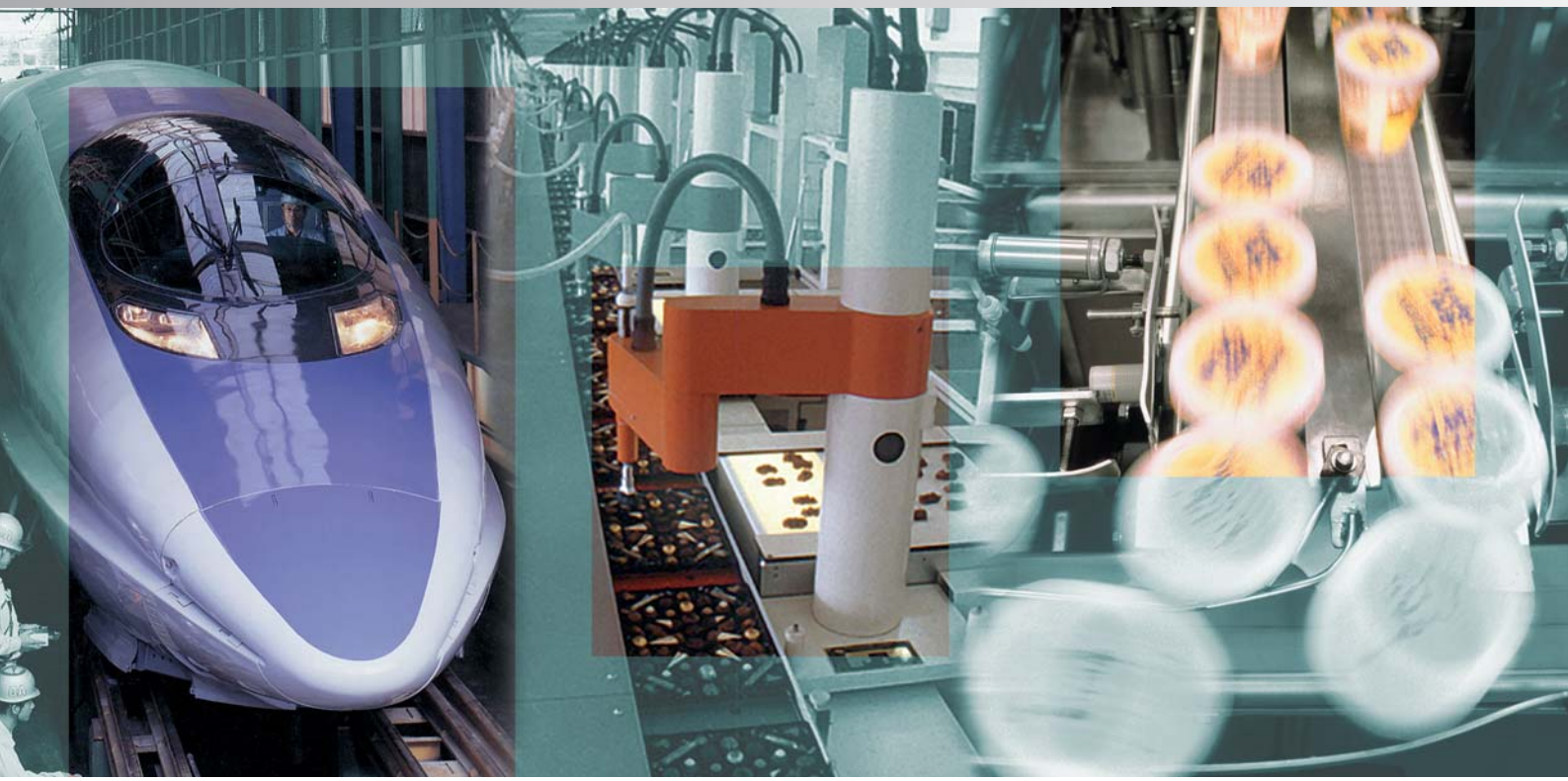
HITACHI
Inspire the Next



Product Range

Frequency Inverter and Programmable Logic Controller

Hitachi. One of the World's largest Corporations for

Powerful Inverter and PLC are Part of our wide Range of Industrial Components.

For more than 90 years...

our motto has been: Where there's high-tech, there's Hitachi. The company's product line comprises over 20,000 products. From computers and semiconductors, to consumer goods to complete energy and industrial systems, as well as transport systems. When developing trend-setting technologies, the focus is on environment friendliness and efficient use of energy.

Hitachi products are tested and certified in accordance with international standards.

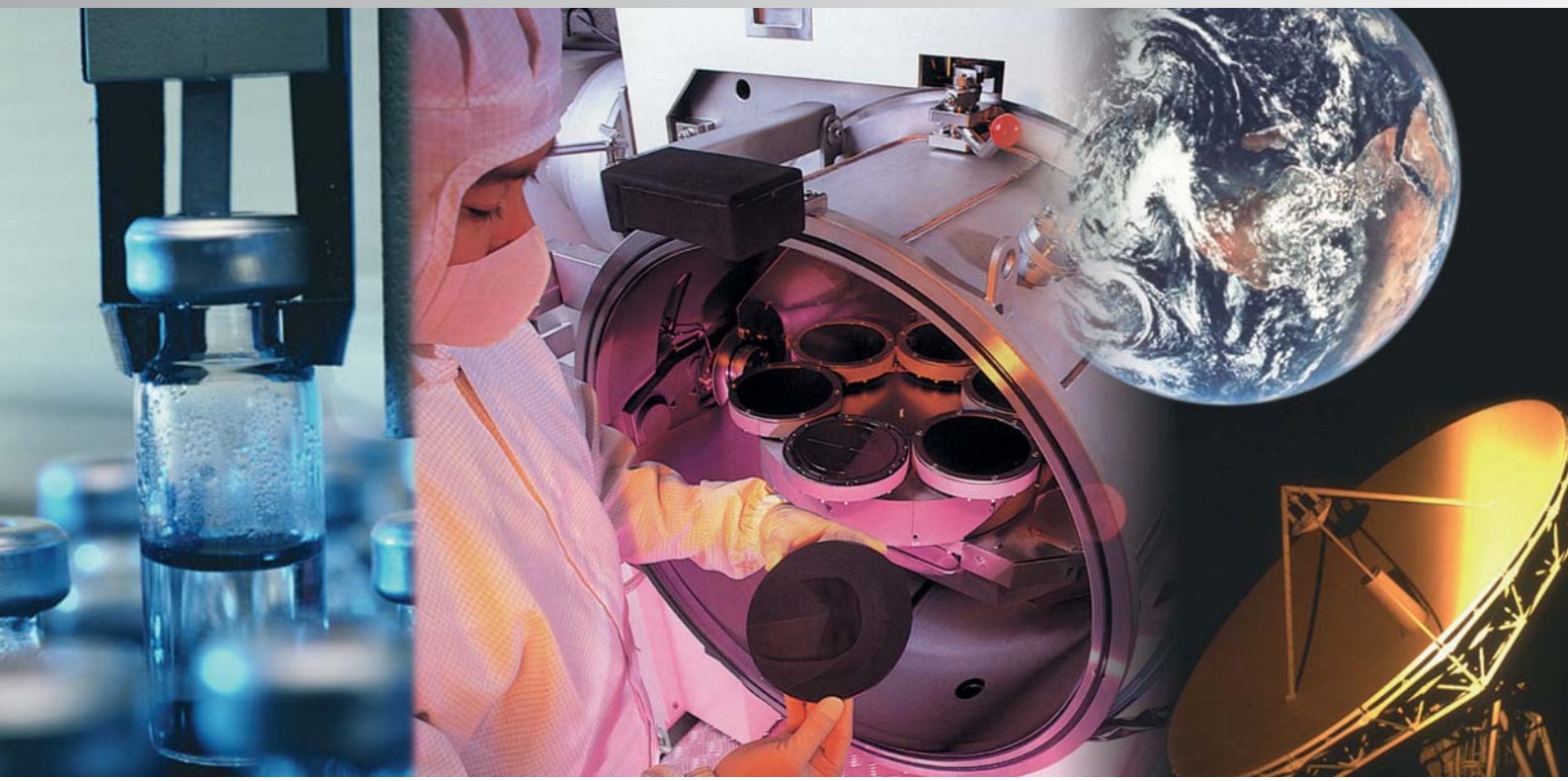
With total sales of over EURO 60 billion, the Hitachi corporate group employs more than 320,000 employees in its over 1,000 subsidiaries. These employees are the corporation's most valuable capital.

With dedication, know-how and experience, they produce top quality products.

Competitive advantages through innovation.

Hitachi maintains research and development departments in all branches of the company which are continually working on the improvement of products and technologies. Synergy effects are specifically used in product policy. As a result, many components for Hitachi products are produced within the company itself.

A prime example of this is the H8S high performance chip. It provides processing power for a number of electronics products.



