

MD290 AC Drive General-purpose Open Loop

NEW

Wide operating voltage
Three-phase 380 to 480 Vac,
0.4 to 500 kW



NEW

Operation in high
ambient temperature



NEW

Built-in DC reactor
(18.5 kW and above)



Features & Functions

- Open-loop V/F
- Communication Options:
 - Modbus-RTU
 - Profibus-DP
 - CANopen
 - CANlink
- Automatic torque boost
- Slip compensation
- Simplified parameter for easy startup
- 4-independent S-ramps
- Flexible programmable I/O connection
- User programmable function
- Variable DC injection braking
- Comprehensive trip diagnostics
- Output frequency 500 Hz

NEW

Through-hole mounting
Options (0.4 to 160 kW)

NEW

Enhanced reliability protection
against humidity and
pollution dust

*2 PC-Based
Software
simplified
startup &
backup



*1 UL for 132 kW and above are coming soon.

*2 PC Comms kit hardware (optional).

General Specifications

Voltage Class		Three-phase 380 to 480 Vac										
Drive model: MD290TxxG/xxPB-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					T2		T3		T4	
Drive Input	Rated input voltage	Three-phase 380 to 480 Vac, -15% to +10%										
	Rated input current [A]	1.8/2.5	2.4/3.7	3.7/4.6	4.6/6.4	6.3/9.1	9.0/11.3	11.4/15.9	16.7/22.4	21.9/32.9	32.2/39.7	41.3/44
	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]	0.4/0.7	0.7/1.1	1.1/1.5	1.5/2.2	2.2/3.0	3.0/3.7	3.7/5.5	5.5/7.5	7.5/11	11/15	15/18.5
	Output current [A] ¹	1.5/2.1	2.1/3.1	3.1/3.8	3.8/5.1	5.1/7.2	7.2/9.0	9.0/13	13/17	17/25	25/32	32/37
	Default carrier frequency [kHz]	6	6	6	6	6	6	6	6	6	6	6
	Overload capacity	150% for G type and 110% for P type, 60 Sec										
	Max. output voltage	Three-phase 380 to 480 Vac (Proportional to input voltage)										
	Max. output frequency	500 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
	Recommended resistance [Ω]	1450	800	500	380	260	190	150	100	75	50	38
Braking unit		Built-in										
Enclosure		IP 20										

Voltage Class		Three-phase 380 to 480 Vac										
Drive model: MD290TxxG/xxP-INT		18.5G/22P	22G/30P	30G/37P	37G/45P	45G/55P	55G/75P	75G/90P	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]	49.5/59	59/65.8	57/71	69/86	89/111	106/143	139/167	164/198	196/239	240/295	287/359
	Power capacity [kVA]	54	60	65	79	102	131	153	181	219	270	328
	Rated input frequency	50/60 Hz, ±5%										
Drive Output	Applicable motor [kW]	18.5/22	22/30	30/37	37/45	45/55	55/75	75/90	90/110	110/132	132/160	160/200
	Output current [A] ¹	37/45	45/60	60/75	75/91	91/112	112/150	150/176	176/210	210/253	253/304	304/377
	Default carrier frequency [kHz]	6	6	6	5	5	4	3	3	3	3	3
	Overload capacity	150% for G type and 110% for P type, 60 Sec										
	Max. output voltage	Three-phase 380 to 480 Vac (Proportional to input voltage)										
	Max. output frequency	500 Hz										
Braking Resistor	Recommended power [kW]	4	4.5	6	7	9	11	15	18	22	26	32
	Recommended resistance [Ω]	32	27	20	16	13	10.5	7.7	6.4	5.3	4.4	3.6
Braking unit		Built-in (For models MD290TxxG/xxPB-INT)						MDBUN-60-5T x2		MDBUN-90-5T x2		
Enclosure		IP 20										

