



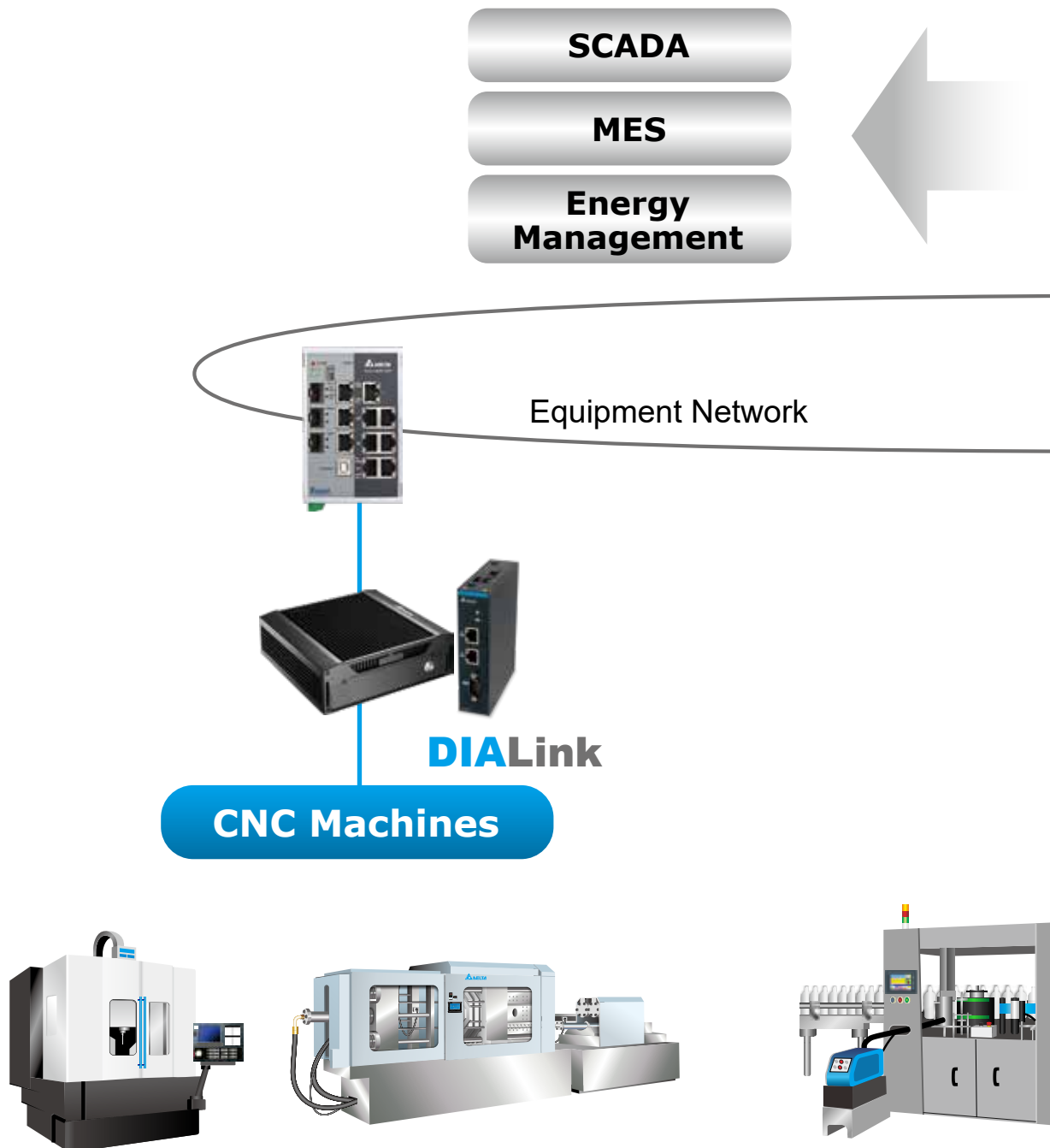
Automation for a Changing World

Delta Equipment IoT Platform DIALink



Delta Equipment IoT Platform DIALink is designed for collecting on-site equipment's operating data from CNC machine tools and PLC-controlled equipment, providing a unified interface to the upper management systems, as well as achieving data visualization that efficiently reveals production parameters and operating status in real-time. The DIALink adopts second development functions with edge computing and IoT technology to achieve factory automation and visualization.

