

## MD500-PLUS AC Drive

### High performance universal AC drive

- Wide operating voltage and product range:
  - 3 ph 380-480 Vac: 0.4 to 500 kW
  - 3 ph 200-240 Vac: 0.4 to 75 kW
  - 1 ph 200-240 Vac: 0.4 to 2.2 kW
- Operation in high ambient temperatures - up to  $50^{\circ}\text{C}^1$
- Built-in DC reactor (400 V: 18.5 kW and above; 200 V: 11 kW and above)
- Conformal coated PCBs compliant to 3S2 and 3C3 environments
- Enhanced reliability
- Complies to efficiency level IE2 as defined in IEC 61800-9-2
- PC-based software: simplified start up & backup<sup>\*2</sup>
- Through-hole mounting options (0.4 to 160 kW)

IE2

CE



LISTED  
E467465

IND. CONT. EQ.<sup>\*3</sup>



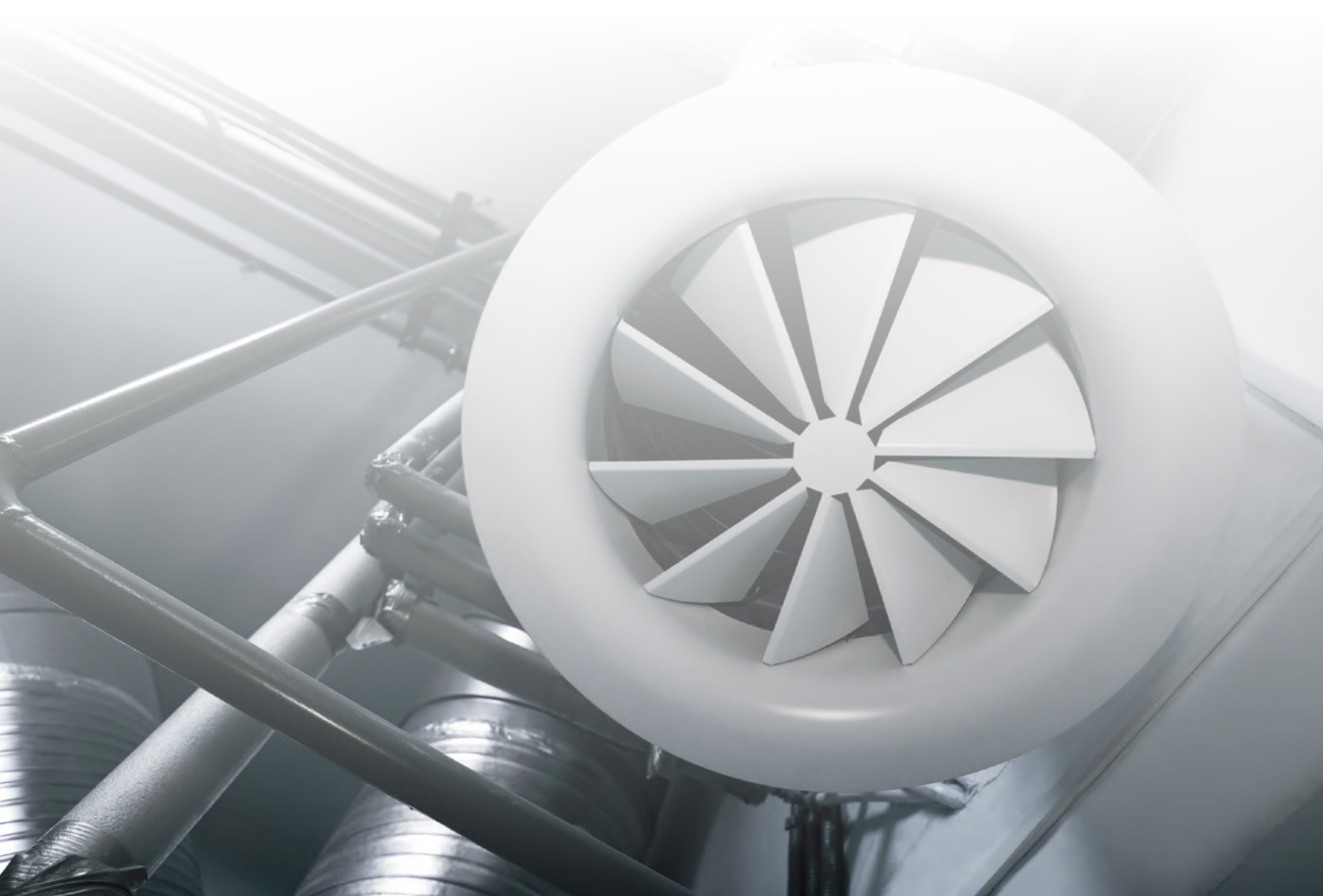
\*1 If operating above  $40^{\circ}\text{C}$ , derating is required.

\*2 PC comms kit is required (optional accessory).

\*3 cUL is available for 380-480 Vac models. For other voltages, please consult with your local Inovance representative.