Hitachi Inverter and PLC

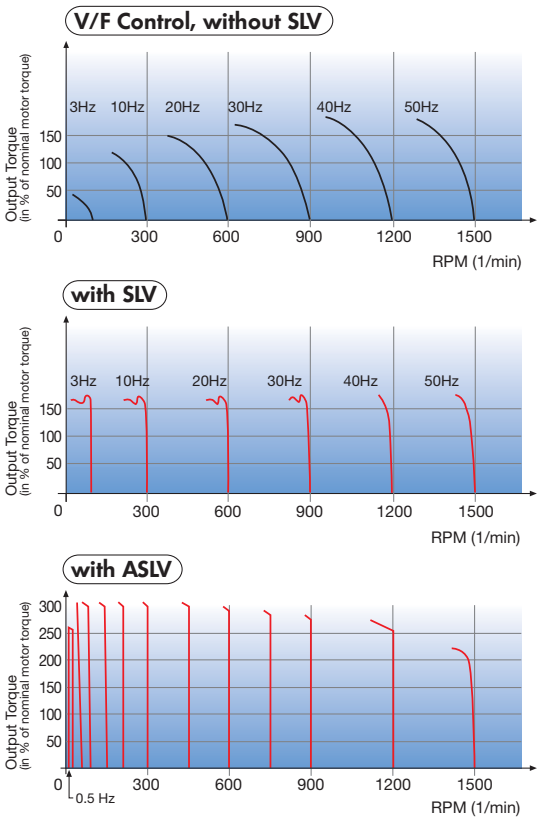
Hitachi Inverter and PLC also include several components manufactured in Hitachi plants.

This ensures that Hitachi's high demands on quality are met and also allows for a very competitive price structure.

Further advantages for the user are: energy efficiency, user-friendly design and the availability of a world-wide service network. Hitachi Inverter were developed under special consideration of network abilities and international standards, such as CE and UL. Such innovative inverter components as the ISPM module, Advanced Sensorless Vector Control and state-of-the-art fieldbus technology make Hitachi Inverter the first choice for all your drives and drive systems.

Hitachi Inverter feature advanced Technology and

Performance and intelligence of frequency inverter have been drastically improved over the past few years. One important contribution was Hitachi's development effort in the area of power electronics (ISPM). Furthermore, compact design, maintenance needs and cost efficiency of Hitachi Inverter have been consistently optimized. All Hitachi Inverter stand out due to easy operating features and correspond with international product standards.



SENSORLESS VECTOR CONTROL

The Hitachi Sensorless Vector Control (SLV) ensures maximum starting torque and optimum dynamic response under changing loads. Equipped with SLV, even standard drives achieve maximum performance at a reasonable cost.

The Advanced Sensorless Vector Control (ASLV; patent pending) offers 200% starting torque or greater at 0.5 Hz and full torque at 0 Hz (motor derating).

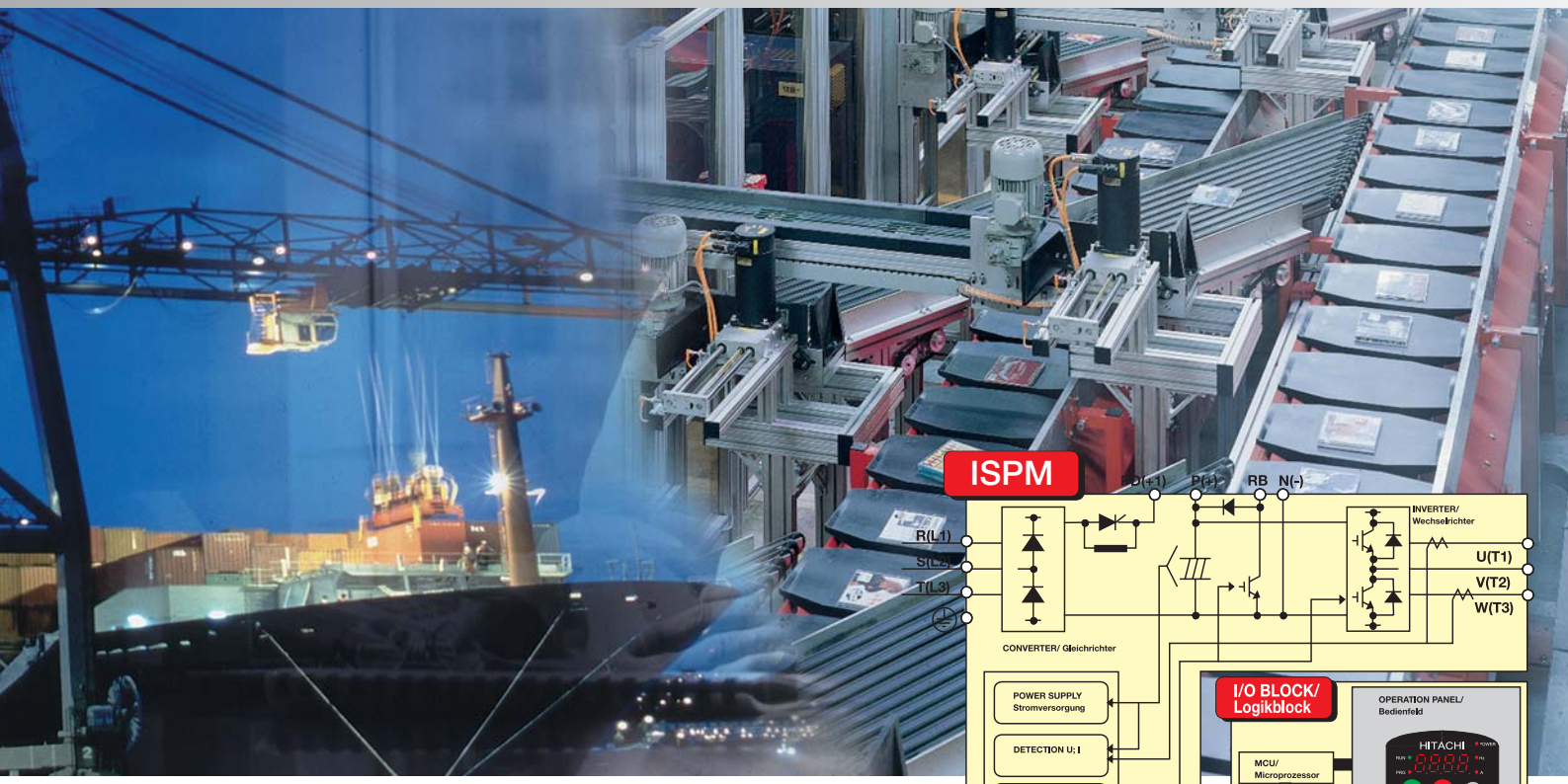
In combination with the feedback board (closed loop operation), outstanding results can be achieved for positioning and synchronising tasks. Furthermore, the feedback board allows for highly dynamic torque control.

COMMUNICATION

Thanks to their optional interfaces, Hitachi inverter can easily be integrated with several standard fieldbus systems.

Compatible with the standard-fieldbus systems:

- *Profibus DP*
- *DeviceNet*
- *LonWorks®*



ISPM MODULE

At the heart of the new generation of Hitachi Inverter is a super compact module, featuring a completely new development concept. The module comprises all components which are necessary to optimize the control of variable drive systems. For the first time, power supply, drive and protection circuits, a micro-processor, diode bridge, IGBT and optically isolated interfaces were integrated in one package. The ISPM module is certified according to major international safety standards.

Miniaturisation of the control components in one compact module.

COMPACT DESIGN

The volume of all Hitachi Inverter was drastically reduced compared with previous models.
For example, in the case of L300P, the volume was reduced by up to 50%.

GLOBAL STANDARDS

Hitachi Inverter fulfill all international standards, such as CE, UL, cUL and C-tick. Together with Hitachi's global network of distribution and service points, this ensures the world-wide availability of Hitachi Inverter.

Quality assurance is certified according to ISO 9001 and 14001.

Multi-language documentation is also available.

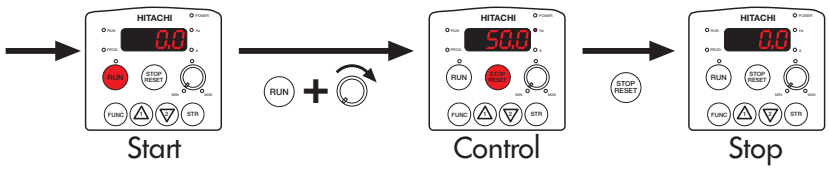
ISO 14001

USER-FRIENDLY

The large displays and clear layout of all inverter control screens facilitate programming and monitoring of the inverter. All functions can be conveniently reached thanks to easy instructions.

