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Enhancing Crane Operations: Darveen's Reliable Vehicle Mount Computers

As the increase of global ports across the world is causing bottlenecks in the global supply chain, coupled with the recovery of post-pandemic, this presents an opportunity to envision the future of smart ports. With the feature-rich vehicle mount computer solutions from Darveen, the realization of a high-performance smart port is within reach.

The Rise of Smart Ports

A smart port can provide relevant technologies to terminal operation companies to solve the internal and external challenges of the organization and to facilitate the efficient movement of goods, delivery of services and smooth flow of information. By utilizing modern technologies such as 5G, Big Data, and IoT, this can interconnect cranes, containers, trucks, and operation centers, ensuring seamless coordination of all port operations and achieving optimal efficiency.

Shanghai's Yangshan Deep Water Port uses a 5G network to create the world's largest automated container terminal. This encompasses the automation of cranes, trucks, and vehicles. The port is also committed to creating green and high-tech terminals. The Port of Le Havre HAROPA in France leverages intelligent data and tools to help smart port operations, aiming to develop a new model of urban and industrial port territory integrated through technology innovation. Similarly, the Copenhagen Malmö Port focuses on reducing "noise

pollution, emissions, waste, energy consumption and climate adaption", emphasizing a port and city in harmony. In conclusion, smart ports enhance terminal operations for greater efficiency and contribute to a more sustainable port environment.

Situation

Substantial computing power is essential for handling vast volumes of data generated by numerous devices and crane vehicles in daily terminal operations. From gantry cranes, quay cranes to yard cranes, reach stackers, and forklift trucks, the demand for reliable and sophisticated vehicle mount computer systems is on the rise. These applications include job assignment, real-time monitoring, navigation, data logging, and reporting. The collected data, such as cargo handling volume, transportation time, work duration, etc., serves as analytical reports for management, to strengthen production processes and align with the global trend towards smart ports.

Requirements

Crane operators require a dependable solution that caters to the following requirements:

- **User-Friendly Interface**: A medium/large-sized all-in-one vehicle mount computer with a user-friendly touchscreen for ease of operation.
- **Rugged Design**: Resistance to salt and fog, dust and water, and other harsh outdoor environments to ensure continuous operation.
- **Seamless Communication**: Powerful wireless antennas for uninterrupted communication between devices.
- **Uninterrupted Power Supply:** Wide-voltage waterproof UPS for uninterrupted operation across various environments.
- **Versatile Mounting Options**: Versatile mounting brackets to fit different crane sizes efficiently.

Solutions

- **A Comprehensive Selection of Products**

Darveen's VT Family of vehicle mount computers offers a wide selection of touchscreens, ranging from 7 to 12.1 inch and various touch types, including projected capacitive and resistive touch. In addition, QWERTY keyboard and different computer performance options are also available. The VT Family operates on both Windows and Android operating systems. This comprehensive product line effectively accelerates customers' time-to-market solutions.