## MD500-PLUS - features & functions

- Induction motor and PM synchronous motor control:
  - Open loop V/F (induction motors only) and SVC
  - Closed loop FVC
- Dual rated
- Starting torque
  - 150% at 0.25 Hz for SVC
  - 180% at 0 Hz for FVC
- Communication options:
  - Modbus-RTU
  - PROFIBUS-DP
  - CANopen
  - CANlink
  - PROFINET
  - EtherCAT
  - Ethernet/IP
- Automatic torque boost
- Slip compensation
- Simplified parameters for easy start up
- 4 independent S-ramps
- Flexible programmable I/Os
- User programmable functions
- Variable DC-injection braking
- Comprehensive trip diagnostics
- Output frequency: 599 Hz
- Built-in dynamic braking unit
- Bipolar analog input as standard (-10 to +10 V)
- PTC input as standard
- Application dedicated functions:
  - Centre winder
  - Textile wobble control
- Brake control logic
- 4 motor parameter sets



## General specifications

### Heavy duty ratings (G), 150% overload

Voltage class		Three phase 380 to 480 Vac										
Drive Model: MD500TxxxG/yyyPB-PLUS-INT		0.4G/ 0.7PB	0.7G/ 1.1PB	1.1G/ 1.5PB	1.5G/ 2.2PB	2.2G/ 3.0PB	3.0G/ 3.7PB	3.7G/ 5.5PB	5.5G/ 7.5PB	7.5G/ 11PB	11G/ 15PB	15G/ 18.5PB
Frame size		T1 <sup>1</sup>					T2		T3		T4	
Drive input	Rated input voltage	Three phase 380 to 480 Vac -15% to +10%										
	Rated input current [A]	1.8	2.4	3.7	4.6	6.3	9.0	11.4	16.7	21.9	32.2	41.3
	Power capacity [kVA]	2	2.8	4.1	5.0	6.7	9.5	12	17.5	22.8	33.4	42.8
Rated input frequency		50/60 Hz ±5%										
Drive output	Applicable motor [kW]	0.4	0.7	1.1	1.5	2.2	3.0	3.7	5.5	7.5	11	15
	Output current [A] <sup>2</sup>	1.5	2.1	3.1	3.8	5.1	7.2	9.0	13.0	17.0	25.0	32.0
	Default carrier frequency [kHz]	6	6	6	6	6	6	6	6	6	6	6
	Overload capacity	150% for 60 s										
	Max. output voltage	Three phase 380 to 480 Vac (proportional to input voltage)										
Max. output frequency		599 Hz										
Braking resistor	Recommended power [kW]	0.08	0.14	0.22	0.3	0.44	0.6	0.74	1.1	1.5	2.2	3
	Minimum resistance [Ω]	96	96	96	96	64	64	32	32	32	24	24
Braking unit		Built-in										
Enclosure		IP 20										

### Normal duty ratings (P), 110% overload

Voltage class		Three phase 380 to 480 Vac										
Drive Model: MD500TxxxG/yyyPB-PLUS-INT		0.4G/ 0.7PB	0.7G/ 1.1PB	1.1G/ 1.5PB	1.5G/ 2.2PB	2.2G/ 3.0PB	3.0G/ 3.7PB	3.7G/ 5.5PB	5.5G/ 7.5PB	7.5G/ 11PB	11G/ 15PB	15G/ 18.5PB
Frame size		T1 <sup>1</sup>					T2		T3		T4	
Drive input	Rated input voltage	Three phase 380 to 480 Vac -15% to +10%										
	Rated input current [A]	2.5	3.7	4.6	6.4	9.1	11.3	15.9	22.4	32.9	39.7	44.0
	Power capacity [kVA]	2.3	3.4	4.2	5.9	8.3	10.4	15.5	20.5	30.2	38.2	44.4
Rated input frequency		50/60 Hz ±5%										
Drive output	Applicable motor [kW]	0.75	1.1	1.5	2.2	3.0	3.7	5.5	7.5	11	15	18.5
	Output current [A] <sup>2</sup>	2.1	3.1	3.8	5.1	7.2	9.0	13.0	17.0	25.0	32.0	37.0
	Default carrier frequency [kHz]	6	6	6	6	6	6	6	6	6	6	6
	Overload capacity	110% for 60 s										
	Max. output voltage	Three phase 380 to 480 Vac (proportional to input voltage)										
Max. output frequency		599 Hz										
Braking resistor	Recommended power [kW]	0.08	0.14	0.22	0.3	0.44	0.6	0.74	1.1	1.5	2.2	3
	Minimum resistance [Ω]	96	96	96	96	64	64	32	32	32	24	24
Braking unit		Built-in										
Enclosure		IP 20										

<sup>1</sup> 0.75/1.5/2.2 kW are the preferred stocking ratings. To learn more, please get in touch with your local Inovance representative.

<sup>2</sup> Rated output current at default carrier frequency.

## General specifications

### Heavy duty ratings (G), 150% overload

Voltage class $\text{CE} \text{ (UL)}$		Three phase 380 to 480 Vac										
Drive Model: MD500TxxxG/yyyP(B)-PLUS-INT		18.5G/ 22PB	22G/ 30PB	30G/ 37PB	37G/ 45PB	45G/ 55PB	55G/ 75PB	75G/ 90PB	90G/ 110P	110G/ 132P	132G/ 160P	160G 200P
Frame size		T5		T6		T7		T8		T9		
Drive input	Rated input voltage	Three phase 380 to 480 Vac -15% to +10%										
	Rated input current [A]	43.4	51.3	57	69	89	106	139	164	196	240	287
	Power capacity [kVA]	45	54	52	63	81	97	127	150	179	220	263
Drive output	Rated input frequency	50/60 Hz $\pm 5\%$										
	Applicable motor [kW]	18.5	22	30	37	45	55	75	90	110	132	160
	Output current [A] <sup>*2</sup>	37	45	60	75	91	112	150	176	210	253	304
	Default carrier frequency [kHz]	6	6	6	5	5	4	3	3	3	3	3
	Overload capacity	150% for 60 s										
	Max. output voltage	Three phase 380 to 480 Vac (proportional to input voltage)										
Braking resistor	Max. output frequency	599 Hz										
	Recommended power [kW]	4.5	4.5	6	7	9	11	15	18	22	26	32
Braking resistor	Minimum resistance [ $\Omega$ ]	24	24	19.2	14.8	12.8	9.6	6.8	11.4x2 <sup>*3</sup>	7.7 x2 <sup>*3</sup>	7.7 x2 <sup>*3</sup>	2.8 x2 <sup>*3</sup>
	Braking unit	Built-in						MDBUN-60-5T x2	MDBUN-90-5T x2		MDBUN-200-5T x2	
Enclosure		IP 20										