System Structure



With the progress of smart manufacturing, industrial automation is integrating intelligent machines, manufacturing execution systems, and cloud platforms. As an application of edge computing, the DIALink can achieve higher equipment efficiency and energy-savings through data communication, analytics and logical operations.



- Equipment Management**
- Statistics**
- Cloud Connect**



Equipment Network



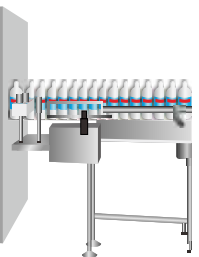
DIALink



DIALink

PLC-Controlled Machines

Other Equipment




Product Features

DIALink for CNC Machines

Building IoT in a Snap

- ▶ Collects equipment data and transmits to the cloud database
- ▶ Visualized interfaces for clear and intuitive equipment information display
- ▶ Web-based interfaces for easy setups and system development



Equipment Information
Displays equipment operation information (utilization rate, operating time, operating status and alarms) in real-time to achieve system diagnosis and maintenance

Equipment Overview
Reveals equipment fundamental status, (including connection, turning speed and operating temperature) in real-time to monitor the overall conditions of a factory

Tag List
Acquires equipment data for remote transmission and analysis



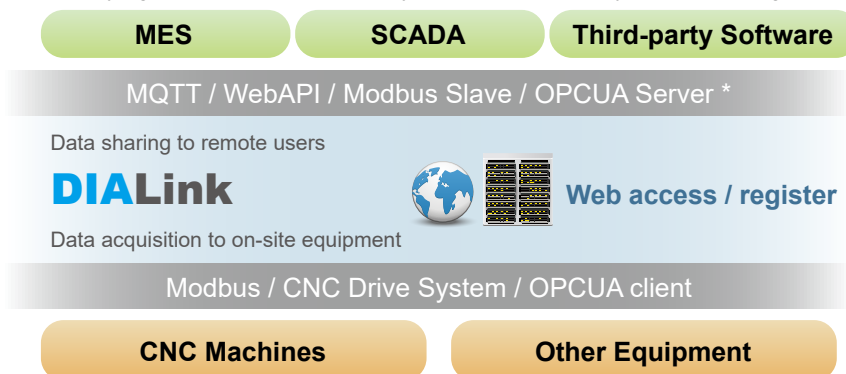
Seamless Equipment and Management Integration

- ▶ Supports third-party CNC controllers:


- Delta NC300A	- Mitsubishi M70 / M700 M80 / M800	- Heidenhain iTNC530 / iTNC640 (DNC enabled)
- FANUC 0i-B/C/D/F 16i / 18i / 21i / 30i / 31i / 32i	- Siemens 840D SL with RPC SINUMERIK 828D (OPC UA Server required)	- Syntec EZ Series

* The CNC controllers may require to install specific communication cards or software, please contact the CNC controller manufacturers.

- ▶ Adopts Modbus communication for equipment integration
- ▶ Connects the cloud platform via MQTT / WebAPI / Modbus Slave for enhanced data access efficiency, as well as simplifying processes for remote system and third-party software integration



