The WR-25XP is the flagship product of the ELDES’ X-Band mini radar family, characterized by a price/performance ratio that is unique on the market. The capacity to operate in simultaneous dual-polarization and Doppler capabilities make WR-25XP an ideal instrument for the most advanced radar hydro-meteorological application, as well as for medium-scale civil protection uses. Given its small size and weight, the WR-25XP can even be installed on a light trailer for quick relocation to areas open to hydrological risk, or to areas with high concentration of people for civil protection needs. Its cluster networking ability allows the system coverage to be extended practically without limit. The resulting image produces mosaics, integrating the data collected by all the sensors making up the network. Thanks to the use of the latest technology, as well as the capital, installation, and operating costs of WR-25XP radars networks, these are a very attractive alternatives to the traditional high-power, large-size, weather radar approach. A powerful Linux Workstation, typically installed in the Radar Control Centre or near the radar itself, processes the polar data of the three-dimensional spaces containing the instances acquired by one or more radars. The result is the generation of a large number of reflectivity and Doppler products, usually only available with considerably more expensive weather radars. Furthermore, by means of the differential parameters measured, thanks to dual polarization, a reliable classification of hydrometeors is possible. At the same time, the Doppler processing allows for instantaneous estimation of the turbulence velocity vectors. The products can be displayed through a simple graphic user interface; the Metranet2, for immediate use, even by non-experts. The data and weather maps produced can be even displayed through WEB Clients, either supplied by ELDES or third parties. The WR-25XP can be installed in unattended stations as it can be remotely controlled, and it can transmit pre-processed data. ELDES is based in Italy but thanks to our Service Department, supported by our Distributor network, we can easily reach all parts of the world, ensuring constant support and quick response times. Gap filling, storm prevention, research, hydrology, transportation, harbour and airport activity, outdoor events... Anticipate the future with WR-25XP.
**Typical applications**

- Gap filling
- Observation and classification of weather phenomena on both local and extra-urban scale
- Support for hydrometeorological models and integration of existing pluviometric networks on medium-small basins
- Monitoring of urban area weather conditions for the creation of services for local authorities and users
- Protection of sporting events, concerts and public performances
- Protection of professional outdoor activities such as drilling, construction, harbor and airport activities, etc.
- Support for traffic and mobility management in the presence of adverse weather conditions
- Monitoring of events potentially harmful for agriculture and stock farming
- Insurance appraisals on damage caused by bad weather

**Technical Specifications Referred to IC03 Version**

**Transceiver Technical Specifications**

- Operating frequency: 9410MHz ±30MHz
- Peak power: 25Kw (12.5Kw Horizontal Channel - 12.5Kw Vertical Channel)
- Average power: IC = 5W IM = 7.5W IL = 10W (2.5W, 3.75W, 5W x channel)
- Pulse width: 0.2 - 0.4 - 0.8 μS (typ.) User selectable
- Repetition frequency (PRF): 1000 - 750 - 500 Hz User selectable
- Modulator: Solid state
- Receiver: Linear Digital for simultaneous dual-polarization coherent on receive (Doppler)
- Transmitter: Magnetron
- Dynamic range: > 90dB
- Polarization: STAR
- Noise figure: ≤ 3.1dB
- Tuning: Automatic with AFC in real time

**Antenna**

- Type: Parabolic prime focus reflector (φ 90cm)
- Horizontal lobe width: ≤ 2.5°
- Vertical lobe width: ≤ 2.5°
- Gain: ≥ 36 dB
- Scan mode: • PPI: 0° to 360°, 1 deg/s to 45 deg/s • RHI: 10° to 120°, 1 deg/s to 14 deg/s • SECTOR: full sector scanning • POINT: fully programmable fixed-point acquisition
- Sector Blanking: 2 user programmable both in azimuth and elevation sectors

**Signal Processor**

- Type: Digital processing on PC
- Generated polar moments: u2, c2, W, V, Zdr, PhiDP, RhoHV, KDP, SNR, SQL, STAT1 and STAT2
- Clutter correction: Doppler filtering (DFT) and Time-Domain filtering (IR)
- Sensitivity: 6dBz @ 25Km 22dBz @ 120Km
- Pulse integration: Confi gurable based on pulse number or antenna sync
- Calibration: Automatic (TX and noise correction)
- Range scale: 30Km - 40Km - 60Km - 120Km User selectable
- Range resolution: 31.25m 62.5m 62.5m 125m Depending upon Range scale

**Radar Data Processing and Control (Metranet 2)**

- Web based real time display of products and mosaic
- Local/remote real time display and control for maintenance
- Open architecture for multi-radar networks (ELDES and third parts)

**General**

- Dimensions (typical data): Radome with base diameter 123.5 cm x height 143 cm
- Weight: < 150 Kg excluding mast
- Electrical consumption: < 600 VA (PC Included)

Specifications subject to change without notice.