



The high-performance PAC and AI-Extended platform by 11th Gen Intel® Core™ i7

The NexAIoT NISE 70 is a PC-based Controller that pre-installed with CODESYS Control RTE(runtime engine), CODESYS SoftMotion, AI software suite-PROFET AI and Windows 10. With functions including motion control, logic control, PC applications and AI model inference, NISE 70 is an all-in-one solution suitable for OEMs to build multi-axis, high performance and yet anomaly detective machinery.

Powered by CODESYS, the μ -second control response and runtime engine on exclusive CPU core guarantee the time precision and stable jitter for high performance motion control. By the PLCopen and EtherCAT technology, it can support up to 255 axes motion control and reduces 60% of cable cost and wiring efforts.

Furthermore, the PROFET AI can build models and run the model inference for the manufacturing parameters, the recipes optimization and the anomaly detection of mechanical parts. It's a no-coding & AutoML solutions for numerical and time series datasets. More than 50 Machine Learning algorithms to gain the insight by user-defined features and labels.



High Performance

- 11th Gen Intel Core i7
- 50 μ second cycle time
- Distributed clocks for synchronization
- motion control up to 255 axes



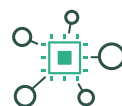
Control Standards

- IEC 61131-3
- PLCopen motion control part 1,2 and 3
- EtherCAT
- OPC UA Server



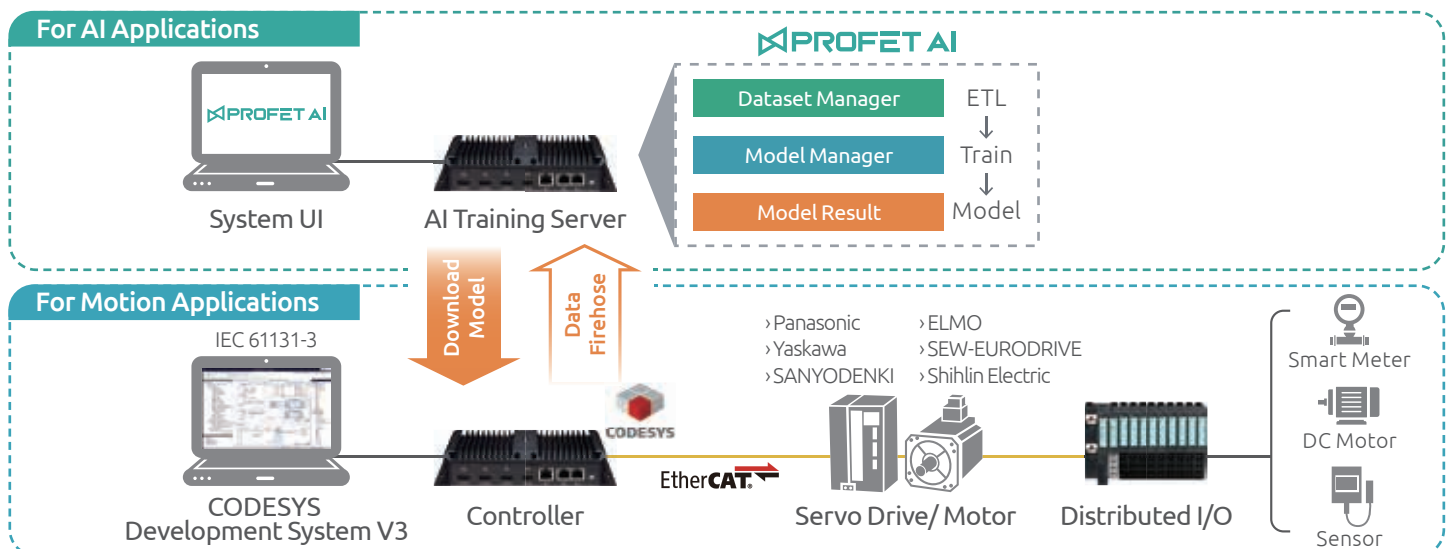
Mature AutoML

- 50+ machine learning algorithms
- 5 mins from data to training
- Flow-oriented UI/UX
- Application-ready Templates(/Datasets)
- Assistive charts for model scoring & performance