Web API List

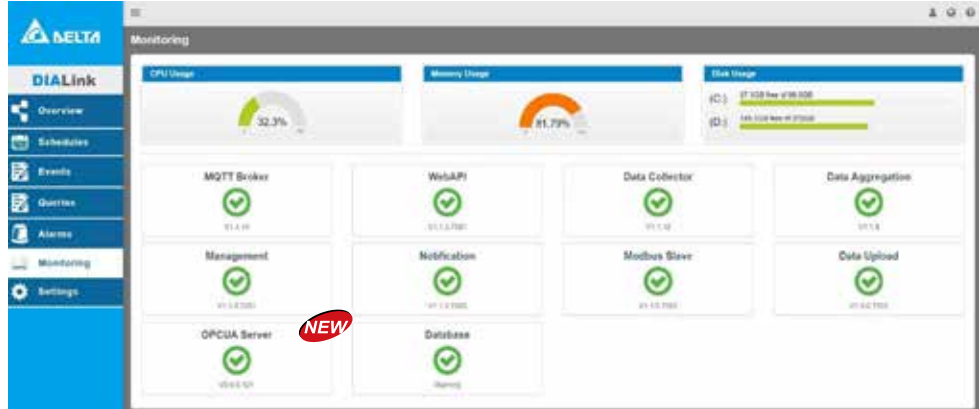


Web API provides various functions for users to build a remote access structure

* OPCUA module required

- OPCUA client

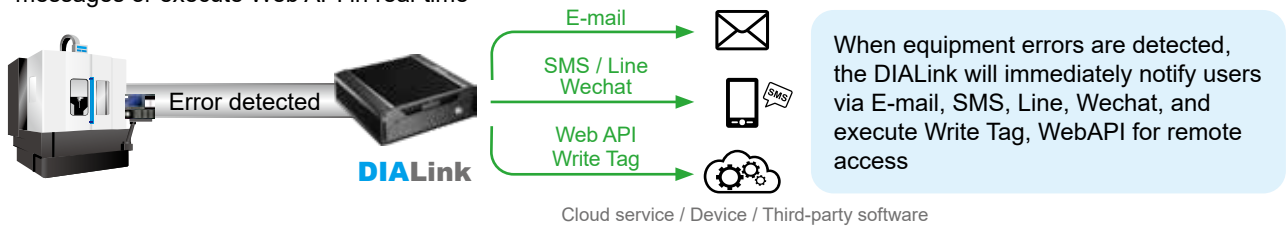
- OPCUA Sever



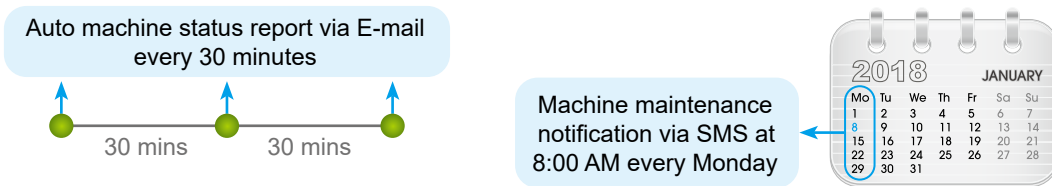
Edge Computing Technology

► Events and Schedules

- Allows the system to trigger events under specific circumstances. When an event is triggered, the system will send messages or execute Web API in real-time

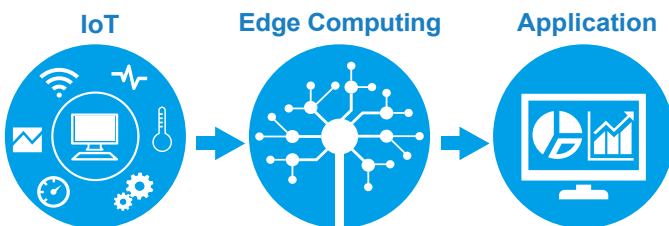


- Existing events can be set up to be triggered based on fixed time intervals or a specific time schedule



