



RANGER® SERIES

X-BAND



**Solid State X-Band**

Affordable dual-polarity • 100 or 500W of radiated power  
Ideal for short and medium range applications  
Compact design for permanent or portable installation



PROTECTING PEOPLE AND ASSETS®

[eecweathertech.com](http://eecweathertech.com)

SYSTEM	RANGER-X1*	RANGER-X5†
Operating Frequency	9200-9700 MHz	9200-9700 MHz
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 60km	18dBz at 120km
Data Output	UZ (h/v), Z (h/v), V, SW, Zdr, Phv, Φdp, KDP, LDR	UZ (h/v), Z (h/v), V, SW, Zdr, Phv, Φdp, 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	-50° C (-58° F) - 60° C (140° F)	-50° C (-58° F) - 60° C (140° F)

ANTENNA/PEDESTAL	1m / 1.8m* / 2.44m*			1m / 1.8m* / 2.44m*		
Type	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector	Parabolic, Prime Focus Reflector
Gain-Minimum	≥ 37.3 dB	≥ 40.0 dB	≥ 45.0 dB	≥ 37.3 dB	≥ 40.0 dB	≥ 45.0 dB
Half Power Beam Width (typical)	≤ 2.3°	≤ 1.3°	≤ 0.95°	≤ 2.3°	≤ 1.3°	≤ 0.95°
Polarization	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 Drive Motor Torque	350 ft-lbs (477 Nm)			350 ft-lbs (477 Nm)		
Continuous Drive Motor Torque	88.5 ft-lbs (120 Nm)			88.5 ft-lbs (120 Nm)		
Angle Span (azimuth)	Continuous 360°			Continuous 360°		
Angle Span (elevation)	-5° to +95°			-5° to +95°		
Positioning Accuracy	≤ 0.05°			≤ 0.05°		
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	as low as 16 meters	as low as 16 meters
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	PULSE	PULSE
Computer System	Commercial off-the-Shelf PC	Commercial off-the-Shelf PC
Meteorological Products	See PULSE Data Sheet for additional details.	See PULSE Data Sheet for additional details.

\* Systems with a 1.8m antenna require a 3.66m (12ft) radome. Systems with a 2.44m antenna require a 4.0m (13.2ft) radome.

† All Ranger-X5 systems require a radome (1.8m/6ft radome used with 1.0m antenna)