Smart Machinery & Integration

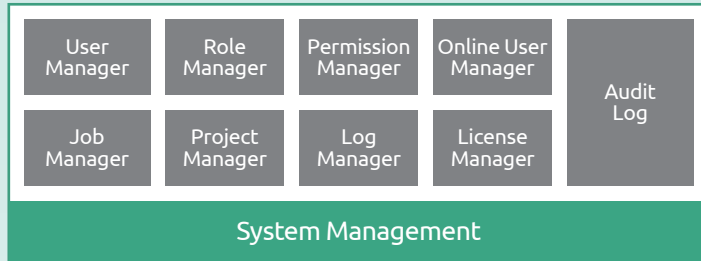
- Logic & motion control applications
- Vision applications
- AI applications
- Database & System applications



AI Functions

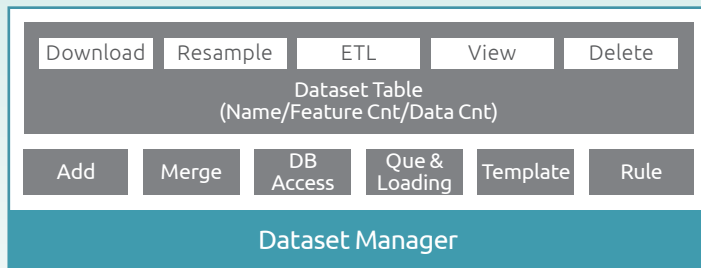
◆ System Management

The System Management offers user setup, job status & system loading, license activation and log recording to monitor and operate the PROFET AI suite.



◆ Dataset Manager

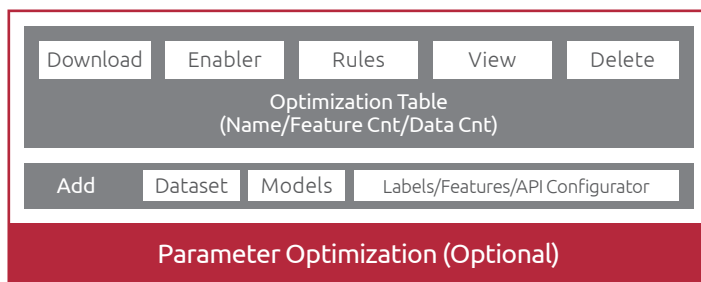
The Dataset Manager adds, operates and manages the datasets from files and database.



◆ Parameter Optimization (Optional)

The Parameter Optimization allows you to combine various models and configure labels, features, weight then generate the optimized results combinations by features for the target labeling value of your applications.

- Default Optimizer API Download: 10 sets
- Default Optimizer by Excel: Unlimited