► Real-time Monitoring, Analysis & Response

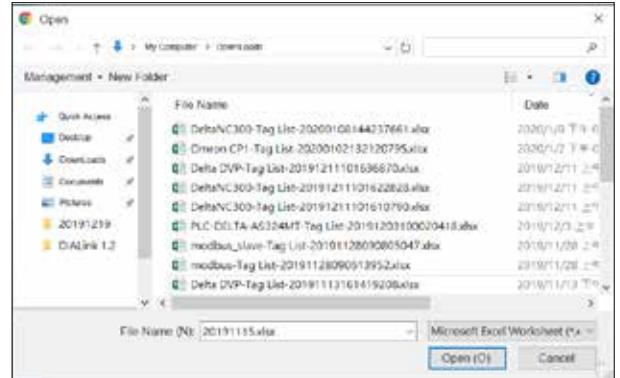
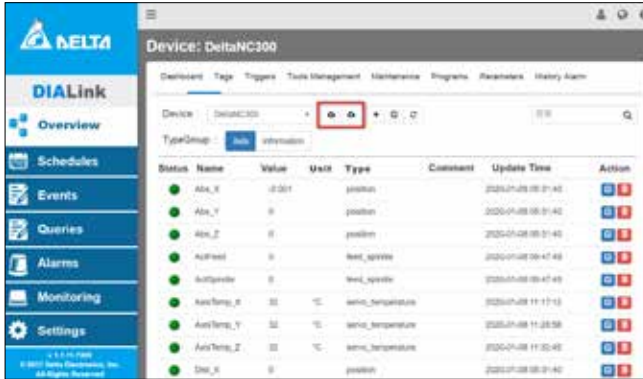
- Calculates usable data for equipment data collection in real-time



Equipment Data Backup & Restore

▶ Tag Import / Export

- Exports the tags into Excel files, and imports them to other equipment in batches for backup, saving complex manual operation



▶ Arithmetic, Logic Comparison, Timer, Counter and Trigonometric Functions

- Arithmetic and trigonometric functions setup



- Logic comparison setup



- Counter setup



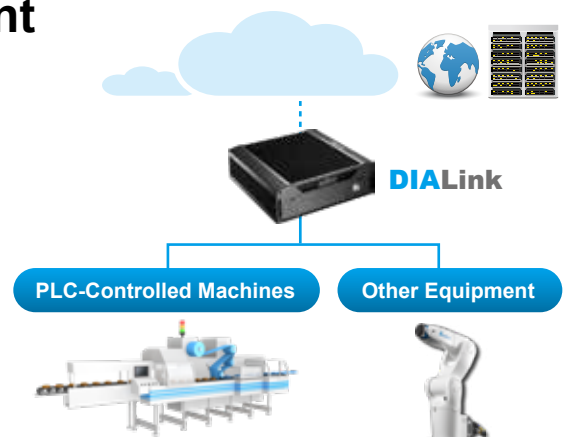
- Timer setup



DIALink for PLC-based Equipment

Building IoT in a Snap

- ▶ Collects equipment data and transmits to the cloud database
- ▶ Adopts intuitive interface for easy operation and efficient communication

