

PRODUCT DESCRIPTION ⇨

RATING (SELECT ONLY ONE)

RATED INPUT	DRIVE MODEL NO.	120% OL APPLICATIONS 100% CONTINUOUS OUTPUT CURRENT(A)	NOMINAL HP	BASE NO.
208V	A130	130	40	DB0
	A160	160	50	DC0
	A192	192	60	DD0
	A248	248	75	DE0
	A312	300	100	DF0
230V	A130	130	50	AC0
	A160	160	60	AD0
	A192	192	75	AE0
	A248	248	100	AF0
	A312	312	125	AG0
460V	B128	128	100	BFO
	B180	156	125	BGO
	B180	180	150	BHO
	B240	240	200	BJ0
	B302	300	250	BK0
	B380	380	300	BL0
	B506	414	350	BM0
	B506	506	400	BN0
B675	515	450	BP0	
B675	675	500	BR0	

OPTION TABLE 1

ENCLOSURE TYPE	OPTION DESIG.
NEMA 1 VENTED	V
BLOWERED	B

OPTION TABLE 2

OPTION DESIGNATOR	DESCRIPTION
Y1	2CN OPTION - CMD43 METASYS N2 COMMUNICATIONS
Y2	2CN OPTION - CMD45 FLN COMMUNICATIONS
Y3	2CN OPTION - CMD47 ECHELON COMMUNICATIONS
Y4	2CN OPTION - CM086 RS-232 TO RS-485 INTERFACE
Y5	2CN OPTION - DS006 ANALOG MONITOR - V/1
SEE TABLE 3 FOR OPTION DESIG.	"RUNNING ON BYPASS" AND "RUNNING ON DRIVE" PILOT LIGHTS
T	AUTO TRANSFER TO BYPASS UPON DRIVE FAULT
S	SMOKE PURGE
R	INPUT REACTOR
P	PRESSURE TRANSDUCER (3-15 PSI)
F	INPUT FUSING
E	INPUT RFI FILTER

DRIVE OPERATION MODE SELECTION TABLE 5

n002 SETTINGS	RUN/STOP COMMAND	FREQUENCY REFERENCE	SEE NOTE
0	KEYPAD	KEYPAD	9
1	EXT. TERMINALS	KEYPAD	
2	KEYPAD	EXT. TERMINALS	9
3	EXT. TERMINALS	EXT. TERMINALS	
4	KEYPAD	SERIAL COMM.	9
5	EXT. TERMINALS	SERIAL COMM.	
6	SERIAL COMM.	SERIAL COMM.	10
7	SERIAL COMM.	KEYPAD	10
8	SERIAL COMM.	EXT. TERMINALS	10

OPTION COMBINATION TABLE 3

OPTION	OPTION DESIGNATION															
	1	2	3	4	5	6	7	G	H	J	K	L	N	U	W	
PILOT LIGHTS	0	0	0	0	0	0	1	1	1	1	1	1	1	1	1	
RFI NOISE SUPPRESSION NETWORK	0	0	0	1	1	1	1	0	0	0	0	0	1	1	1	
ENGRAVED DRIVE CABINET NAMEPLATE	0	1	1	0	0	1	1	0	0	1	1	0	0	0	1	
MANUAL SPEED POT	1	0	1	0	1	0	1	0	1	0	1	0	1	0	1	

SPECIAL PARAMETER SETTINGS TABLE 4 (SEE NOTE B)

PARAMETER	DATA	UNIT	DESCRIPTION/REMARKS
n001	3	N/A	READ/WRITE TO ALL PARAMETERS
n002	SEE TABLE 5	N/A	DRIVE OPERATION MODE SELECTION
n003	460(230)	V	STANDARD MAX VOLTAGE SETTING
	208	V	MAX VOLTAGE SETTING FOR BASE NO. "D..."
n006	1	N/A	REVERSE RUN DISABLED
n007	0	N/A	LOCAL/REMOTE KEY DISABLED
n018	60.0	S	ACCELERATION TIME
n019	60.0	S	DECELERATION TIME
n024	10.0	HZ	KEYPAD SPEED REFERENCE
n033	---	AMPS	MOTOR FULL LOAD AMPS- (MUST BE SET BY CUSTOMER)
n038	5	N/A	REMOTE/LOCAL (USED FOR NORMAL/TEST)
n039	9	N/A	TERMINAL S5 SELECTS AUTO/HAND SPEED REFERENCE SELECT
n040	21	N/A	PID CONTROL DISABLE
n043	1	N/A	TERMINALS FI AND FV ANALOG INPUT SELECTION
n044	0	N/A	FOR OPTION P 0 TO 10VDC AUTO MODE SIGNAL, WITH CONTROL BOARD JUMPER J1 CUT
	1	N/A	4-20 MADC AUTO MODE SIGNAL
n055	1	N/A	MOMENTARY POWER LOSS RIDE THROUGH ENABLED
n056	20	%	SPEED SEARCH OPERATION LEVEL
n057	1.0	S	MINIMUM BASE BLOCK TIME
n058	25	%	V/F DURING SPEED SEARCH
n061	1	N/A	DRIVE FAULT RELAY DE-ENERGIZED DURING AUTO RESTART ATTEMPTS
n068	50	%	DC INJECTION BRAKING CURRENT LEVEL
n070	5.0	S	DC INJECTION BRAKING TIME AT START

