INOVANCE

MD600 Series AC Drive

Stable, compact, simple application

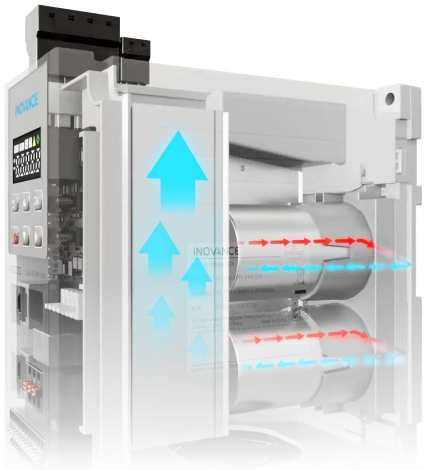
Features & functions

- Compact footprint
- Dual network ports for CAN communication, tool-free crimp terminals
- Energy saving algorithms
- Thermosyphon Technology for cooling
- Drive board coated with 100% tri-proof coating
- Independent air duct + intelligent fan for cooling
- Support V/F & SVC control function*

  Note: SVC function coming soon...

CANlink CANopen

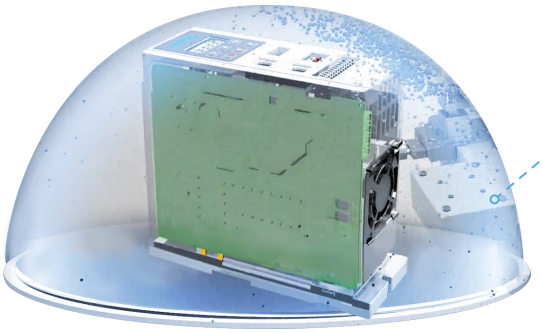
Product family overview



Next generation thermal technology

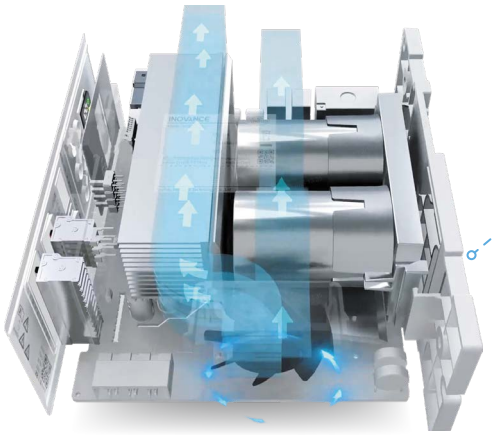
- The heat transfer efficiency of the thermostatic plate is **more than 20 times higher** than that of conventional aluminum materials.

* Note: MD600 T2 models all designed with thermostatic plate.



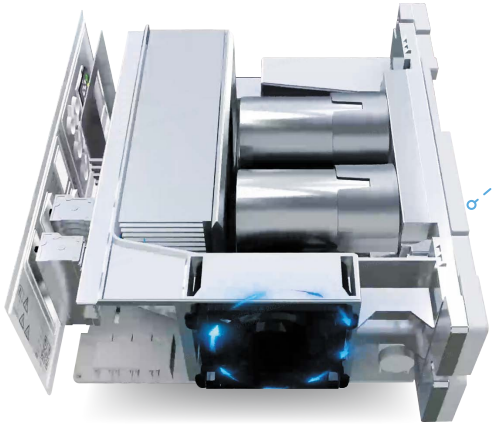
Drive board coated with 100% tri-proof coating

- The drive circuit is effectively prevented from corrosion by salt spray in the environment, improving the product's environmental resistance.



Independent air duct

- Isolates foreign objects such as dust, cutting fluid, and conductive fibers from the drive board, improving reliability in harsh environment applications.



Intelligent fan

- The customized working system supports forward and reverse rotation to prevent foreign objects such as cotton lint from clogging the air duct and avoid manual maintenance.
- The fan drive is integrated into the drive board, which provides stable operation in harsh environments.