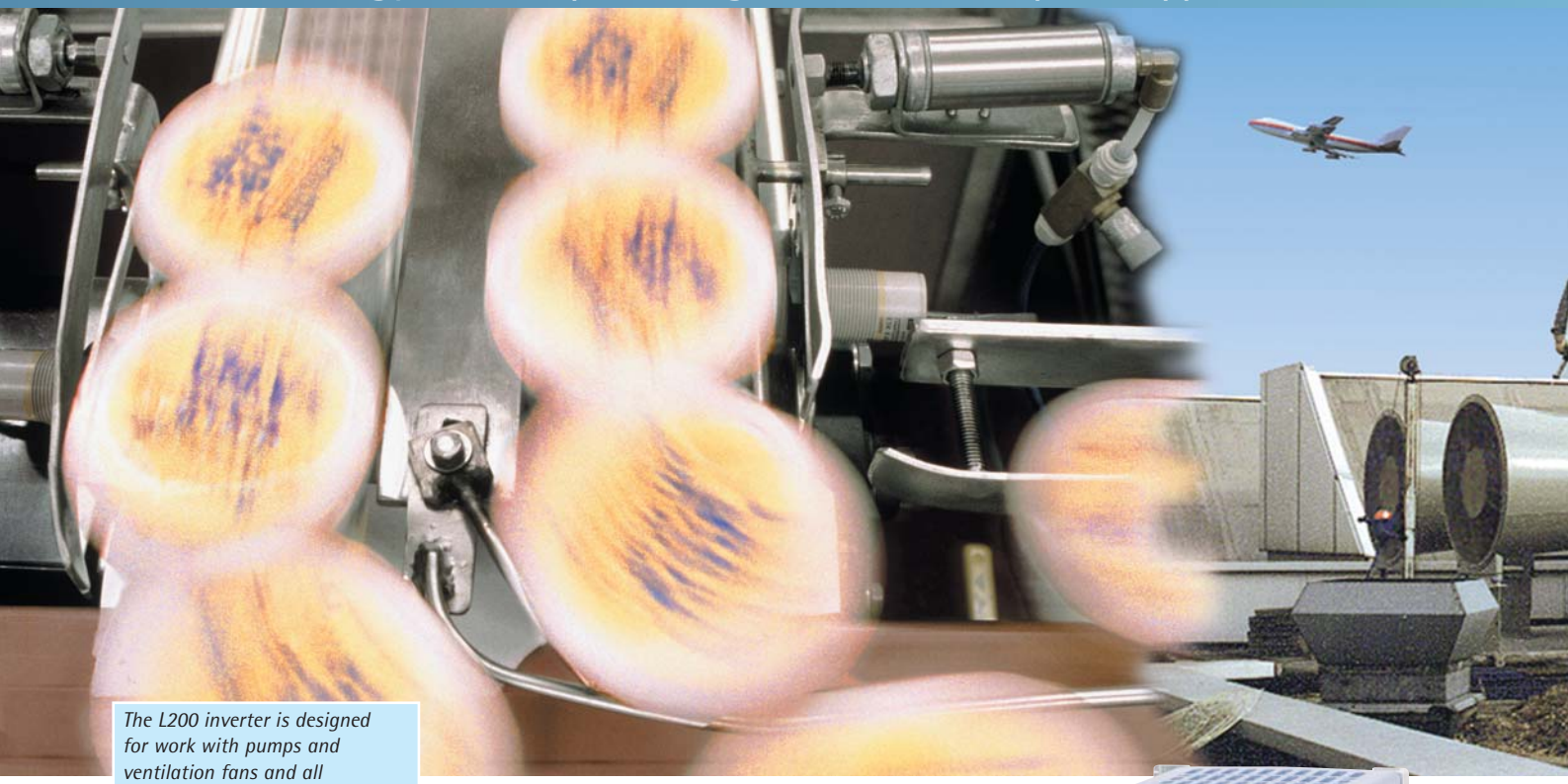
The potentiometer, standard on L200 and SJ200 and L300P series, allows for fast and direct speed control.

Hitting two keys and turning the potentiometer are enough to set the motor to the required speed.



L200 and L100IP.

ISPM-Technology and compact Design for a wide Scope of Applications



The L200 inverter is designed for work with pumps and ventilation fans and all standard applications with V/f-control, e.g. food industry.

L200 Series at a glance:

- Capacity Range: 0.2 – 7.5 kW
- Global Standards to CE, UL, c-UL, C-tick and CSA
- Integrated RS485 Interface
- PID Control
- Automatic Voltage Regulation
- Integrated EMC-Filter
- Motor Thermistor Input
- Digital Display with Built-in Potentiometer

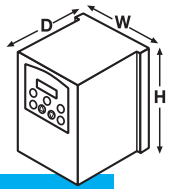
And many more

The economical choice for a broad range of tasks

L200 SERIES

L200 inverter are specially suited for applications with a high priority on cost efficiency. The L200 presents the ideal combination of innovative ISPM-technology, powerful performance and practical design.

The broad range of applications includes pumps and ventilation fans (reduced torque characteristics), machine tool manufacturing, packaging, food and beverage production.



L200 – Technical Details at a Glance*

Inverter L200	200V-Series							400V-Series							
	002 NFEF	004 NFEF	005 NFEF	007 NFEF	011 NFEF	015 NFEF	022 NFEF	004 HFEF	007 HFEF	015 HFEF	022 HFEF	030 HFEF	040 HFEF	055* HFE	075* HFE
Max. motor size (4p.kW)	0.2	0.4	0.55	0.75	1.1	1.5	2.2	0.4	0.75	1.5	2.2	3.0	4.0	5.5	7.5
Input supply Phase	Single phase/Three phase							Three phase							
Rated input voltage	200VAC –10% ~ 240VAC +10% 50/60Hz +/-5%							380VAC –10% ~ 480VAC +10% 50/60Hz +/-5%							
Rated output voltage	Three phase 200 ~ 240VAC (Corresponds to input voltage)							Three phase 380 ~ 480VAC (Corresponds to input voltage)							
Rated output current in A	1.4	2.6	3.0	4.0	5.0	7.1	10.0	1.5	2.5	3.8	5.5	7.8	8.6	13.0	16.0
Dimensions W x H x D in mm	80x140x93	80 x 140 x 107		110 x 155 x 156		140 x 180 x 171		110x155x129	110 x 155 x 156					180 x 220 x 155*	

*This size without filter

* Detailed information will be found in our data sheets or in the technical documentation at www.hitachi-ds.com

L100IP – designed for use in air-conditioning technology (heating, ventilation, cooling), water treatment, water purification and much more.

Frequency Inverter Series IP 54

L100IP SERIES

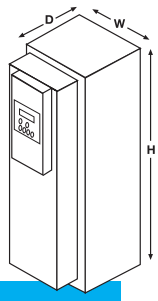
These new frequency inverter Series IP 54 on the basis of the successful development of today's inverter L100 Series, are particularly suitable for use in food industries, air-conditioning technology (heating, ventilating, cooling), water treatment and cleaning as well as in many other stand-alone applications.

Besides operation in connection with constant and variable. loads the voltage-to-frequency control also allows setting of parameters for a freely definable voltage-to-frequency characteristic, significantly expanding the area of application of these frequency inverter.

L100IP Series at a glance:

- Capacity Range: 0.4 – 7.5 kW
- PID Control
- Digital Display
- Motor Thermistor Input
- Integrated RS422 Interface
- Automatic Voltage Regulation
- Integrated EMC-Filter Class B
- Connection via fast serial interfaces to networks such as PROFIBUS, LonWorks or DeviceNet (optional)
- Meets CE standards