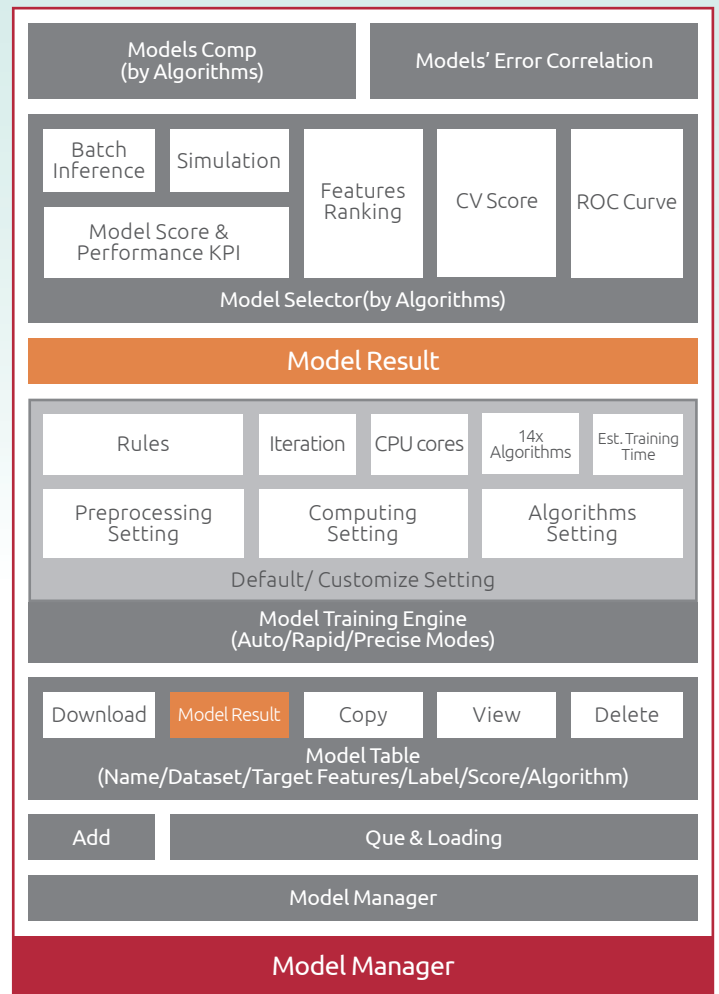
◆ Model Manager

The Model Manager includes ML model training(Model Manager) and model inference(Model Result) for numerical and time-series data and applications.

The Model Manager allows you to train the ML models by Auto/Rapid/Precision Modes with no coding and low-understanding of the ML algorithms.

The Model Result allows you to run the followings.

1. View the score and performance KPIs of each models.
2. Compare the score and relationship among models.
3. Perform the model inference of each models for label simulation.



		NISE70-T01	NISE70-T02	NISE70-T03
Motion Control (CODESYS)	CODESYS runtime version	3.5.14.40		
	Fast cycle time	50 μs		
	Large retain memory: 1MB	Optional		
	Max. number of tasks	100		
	Support unlimited tags	V		
	I/O system	PROFINET, EtherNet/IP, EtherCAT and Modbus TCP		
	OPC UA Server	V		
	IEC61131-3 Language	V		
	On-line debug	V		
	PLC Handler(Share memory API)	V		
	DC Enable	V		
	On-line debug	V		
	Support 255 axes	V		