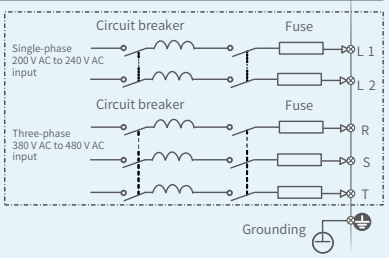
Note: MD600 natural ventilation models do not have fan, more details please refer to the product selection.

Wiring diagram

CAN model

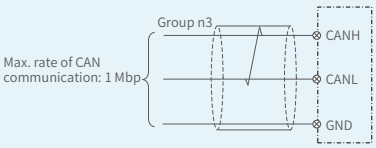
Main circuit input terminals

The information in the dotted square indicates that single-phase or three-phase input power supply can be selected based on actual models.



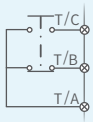
RJ45 port

External operating panel port
(CN2 port provides the power supply)



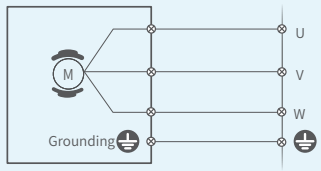
Note: Signal definitions of pins 1-3 for CAN, CN1 (RJ45), and CN2 (RJ45) ports are the same and pins 1-3 for these ports are interconnected.

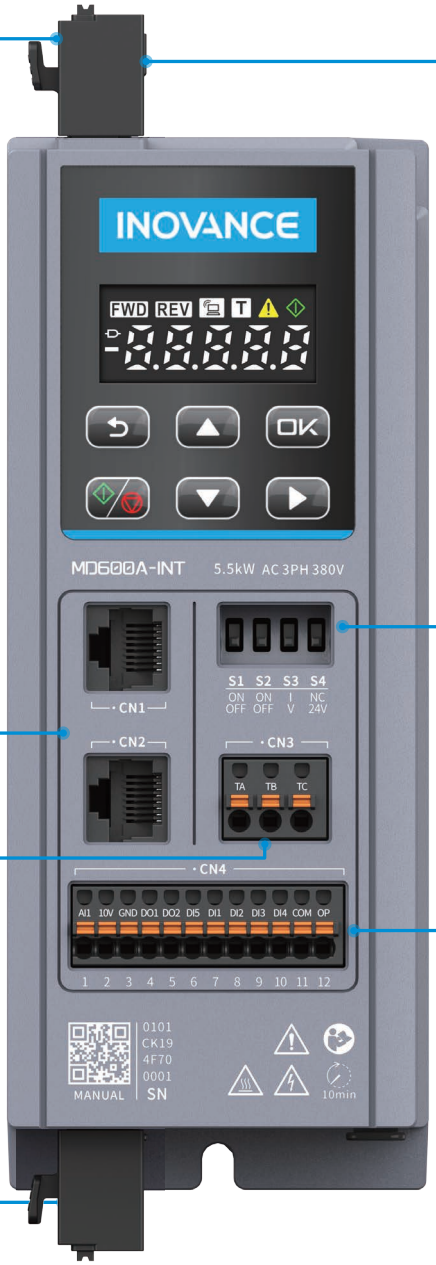
Relay output terminal



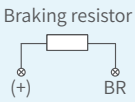
E1-00
Relay NO and NC contact load:
3A/250V AC, 3A/30V DC

Main circuit output terminals





Built-in braking unit



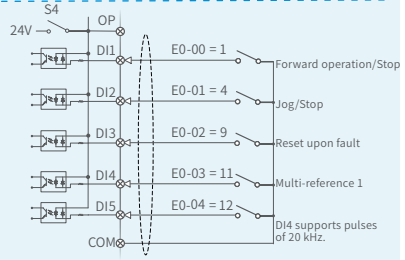
DIP switch

Default values of DIP switches
S1: OFF; S2: OFF; S3: OFF; S4: OFF

ON OFF S1 S2 S3 S4	CAN termination resistor connected	ON OFF S1 S2 S3 S4	CAN termination resistor unconnected
ON OFF S1 S2 S3 S4	Current input for the AI	ON OFF S1 S2 S3 S4	Voltage input for the AI
ON OFF S1 S2 S3 S4	OP does not connect to the internal 24V power supply	ON OFF S1 S2 S3 S4	OP connects to the internal 24V power supply

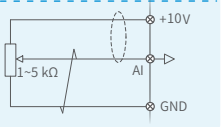
DI terminal

DI: active low; valid level < 5 V; input impedance: 3.6 kΩ
DI1 to DI3 and DI4 must meet requirements of frequency input of 100 Hz and 20 kHz, respectively.
The pulse duty cycle must be 30% to 70%.