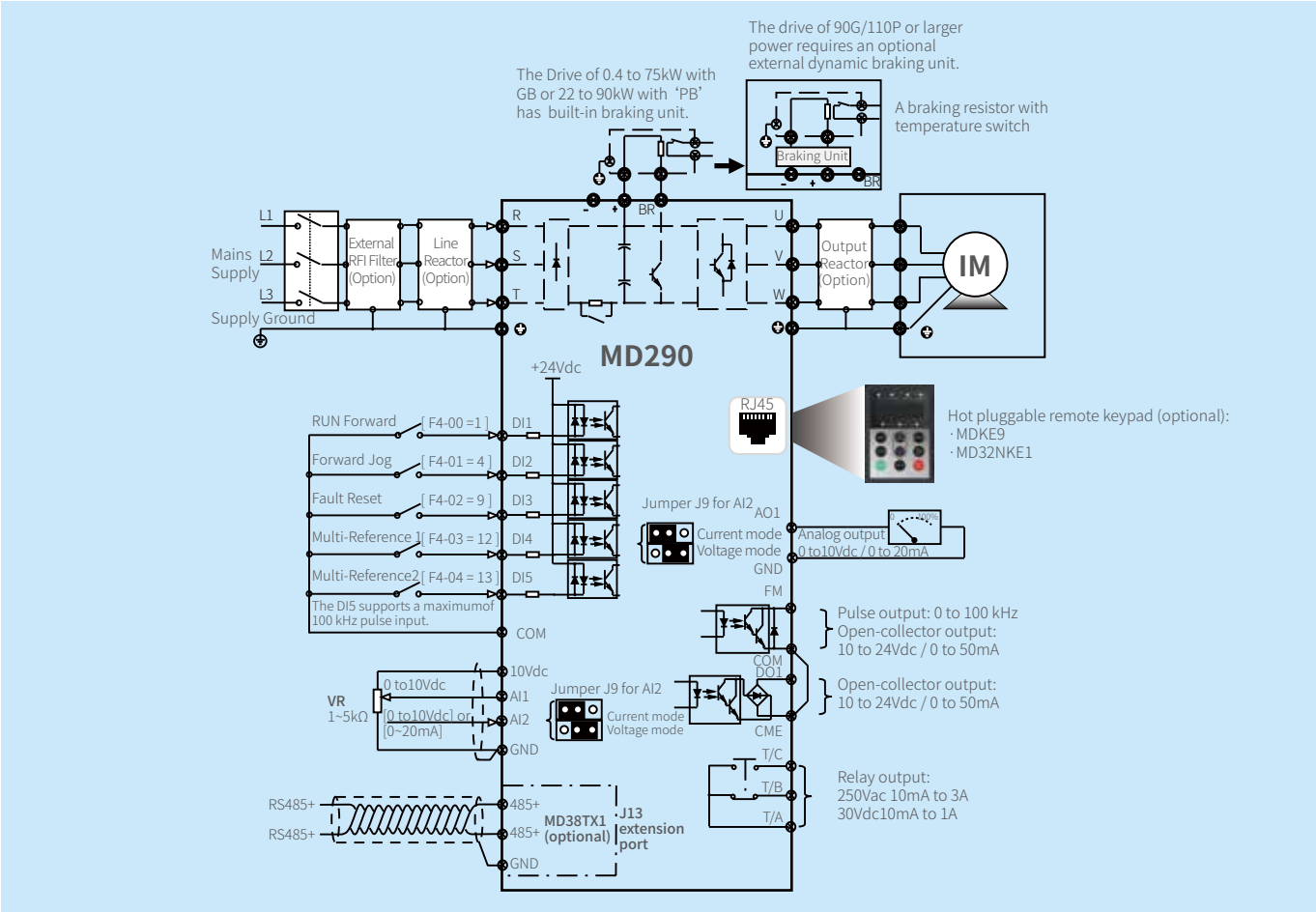
Voltage Class		Three-phase 380 to 480 Vac															
Drive Model: MD290Txxxx (-L) ² -INT		200G	220P	220G	250P	250G	280P	280G	315P	315G	355P	355G	400P	400G	450P	450G	500P
Frame size		T10				T11				T12							
Drive Input	Rated input voltage	Three-phase 380 to 480 Vac, -15% to +10%															
	Rated input current [A]	365	410	410	456	441	507	495	559	565	624	617	708	687	782	782	840
	Power capacity [kVA]	334	375	375	417	404	464	453	511	517	571	565	647	629	715	716	768
	Rated input frequency	50/60 Hz, ±5%															
Drive Output	Applicable motor [kW]	200	220	220	250	250	280	280	315	315	355	355	400	400	450	450	500
	Output current [A] ¹	377	426	426	465	465	520	520	585	585	650	650	725	725	820	820	880
	Default carrier frequency [kHz]	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3
	Overload capacity	150% for G type and 110% for P type, 60 Sec (130% for MD290T450G (-L))															
	Max. output voltage	Three-phase 380 to 480 Vac (Proportional to input voltage)															
	Max. output frequency	500 Hz															
Braking Resistor	Recommended power [kW]	38	38	42	42	48	48	54	54	60	60	69	69	78	78	87	87
	Recommended resistance [Ω]	2.9	2.9	2.7	2.7	2.3	2.3	2.1	2.1	1.9	1.9	1.7	1.7	1.5	1.5	1.3	1.3
Braking unit		MDBU-200-C x2									MDBU-200-C x3						
Enclosure		IP 00															

Notes:

*1 Default carrier switching frequency at rated output current.