The AI-Extended SoftMotion Controller



		NISE70-T01	NISE70-T02	NISE70-T03
Motion Control (CODESYS)	Motion Functions	For Single/Multi axes Control (w/ Motion Analyser)PLCopen motin control (Part 1,2 and 3)ETG 6010 (EtherCAT over CiA 402)		
	Software & Web HMI	1. JMobile Studio & JMobile PC runtime 2. CODESYS TargetVisu & WebVisu		
AI Software Suite	Data Manager	-Support file format: .CSV, Excel -Support database type: MSSQL , Oracle Database, MySQL, PostgreSQL, MongoDB -Unlimited Dataset Table (Depends on Storage Size) -Assistance Chart: Correlation Heat Map, PDF/CDF Chart -Unlimited Model Table		
	Model Manager	-Default Model for Edge Download: 10 models -Default Training Mode: Auto/Rapid/Precise -Default Algorithms: 50+ (Bagging, Decision Tree, Gradient Boosting, ...) -Assistance Chart: Models Ranking, Features Ranking Correlation Heat Map, CV Score, ROC Curve -Inference Interface: RESTful API		
	System Management	-Default Users: 1 account, non-concurrent user -Default License: 3 modules(Dataset Manager, Model Manager, System Management) -Default License of System Management: Log Manager, Audit Log -Optional License of System Management(concurrent user): Role Manager, Permission Manager, User Manager, Job Manager, Project Manager, License Manager		
	Parameter Optimization (Optional)	-Default Optimizer for Edge Download: 10 models -Default Optimizer by Excel: Unlimited		
Hardware Spec	CPU Support	Intel® Celeron® Tiger Lake-UP3 processor	Intel® Core™ i5-1145G7E Tiger Lake-UP3 processor	Intel® Core™ i7-1185G7E Tiger Lake-UP3 processor
	Main Memory	1 x DDR4 3200 SO-DIMM socket, support up to 32GB		
	Display Option	4 x HDMI ports, only support full HD(2K) monitor		
	I/O Interface-Front	ATX power on/off switch4 x HDMI port, only support full HD(2K) monitor2 x Intel® I210 and 1 x Intel® WGI219LM GbE LAN ports; support WoL, teaming and PXE1 x Antenna hole		
	I/O interface-Rear	3 x USB 3.0 ports (900mA per each)1 x USB2.0 (500mA per each)2 x DB9 for COM1 & COM2 - COM1: RS232/422/485 auto flow control - COM2: full RS232 signal1 x 2-pin remote power on/off switch2 x Antenna holeSupport+12V to 24V DC input		
	I/O Interface-Internal	4 x GPI and 4 x GPO (programmable to GPI or GPO)		
	Expansion Slot	1 x mini-PCIe socket for optional Wi-Fi/BT/4G LTE/mSATA1 x M.2, support B & B+M Key module for optional 4G LTE/5G/SATA storage (SATA/PCIe/USB, 2242/3042)		
	Power Requirements	Power input: +12 to +24V DC1 x Optional 24V, 60W power adapter		
	OS Support	Windows 10 64-bit Linux Kernel		
	Dimensions	198.8mm (W) x 150.4mm (D) x 37.7mm (H) with the wall mount bracket		
	Construction	Aluminum and metal chassis with fanless design		
	Environment	- Operating temperature: Ambient with air flow: -5°C to 55° (according to IEC60068-2-1, IEC60068-2-2, IEC60068-2-14) - Storage temperature: -20°C to 80°CRelative humidity: 10% to 95% (non-condensing) - Shock protection:- M.2/mSATA: 50G, half sine, 11ms, IEC60068-2-27 Vibration protection with mSATA & M.2 condition:- Random: 2Grms @ 5~500 Hz, IEC60068-2- 64- Sinusoidal: 2Grms @ 5~500 Hz, IEC60068-2-6		
	Certifications	CE, FCC Class A		

Ordering Information

PROFET AI AutoML

- ♦ **PROFET AI AutoML Lite (P/N: 6014500198X01)**
1 named account, non-concurrent user, Including System Management(Log Manager, Audit Log), Dataset Manager, Model Manager
- ♦ **System Management (P/N: 6014500200X01)**
1 concurrent user license
- ♦ **Parameter Optimization (P/N: 6014500199X01)**
- ♦ **Edge Download (P/N: 6014500204X01)**
- ♦ **PROFET AI AutoML Enterprise (P/N: 6014500209X01)**
3 concurrent users, 30 edge licenses, With all features, including unlimited Anomaly Detection
- ♦ **PROFET AI AutoML Enterprise, option (P/N: 6014500210X01)**
1 concurrent user, 10 edge licenses

Edge License

PROFET AI AutoML Lite/PROFET AI AutoML Enterprise

- ♦ **Edge License (P/N: 6014500211X01)**
1 model
- ♦ **Edge License (P/N: 6014500212X01)**
10 models

AI Edge Inference Platform

- ♦ **NISE 70-T01 (P/N: 10J00007000X0)**
- ♦ **NISE 70-T02 (P/N: 10J00007001X0)**
- ♦ **NISE 70-T03 (P/N: 10J00007002X0)**

Automation Software License Included:

- ♦ **CODESYS Control SoftMotion RTE SL Options**
- ♦ **JMobile Studio (P/N: 6014500029X00)**
- ♦ **JMobile PC Runtime (P/N: 6014500020X00)**
- ♦ **CODESYS TargetVisu (P/N: 86SWCDS3U01X0)**