And many more

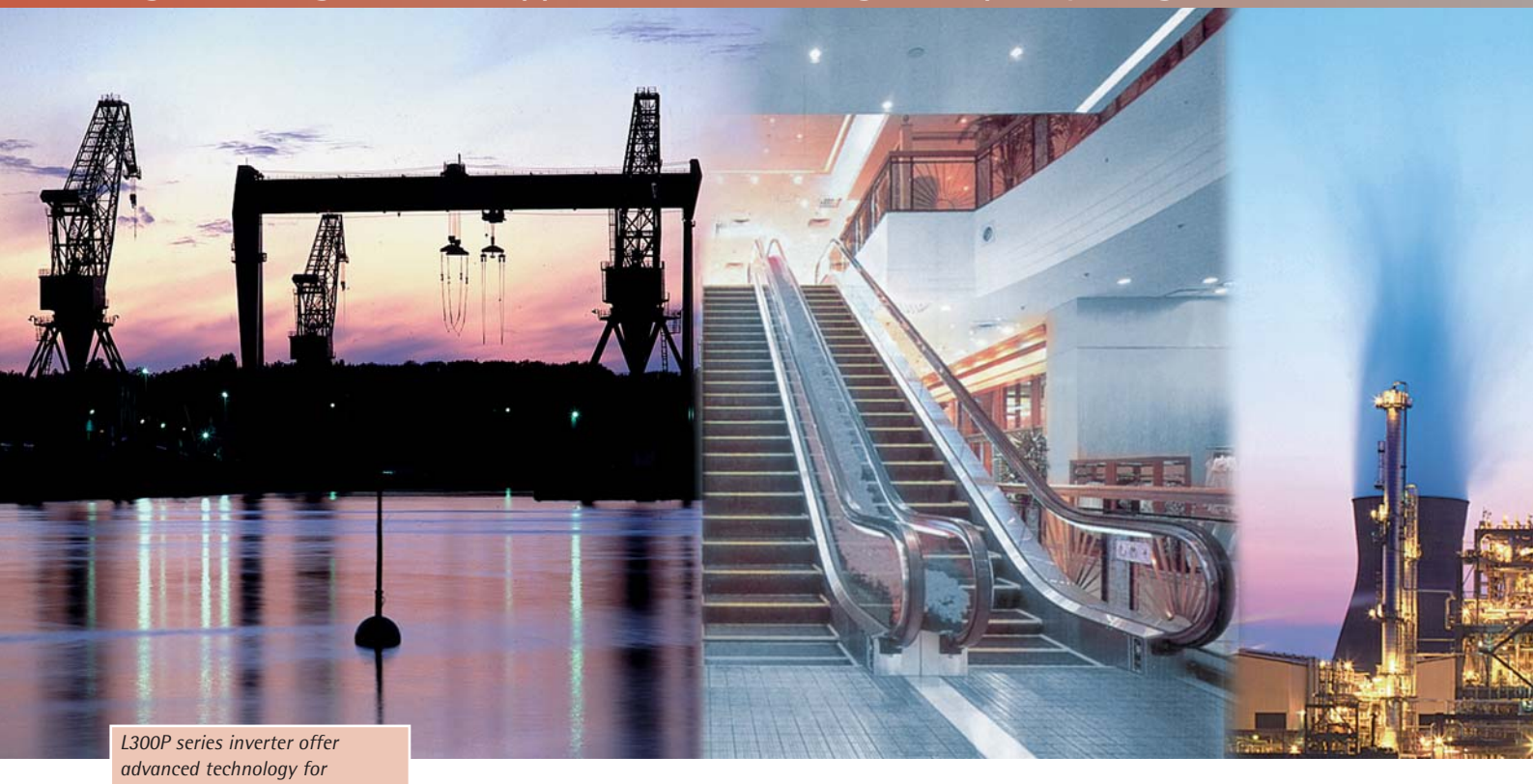


L100IP – Technical Details at a Glance*

Inverter L100IP	200V-Series				400V-Series					
	IP-004 NFE	IP-007 NFE	IP-015 NFE	IP-022 NFE	IP-007 HFE	IP-015 HFE	IP-022 HFE	IP-040 HFE	IP-055 HFE	IP-075 HFE
Max. motor size in kW	0.4	0.7	1.5	2.2	0.7	1.5	2.2	4.0	5.5	7.5
Input supply Phase	Single phase/Three phase				Three phase					
Rated input voltage	200 – 240 V (+/- 10%) / 50 Hz / 60 Hz (+/- 5%)				380 – 480 V (+/-10%) / 50 Hz / 60 Hz (+/-5%)					
Rated output voltage	Three phase 200 ~ 240VAC (Corresponds to input voltage)				Three phase 360 ~ 460VAC (Corresponds to input voltage)					
Rated output current in A	2.6	4.0	7.1	10.0	2.5	3.8	5.5	8.6	13.0	16.0
Dimensions W x H x D in mm	185 x 490 x 200				185 x 490 x 200				185 x 490 x 275	

L300P and L300IP.

Right on target for all Applications in the higher Capacity Range



L300P series inverter offer advanced technology for controlling drive systems with constant or variable load characteristics.

L300P Series at a glance:

- Capacity Range: 1,5 – 132 kW
- Global Standards to CE, UL, c-UL, CTick, CSA, GOST
- Built-in Potentiometer
- Auto-Energy Saving function
- PID Control
- Motor Synchronisation
- Quick Stop function
- User Macro saving
- RS485 and RS422 Interfaces

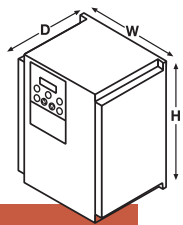
And many more

The economical choice for the higher capacity range from 1.5 to 132 kW

L300P SERIES

A central goal of Hitachi's development work on the L300P series: To achieve optimum economical efficiency for standard V/f-applications. The result is an inverter that is among the smallest of its class. In a compact housing, the L300P integrates a wide range of standard features. For instance, a unique power supply control for improved CE-EMC characteristics, PID control for automatic control of important process parameters, an auto-energy saving mode for optimal energy efficiency, to name only a few.

These features make the L300P the inverter of choice for all applications which call for maximum reliability: for fans and pumps, heating and air-conditioning and all process engineering tasks related to flow control.



L300P – Technical Details at a Glance*

Item	400V/3-phase																	
Model Name: L300P-	015 HFE2	022 HFE2	040 HFE2	055 HFE2	075 HFE2	110 HFE2	150 HFE2	185 HFE2	220 HFE2	300 HFE2	370 HFE2	450 HFE2	550 HFE2	750 HFE2	900 HFE2	1100 HFE2	1320 HFE2
Max. applicable motor (4p.kW) (CT)	1.5	2.2	4	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132
Rated input voltage	3-phase (3 wires) 380-480 V (±10 %)/50 Hz, 60 Hz (±5 %)																
Rated output voltage	380~480 V (according to supply voltage)																
Rated output current [A]	3.8	5.3	8.6	12	16	22	29	37	43	57	70	85	105	135	160	195	230
Dimensions W x D x H in mm	150 x 255 x 140				210x260x170	210 x 260 x 178.5		250 x 390 x 198.5			310x540x203.5	390 x 550 x 258.5			390 x 700 x 278.5		480x740x278.5

* Detailed information will be found in our data sheets or in the technical documentation at www.hitachi-ds.com

L300IP – particularly suited for applications in the food industry, air conditioning technology (heating, ventilation and cooling), water treatment and purification, as well as numerous stand-alone solutions without a control box

Frequency Inverter Series IP 54

L300IP SERIES

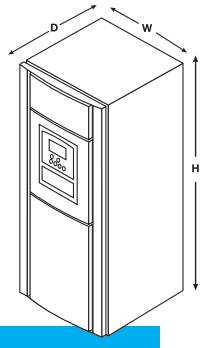
The power of the proven Series L300P – now including the protection class IP 54 for applications in the food industry, air conditioning technology (heating, ventilation and cooling) and water treatment and purification.

In addition to operation at constant and RMS loads, the voltage/frequency controller parameter definition for any desired voltage/frequency characteristic. Numerous functions such as PID control, guided time lag switching in case of power failure, user macro storage and a motor potentiometer feature result in a high level of convenience for the user. The standard RS-485/RS422 interface offers convenient, individual programming and startup via a computer, a PLC and also using the optional control devices offered.

L300IP Series at a glance:

- Capacity Range: 1.5 – 132 kW
- PID Control
- Digital Display
- Motor Thermistor Input
- RS 485/422
- Automatic Voltage Regulation
- Integrated EMC-Filter Class B
- Connection via fast serial interfaces to networks such as PROFIBUS, LonWorks or DeviceNet (optional)
- Meets CE standards

And many more



L300IP – Technical Details at a Glance*

Inverter L300IP	400V-Series																
	IP-015 HFE	IP-022 HFE	IP-040 HFE	IP-050 HFE	IP-075 HFE	IP-110 HFE	IP-150 HFE	IP-185 HFE	IP-220 HFE	IP-300 HFE	IP-370 HFE	IP-450 HFE	IP-550 HFE	IP-750 HFE	IP-900 HFE	IP-1100 HFE	IP-1320 HFE
Max. motor size in kW	1.5	2.2	4	5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132
Input supply Phase	Three phase																
Rated input voltage	380 – 480 V (+/-10%) / 50 Hz / 60 Hz (+/-5%)																
Rated output voltage	380~480 V (Corresponds to input voltage)																
Rated output current in A	3.8	5.3	8.6	12	16	22	29	37	43	57	70	85	105	135	160	195	230
Dimensions W x H x D in mm	316 x 680 x 335							422 x 820 x 360			368x970x376	498 x 1070 x 433			u.p.		

SJ200 and SJ300.

ISPM-Technology and vector control in a compact Design.

Handling machines – a typical application for the SJ200 inverter.

The compact choice with full vector control for demanding applications

SJ200 Series at a glance:

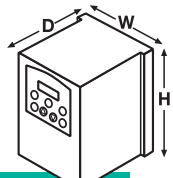
- Capacity Range: 0.2 – 7.5 kW
- Global Standards to CE, UL, c-UL, cTick and CSA
- Integrated RS485 Interface
- Internal Brake Chopper
- Sensorless Vector Control (SLV)
- Motor-Autotuning
- Integrated EMC-Filter
- 200% Starting Torque
- Built-in Potentiometer
- PID Control
- Automatic Voltage Regulation
- Motor Thermistor Input

And many more

SJ200 SERIES

The SJ200 is a true muscle-man, featuring enhanced ISPM-technology with vector control. Outstanding performance and design characteristics, such as superior torque for demanding applications and exceptionally compact size, for SJ200 inverter in a class of their own. They are suited for various applications in textile, paper and printing industries as well as for all areas of the metalworking industry, cranes and elevators.

