

# Ratings and Dimensions



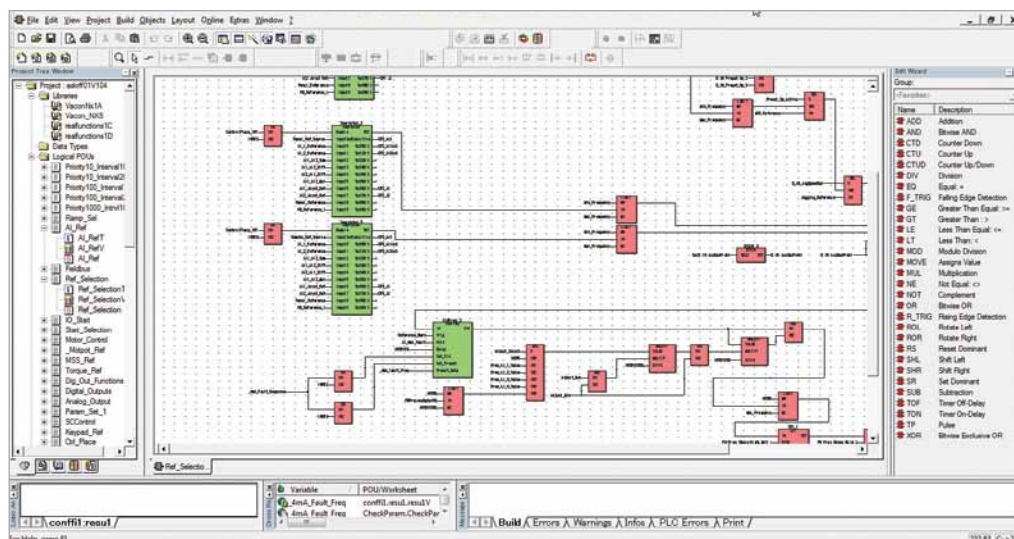
Supply Voltage	AC Drive Type	Power		Motor Current <sup>1)</sup>		Frame Size	Dimension	Weight [kg]
		kW	hp	I <sub>N</sub> [A]	1.5 × I <sub>N</sub> [A]		W x H x D [mm]	
208 - 240 V 1-Phase	N800S0020-1L-0002-2	0.37	0.5	2.4	3.6	MI1	66 x 160 x 99	0.55
	N800S0020-1L-0004-2	0.75	1	3.7	5.6	MI2	90 x 150 x 102	0.7
	N800S0020-1L-0007-2	1.5	2	7	10.5	MI2	90 x 150 x 102	0.7
	N800S0020-1L-0009-2	2.2	3	9.6	14.4	MI3	100 x 255 x 109	0.99
208 - 240 V 3-Phase	N800S0020-3L-0002-2	0.37	0.5	2.4	3.6	MI1	66 x 160 x 99	0.55
	N800S0020-3L-0004-2	0.75	1	3.7	5.6	MI2	90 x 150 x 102	0.7
	N800S0020-3L-0007-2	1.5	2	7	10.5	MI2	90 x 150 x 102	0.7
	N800S0020-3L-0011-2	2.2	3	11	16.5	MI3	100 x 255 x 109	0.99
	N800S0020-3L-0017-2	4	5	17.5	26.3	MI4	165 x 370 x 165	8
	N800S0020-3L-0025-2	5.5	7.5	25	37.5	MI4	165 x 370 x 165	8
	N800S0020-3L-0031-2	7.5	10	31	46.5	MI5	165 x 414 x 202	10
	N800S0020-3L-0038-2	11	15	38	57	MI5	165 x 414 x 202	10
	N800S0100-3L-0075-2	15	20	62	93	MR7	237 x 660 x 259	37.5
	N800S0100-3L-0088-2	18.5	25	75	112.5	MR7	237 x 660 x 259	37.5
	N800S0100-3L-0105-2	22	30	88	132	MR7	237 x 660 x 259	37.5
	380 - 480 V 3-Phase	N800S0020-3L-0001-4	0.37	0.5	1.3	2	MI1	66 x 160 x 99
N800S0020-3L-0003-4		0.75	1	2.4	3.6	MI1	66 x 160 x 99	0.55
N800S0020-3L-0005-4		1.5	2	4.3	6.5	MI2	90 x 150 x 102	0.7
N800S0020-3L-0006-4		2.2	3	5.6	8.4	MI2	90 x 150 x 102	0.7
N800S0020-3L-0009-4		4	6	9	13.5	MI3	100 x 255 x 109	0.99
N800S0020-3L-0012-4		5.5	7.5	12	18	MI3	100 x 255 x 109	0.99
N800S0020-3L-0016-4		7.5	10	16	24	MI4	165 x 370 x 165	8
N800S0020-3L-0023-4		11	15	23	34.5	MI4	165 x 370 x 165	8
N800S0020-3L-0031-4		15	20	31	46.5	MI5	165 x 414 x 202	10
N800S0020-3L-0038-4		18.5	25	38	57	MI5	165 x 414 x 202	10
N800S0100-3L-0061-5		22	30	46	69	MR6	195 x 557 x 229	20
N800S0100-3L-0072-5		30	40	61	91.5	MR7	237 x 660 x 259	37.5
N800S0100-3L-0087-5		37	50	72	108	MR7	237 x 660 x 259	37.5
N800S0100-3L-0105-5		45	60	87	130.5	MR7	237 x 660 x 259	37.5
N800S0100-3L-0140-5		55	75	105	157.5	MR8	290 x 794 x 343	62
N800S0100-3L-0170-5		75	100	140	210	MR8	290 x 794 x 343	62
N800S0100-3L-0205-5		90	125	170	255	MR8	290 x 794 x 343	62
N800S0100-3L-0261-5		110	150	205	307.5	MR9	180 x 970 x 365	97
N800S0100-3L-0310-5	132	200	251	376.5	MR9	180 x 970 x 365	97	

※ 1) Frame MR6 - 9 are available on 110 % overload capacity and have DC Choke as the standard.