### Normal duty ratings (P), 110% overload

Voltage class $\text{CE} \text{ (UL)}$		Three phase 380 to 480 Vac										
Drive Model: MD500TxxxG/yyyP(B)-PLUS-INT		18.5G/ 22PB	22G/ 30PB	30G/ 37PB	37G/ 45PB	45G/ 55PB	55G/ 75PB	75G/ 90PB	90G/ 110P	110G/ 132P	132G/ 160P	160G 200P
Frame size		T5		T6		T7		T8		T9		
Drive input	Rated input voltage	Three phase 380 to 480 Vac -15% to +10%										
	Rated input current [A]	51.3	65.8	71	86	111	143	167	198	239	295	359
	Power capacity [kVA]	54	60	65	79	102	131	153	181	219	270	328
Drive output	Rated input frequency	50/60 Hz $\pm 5\%$										
	Applicable motor [kW]	22	30	37	45	55	75	90	110	132	160	200
	Output current [A] <sup>*2</sup>	45	60	75	91	112	150	176	210	253	304	377
	Default carrier frequency [kHz]	6	6	6	5	5	4	3	3	3	3	3
	Overload capacity	110% for 60 s										
	Max. output voltage	Three phase 380 to 480 Vac (proportional to input voltage)										
Braking resistor	Max. output frequency	599 Hz										
	Recommended power [kW]	4.5	4.5	6	7	9	11	15	18	22	26	32
Braking resistor	Minimum resistance [ $\Omega$ ]	24	24	19.2	14.8	12.8	9.6	6.8	11.4 x2 <sup>*3</sup>	7.7 x2 <sup>*3</sup>	7.7 x2 <sup>*3</sup>	2.8 x2 <sup>*3</sup>
	Braking unit	Built-in						MDBUN-60-5T x2	MDBUN-90-5T x2		MDBUN-200-5T x2	
Enclosure		IP 20										

\*2 Rated output current at default carrier frequency.

\*3 Minimum value of the resistance for each braking unit.

## General specifications

### Heavy duty ratings (G), 150% overload

Voltage class $\text{CE} \text{ (UL)}$		Three phase 380 to 480 Vac						
DriveModel: MD500TxxxG/xxxP(-L)-PLUS-INT <sup>*4,5</sup>		200G/250P (-L)	220G/280P (-L)	250G/315P (-L)	280G/355P (-L)	315G/400P (-L)	355G/450P (-L)	400G/500P (-L)
Frame size		T10		T11		T12		
Drive input	Rated input voltage	Three phase 380 to 480 Vac -15% to +10%						
	Rated input current [A]	365	410	441	495	565	617	687
	Power capacity [kVA]	334	375	404	453	517	565	629
	Rated input frequency	50/60 Hz $\pm 5\%$						
Drive output	Applicable motor [kW]	200	220	250	280	315	355	400
	Output current [A] <sup>*2</sup>	377	426	465	520	585	650	725
	Default carrier frequency [kHz]	3	3	3	3	3	3	3
	Overload capacity	150% for 60 s						
	Max. output voltage	Three phase 380 to 480 Vac (proportional to input voltage)						
	Max. output frequency	599 Hz						
Braking resistor	Recommended power [kW]	42	54	60	69	78	87	87
	Minimum resistance [ $\Omega$ ]	$2.8 \times 2^3$	$2.8 \times 2^3$	$2.8 \times 3^3$	$2.8 \times 3^3$	$2.8 \times 3^3$	$2.8 \times 3^3$	$2.8 \times 3^3$
Braking unit		MDBUN-200-5T x2		MDBUN-200-5T x3				
Enclosure		IP 00						

### Normal duty ratings (P), 110% overload

Voltage class $\text{CE} \text{ (UL)}$		Three phase 380 to 480 Vac						
DriveModel: MD500TxxxG/xxxP(-L)-PLUS-INT <sup>*4</sup>		200G/250P (-L)	220G/280P (-L)	250G/315P (-L)	280G/355P (-L)	315G/400P (-L)	355G/450P (-L)	400G/500P (-L)
Frame size		T10		T11		T12		
Drive input	Rated input voltage	Three phase 380 to 480 Vac -15% to +10%						
	Rated input current [A]	456	507	559	624	708	782	840
	Power capacity [kVA]	417	464	511	571	647	715	768
	Rated input frequency	50/60 Hz $\pm 5\%$						
Drive output	Applicable motor [kW]	250	280	315	355	400	450	500
	Output current [A] <sup>*2</sup>	465	520	585	650	725	820	880
	Default carrier frequency [kHz]	3	3	3	3	3	3	3
	Overload capacity	110% for 60 s						
	Max. output voltage	Three phase 380 to 480 Vac (proportional to input voltage)						
Max. output frequency	599 Hz							
Braking resistor	Recommended power [kW]	42	54	60	69	78	87	87
	Minimum resistance [ $\Omega$ ]	$2.8 \times 2^3$	$2.8 \times 2^3$	$2.8 \times 3^3$	$2.8 \times 3^3$	$2.8 \times 3^3$	$2.8 \times 3^3$	$2.8 \times 3^3$
Braking unit		MDBUN-200-5T x2		MDBUN-200-5T x3				
Enclosure		IP 00						

\*2 Rated output current at default carrier frequency.