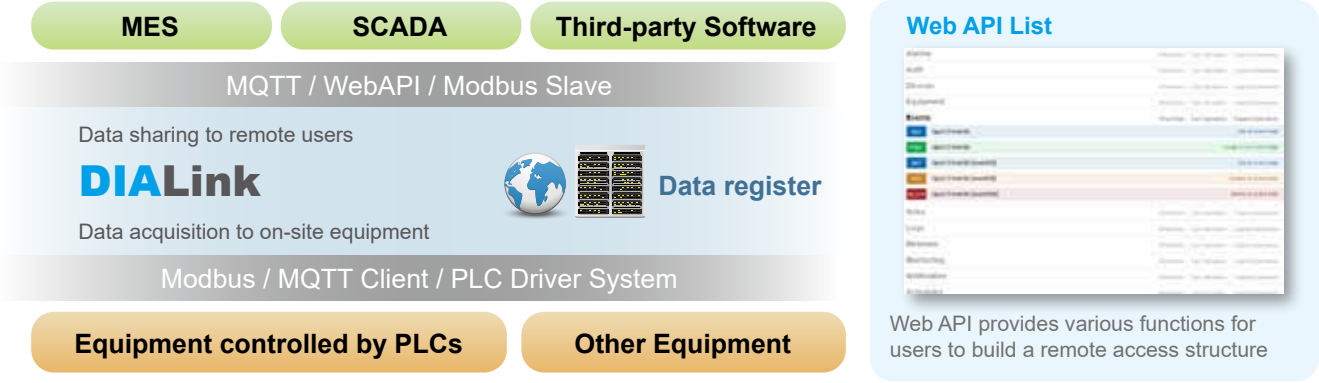


Seamless Equipment and Management Integration

► Supports third-party PLCs:

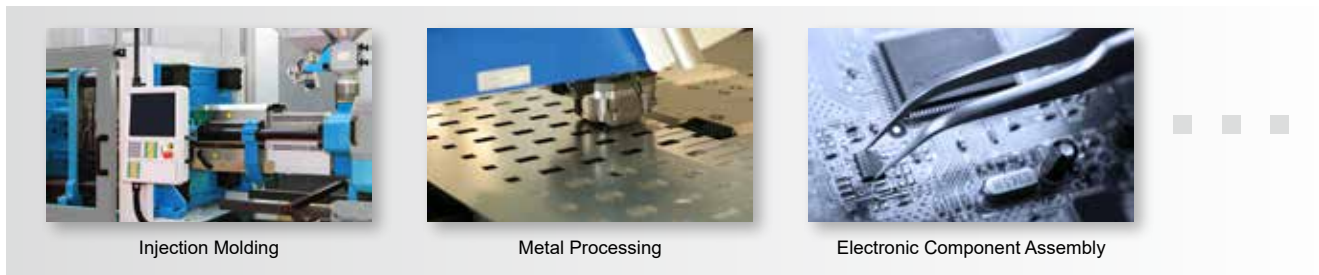
- Delta DVP RTU-EN01 Ethernet AH Modbus/TCP AS Modbus/TCP 15MC TCP	- Modbus Modbus TCP/IP Modbus RTU Modbus ASCII	- Siemens S7 200 S7 200 Smart S7 1200 S7 1500	- Mitsubishi FX Series Q Series	- Omron CJ Series NJ FINS TCP CP1 Series	- Panasonic FP7 Series TCP FP Series TCP	- Keyence KV Series
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- Adopts Modbus and MQTT Client communication for equipment integration
- Connects the cloud platform via MQTT / WebAPI / Modbus Slave for enhanced data access efficiency, as well as simplifying processes for remote system integration



Applications

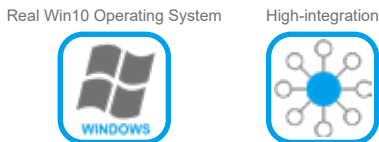
► Widely applied in various industries through integration with different industry knowledge bases



Hardware Features

Integrated Functions

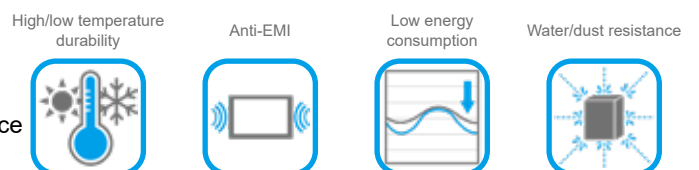
- A software/hardware integrated solution with built-in operating system and hard drive for instant use after plug-in
- Highly integrated system to avoid compatibility issues



- Windows10 Operating System
- 4G Memory
- SSD 256G

Suitable for Industrial Environments

- An industrial PC with robust design, it is suitable for various industrial environments
- Fanless design and low energy consumption
- High/low temperature durability with dust and water resistance
- Data analysis for equipment production performance