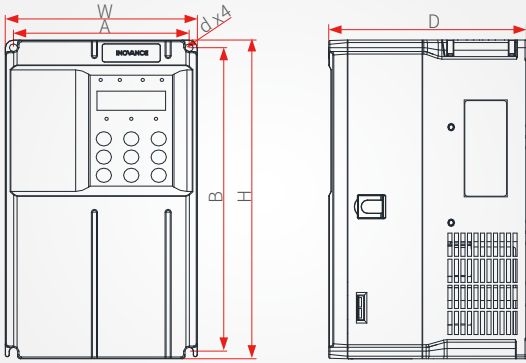
*2 For the standard AC Drive, we recommend motor cable lengths to be <100m. Where your installation exceeds 100m, the "L" version is an option with inbuilt AC Output Reactor (1%) which can help to overcome the effects of long cable installation. To discuss your application, contact Inovance Technology and or the Authorized Distributor.

General Wiring Diagram

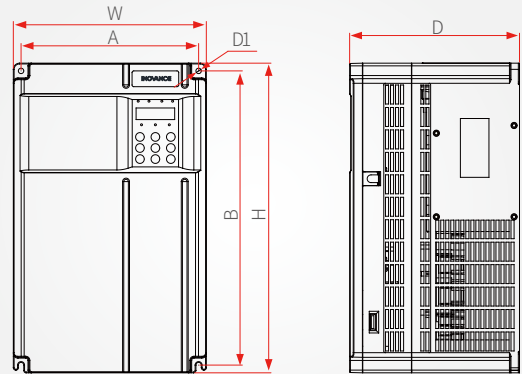


Dimensions

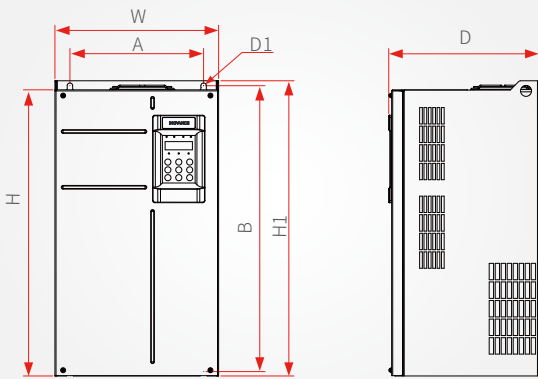
MD290T200G-INT to MD290T500P-INT



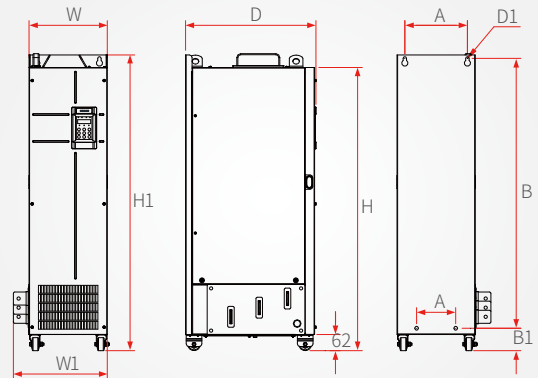
MD290T18.5G/22P-INT to MD290T37G/45P-INT



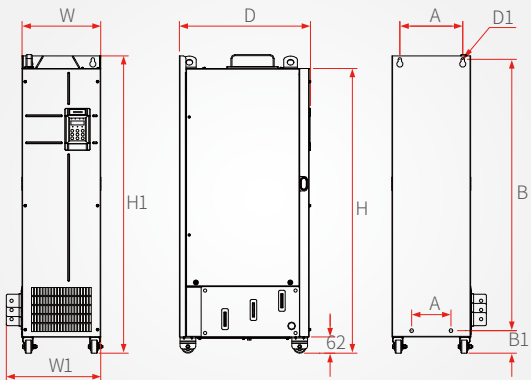
MD290T45G/55P-INT to MD290T160G/200P-INT