\*3 Minimum value of the resistance for each braking unit.

\*4 For the standard AC drive, we recommend motor cable lengths to be <100 m. Where your installation exceeds 100 m, the "L" version is an option with a built-in AC output reactor (1% voltage drop) which can help to overcome the effects of long cable installations. To discuss your application, contact your local Inovance representative.


\*5 G rated 450 kW unit also available on request, with 130% overload. For more information, contact your local Inovance representative.

## General specifications

### Heavy duty ratings (G), 150% overload

Voltage class 		Three phase 200 - 240 Vac															
Drive Model: MD500-2TxxxG/yyyP(B)-PLUS-INT		0.4G/ 0.7PB	0.7G/ 1.1PB	1.1G/ 1.5PB	1.5G/ 2.2PB	2.2G/ 3.7PB	3.7G/ 5.5PB	5.5G/ 7.5PB	7.5G/ 11PB	11G/ 15PB	15G/ 18.5PB	18.5G/ 22PB	22G/ 30PB	30G/ 37PB	37G/ 45PB	45G/ 55P	55G/ 75P
Frame size		T1			T2		T3	T4	T5	T6		T7		T8			
Drive input	Rated input voltage	Three phase 200 to 240 Vac -15% to +10%															
	Rated input current [A]	2.4	4.6	6.3	9.0	11.4	16.7	32.2	41.3	51.3	57	69	89	106	139	164	196
	Power capacity [kVA]	1.1	2.1	2.9	4.1	5.2	7.6	14.7	18.9	27	26.1	31.6	40.7	48.5	63.6	75	89.6
	Rated input frequency	50/60 Hz ±5%															
Drive output	Applicable motor [kW]	0.4	0.75	1.1	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55
	Output current [A] <sup>2</sup>	2.1	3.8	5.1	7.2	9.0	13	25	32	45	60	75	91	112	150	176	210
	Default carrier frequency [kHz]	6	6	6	6	6	6	6	6	6	6	5	5	4	3	3	3
	Overload capacity	150% for 60 s															
	Max. output voltage	Three phase 200 to 240 Vac (proportional to input voltage)															
	Max. output frequency	599 Hz															
Braking resistor	Recommended power [kW]	0.09	0.16	0.25	0.34	0.5	0.8	1.3	1.7	2.3	3.0	3.9	4.6	5.5	6.8	5.0 x2	6.0 x2
	Minimum resistance [Ω]	48	48	32	32	16	16	12	12	12	9	7	6	5	4	5.5 x2 <sup>3</sup>	3.7 x2 <sup>3</sup>
Braking unit	Built-in														MDBUN-60-2T x2		MDBUN-90-2T x2
Enclosure	IP 20																

### Normal duty ratings (P), 110% overload

Voltage class 		Three phase 200 - 240 Vac															
Drive Model: MD500-2TxxxG/yyyP(B)-PLUS-INT		0.4G/ 0.7PB	0.7G/ 1.1PB	1.1G/ 1.5PB	1.5G/ 2.2PB	2.2G/ 3.7PB	3.7G/ 5.5PB	5.5G/ 7.5PB	7.5G/ 11PB	11G/ 15PB	15G/ 18.5PB	18.5G/ 22PB	22G/ 30PB	30G/ 37PB	37G/ 45PB	45G/ 55P	55G/ 75P
Frame size		T1			T2		T3	T4	T5	T6		T7		T8			
Drive input	Rated input voltage	Three phase 200 to 240 Vac -15% to +10%															
	Rated input current [A]	3.7	6.4	9.1	11.3	15.9	22.4	39.7	44	65.8	71	86	111	143	167	198	239
	Power capacity [kVA]	1.7	2.9	4.2	5.2	7.3	10.2	18.2	20.1	30.1	32.5	39.3	50.8	65.4	76.4	90.5	109.3
	Rated input frequency	50/60 Hz ±5%															
Drive output	Applicable motor [kW]	0.75	1.1	1.5	2.2	3.7	5.5	7.5	11	15	18.5	22	30	37	45	55	75
	Output current [A] <sup>2</sup>	3.1	5.1	7.2	9.0	13	17	32	37	60	75	91	112	150	176	210	253
	Default carrier frequency [kHz]	6	6	6	6	6	6	6	6	6	6	5	5	4	3	3	3
	Overload capacity	110% for 60 s															
	Max. output voltage	Three phase 200 to 240 Vac (proportional to input voltage)															
	Max. output frequency	599 Hz															
Braking resistor	Recommended power [kW]	0.09	0.16	0.25	0.34	0.5	0.8	1.3	1.7	2.3	3.0	3.9	4.6	5.5	6.8	5.0 x2	6.0 x2
	Minimum resistance [Ω]	48	48	32	32	16	16	12	12	12	9	7	6	5	4	5.5 x2 <sup>3</sup>	3.7 x2 <sup>3</sup>
Braking unit	Built-in														MDBUN-60-2T x2		MDBUN-90-2T x2
Enclosure	IP 20																

<sup>2</sup> Rated output current at default carrier frequency.

