| Why Cube67+?

EtherNet/IP

PROFI NET ®

IO-Link

Award Winning Technology - Murrelektronik became the leader in Fieldbus I/O when the Cube was introduced 15+ years ago winning multiple awards over the years. Now with over 1,000,000 IO modules installed worldwide and the seamless integration of IO-Link technology Cube remains the industry standard in technology, ease of use and flexibility.

IO-Link Simplified - Cube's Web Interface, combined with the information included in the IODD files, provides enough information to make configuration easy on any platform eliminating the need for AOI's. IODD files are imported directly into Cube Web Interface library without the need for manipulation. This simplifies the implementation of IO-Link devices and will result in saving memory in the PLC making it have faster response times. Cube supports up to 128 IO-Link devices per IP address. The intuitive Cube web interface works as one "configuration tool" for all peripherals, including IO-Link devices. Cube 67+ with IO-Link provides the same level of support to all third-party sensor and device manufacturers without bias.

Offline Configuration – Even if IO-Link devices are not installed, Cube allows the configuration of the entire I/O system while offline using a computer and a bus node without expansion modules and IO-Link devices connected. This allows the system to be pre-configured in the office, remote office or anywhere while the machine is being built and wired.

PLC Program Simplified – The Cube "Machine Option Management" tool allows users to write a single PLC program to support switching different Cube modules on or off via the controller during operation. This is the basis for modular machine configuration, easy tool changes and standard machines with different degrees of IO. If one or more options are not required, users can deactivate unused expansion modules from the controller. Cube's internal cycle time is less than 15ms for up to 32 expansion modules.

Wiring Simplification – Cube67+ helps reduce cabling to a minimum. From the bus node to the last expansion module, only one cable is required to distribute communication and power. Cube is a decentralized modular system. Therefore, each expansion module can be mounted as close as possible to peripherals. The Cube system cable is robust and rated for C-tracks and robot applications.

Faster Commissioning – Cube's web interface allows users to test every single peripheral connected to the system. Digital, analog or IO-Link connections can be tested even before a controller is up and running.

Seamless Diagnostics –The Cube system was designed with diagnostics in mind from the very beginning. Each Cube bus node has a built-in diagnostic buffer that includes alarms up to the sensor/actuator level. This information can be accessed from Cube's web interface and it is displayed in simple text format. This helps reduce commissioning, startup time, and overall downtime as well. Since diagnostics can be accessed from the web interface, alarms can be easily visualized from the HMI.

Hardware Cost Reduction – Only one IP address is required for the system. This helps save money, since the number of Ethernet/IP devices on a system is usually tied to the PLC cost. Reducing the number of Ethernet/IP devices also impacts the configuration time and simplifies setup and debugging.

Expandability – The Cube bus node supports up to 16 expansion modules per "branch" (or segment) in a combination of star and line topology. The expansion modules can be daisy-chained up to 16 times (x2). Without IO-Link, Cube supports up to 32 expansion modules, can cover a 60m area and up to 1024 I/O signals. With IO-Link, Cube supports up to 160 expansion modules, can cover a 100m area and up to 2432 digital signals.   Cube's web interface allows users to add placeholders and freely manipulate the IO addresses of each expansion module. Installations can be easily expanded without any impact to the original PLC program.

Durability – Every IP67 Cube module is fully-potted. These modules can be mounted anywhere, including locations with high levels of vibration and/or shock.

Flexibility – Murrelektronik offers 100+ type of expansion modules including digital input, digital output, analog input (I, U, thermocouples and RTD), analog output, configurable digital channels, I/O Link, valve control, high power modules, high-speed counter and many more. High amp and external power blocks are also available. The Cube67+ family includes IP20 expansion modules. No need for any additional IP20 Ethernet/IP devices or IO cards to pick-up a few signals inside an enclosure or junction box.

Industry 4.0 – Cube's Diagnostic Gateway represents around 30 hours of diagnostic implementation within a piece of hardware. Expansion modules, I/O channels and even diagnostic messages can be customized to match schematics and documentation. E-plan users can import all Cube related tags through a .csv file. The Diagnostic Gateway supports OPC-UA allowing users to transfer all their IO data to a server or a cloud.

Dynamic Data Length - Cube's data length is dynamic. Why should a system with two hubs reserve more than 8 Bytes for process data? IO-Link devices can still be used even if a controller has a limited amount of Bytes available.

Simple applications deserve a simple safety solution – The Cube67+ family includes passive safety output solutions for manifolds and M12/M8 connections. These blocks offer full galvanic separation between sensor and actuator power. Combined with safety relays this is the most cost-effective way of reaching PLd for outputs without investing on Safety PLC's.

Increased Profits – Cube increases profits by decreasing Hardware requirements, simplifies integration, decreases debug and warranty calls.