# Customizing the Software

## ■ N800S Programming

N800S's built-in PLC functionality and programming is in accordance with IEC 61131-3. The optional tool enables the user to modify the drive software by editing the existing application logic or by creating a completely new software. The parameter list and default settings are edited with a separate tool.



## ■ PC Interface and Parameter Copying

The MCA (Micro Communications Adapter) is a snap-on and intelligent copying unit for N800S products.

- Parameter copying without main power in the drive.
- Download settings directly to the MCA from PC without a drive.
- HW interface for PC connection to the drive.

# I/O Configuration

Terminal	Description
1	+ 10 Vref Max. Load 10 mA
2	AI1 0 - 10 V
3	GND -
4	AI2 0 - 10 V / 0 (4) - 20 mA <sup>1)</sup>
5	GND -
6	24 Vout MAX. 50 mA / CP 100 mA
7	GND / DIC <sup>1)</sup> -
8	DI1 0 - +30 V R <sub>i</sub> = 12 kΩ
9	DI2 0 - +30 V R <sub>i</sub> = 12 kΩ
10	DI3 0 - +30 V R <sub>i</sub> = 12 kΩ
13	DOC Digital Output Common
14	DI4 0 - +30 V R <sub>i</sub> = 12 kΩ
15	DI5 0 - +30 V R <sub>i</sub> = 12 kΩ
16	DI6 0 - +30 V R <sub>i</sub> = 12 kΩ
18	AO Analog Output (0 - 10 V / 0 (4) - 20 mA) <sup>1)</sup>
20	DO Open Collector. Max. Load 48 V / 50 mA
22	RO 13-CM Relay Output 1
23	RO 14-NO Relay Output 1
24	RO 22-NC Relay Output 2
25	RO 21-CM Relay Output 2
26	RO 24-NO Relay Output 2
A	A-RS485 Modbus RTU
B	B-RS485 Modbus RTU

※ 1) Selectable

## Technical Data

Mains Connection	Input voltage $U_{in}$	208...240 V, -15 % ... +10 % 1-phase 208...240 V, -15 % ... +10 % 3-phase 380...480 V, -15 % ... +10 % 3-phase
	Input frequency	45...66 Hz
	Connection to mains	Once per minute or less (normal case)
Motors Connection	Output voltage	0... $U_{in}$
	Output current	Continuous rated current $I_N$ at rated ambient temperature overload 1.5 x $I_N$ max. 1 min / 10 min (for MI Frame) <sup>1)</sup>
	Starting Current / Torque	Current 2 x $I_N$ for 2 secs in every 20 sec period / Torque depends on motor
	Output frequency	0...320 Hz
	Frequency resolution	0.01 Hz
Control Characteristics	Control method	Frequency control U / f, Open loop sensorless vector control
	Switching frequency	1.5...16 kHz ; Factory default 4 kHz
	Braking torque	100 % x $T_N$ with brake chopper in 3-phase version sizes MI2 - 5, MR6 30 % x $T_N$ with DC-braking. Dynamic flux braking available in all types
Ambient Conditions	Ambient operating temperature	-10°C (no frost) ... +50°C: Rated loadability $I_N$ (1L-0009-2, 3L-0007-2, 3L-0011-2 and with options ENC-IN01-MIx ambient max. +40°C)
	Storage temperature	-40°C ... +70°C
	Altitude	100 % load capacity (no derating) up to 1,000 m 1 % derating for each 100 m above 1,000 m: Max. 2,000 m
	Enclosure class	MI1-3: IP20, MI4-5: IP21, MR6-7: IP21, MR8-MR9: IP00
EMC	Immunity	Compliance with EN 61800-3 (2004)
	Emissions	208 - 240 V: EMC level C2: with an internal + EMC2 option 380 - 480 V: EMC level C2: with an internal + EMC2 option
Approvals	EN 61800, CE, UL cUL, TR-CU, IEC (Not all versions, see unit nameplate for more detailed approvals.)	

※ 1) Please refer to Page 18 for the rated current of MR Frame.

## Options Boards

Factory Installed Options Code	Description
+EMC2	C2-Level EMC Filter (Includes +QPES)
+QPES	Cable Shield Grounding Kit
+QFLG	Flange Mounting Kit for M14 and M15
Separately Delivered Options Code	Description
ENC-SLOT-MC03-13	Option Board Mounting Kit MI1 - MI3
ENC-SLOT-MC03-45	Option Board Mounting Kit MI4 - MI5
ENC-IN01-Mix	NEMA 1 Kit MI1 - MI5. x = 1, 2, 3, 4, 5 (Include IP21 Cover for MI1 - MI3)
ADP-MCAA-Kit	Complete MCA + USB Cable Kit
N800-PAN-HMDR-MC03-3M	Complete Keypad Door Mounting Kit (3.0 m Cable)
N800-PAN-HMDR-MC03-6M	Complete Keypad Door Mounting Kit (6.0 m Cable)

※ The options above are only for Frame MI. Refer to Page 19 for options of Frame MR. (ENC-SLOT-MC03 is necessary for slot options.)



MCA Adapter



Option Board Mounting Kit



Keypad Door Mounting Kit



IP21 / NEMA1 Kit

### Type Code Key ▶

**N800S0020 - 1L - 0009 - 5 + OPTION CODES**

Product - Input Phase - Current Rating - Voltage Rating + Options