<sup>3</sup> Minimum value of the resistance for each braking unit.

## General specifications

### Heavy duty ratings (G), 150% overload

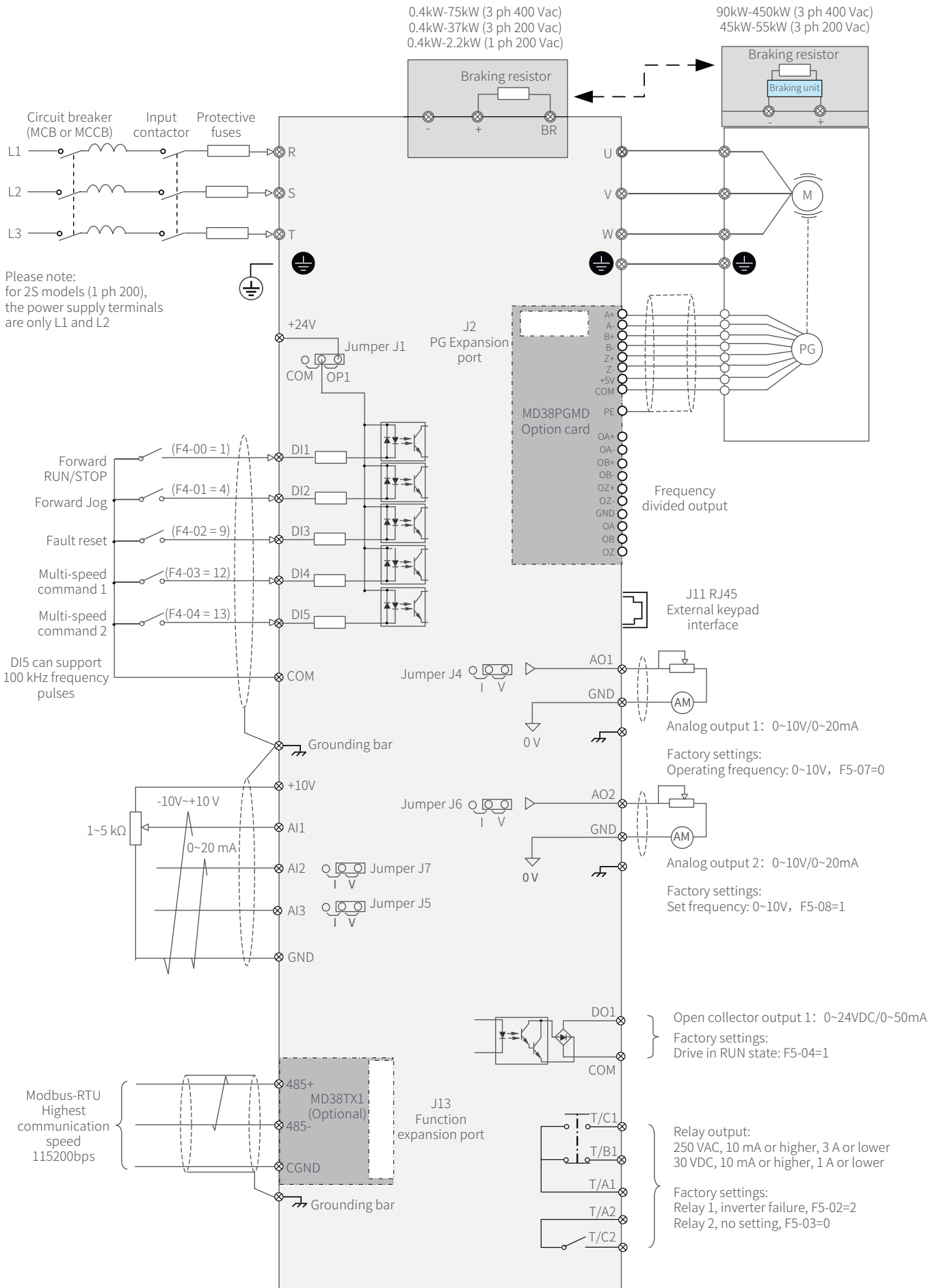
Voltage class <b>CE</b> <b>UL</b>		One phase 200 - 240 Vac			
DriveModel: MD500-2SxxxGB-PLUS-INT		0.4GB	0.7GB	1.5GB	2.2GB
Frame size		T2			
Drive input	Rated input voltage	One phase 200 to 240 Vac -15% to +10%			
	Rated input current [A]	5.4	8.2	14	20
	Power capacity [kVA]	1.4	2.2	3.7	6
	Rated input frequency	50/60 Hz $\pm$ 5%			
Drive output	Applicable motor [kW]	0.4	0.7	1.5	2.2
	Output current [A] <sup>*2</sup>	2.3	4.0	7.0	9.6
	Default carrier frequency [kHz]	6	6	6	6
	Overload capacity	150% for 60 s			
	Max. output voltage	Three phase 200 to 240 Vac (proportional to input voltage)			
	Max. output frequency	599 Hz			
Braking resistor	Recommended power [kW]	80	80	100	100
	Minimum resistance [ $\Omega$ ]	64	64	32	32
Braking unit		Built-in			
Enclosure		IP 20			

\*2 Rated output current at default carrier frequency.