WITH SLV

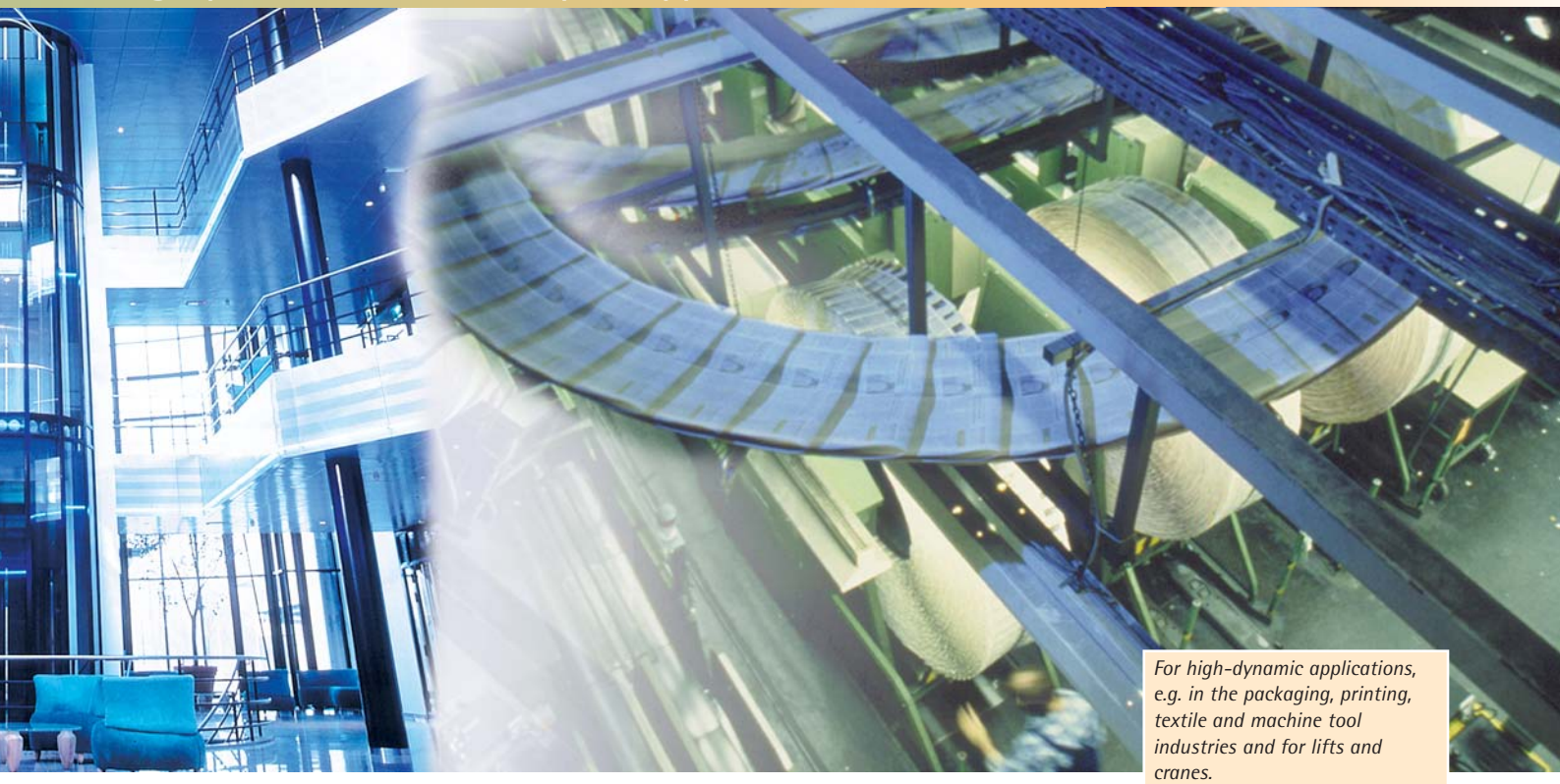


SJ200 – Technical Details at a Glance*

	200V-Series							400V-Series							
Inverter SJ200	002 NFEF	004 NFEF	005 NFEF	007 NFEF	011 NFEF	015 NFEF	022 NFEF	004 HFEF	007 HFEF	015 HFEF	022 HFEF	030 HFEF	040 HFEF	055* HFEF	075* HFEF
Max. motor size (4P) in kW	0.2	0.4	0.55	0.75	1.1	1.5	2.2	0.4	0.75	1.5	2.2	3.0	4.0	5.5	7.5
Input supply phase	Single/Three phase							Three phase							
Rated input voltage	200VAC –10% ~ 240VAC +10% 50/60Hz +/-5%							380VAC -10% ~ 480VAC +10% 50/60Hz +/-5%							
Rated output voltage	Three phase 200 ~ 240VAC (Corresponds to input voltage)							Three phase 380 ~ 480VAC (Corresponds to input voltage)							
Rated output current in A	1.6	2.6	3.0	4.0	5.0	8.0	11.0	1.5	2.5	3.8	5.5	7.8	8.6	13.0	16.0
Dimensions W x H x D in mm	80x140x103	80 x 140 x 117		110 x 155 x 139		110 x 155 x 166		110x155x139	110 x 155 x 166					180 x 220 x 155*	

*This size without filter

* Detailed information will be found in our data sheets or in the technical documentation at www.hitachi-ds.com



For high-dynamic applications, e.g. in the packaging, printing, textile and machine tool industries and for lifts and cranes.

The dynamic choice with Advanced Sensorless Vector Control for demanding applications

SJ300 SERIES

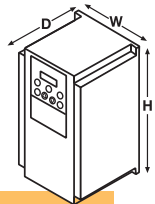
The new SJ300 Inverter are among the most powerful of their class. Hitachi's unique "Advanced Sensorless Vector Control" (ASLV; patent pending) offers 200% starting torque and full torque at zero Hz – without feedback. The integrated Hitachi 32-bit SuperH RISC processor delivers the dynamic response needed for high-end applications.

To compensate possible temperature fluctuations within the motor, which might adversely affect smooth control of the motor, an online/offline motor-autotuning function is included. A newly developed internal control process leads to drastically reduce any rotational fluctuation at low speed, which enhances process stability and precision.

SJ300 Series at a glance:

- Capacity Range: 0.75 – 132 kW
- Advanced Sensorless Vector Control (closed/open loop)
- Starting Torque >200%
- Full Torque at 0 Hz
- High-Torque Multi-Motor Operation (with SLV)
- Motor-Autotuning (online/offline)
- Quick-Stop Function
- RS485 and RS422 interfaces
- Global Standards to CE, UL, c-UL, CTick, CSA
- Built-in Potentiometer
- PID Control
- P/PI Control
- Automatic Voltage Regulation
- Motor Thermistor Input
- User Macro Saving

And many more



SJ300 – Technical Details at a Glance*

Item	400V/3-phase																		
Model Name	007 HFE	015 HFE	022 HFE	040 HFE	055 HFE	075 HFE	110 HFE	150 HFE	185 HFE	220 HFE	300 HFE	370 HFE	450 HFE	550 HFE	750 HFE	900 HFE	1100 HFE	1320 HFE
Max. applicable motor (4p. kW) (CT)	0.75	1.5	2.2	4.0	5.5	7.5	11	15	18.5	22	30	37	45	55	75	90	110	132
Rated input voltage	3-phase (3 wires) 380-480 V (±10%) / 50 Hz/60 Hz (±5%)																	
Rated output voltage	380~480 V (according to supply voltage)																	
Rated output current [A]	2.5	3.8	5.3	8.6	12	16	23	32	38	48	58	75	90	110	149	176	217	260
Dimensions W x H x D in mm	150 x 255 x 140					210 x 260 x 170		250 x 390 x 190			310x540x195	390 x 550 x 250			390 x 700 x 270		480 x 740 x 270	

ProDrive and Pro-H.

The Software Packages for Hitachi Inverter and PLC.

An overview of ProDrive software:

- Windows 98, 2000, XP
- Engineering and expert tools for operational startup and testing
- User-friendly data tree structure
- OPC client/server architecture
- User-oriented configuration levels
- Project data storage and export for documentation and processing

Engineering tools for operational startup, such as a monitor window for PID control, and encoder feedback matching.

Interface functions for individual customization:

- *Templates for creating parameter lists*

New PC operating software for parameter definition startup/support of all Hitachi frequency inverter.

PRO DRIVE

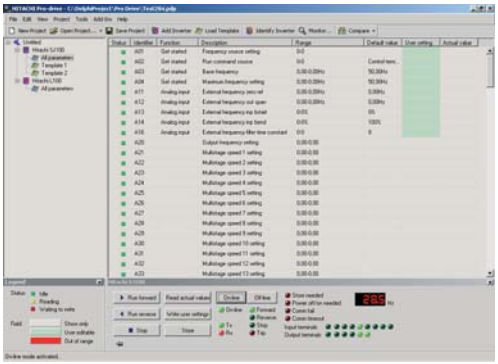
ProDrive is a combined tool for project documentation and operational startup for anyone using Hitachi frequency inverter in diverse applications.

Based on a user-friendly tree structure for the data, ProDrive offers all the tools needed by a user to configure the frequency inverter, control it and check the settings with the integrated expert tools.

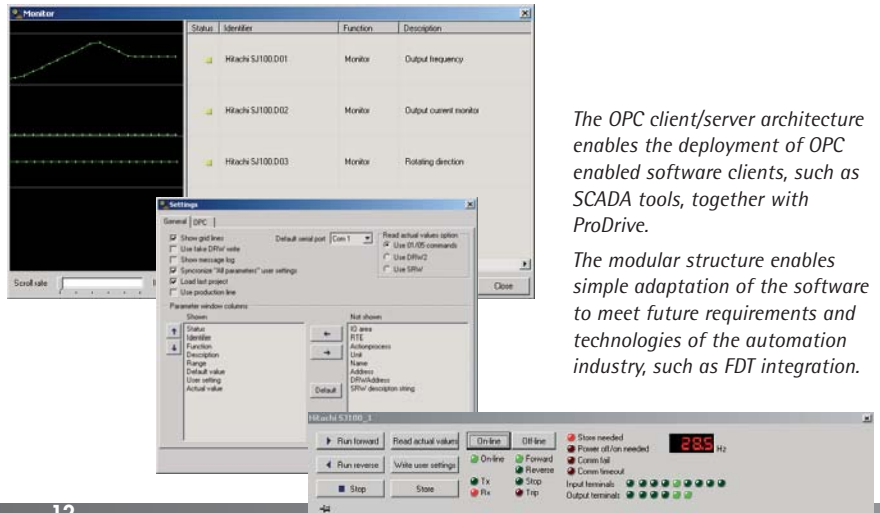
ProDrive offers three different configuration levels for this purpose:

1. Parameter level: Individual parameters can be accessed directly in a tabular display.

2. Function level: Special windows enable the user to perform guided, graphically-supported adjustment of specific frequency inverter settings, such as ramp settings or analog signal intput (optional).