Hardware Specifications

DIALink

- ▶ OS: Windows10 Professional



Item	Specifications
CPU	6 th Generation Intel® Core i3-6100U / i5-6200U processors
RAM	4GB DDR4 2400MHz, max. up to 16GB
SSD	256GB mSata SSD
Network	2x Intel® I211 Gigabit Ethernet Controller
Audio	1x Standard frequency I/O
Expansion	Supports mini PCIE interface and Wi-Fi communication modules
External I/O	Serial port: COM 1~2 & 5~6 (RS-232), COM 3~4 (RS-485) 2 x USB 2.0, 4 x USB 3.0 (blue) 1 x VGA output 1 x HDMI output
Dimensions	Rack NOT included: 211.5 mm (L) × 200 mm (W) × 67 mm (H) ; Rack included: 251.9mm (L) × 200mm(W) × 71.6 mm (H)
Structure	Case: High-strength aluminum alloy, sand blasting anodizing aluminum Color: Black Thermal conductivity: An integrated aluminum case with active heat conduction design Material: Aluminum alloy heat sink
Weight	Net weight: 2.8Kg; Gross weight: 3.5Kg
Temperature	Operation temperature: -20° C ~ 40° C Storage temperature: -40° C ~ 70° C
Humidity	95% @ 40° C (non-condensing)
EMC	Level A, and GB9254-1998 GB/T 17618
Reliability	Mean time between failures (MTBF): ≥ 5000 h Mean time to recovery (MTTR): ≤ 0.5 h
Certification	CE 、 FCC 、 BSMI
Environment	Anti-vibration: 5-19Hz/1.0mm amplitude ; 19-200 Hz/1.0g acceleration Anti-shock: 10g acceleration, 11 ms duration
Power	Standard VT: Input voltage/frequency: 100 ~ 240V _{AC} / 50 ~ 60Hz Output voltage/current: 12V _{DC} /5A Power consumption: 7W (stand-by); 16W (running max. power 100%)

