fixed installation	
Max Az & El Torque	350 ft-lbs (477 Nm)		350 ft-lbs (477 Nm)	
Continuous Az & El Torque	92 ft-lbs (126 Nm)		92 ft-lbs (126 Nm)	
Antenna/Pedestal System Weight	170kg (375 lbs)		170kg (375 lbs)	
Angle Span (azimuth)	Continuous 360°		Continuous 360°	
Angle Span (elevation)	-12° to +109°		-12° to +109°	
Positioning Accuracy	$\leq 0.05^\circ$		$\leq 0.05^\circ$	
Scanning Speed	0 to 8 rpm		0 to 8 rpm	
Drive and Bearing Continuous Service Life	≥ 10 years with no maintenance or lubrication required		≥ 10 years with no maintenance or lubrication required	

TRANSMITTER		
Type	Solid State	Solid State
Peak Power (per channel/total)	100 Watts/200 Watts 2 Transmitters (H/V)	500 Watts/1000 Watts 2 Transmitters (H/V)

RECEIVER		
Type	Frequency Programmable	Frequency Programmable
Minimum Discernible Signal	-114 dBm typical	-114 dBm typical
Linear Dynamic Range	≥ 95 dB	≥ 95 dB

DIGITAL RECEIVER/ SIGNAL PROCESSOR		
Type	16-bit Modular, multi-channel Digital Receiver, Signal Processor	16-bit Modular, multi-channel Digital Receiver, Signal Processor
Maximum No. of Processed Range Bins	up to 8192	up to 8192
Minimum Processing Resolution	15m	15m
Clutter Filters	Time Domain or Spectrum-Based Time Estimation and Processing (STEP) - An advanced adaptive clutter identification and mitigation and noise reduction algorithm	Time Domain or Spectrum-Based Time Estimation and Processing (STEP) - An advanced adaptive clutter identification and mitigation and noise reduction algorithm

METEOROLOGICAL USER SOFTWARE		
METEOROLOGICAL USER SOFTWARE	EDGE	EDGE
Computer System	Commercial off-the-Shelf PC	Commercial off-the-Shelf PC
Meteorological Products	See EDGE Data Sheet for additional details.	See EDGE Data Sheet for additional details.