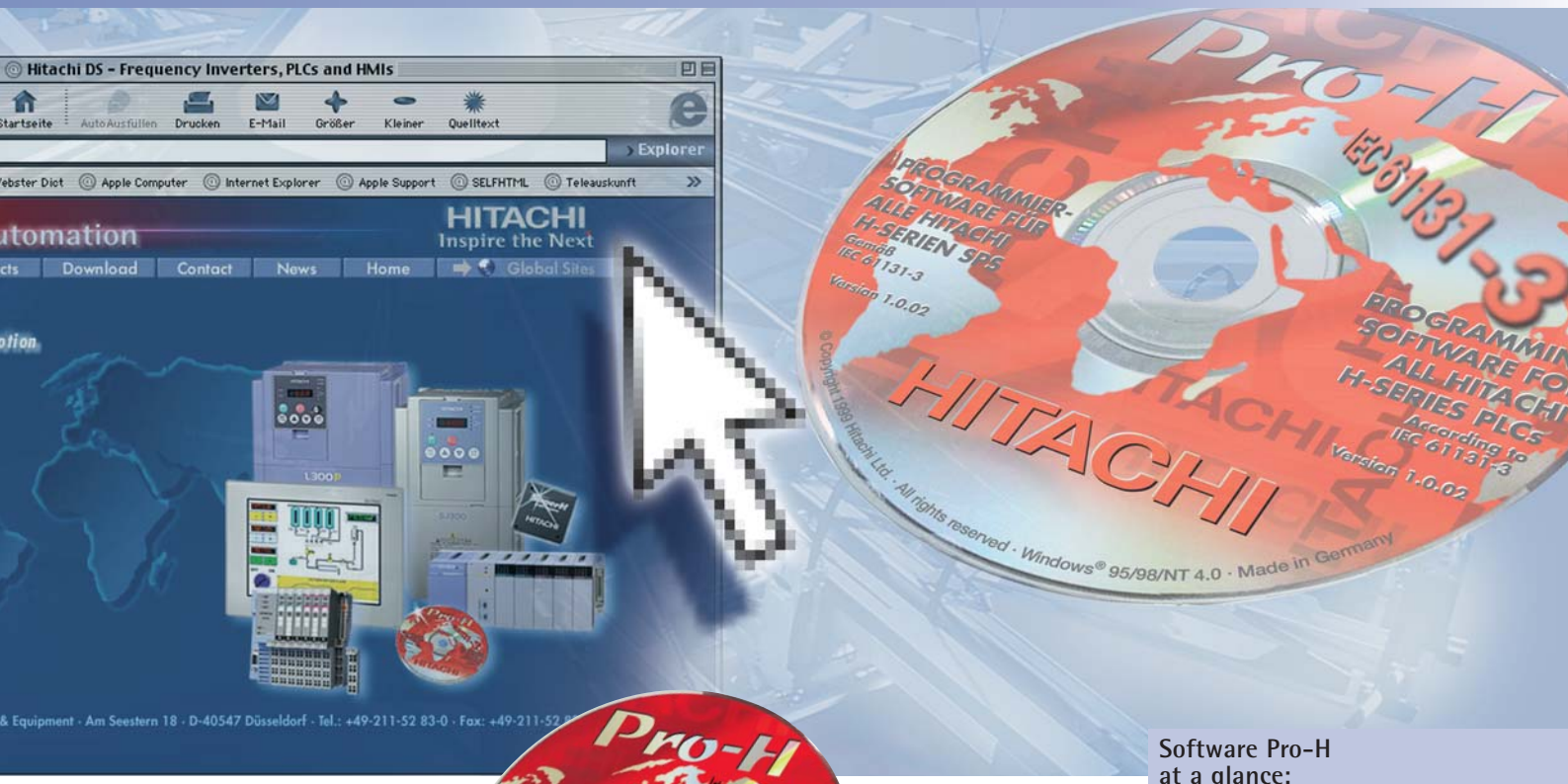


3. Application level: Based on expertise in many applications, program structures were developed that enable the user to configure an application in his own "language". This applies to areas such as refrigeration and air conditioning technology, conveyor systems and many others (optional).



The OPC client/server architecture enables the deployment of OPC enabled software clients, such as SCADA tools, together with ProDrive.

The modular structure enables simple adaptation of the software to meet future requirements and technologies of the automation industry, such as FDT integration.

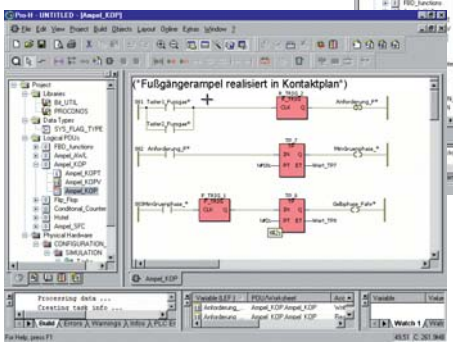


PRO-H

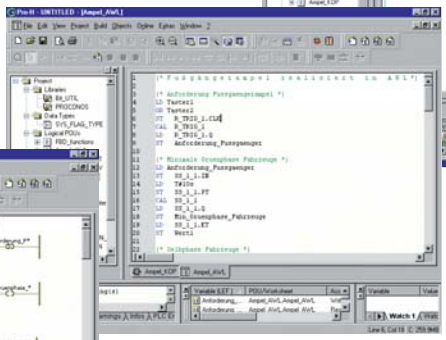
Pro-H is the universally usable 32 bit Programming software for all Hitachi H-Series PLC. Flexible choice of editors considerably decreases programming time.

Software Pro-H at a glance:

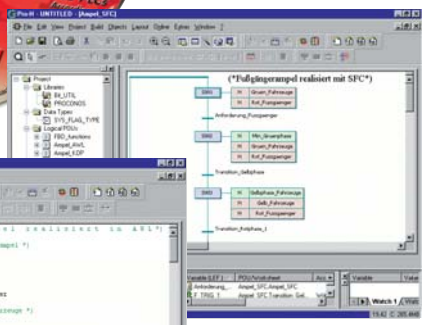
- Standard according to IEC 61131-3
- Additional special instructions for H-Series PLC
- System requirements Windows® 95/98/NT/2000/ME/XP
- 5 Program editors (LD, IL, FBD, SFC, ST)
- Function block library (Wizard)
- Integrated virtual PLC
- Comfortable project management
- Numerous Online functions



Ladder Editor (LD)

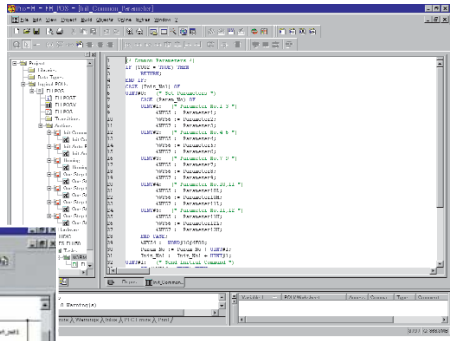


Instruction List (IL)

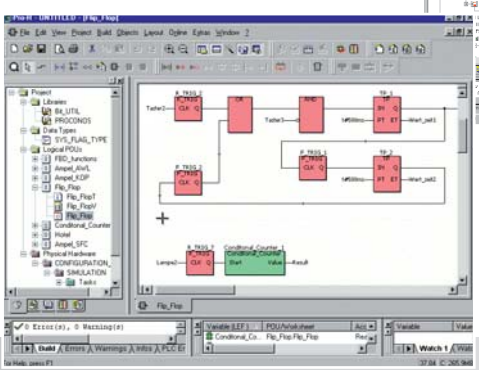


Sequential Function Chart (SFC)

Structured Text (ST)



Function Block Diagram (FBD)



SUPPORT

The Hitachi website features extensive information about all Hitachi products, for example Quick Reference Guides and updates for the firmware of all series.

WWW.HITACHI-DS.COM

Suitable for every Application:
MICRO-EH Series, EH-150 Series, H Series.

Micro-EH Series at a glance:

- 10 to 140 I/O
- Analogue data processing
- Starting at 0.9 µs / basic command
- Expandable
- IEC 61131-3 programming
- PWM and pulse train outputs
- Interrupt inputs
- 32 bit-RISC-processor
- High-speed counter input
- Real-time clock

Hitachi's compact PLC series MICRO-EH: Maximum power at minimal size

MICRO-EH SERIES

The Micro-EH Series controllers are the new modular compact PLC which perform maximum power at minimum size. Various modules for flexible extension offer the possibility of fine-tuning the Micro-EH PLC to the required level of automation.

Modular Mini PLC

EH-150 SERIES

The EH-150 Series is considered a true power pack. Based on a 32 bit-microprocessor structure, the outstanding power of the CPU and various

I/O modules allow the adaption to a wide range of applications, e.g. in the packaging and food industry.