MD290T200G-INT to MD290T500P-INT










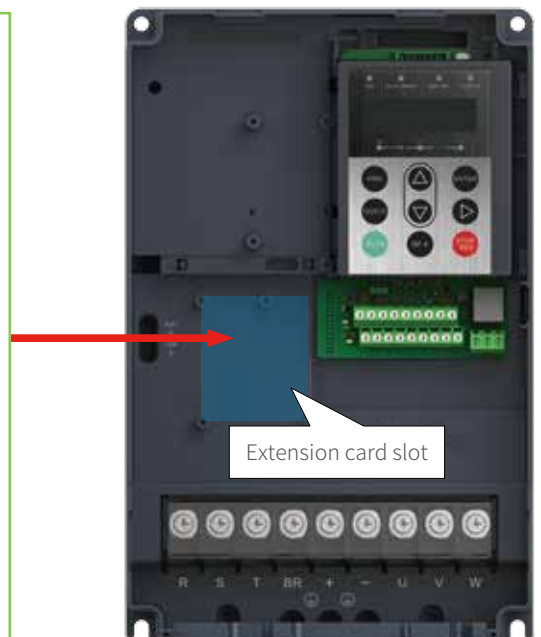
MD290T200G-L-INT to MD290T500P-L-INT



MD290 Model	Frame size	Dimensions (mm)										Weight (kg)
		A	A1	B	B1	H	H1	W	W1	D	D1	
MD290T0.4G/0.7PB-INT, MD290T0.7G/1.1PB-INT, MD290T1.1G/1.5PB-INT MD290T1.5G/2.2PB-INT, MD290T2.2G/3.0PB-INT, MD290T3.0G/3.7PB-INT	T1	119	/	189	/	200	/	130	/	152	Ø5	1.6
MD290T3.7G/5.5PB-INT, MD290T5.5G/7.5PB-INT	T2	119	/	189	/	200	/	130	/	162	Ø5	2.0
MD290T7.5G/11PB-INT, MD290T11G/15PB-INT	T3	129	/	238	/	250	/	140	/	170	Ø6	3.3
MD290T15G/18.5PB-INT	T4	166	/	266	/	280	/	180	/	170	Ø6	4.3
MD290T18.5G/22P-INT, MD290T22G/30P-INT	T5	195	/	335	/	350	/	210	/	192	Ø6	9.1
MD290T30G/37P-INT, MD290T37G/45P-INT	T6	230	/	380	/	400	/	250	/	220	Ø7	17.5
MD290T45G/55P-INT, MD290T55G/75P-INT	T7	245	/	523	/	525	542	300	/	275	Ø10	35
MD290T75G/90P-INT, MD290T90G/110P-INT, MD290T110G/132P-INT	T8	270	/	560	/	554	580	338	/	315	Ø10	51.5
MD290T132G/160P-INT, MD290T160G/200P-INT	T9	320	/	890	/	874	915	400	/	320	Ø10	85
MD290T200G-INT, MD290T220P-INT, MD290T200G-INT, MD290T250P-INT	T10	240	150	1,035	86	1,086	1,134	300	360	500	Ø13	110
MD290T200G-L-INT, MD290T220P-L-INT, MD290T200G-L-INT, MD290T250P-L-INT		240	150	1,035	424	1,424	1,472	300	360	500	Ø13	160
MD290T250G-INT, MD290T280P-INT, MD290T280G-INT, MD290T315P-INT	T11	225	185	1,175	97	1,248	1,284	330	390	545	Ø13	155
MD290T250G-L-INT, MD290T280P-L-INT, MD290T280G-L-INT, MD290T315P-L-INT		225	185	1,175	435	1,586	1,622	330	390	545	Ø13	215
MD290T315G-INT, MD290T355P-INT, MD290T355G-INT, MD290T400P-INT, MD290T400G-INT, MD290T450P-INT, MD290T450G-INT, MD290T500P-INT	T12	240	200	1,280	101	1,355	1,405	340	400	545	Ø16	185
MD290T315G-L-INT, MD290T355P-L-INT, MD290T355G-L-INT, MD290T400P-L-INT, MD290T400G-L-INT, MD290T450P-L-INT, MD290T450G-L-INT, MD290T500P-L-INT		240	200	1,280	432	1,683	1,733	340	400	545	Ø16	245