Suitable for compressors requiring  
150% overload and/or vector control

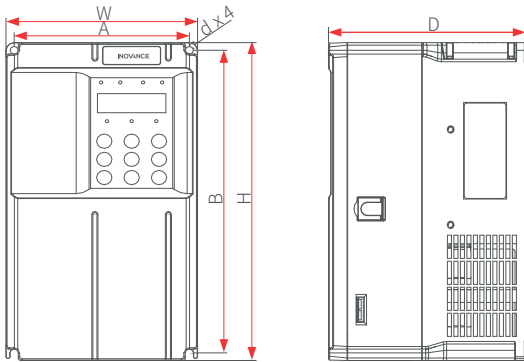
## General wiring diagram



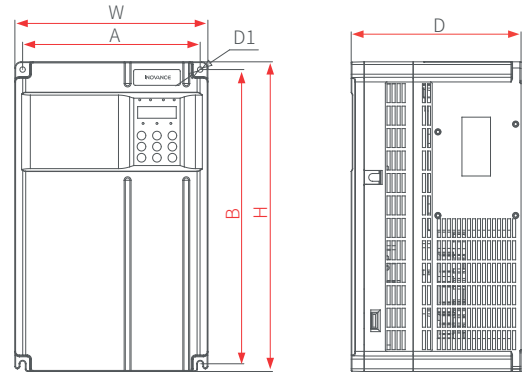


## Dimensions

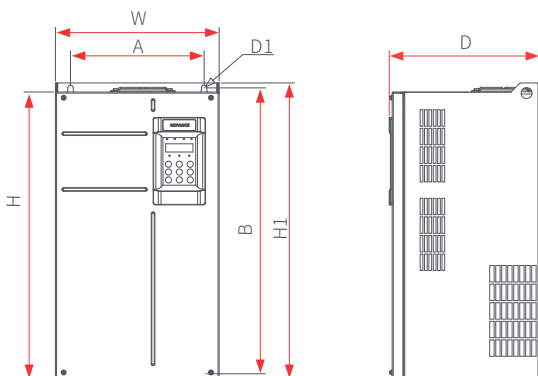
MD500T0.4G/0.7PB-PLUS-INT to MD500T15G/18.5PB-PLUS-INT  
 MD500-2T0.4G/0.7PB-PLUS-INT to MD500-2T7.5G/11PB-PLUS-INT  
 MD500-2S0.4GB-PLUS-INT to MD500-2S2.2GB-PLUS-INT



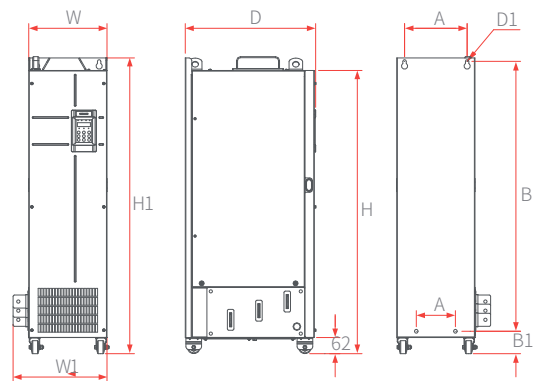
MD500T18.5G/22PB-PLUS-INT to MD500T37G/45PB-PLUS-INT  
 MD500-2T11G/15PB-PLUS-INT to MD500-2T18.5G/22PB-PLUS-INT



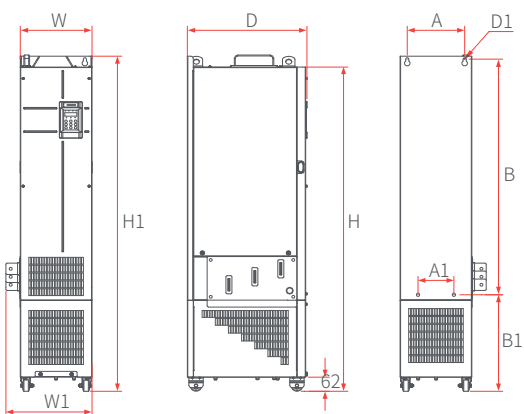
MD500T45G/55PB-PLUS-INT to MD500T160G/200P-PLUS-INT  
 MD500-2T22G/30PB-PLUS-INT to MD500-2T55G/75P-PLUS-INT