EH-150 Series at a glance:

- Various communication options
- Economic application
- Various models
- Individually adaptable to customer requirements thanks to high-performance CPU and specialised I/O modules
- Up to 3520 I/Os
- 2 serial interfaces
- Quality assurance to ISO 9001 and ISO 14001
- 32 Bit-RISC-Micro-processor
- Open for all fieldbus systems thanks to ANYBUS®: PROFIBUS-DP, DeviceNet, CANOPEN, Ethernet TCP/IP

MICRO-EH – Technical Details at a Glance*

		Compact PLC (Central Units)			
Type		MICRO-EH 10	MICRO-EH 14	MICRO-EH 23	MICRO-EH 28
Cycle time per binary instruction		0.9µs	0.9µs	0.9µs	0.9µs
Memory	Program (1 step = 4 Byte)	3 k steps max. (12 kByte)	3 k steps max. (12 kByte)	3 k steps max. (12 kByte)	3 k steps max. (12 kByte)
	Type	FLASH and RAM	FLASH and RAM	FLASH and RAM	FLASH and RAM
Number of I/O's (central)		10	126	135	140
Mounting		DIN rail or wall mounting			

* Detailed information will be found in our data sheets or in the technical documentation at www.hitachi-ds.com

Large PLC for Plant Engineering

H SERIES

The H Series is designed for plant engineering, featuring a high-performance CPU that is considered the ultimate of its class. Remarkable processing speeds of up to 0.05 µs/command allow the automation of all those tasks which a smaller PLC cannot handle. Also, functionality, flexibility and user-friendliness put the H Series in a class of its own. Numerous special modules are available. The hardware can be expanded to 4096 I/Os (virtually limitless expansion via network), making this series the preferred system for automating medium to highly complex processes.

H-Series at a glance:

- High-performance CPU with processing speeds of up to 0.05 µs/command
- Various special modules available
- Expandable up to 4096 I/Os
- Fieldbus system: Ethernet

EH-150 – Technical Details at a Glance*

		Modular Control System (Central Units)				
Type		EH-150 / CPU 104A	EH-150 / CPU 208A	EH-150 / CPU 316A	EH-150 / CPU 516	EH-150 / CPU 548
Cycle time per binary instruction		1µs	1µs	1µs	0.1µs	0.1µs
Memory	Program (1 step = 4 Byte)	16 kByte	32 kByte	64 kByte	64 kByte	192 kByte
	Type	FLASH and RAM	FLASH and RAM	FLASH and RAM	FLASH and RAM	FLASH and RAM
Number of I/O's (central)		512	1024	1024	2112	3520
Mounting		DIN rail or wall mounting				

H-Series – Technical Details at a Glance*

		Modular Control System (Central Units)				
Type		H302 / CPU2-03H	H702 / CPU2-07H	H1002 / CPU2-10H	H2002 / CPU2-20H	H4010 / CPU3-40H
Cycle time per binary instruction		0.9 µs	0.9 µs	0.4 µs	0.4 µs	0.05 µs
Memmory	Program (1 step = 4 Byte)	32 kByte	64 kByte	192 kByte	192 kByte	384 kByte
	Type	RAM / EPROM	RAM / EPROM	RAM / EPROM	RAM / EPROM	integrated FLASH- memory
Number of I/O's (central)		576	1280	2688	4096	4096
Mounting		Wall mounting				

EH-RIO Remote I/O Modules and HMI Operator Inter

For more Flexibility and Transparency

EH-RIO Series at a glance:

- Fieldbus adapters for Profibus-DP and DeviceNet (others coming soon)
- Separation of electronics module and wiring base for ease of installation and maintenance
- "Hot Swapping": remove and exchange modules under power
- Optional screw clamp or spring clamp terminations
- Large selection of I/O modules
- Super slim design: 4 I/O = 12 mm
- Standard DIN rail mounting

Hitachi's new Remote I/O series for increased flexibility and cost efficiency

EH-RIO SERIES

The EH-RIO series of Remote I/O modules allows you the flexibility to distribute I/O throughout your application. Using EH-RIO, you can precisely plan and expand your I/O and locate them right where they are needed: close to the sensors and activators. This solution benefits today's modular production processes and is especially advantageous when upgrading centralized automation systems.

EH-RIO – The Modules

Fieldbus Modules | Mounting Base | Input Modules | Output Modules | Relay module | Field Power Supply | Expansion Power Supply | High Function Modules

EH-RIO – Technical Details at a Glance*

RIO-DNA	DeviceNet Adapter, 63 modules, 500 kBits/s (100 m max.)
RIO-DNP	DeviceNet Interface 12 modules, 500 kBits/s (100 m max.)
RIO-PBA	Profibus-DP adapter 63 modules, 9,6 kBaud – 12 MBaud
RIO-BSP / -BSP3	Mounting Base with Removable Terminal Block and spring clamp terminations / 3-wire connection
RIO-BSC / -BSC3	Mounting Base with Removable Terminal Block and screw clamp terminations / 3-wire connection
RIO-BSCT	Mounting Base with integrated cold-junction-compensation (for RIO-TC2)

RIO-XDP2/RIO-XD2	2 digital inputs, 24VDC, positive / negative logic
RIO-XDP4/RIO-XD4	4 digital inputs, 24VDC, positive / negative logic
RIO-XDP8	8 digital inputs, 24 VDC, positive logic
RIO-XAH2	2 digital inputs, 220 VAC
RIO-AX2I	2 analog inputs, 0/4 – 20mA 16 bits - over 21 mA, 0,32µA/cnt
RIO-AX2V	2 analog inputs, 0 – 10V 16 bits signed, 320 µV/cnt
RIO-PT2	2 PT100 Eingänge
RIO-TC2	2 Thermoelement-Eingänge
RIO-YTP2	2 digital outputs, 24VDC, positive Logic, Short-Circuit protected
RIO-YTP4	4 digital outputs, 24VDC, positive Logic, Short-Circuit protected
RIO-YTP8	8 digital outputs, 24VDC, positive Logic, Short-Circuit protected
RIO-YS2	2 digital outputs, 120/220 VAC
RIO-AY2I	2 analog Outputs, 0/4 – 20mA 13 bits - over 21mA, 513µA/cnt
RIO-AY2V	2 analog Outputs, 0 – 10V 14 bits signed, 1,28mV/cnt

RIO-YR2	2 Relay Outputs, Potential-free 10V DC minimum, 24V DC nominal, 28,8V DC maximum
RIO-YR4	4 Relay Outputs, Potential-free 10V DC minimum, 24V DC nominal, 28,8V DC maximum
RIO-PS	Field Power Supply for various potentials (5 - 250 VDC and/or 24-240 VAC)
RIO-PSD	Expansion Power Supply for12 I/O modules maximum 24V DC nominal
RIO-CU24	High speed counter module for 24V DC encoder with outputs
RIO-CU5	High speed counter module for 5V DC encoder with outputs
RIO-CU24L	High speed counter module for 24V DC encoder without outputs
RIO-CU5L	High speed counter module for 5V DC encoder without outputs
RIO-RS232	Serial communication module, 1.2 - 38.4 kBaud

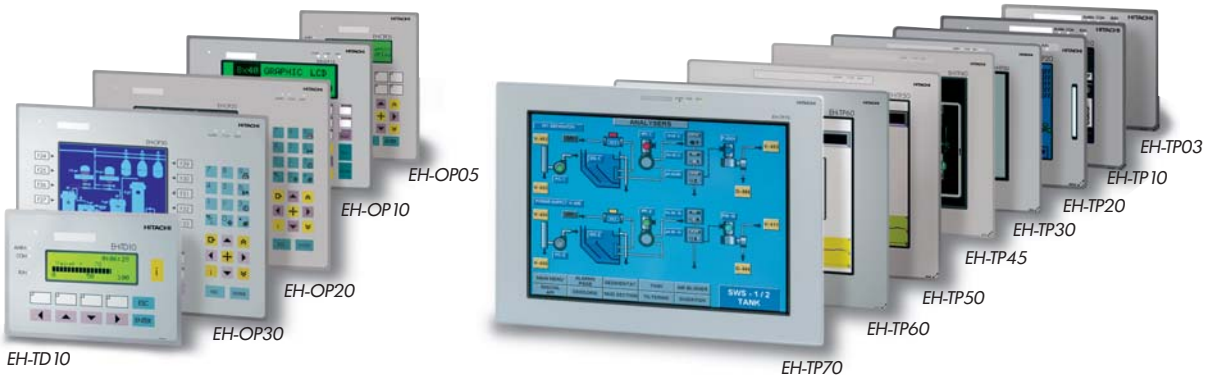
EH-HMI Series at a glance:

- Universal programming for all panels
- Multi-language programming
- 3.7" – 15.0" Touchscreen
- Recipe capability
- Alarm processing
- Fieldbus interfaces (Profibus-DP, DeviceNet, Ethernet, INTERBUS, CANopen)
- Drivers for Hitachi PLC and Inverter, Siemens Simatic S5/S7, Groupe Schneider SPS (TSX)

Hitachi's HMI. Operating can not get any easier.

EH-HMI SERIES

Hitachi offers a wide range of Operator Interfaces which allow you to choose the best technical and economical solution for your application. Eleven models are available, text and graphic displays as well as touch panels. They are all programmable with the same software. This means additional cost savings and fewer training requirements.