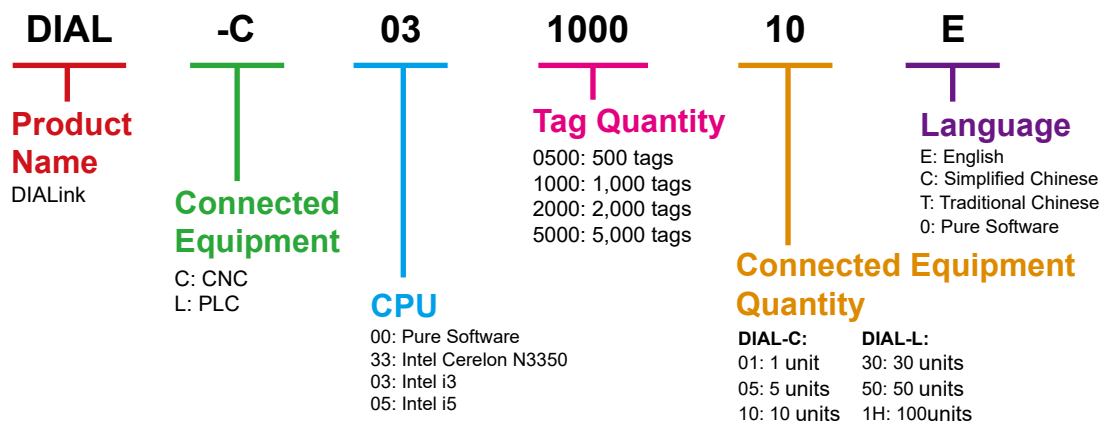
DIALink mini

► OS: Windows10 IoT

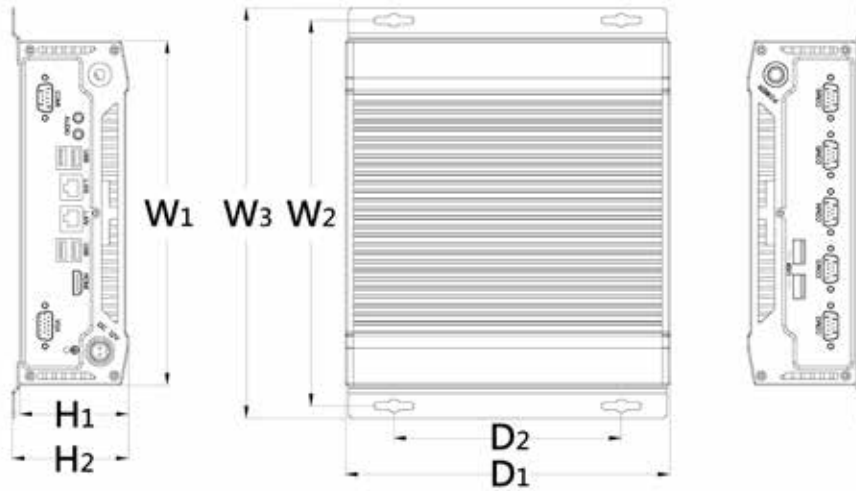


Item	Specifications
CPU	Intel® Celeron N3350
RAM	2 GB DDR3L 1600 MHz, max. up to 8 GB
SSD	64 GB mSata SSD
Network	Intel® i211AT Gigabit Ethernet Controller x2
Expansion	Full-size mini PCIe for wireless module expansion
I/O system	RS-232/ RS-422/ RS-485, default is RS-232 for BIOS setting USB 2.0 x2 DI/DO x1 (8-bit, DB9 Connector) Default is DO for Pin 1~4, DI for Pin 5~8 for BIOS setting
Display interface	VGA output x1
Dimensions	100 mm (L) × 31 mm (W) × 125 mm (H)
Weights	Net weight : 0.3 Kg ; Gross weight : 0.46 Kg
Temperature	Operation temperature : -20° C ~ 70° C (-4° F ~ +158° F) Storage temperature : -45° C ~ 85° C (-49° F ~ +185° F)
Humidity	10 % ~ 90 % · (non-condensing)
Reliability	Mean time between failures (MTBF) : ≥ 69,000 h Mean time to recovery (MTTR) : ≤ 0.5 h
Certification	CE 、 FCC
Environment	Anti-vibration : 2.0G / 5 ~ 500 Hz
Power	Input voltage range : 12 ~ 24 VDC · 17 W Embedded system is recommended to use along with power supply (UPS) in order to avoid abnormal power outage that leads to damaged files in OS

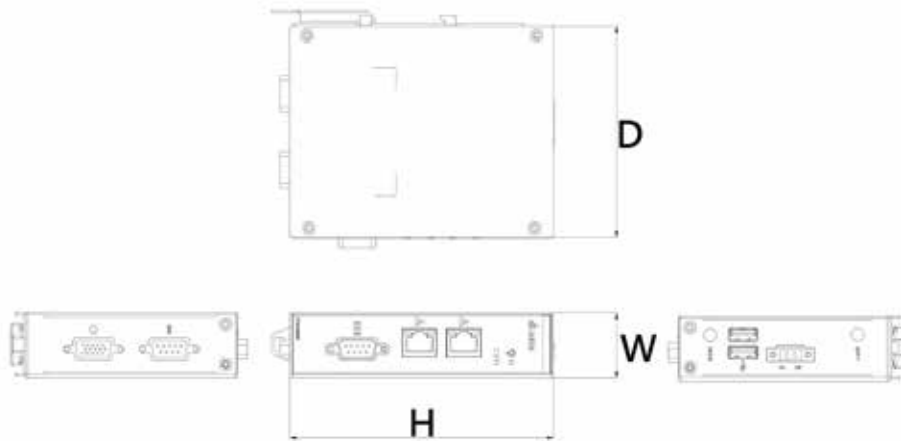
Model Information



Dimensions unit: mm



Model	W (mm)			D (mm)		H (mm)	
	W1	W2	W3	D1	D2	H1	H2
DIALink	211.5	236.9	251.9	200	140	67	71.6