NOTES:

- * COMPONENTS NOT SUPPLIED BY YASKAWA.
 - CUSTOMER WIRING. - FOR 0 TO 100 AMPS, USE 60"-75" C COPPER WIRE. ABOVE 100 AMPS, USE 75" C COPPER WIRE.
 - CUSTOMER CONNECTION POINT ON PANEL MOUNTED TERMINAL BLOCK TB1. TORQUE WIRE CONNECTIONS TO 16-20 LB. IN.
 - FACTORY CONNECTION POINT ON DRIVE A1.
- REFER TO THE PRODUCT DESCRIPTION AND ASSOCIATED OPTION TABLES TO DETERMINE WHICH OPTIONS ARE PRESENT.
- CONNECTED TO CABINET. CUSTOMER TO CONNECT CABINET GROUND LUG TO EARTH GROUND.
 - MOTOR OVERLOAD RELAY, S12, IS FACTORY SET FOR MANUAL RESET. CUSTOMER TO ADJUST S12 TRIP SETTING FOR THE AC MOTOR'S FULL LOAD AMPS.
 - TERMINALS SUPPLIED FOR INSERTION OF NORMALLY CLOSED CUSTOMER SAFETY CONTACTS I.E. FRESTAT, FREEZSTAT, WINDING OR BEARING TEMPERATURE ACTIVATED SWITCHES. IF APPLICABLE, REMOVE THE FACTORY INSTALLED JUMPER J1.
 - A. TERMINALS SUPPLIED FOR INSERTION OF CUSTOMER SUPPLIED DAMPER ELECTRIC PNEUMATIC VALVE (SOLENOID), WITH A MAXIMUM POWER RATING OF 100VA SEALED AND 170VA INFLUSH, USED TO CONTROL THE OPENING AND CLOSING OF A SYSTEM DAMPER. IF APPLICABLE, CHANGE DRIVE PARAMETER #004 TO 1.
 - B. TERMINALS SUPPLIED FOR INSERTION OF CUSTOMER SUPPLIED, NORMALLY OPEN DAMPER END SWITCH (OPEN=DAMPER CLOSED, CLOSED=DAMPER FULLY OPEN), IF APPLICABLE, REMOVE THE FACTORY INSTALLED JUMPER J2.
 - INSULATED TWISTED SHIELDED WIRE IS REQUIRED. 2 CONDUCTOR #18GA. (BELDON #8790, OR EQUIVALENT). SHIELD TO CONNECT TO PROPER TERMINAL AS SHOWN. CONNECT THE SHIELD ONLY AT THIS END. STUB AND ISOLATE THE OTHER END. DO NOT RUN THESE WIRES IN THE SAME CONDUIT AS THE AC POWER AND AC CONTROL WIRES.
 - DRIVE PARAMETER #070 IS PROVIDED TO PREVENT THE DRIVE FROM STARTING INTO A SPINNING MOTOR FOLLOWING A TRANSITION FROM THE BYPASS MODE TO THE DRIVE MODE OF OPERATION. CUSTOMER TO FIELD ADJUST #070 FOR THE DECELERATION TO STOP TIME (IN SECONDS) OF THE AC MOTOR FROM MAXIMUM SPEED, WHEN SWITCHING FROM THE BYPASS TO THE DRIVE MODE OF OPERATION.
 - WHEN PRESSURE TRANSDUCER (OPTION P) IS PRESENT (SEE OPTION TABLE 2), CONNECT THE PNEUMATIC SIGNAL AS SHOWN ON PAGE 1, SET PARAMETER #044 TO "0", AND CUT JUMPER J1 ON THE DRIVE CONTROL BOARD.
 - IF A "2 WIRE" OR "3 WIRE" INITIALIZATION IS PERFORMED ON THE DRIVE, THEN THE DRIVE PARAMETERS NEED TO BE RE-ENTERED, AS SHOWN IN THE SPECIAL PARAMETER SETTINGS TABLES 4 AND 5.