Extension Cards and Mounting Position

I/O Card		PLC Card	
			
MD38IO1	MD38IO2	MD38PC1	
I/O card 1	I/O card 2	PLC card	
			
MD38CAN1	MD38CAN2	MD38TX1	MD38DP2
CANlink card	CANopen card	Modbus card	Profibus-DP card



Accessories List

Category	Model	Function description	Suitable for	Part No.
Braking unit	MDBU-200-C	External braking unit, rating 200 A for braking current, for input 380 to 480 Vac AC Drive	200G to 450G, 220P to 500P	To be advised
	MDBUN-60-5T	External braking unit, rating 60 A for braking current, for input 380 to 480 Vac AC Drive	90G/110P to 110G/132P	To be advised
	MDBUN-90-5T	External braking unit, rating 90 A for braking current, for input 380 to 480 Vac AC Drive	132G/160P to 160G/200P	To be advised
Keypad	MD32NKE1	Remote LED keypad.	All	01013061
	MDKE9	Remote LCD Keypad. For parameter programming and monitoring, data copy (for various MD series, replacement of MDKE7)	All	01040037
	MDCAB	3-meter connecting cable for remote keypad.	All	01013008
	MDCAB-1.5	1.5-meter connecting cable for remote keypad.	All	15048471
I/O card	MD38IO1	I/O extension card 1, provides the following extension terminals: 5x DI, 1x AI, 1x relay output, 1x DO, 1x AO, Modbus-RTU and CANlink.	15G/18.5P to 450G, 500P	01013098
	MD38IO2	I/O extension card 2, provides 3x extra DI terminals.	All	01013103
PLC card	MD38PC1	PLC card, completely compatible with the Inovance PLC.	15G/18.5P to 450G, 500P	01013104
Fieldbus	MD38CAN1	CANlink communication card (Inovance proprietary serial comms)	All	01013100
	MD38CAN2	CANopen communication card	All	01013102
	MD38TX1	Modbus-RTU communication card	All	01013112
	MD38DP2	Profibus-DP communication card (Modbus gateway)	15G/18.5P to 450G, 500P	01013144
Mounting bracket	MD500-AZJ-A1T1	Through-hole Mounting Bracket for Frame size 1.	0.4G/0.7P to 3.0G/3.7P	01040072
	MD500-AZJ-A1T2	Through-hole Mounting Bracket for Frame size 2.	3.7G/5.5P to 5.5G/7.5P	01040073
	MD500-AZJ-A1T3	Through-hole Mounting Bracket for Frame size 3.	7.5G/11P to 11G/15P	01040074
	MD500-AZJ-A1T4	Through-hole Mounting Bracket for Frame size 4.	15G/18.5P	01040075
	MD500-AZJ-A1T5	Through-hole Mounting Bracket for Frame size 5.	18.5G/22P to 22G/30P	01040001
	MD500-AZJ-A1T6	Through-hole Mounting Bracket for Frame size 6.	30G/37P to 37G/45P	01040002
	MD500-AZJ-A1T7	Through-hole Mounting Bracket for Frame size 7.	45G/55P to 55G/75P	01040003
	MD500-AZJ-A1T8	Through-hole Mounting Bracket for Frame size 8.	75G/90P to 110G/132P	01040004
	MD500-AZJ-A1T9	Through-hole Mounting Bracket for Frame size 9.	132G/160P to 160G/200P	01040005
	MD500-AZJ-A3T10	Assemble the guide rail for frame size T10 to T12.	200G to 450G, 220P to 500P	01040009

For more information, please contact our local offices.

INOVANCE
Forward, Always Progressing

**Hong Kong SAR
(export office)**
Tel: +852 2751 6080
info@inova-automation.com

South Korea-Seoul
Tel: +82 (0) 10 7428 5732
info@inova-automation.com

India
Head Office Chennai
Tel: +91 (0) 44 4380 0201
Ahmedabad Tel: +91 (0) 79 4003 4274
Mumbai Tel: +91 (0) 22 4971 5883
Delhi Tel: (to be allotted)
Sales Network in Kolkata, Bengaluru,
Coimbatore, Hyderabad, Pune
info.inovaindia@inova-automation.com

Germany-Stuttgart
Tel: +49 (0) 7144 8990
sales@powerautomation.com

Italy-Milano
Tel: +39 (0) 2268 22318
info@inova-automation.it

France-Bordeaux
Tel: +33 (0) 5594 01050
pa.france@powerautomation.com

Turkey-Istanbul
Tel: +90 (0) 21 6706 1789
info.turkey@inova-automation.com