

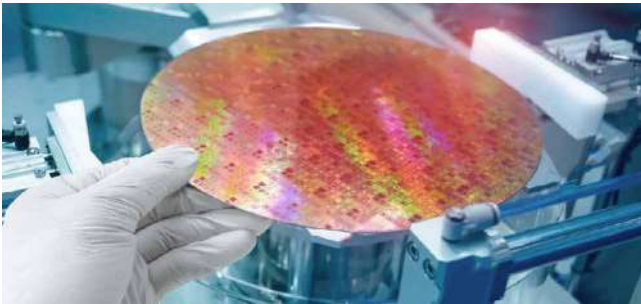
# NX5 Machine Automation Controller

Integrated control, information, and safety brings a new level of speed to manufacturing sites

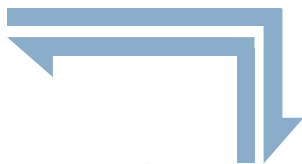


Speed up production improvement

# High speed processing and large data transfer to achieve high precision control and traceability



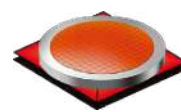
SQL Database



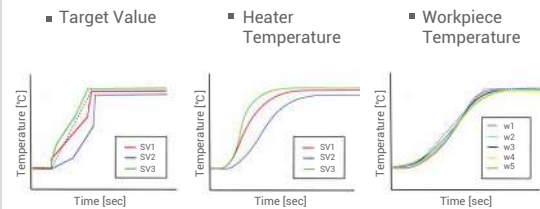
NX501 with NX-EIP201 and NX-HTC

## Yield enhancement through temperature uniformity control

- Achieves temperature uniformity in both transient and steady states
- Workpiece temperature uniformity control Function Block enables adjustment of up to 100 heater channels and 200 wafer temperature points



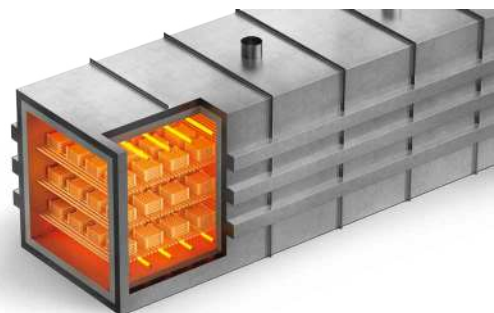
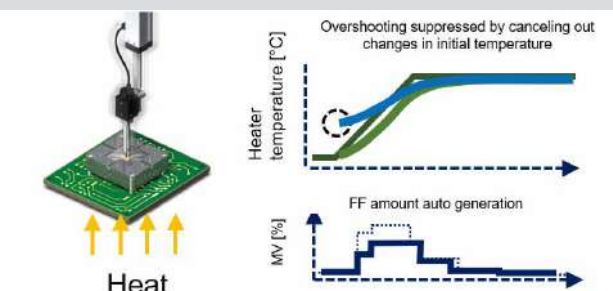
## Heater Workpiece



# Maintain quality product production that adapts to changes in workpieces, usage environments, and equipment

## Improve takt time and reduce effort by suppressing unforeseen disturbances

- Improving takt time by canceling out changes in startup conditions through suppression of unforeseen disturbances
- Reducing adjustment effort through automatic FF amount correction



**NEW** EtherNet/IP Unit  
NX-EIP201

**NEW** Automation Controller  
NX502

NX-series I/O Unit



## Control

### Control for fast-cycle, high-precision processing

- Controls 32 axes with cycle time of 250  $\mu$ s
- Used motion control servo axes : 64, 32, 16 axes
- Program capacity : 80 MB
- Memory capacity for variables : 260 MB\*<sup>1</sup>

## Information

### Various networks for diverse information utilization

#### SQL functionality

- Reliable, rapid, and easy direct access to databases and utilization of production data

#### MQTT support

- Direct connection to cloud for easy, fast, and secure data collection

#### OPC UA functionality

- Secure connection to IT systems such as MES and ERP

#### Expanded EtherNet/IP

- 10 x 1 Gbps ports for high-speed, high-capacity communications  
(when connecting four NX-EIP201 units)

## Safety

### 2 different open networks ideal for safety control of production lines and machines

#### Fail Safe over EtherCAT (FSoE)

- High speed and high reliability with redundancy, suitable for safety control in machine
- 254 connections for large and flexible production line

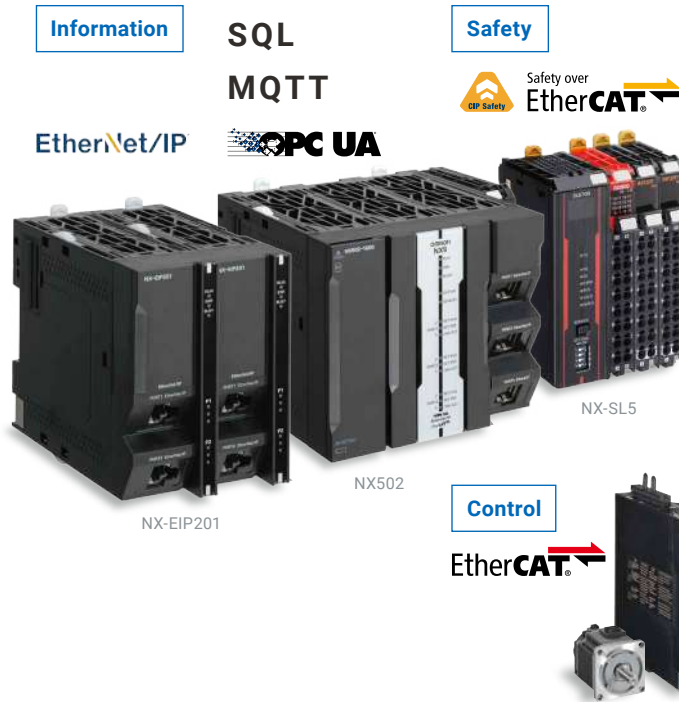
#### Common Industrial Protocol Safety (CIP Safety)

- High scalability, suitable for safety control across production line
- Up to 8 separate networks for network modularization

\*1. Total value of retain attribute memory and no retain attribute memory





# NX5 integrates control, information, and safety



## Voltage output (for driving SSR)



NX-HTC

Model	NX-HTC3510-5 	NX-HTC4505-5 
Size (mm)	Front panel: 30 × 100 Depth: 71	Front panel: 30 × 100 Depth: 71
Sensor input	Thermocouple, Platinum resistance Linear current output (Cooling)	
Reference Accuracy	For details, refer to the "NX-series Advanced Temperature Control Units User's Manual (Man.No. H238)".	
Input sampling period	50 ms	
Control output	Voltage output (for driving SSR) (Heating), Linear current output (Cooling)	Voltage output (for driving SSR)
Terminal type	MIL connector	
Approved standards	cULus, CE, RCM, KC, UKCA	

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