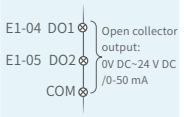


AI terminal

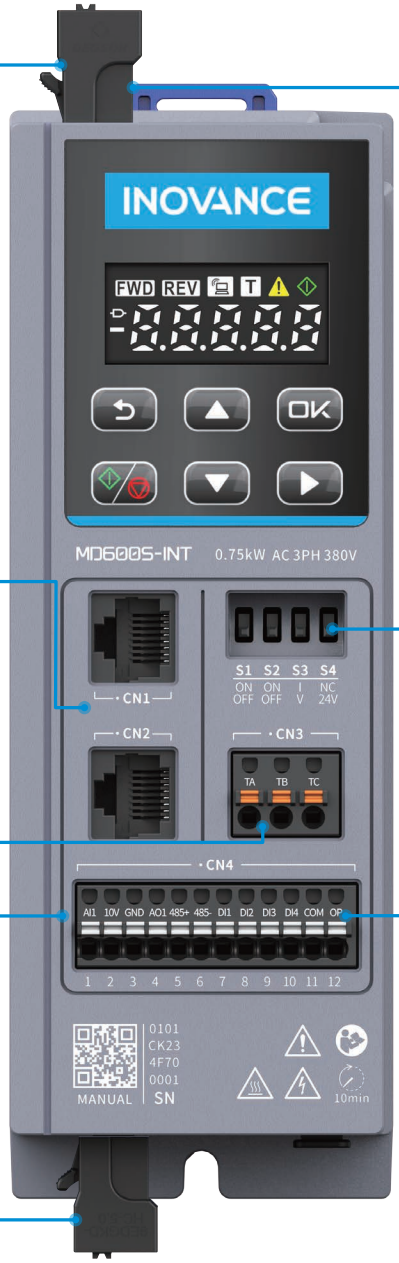
The AI supports voltage input of -10V to +10V / 0V to 10V, or current input of 0mA to 20mA.



DO terminal

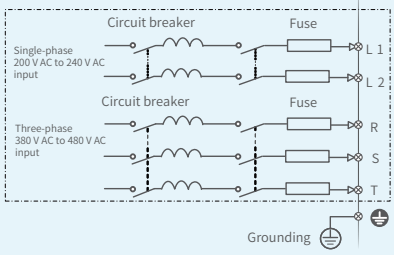


RS485 model

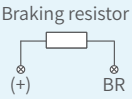


Main circuit input terminals

The information in the dotted square indicates that single-phase or three-phase input power supply can be selected based on actual models.



Built-in braking unit



DIP switch

Default values of DIP switches
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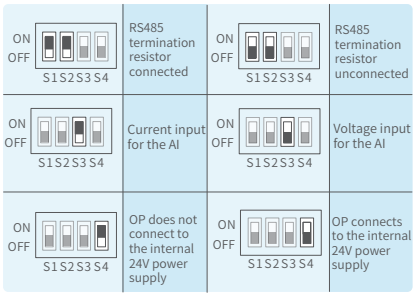
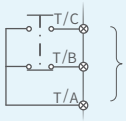


RJ45 port

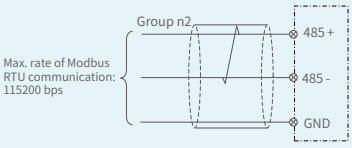
External operating panel port
(CN2 port provides the power supply)