EH-HMI – Technical Details at a Glance*

		TEXT DISPLAY	OPERATOR PANELS			
Type		EH-TD10	EH-OP05	EH-OP10	EH-OP20	EH-OP30
Display	Type	LCD monochrome	LCD monochrome	LCD monochrome	LCD monochrome	STN Passive Color, 16 colours
	Lines x Characters	4 x 20	4 x 20	8 x 40	16 x 40	16 x 40
	Resolution		120 x 32 Pixel	240 x 64 Pixel	320 x 240 Pixel	320 x 240 Pixel
Keypad	Type	Integral keypad	Integral keypad	Integral keypad	Integral keypad	Integral keypad
	Function-/System Keys	4 / 6	12 /23	23 / 24	23 /31	23 /31
Memory	Internal memory	512 kByte Flash-EPROM	512 kByte Flash-EPROM	512 kByte Flash-EPROM	8 MB SSFDC memory card	8 MB SSFDC memory card
	Pluggable FLASH memory				•	•

		TOUCH PANELS							
Type		EH-TP03	EH-TP10	EH-TP20	EH-TP30	EH-TP45	EH-TP50	EH-TP60	EH-TP70
Display	Type	LCD 1/4 VGA	LCD 1/4 VGA	STN color 1/4 VGA	LCD VGA	STN color VGA	TFT color VGA	TFT color VGA	TFT color VGA
	Backlit	CCFL-backlit							
	Colours	monochrome		16 colours	256 colours				
	Resolution	320 x 240 Pixel			640 x 480 Pixel			800 x 600 Pixel	
	Diagonal size (inches)	3.7	5.6	5.6	9.4	10.4	10.4	12.1	15.0
Keypad	Type	touch-sensitive cells							
Memory	Internal memory	8 MB SSFDC memory card							
	Pluggable FLASH memory	•	•	•	•	•	•	•	•

* Detailed information will be found in our data sheets or in the technical documentation at www.hitachi-ds.com

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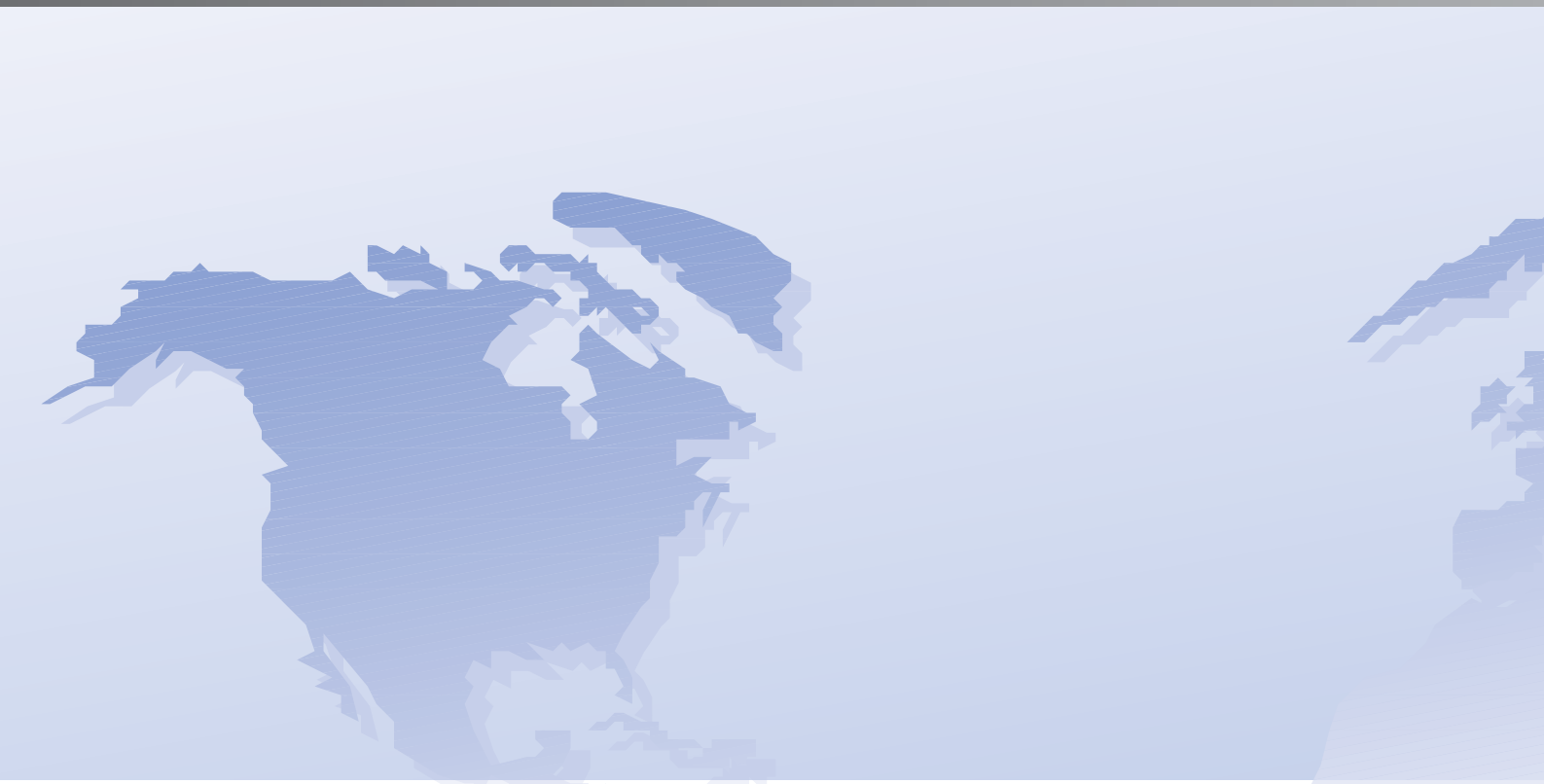

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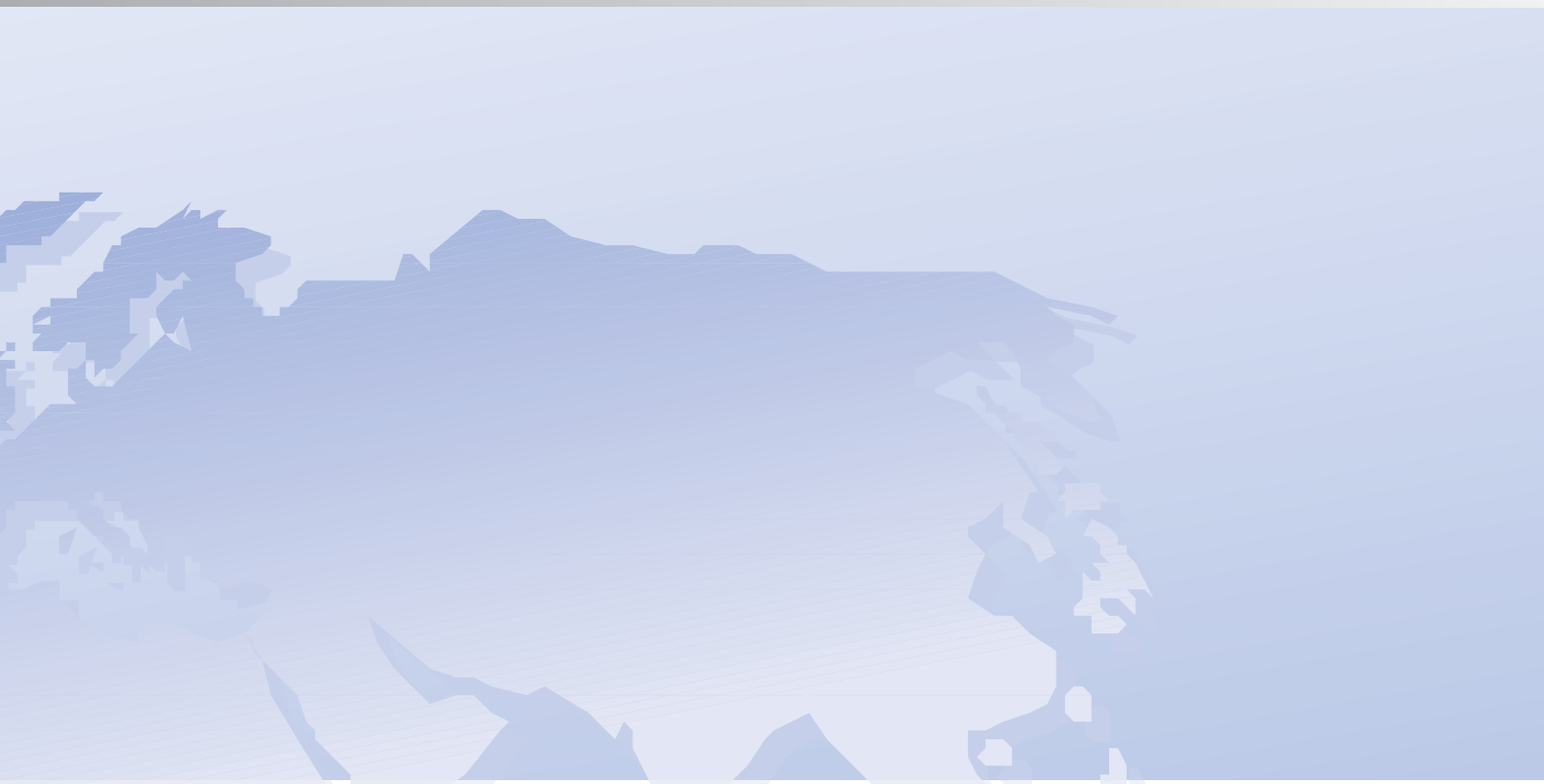

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