 - IF RUN/STOP IS TO BE PERFORMED VIA THE DRIVE KEYPAD, THEN THE CUSTOMER SAFETY INTERLOCK, THE DAMPER CONTROL, AND THE DAMPER END SWITCH WILL NO LONGER FUNCTION. CONTACT THE FACTORY, IF THESE FUNCTIONS ARE REQUIRED.
 - SERIAL COMMUNICATIONS RUN/STOP CONTROL: THE CUSTOMER MUST ADD A JUMPER J4 BETWEEN POINTS 3 AND 4 ON THE PANEL MOUNTED TERMINAL BLOCK TB1, AND THE HAND/STOP/AUTO SWITCH, S2 MUST BE IN THE "AUTO" POSITION, IF SERIAL COMMUNICATIONS IS TO BE USED TO CONTROL THE RUN/STOP OF THE DRIVE.
 - HAND/STOP/AUTO SWITCH OPERATION: THE FUNCTION OF THE HAND/STOP/AUTO SWITCH IS TO SELECT SPEED AND RUN/STOP CONTROL. THE AUTO POSITION SELECTS THE AUTO SIGNAL INPUT FOR SPEED AND A CUSTOMER SUPPLIED CONTACT FOR A RUN COMMAND. THE HAND POSITION SELECTS THE CABINET DOOR MOUNTED SPEED POT R1 FOR SPEED AND A RUN COMMAND ACTIVATED BY THE BYPASS/OFF/DRIVE SWITCH.
 - TEST/NORMAL SWITCH OPERATION: THE FUNCTION OF THE TEST/NORMAL SWITCH IS TO TEST THE DRIVE WHILE IN EITHER THE OFF OR BYPASS MODE. IF THE TEST/NORMAL SWITCH IS IN THE TEST POSITION WHILE OPERATING IN THE DRIVE MODE, THEN THE DRIVE WILL FAULT ON AN "EFS". THIS FAULT MAY BE RESET BY FIRST SWITCHING TO EITHER "BYPASS" OR "OFF", AND THEN PRESSING RESET ON THE DRIVE KEYPAD.
 - AUTO TRANSFER, OPTION T, OPERATION: THE AUTO TRANSFER OPTION IS DESIGNED TO AUTOMATICALLY TRANSFER FROM THE DRIVE MODE OF OPERATION TO THE BYPASS MODE OF OPERATION, UPON A DRIVE FAULT CONDITION, WHEN THE BYPASS/OFF/DRIVE SWITCH IS IN THE "DRIVE" POSITION. THIS TRANSFER MAY BE RESET BY SWITCHING THE BYPASS/OFF/DRIVE SWITCH FROM "DRIVE" TO "OFF", WAITING A FEW SECONDS FOR THE KEYPAD LED DISPLAY TO GO BLANK, AND THEN SWITCHING BACK TO "DRIVE", ASSUMING THAT THE CONDITION WHICH CAUSED THE DRIVE TO FAULT HAS DISAPPEARED.

CONTACT SEQUENCE CHART FOR S1

x - INDICATES CONTACT CLOSED

CONTACT	POSITION	MANUF. LOCATION /TYPE
1	X	1R0
2		X 1L0
3	X	2L0
4	X	X 3L0
5		X 4L0

CONTACT SEQUENCE CHART FOR S2

x - INDICATES CONTACT CLOSED

CONTACT	POSITION	MANUF. LOCATION /TYPE
1	X	1R0
2		X 1L0
3	X	2R0
4	X	X 2L0
5	X	3R0

CONTACT SEQUENCE CHART FOR S3

x - INDICATES CONTACT CLOSED

CONTACT	POSITION	MANUF. LOCATION /TYPE
1		X 1R0
2	X	X 1L0
3	X	2R0
4	X	X 2L0
5		X 3R0

• SCHEMATIC SHOWS THIS POSITION.

CONTACTS 4 AND 5 PRESENT ONLY WITH OPTION P.

• SCHEMATIC SHOWS THIS POSITION.