Relay output terminal



E1-00
Relay NO and NC contact load:
3A/250V AC, 3A/30V DC

485 communication port



DI terminal

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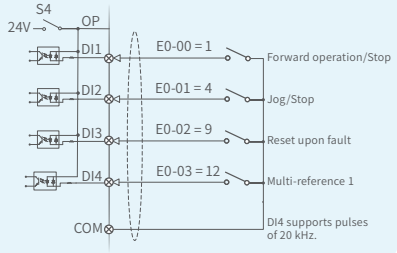
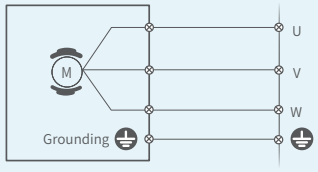
DI1 to DI3 and DI4 must meet requirements of frequency input of 100 Hz and 20 kHz, respectively.
The pulse duty cycle must be 30% to 70%.

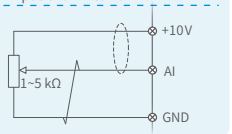


Main circuit output terminals

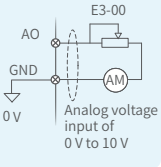


AI terminal

The AI supports voltage input of -10V to +10V / 0V to 10V, or current input of 0mA to 20mA.



AO terminal



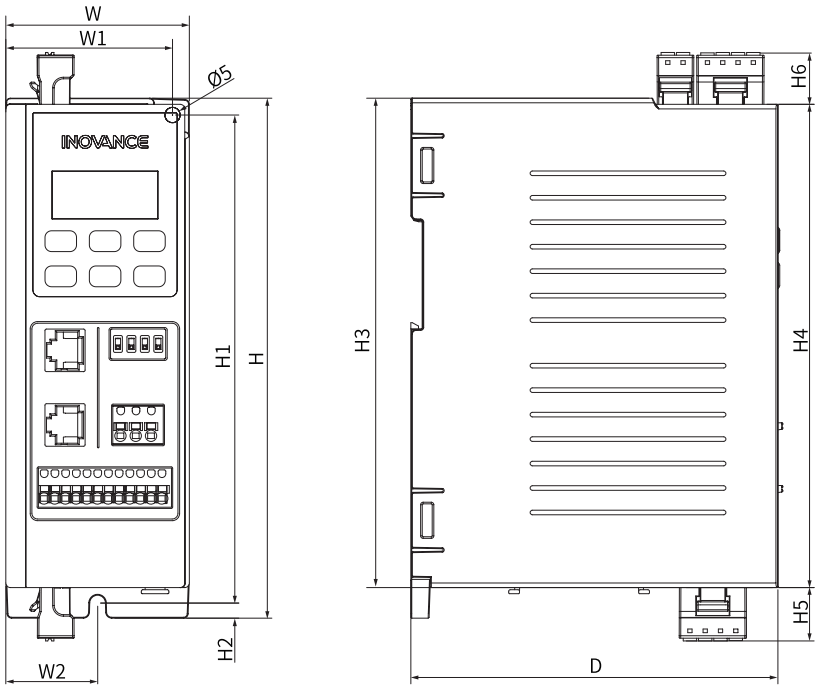
Ordering code

MD600 S - 4T 5R5 B - INT
① ② ③ ④ ⑤ ⑥

① **Product series** MD600 series AC drive	③ **Voltage class** 4T: Three-phase 380 V to 480 V 2S: Single-phase 200 V to 240 V	⑤ Braking unit B: with the braking unit None: without braking unit
② **Model** S: RS485 model A: CAN model	④ **Output current** 1R6: 1.6A 5R5: 5.5A ... 013: 13A (Note: R represents the decimal point ".")	⑥ Version INT: international version*

*Note: The international version enjoys global warranty rights; otherwise, it does not.