MD500T200G/250P-PLUS-INT to MD500T400G/500P-PLUS-INT,  
 MD500T450G-PLUS

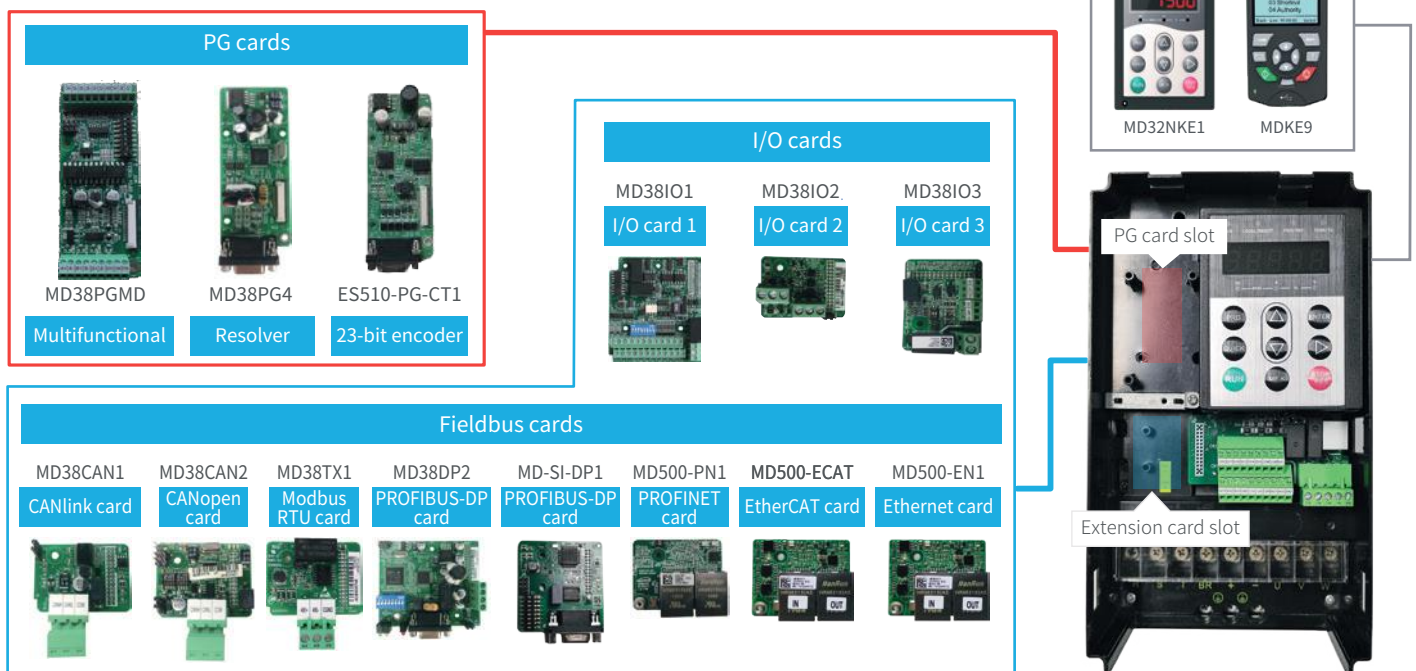


MD500T200G/250P-L-PLUS-INT to MD500T400G/500P-L-PLUS-INT,  
 MD500T450G-L-PLUS



MD500-PLUS Model	Frame size	Dimensions (mm)										Mass (kg)
		A	A1	B	B1	H	H1	W	W1	D	D1	
MD500T0.4G/0.7PB-PLUS-INT, MD500T0.7G/1.1PB-PLUS-INT, MD500T1.1G/1.5PB-PLUS-INT, MD500T1.5G/2.2PB-PLUS-INT, MD500T2.2G/3.0PB-PLUS-INT, MD500T3.0G/3.7PB-PLUS-INT, MD500-2T0.4G/0.7PB-PLUS-INT, MD500-2T0.7G/1.1PB-PLUS-INT, MD500-2T1.1G/1.5PB-PLUS-INT, MD500-2T1.5G/2.2PB-PLUS-INT	T1	119	/	189	/	200	/	130	/	152	Ø5	1.6
MD500T3.7G/5.5PB-PLUS-INT, MD500T5.5G/7.5PB-PLUS-INT	T2	119	/	189	/	200	/	130	/	162	Ø5	2.0
MD500-2S0.4GB-PLUS-INT to MD500-2S2.2GB-PLUS-INT												
MD500-2T2.2G/3.7PB-PLUS-INT, MD500-2T3.7G/5.5PB-PLUS-INT	T3	128	/	238	/	250	/	140	/	170	Ø6	3.3
MD500T7.5G/11PB-PLUS-INT, MD500T11G/15PB-PLUS-INT, MD500-2T5.5G/7.5PB-PLUS-INT	T4	166	/	266	/	280	/	180	/	170	Ø6	4.3
MD500T15G/18.5PB-PLUS-INT, MD500-2T7.5G/11PB-PLUS-INT	T5	195	/	335	/	350	/	210	/	192	Ø6	10
MD500T18.5G/22PB-PLUS-INT, MD500T22G/30PB-PLUS-INT, MD500-2T11G/15PB-PLUS-INT	T6	230	/	380	/	400	/	250	/	220	Ø7	17.5
MD500T30G/37PB-PLUS-INT, MD500T37G/45PB-PLUS-INT	T7	245	/	523	/	525	542	300	/	275	Ø10	35
MD500-2T45G/55PB-PLUS-INT, MD500T55G/75PB-PLUS-INT												
MD500-2T22G/30PB-PLUS-INT, MD500-2T30G/37PB-PLUS-INT	T8	270	/	560	/	554	580	338	/	315	Ø10	51.5
MD500T75G/90PB-PLUS-INT, MD500T90G/110P-PLUS-INT, MD500T110G/132P-PLUS-INT	T9	320	/	890	/	874	915	400	/	320	Ø10	85
MD500-2T37G/45PB-PLUS-INT, MD500-2T45G/55P-PLUS-INT, MD500-2T55G/75P-PLUS-INT												
MD500T132G/160P-PLUS-INT, MD500T160G/200P-PLUS-INT	T10	240	150	1,035	86	1,086	1,134	300	360	500	Ø13	110
MD500T200G/250P-PLUS-INT, MD500T220G/280P-PLUS-INT												
MD500T200G/250P-L-PLUS-INT, MD500T220G/280P-L-PLUS-INT												
MD500T250G/315P-PLUS-INT, MD500T280G/355P-PLUS-INT	T11	225	185	1,175	97	1,248	1,284	330	390	545	Ø13	155
MD500T250G/315P-L-PLUS-INT, MD500T280G/355P-L-PLUS-INT												
MD500T315G/400P-PLUS-INT, MD500T355G/450P-PLUS-INT, MD500T400G/500P-PLUS-INT, MD500T450G-PLUS	T12	240	200	1,280	101	1,355	1,405	340	400	545	Ø16	185
MD500T315G/400P-L-PLUS-INT, MD500T355G/450P-L-PLUS-INT, MD500T400G/500P-L-PLUS-INT, MD500T450G-L-PLUS												