Model	W (mm)	D (mm)	H (mm)
DIALink mini	31	100	125

Ordering Information

DIALink mini for CNC Machines

Model name	Specification
DIAL-C33010001E	Supports 1 CNC machines and additional 2 PLCs of total <100 I/O points / English edition Intel® Celeron N3350, RAM 2G, 64G SSD, Win10 IOT English edition

DIALink for CNC Machines

Model name	Specification
DIAL-C03100010C	Supports 10 CNC machines and additional 20 PLCs of total <1,000 I/O points / Simplified Chinese edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro Simplified Chinese edition
DIAL-C03100010T	Supports 10 CNC machines and additional 20 PLCs of total <1,000 I/O points / Traditional Chinese edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro Traditional Chinese edition
DIAL-C03100010E	Supports 10 CNC machines and additional 20 PLCs of total <1,000 I/O points / English edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro English edition
DIAL-C03050005C	Supports 5 CNC machines and additional 10 PLCs of total <500 I/O points / Simplified Chinese edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro Simplified Chinese edition
DIAL-C03050005T	Supports 5 CNC machines and additional 10 PLCs of total <500 I/O points / Traditional Chinese edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro Traditional Chinese edition
DIAL-C03050005E	Supports 5 CNC machines and additional 10 PLCs of total <500 I/O points / English edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro English edition

DIALink for PLC-based Equipment

Model name	Specification
DIAL-L03100030C	Supports 30 PLCs (1,000 I/O points) / Simplified Chinese edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro Simplified Chinese edition
DIAL-L03100030T	Supports 30 PLCs (1,000 I/O points) / Traditional Chinese edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro Traditional Chinese edition
DIAL-L03100030E	Supports 30 PLCs (1,000 I/O points) / English edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro English edition
DIAL-L03200050C	Supports 50 PLCs (2,000 I/O points) / Simplified Chinese edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro Simplified Chinese edition
DIAL-L03200050T	Supports 50 PLCs (2,000 I/O points) / Traditional Chinese edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro Traditional Chinese edition
DIAL-L03200050E	Supports 50 PLCs (2,000 I/O points) / English edition Intel® Core i3, RAM 4G, 256G SSD, Win10-Pro English edition
DIAL-L0550001HC	Supports 100 PLCs (5,000 I/O points) / Simplified Chinese edition Intel® Core i5, RAM 4G, 256G SSD, Win10-Pro Simplified Chinese edition
DIAL-L0550001HT	Supports 100 PLCs (5,000 I/O points) / Traditional Chinese edition Intel® Core i5, RAM 4G, 256G SSD, Win10-Pro Traditional Chinese edition
DIAL-L0550001HE	Supports 100 PLCs (5,000 I/O points) / English edition Intel® Core i5, RAM 4G, 256G SSD, Win10-Pro English edition

DIALink Software

Model name	Specifications
DIAL-C00100010	Supports 10 devices and additional 20 PLCs of total <1,000 I/O points
DIAL-C00050005	Supports 5 devices and additional 10 PLCs of total <500 I/O points
DIAL-L00100030	Supports 30 PLCs (1,000 I/O points)
DIAL-L00200050	Supports 50 PLCs (2,000 I/O points)
DIAL-L0050001H	Supports 100 PLCs (5,000 I/O points)
NEW DIAL-OPCU001	OPCUA server module
NEW DIAL-05001UP *	Upgraded Version DIALink, supports 5 devices and additional 10 PLCs
NEW DIAL-10001UP *	Upgraded Version DIALink, supports 10 devices and additional 20 PLCs
NEW DIAL-30002UP *	Upgraded Version DIALink, supports 30 PLCs (1,000 I/O points)
NEW DIAL-50002UP *	Upgraded Version DIALink, supports 50 PLCs (2,000 I/O points)

* DIALink.CombinDongleKeys supports the expansion of hardware keys (dongle). Please refer to DIALink user manual for more details.



Smarter. Greener. Together.

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