Dimensions



Structure	Mounting hole mm (in.)		Overall dimensions mm (in)									Mounting Hole Diameter mm (in.)	Weighing kg (lb)
	W1	W2	H1	H2	H3	H4	H5	H6	H	W	D		
T1	54.5 (21.5)	30 (1.18)	159.5 (6.28)	5 (0.2)	160 (6.30)	158 (6.22)	17.5 (0.69)	17 (0.67)	170 (6.69)	60 (2.36)	120 (4.72)	ϕ5 (0.20)	0.8 (1.76)
T2	62.5 (2.46)	34 (1.34)	159.5 (6.28)	5 (0.2)	160 (6.30)	158 (6.22)	22 (0.87)	24 (0.95)	170 (6.69)	68 (2.68)	140 (5.51)	ϕ5 (0.20)	1 (2.20)

Selection chart

Model	Voltage class	Structure	Power (kW)	Rated input current (A)	Rated output current (A)	Cooling mode	Braking Unit	Interface
RS485 model								
MD600S-4T1R6B-INT	Three-phase 380 V to 480 V	T1	0.37	1.9	1.6	Natural ventilation	×	Modbus - RTU 4*DI 1*AI 1*AO 1*RO
MD600S-4T2R3B-INT	Three-phase 380 V to 480 V	T1	0.75	2.8	2.3	Natural ventilation	×	
MD600S-4T4R8B-INT	Three-phase 380 V to 480 V	T1	1.5	5.9	4.8	Air cooling	×	
MD600S-4T5R5B-INT	Three-phase 380 V to 480 V	T1	2.2	6.7	5.5	Air cooling	✓	
MD600S-4T9R5B-INT	Three-phase 380 V to 480 V	T2	4	11.6	9.5	Air cooling	✓	
MD600S-4T013B-INT	Three-phase 380 V to 480 V	T2	5.5	15.8	13	Air cooling	✓	
MD600S-2S2R8B-INT	Single-phase 200 V to 240 V	T1	0.37	6.2	2.8	Natural ventilation	×	
MD600S-2S4R6B-INT	Single-phase 200 V to 240 V	T1	0.75	10.2	4.6	Air cooling	×	
MD600S-2S7R5B-INT	Single-phase 200 V to 240 V	T1	1.5	16.6	7.5	Air cooling	✓	
MD600S-2S010B-INT	Single-phase 200 V to 240 V	T2	2.2	22.2	10	Air cooling	✓	
CAN model								
MD600A-4T1R6B-INT	Three-phase 380 V to 480 V	T1	0.37	1.9	1.6	Natural ventilation	×	CANlink communication CANopen communication 5*DI 2*DO 1*AI 1*RO
MD600A-4T2R3B-INT	Three-phase 380 V to 480 V	T1	0.75	2.8	2.3	Natural ventilation	×	
MD600A-4T4R8B-INT	Three-phase 380 V to 480 V	T1	1.5	5.9	4.8	Air cooling	×	
MD600A-4T5R5B-INT	Three-phase 380 V to 480 V	T1	2.2	6.7	5.5	Air cooling	✓	
MD600A-4T9R5B-INT	Three-phase 380 V to 480 V	T2	4	11.6	9.5	Air cooling	✓	
MD600A-4T013B-INT	Three-phase 380 V to 480 V	T2	5.5	15.8	13	Air cooling	✓	
MD600A-2S2R8B-INT	Single-phase 200 V to 240 V	T1	0.37	6.2	2.8	Natural ventilation	×	
MD600S-2S4R6B-INT	Single-phase 200 V to 240 V	T1	0.75	10.2	4.6	Air cooling	×	
MD600A-2S7R5B-INT	Single-phase 200 V to 240 V	T1	1.5	16.6	7.5	Air cooling	✓	
MD600A-2S010B-INT	Single-phase 200 V to 240 V	T2	2.2	22.2	10	Air cooling	✓	