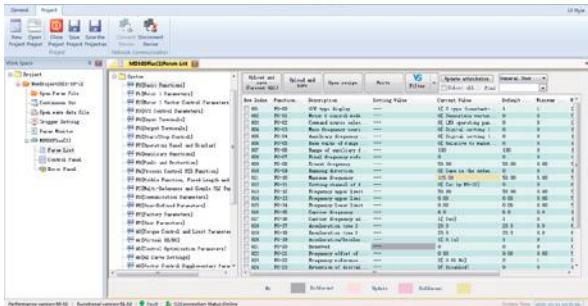
## Extension cards and mounting position



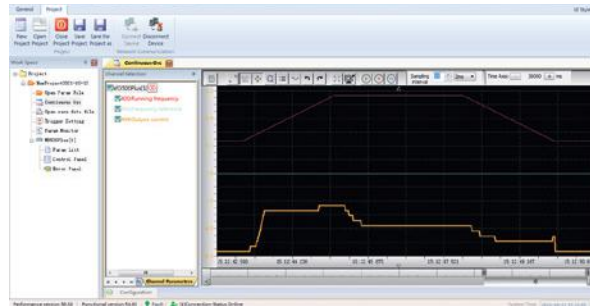
## PC software tools

InoDriverShop

InoDriverShop is Inovance's PC-based software offering. It is based on a familiar Windows interface. InoDriverShop can upload and download drive parameters, and features a variety of other functions, such as a real-time oscilloscope



Parameter uploading/downloading



Multi channel oscilloscope

## Accessories list

Category	Model	Function description	Suitable for
External braking units	MDBUN-60-2T	External braking unit, rated current 60 A, for supply input voltage 200 to 240 Vac AC drives.	2T models: 45 G - 55 G
	MDBUN-200-5T	External braking unit, rated current 200 A, for supply input voltage 380 to 480 Vac AC drives.	T models: 200 G - 450 G
	MDBUN-60-5T	External braking unit, rated current 60 A, for supply input voltage 380 to 480 Vac AC drives.	T models: 90 G - 110 G
	MDBUN-90-5T	External braking unit, rated current 90 A, for supply input voltage 380 to 480 Vac AC drives.	T models: 132 G - 160 G
Keypads	MD32NKE1	Remote LED keypad. Includes MDCAB cable.	All
	MDKE9	Remote LCD keypad. For parameter programming and monitoring, data copy (for various MD series). Includes MDCAB cable.	All
	MDCAB	3 meter connection cable for remote keypad.	All
	MDCAB-1.5	1.5 meter connection cable for remote keypad.	All
I/O cards	MD38IO1	I/O extension card 1, provides: 5x DI, 1x AI, 1x relay output, 1x DO, 1x AO, Modbus-RTU and CANlink.	Frame sizes T4-T12
	MD38IO2	I/O extension card 2, provides 3x extra DI terminals.	All
	MD38IO3	I/O extension card 3, provides 3x DI, 1x relay output, Modbus-RTU interface.	All
Fieldbus cards	MD500-ECAT	EtherCAT option card.	All
	MD500-EN1	Ethernet option card.	All
	MD38CAN1	CANlink option card, supports only CANlink.	All
	MD38CAN2	CANopen option card, supports only CANopen.	All
	MD38TX1	Modbus-RTU option card.	All
	MD38DP2	PROFIBUS-DP option card.	Frame sizes T4-T12
	MD-SI-DP1	PROFIBUS-DP option card (designed for smaller frames).	All
PG cards	MD500-PN1	PROFINET option card.	All
	MD38PG4	Interface card for resolver (10 kHz excitation) with DB9 connector.	All
PC comms kit	MD38PGMD	Multifunctional encoder card, compatible with differential, open-collector and push-pull encoder types. Supports differential output and open-collector output.	All
	ES510-PG-CT1	23-bit encoder card.	All
Mounting brackets	MDPCKIT02	Kit for connection with a personal computer, to be used with PC software tools.	All
	MD500-AZJ-A1T1	Through hole mounting bracket - MD290/MD500 for frame T1.	Frame size T1
	MD500-AZJ-A1T2	Through hole mounting bracket - MD290/MD500 for frame T2.	Frame size T2
	MD500-AZJ-A1T3	Through hole mounting bracket - MD290/MD500 for frame T3.	Frame size T3
	MD500-AZJ-A1T4	Through hole mounting bracket - MD290/MD500 for frame T4.	Frame size T4
	MD500-AZJ-A1T5	Through hole mounting bracket - MD290/MD500 for frame T5.	Frame size T5
	MD500-AZJ-A1T6	Through hole mounting bracket - MD290/MD500 for frame T6.	Frame size T6
	MD500-AZJ-A1T7	Through hole mounting bracket - MD290/MD500 for frame T7.	Frame size T7
	MD500-AZJ-A1T8	Through hole mounting bracket - MD290/MD500 for frame T8.	Frame size T8
Guide rails	MD500-AZJ-A1T9	Through hole mounting bracket - MD290/MD500 for frame T9.	Frame size T9
	MD500-AZJ-A3T10	Guide rails for inserting in/ extracting from the cabinet - frame sizes T10 to T12.	Frame sizes T10-T12

# Driven by technology

AC drives



AC MultiDrives



MV drives



Single-Axis servos



Multi-Axis servos



Robotics & motion controllers



PLCs & HMIs



CNC machine tool solutions



Electric vehicle inverters



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