- **Rugged to Withstand Harsh Environment**

The VT Family is constructed using die-cast aluminum alloy, ensuring anti-corrosion and exceptional durability to withstand salt and fog in coastal environments. Its fanless design can minimize maintenance efforts and downtime costs and it features dust- and water-proof IP65 sealing. Additionally, it supports a wide operating temperature range (-20 to 60°C) to withstand extreme climates. Moreover, its design incorporates shock and vibration resistance, compliant with MIL-STD 810G standards.
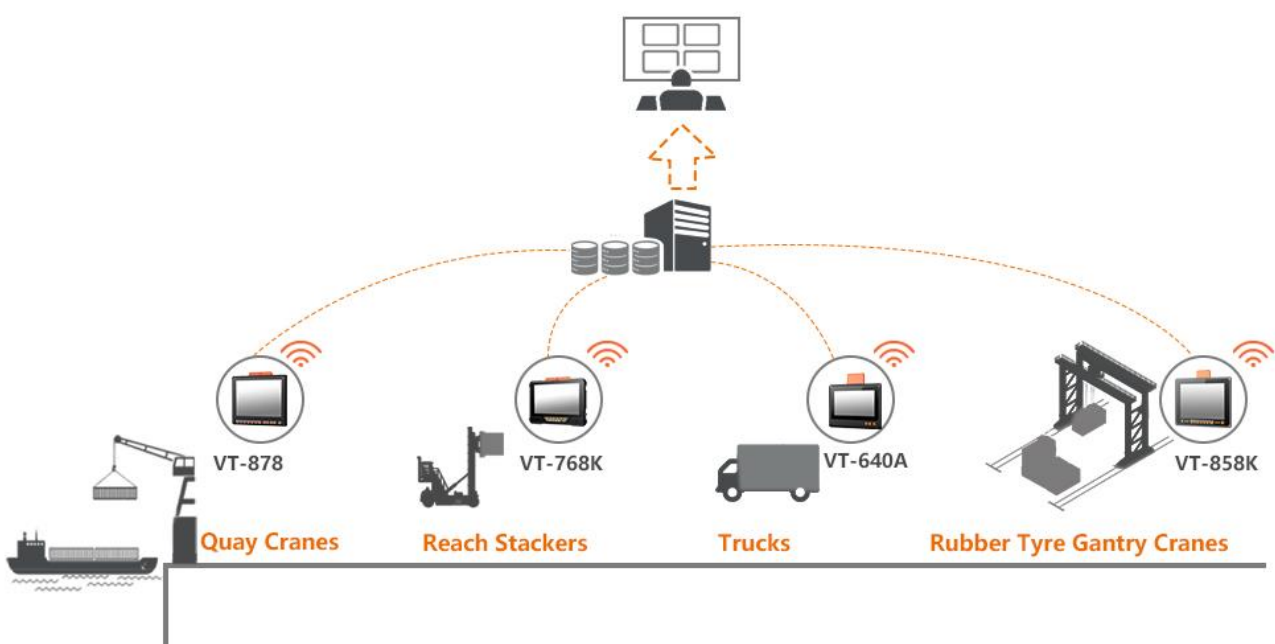
- **High-Gain In-Vehicle Wireless Antennas**

Equipped with built-in WiFi, 4G/5G communication modules, and GPS positioning capabilities, these vehicle mount computers facilitate wider, faster, and solid wireless communication, ensuring seamless human-machine interaction with the Terminal Operating System (TOS) and real-time transmission of dispatch orders.

- **Wide-Voltage Waterproof Power Supply**

Recognizing the diverse power requirements of different terminal crane models, Darveen's vehicle mount computers feature a vehicle standard wide-voltage power input from 8 to 36 VDC. This waterproof power supply ensures a stable and consistent power source, allowing the systems to operate flawlessly in various terminal environments.

- **Versatile Mounting Brackets**

Darveen provides a range of mounting methods such as VESA mount, panel mount, and wall mount, suitable for installation in different environments. These brackets securely fasten the vehicle mount computers to the crane cabs.

Benefits

Darveen's reliable vehicle mount computer solutions offer numerous customer benefits that make it the preferred choice for crane operators worldwide:

• **Operational Efficiency**: Darveen's vehicle mount computer, with its constant connectivity, facilitates real-time data collection and monitoring, enabling the detection of operational bottlenecks and providing valuable data insights for decision-making.

• **Maintenance Oversight**: Darveen's vehicle mount computer records the mechanical status of each crane vehicle and can transmit the data to a management center for improved maintenance oversight, thereby fostering enhanced predictive maintenance practices.

• **Environmental Responsibility and Sustainability**: Efficient port operations will enable real-time computation of the carbon footprint generated by the port, accurately estimating emissions. Enterprises can leverage this data for assessment, working towards sustainable development goals.

Recommended Products

	VT Windows Series Vehicle Mount Terminal ● 7" to 12.1" LCD with resistive or capacitive touch ● Intel Celeron/Core-i processor ● Support Windows, Linux OS ● Support WiFi, Bluetooth, LTE, 5G, GPS, CAN
	VT Android Series Vehicle Mount Terminal ● 7" to 12.1" LCD with resistive or capacitive touch ● ARM RK3288/3399 ● Support Android OS ● Support WiFi, Bluetooth, LTE, 5G, GPS, CAN

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