Accessories list

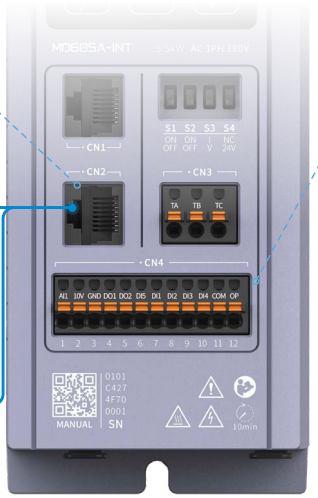
Type	Name	Model	Applicable Unit Model	Function
External Operating Panel	Intelligent keypad	SOP20-810	All models	External LCD operation panel, supports Chinese/English display, parameter copying, and connection to the background.
	SOP20-810 mounting base	CP600–BASE1	All models	Optional, used to install SOP20-810 to the cabinet door
	Operating panel extension cable	MDCAB	All models	3m standard 8-pin cable, can be connected to the operating panel through the network port
	Mini-type basic keypad	MD-BP-M	All models	LED operating panel, supports simple speed adjustment by the rotary knob
DIN guide rail-based installation	DIN rail	MD600-DGJ1	Only for T1 models	DIN rail
Spare parts	T1 accessory package without brake	\	Only for T1 model	Plug-in Terminal Blocks-Plugs-Shrapnel Wiring-/-5.0mm-4P-Black-180° -R/L1 Position Anti-Misalignment-Package
	T1 accessory package with brake	\	Only for T1 model	Plug-in Terminal Blocks-Plugs-Shrapnel Wiring-/-5.0mm-2P-Black-180° -Package
	T2 accessory package	9EDGKD-HC-5.0-10P-13-09A(H)	Only for T2 model	Plug-in Terminal Blocks-Plugs-Shrapnel Wiring-/-7.5mm-10P-Black-180° -Package
	T1 fan	YY4015H12B	Only for T1 model	DC Fan-24V-4.44W-15.88CFM-55.4dB(A)-44*40*15mm
	T2 fan	SB120520BFCNR	Only for T2 model	DC Fan-12V-5.04W-28.79CFM-60.5dB(A)-55*50*20mm

Product family overview

Dual network ports for CAN communication

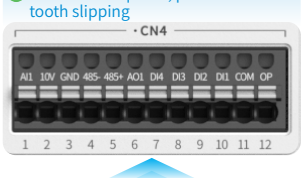
Optional speed regulator panel
Simple speed regulation of individual equipment

Optional LCD panel for easy parameters copying



Tool-free crimp terminals
60% improvement in assembly efficiency

No screws required, prevent terminal tooth slipping



MD200: 22 screws, complicated assembly

CANlink

CANopen

Compact for flexible installation

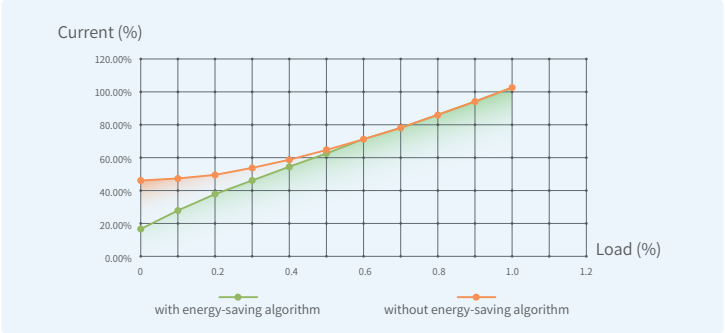
- The compact size of the MD600 reduces the overall cost of the structural materials of the on-board cabinet during the design process.*

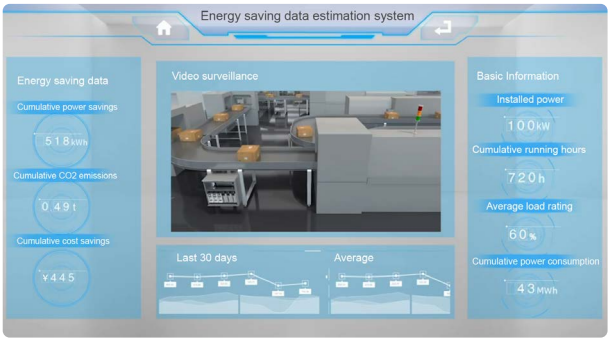
*Note: The MD600 air-cooled model supports seamless side by side installation.

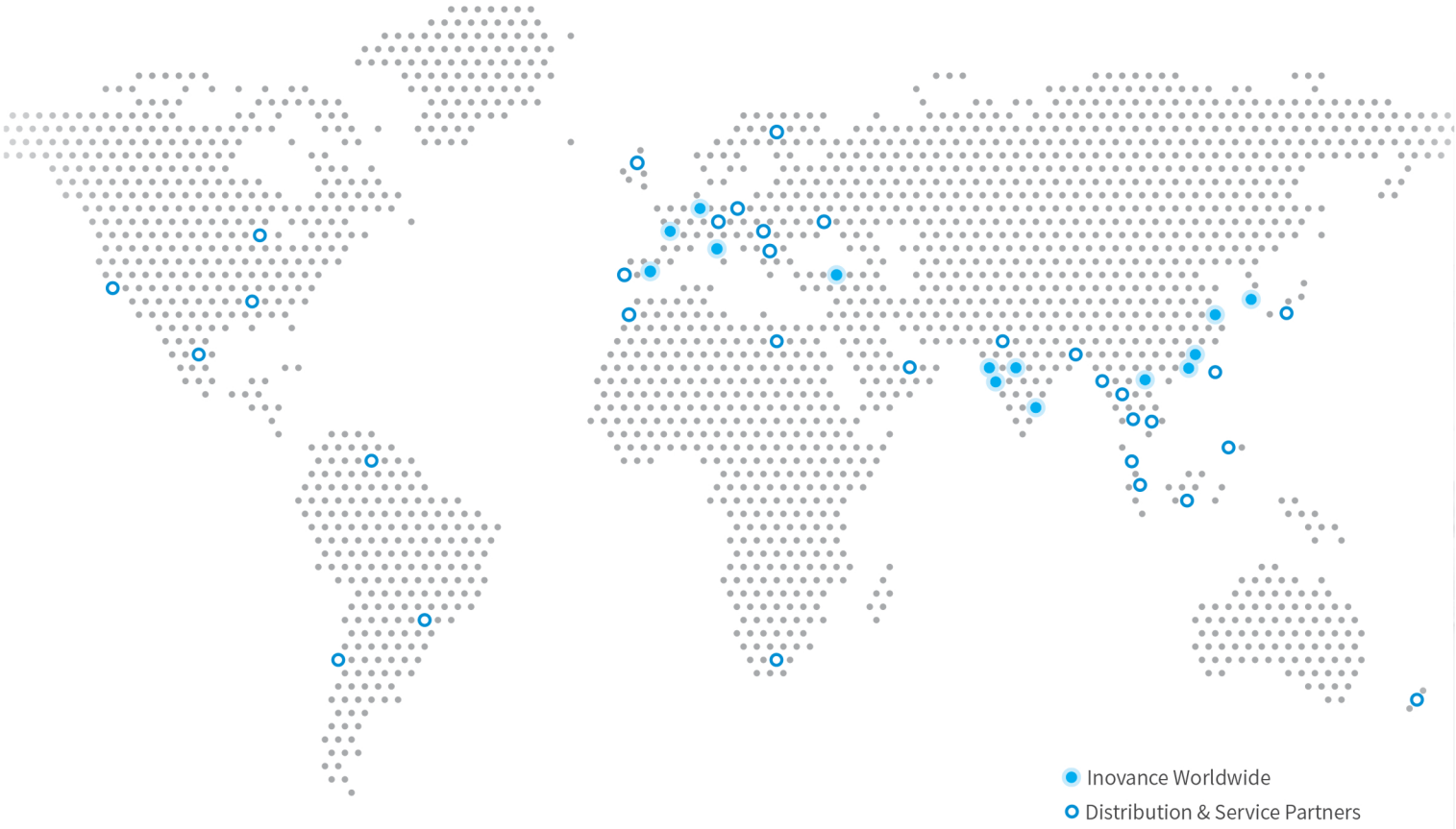
Overall machine size is reduced by 38% compared to MD200

Energy saving

- Automatic power optimization: Reduce the current under light load, and reduce the energy cost about 8% while 30% load.
- Data estimation: The energy saving effect of energy consumption during the life cycle can be converted to data such as kWh, CO2 emission, and amount, which can be used for directly reading by the host controller.







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