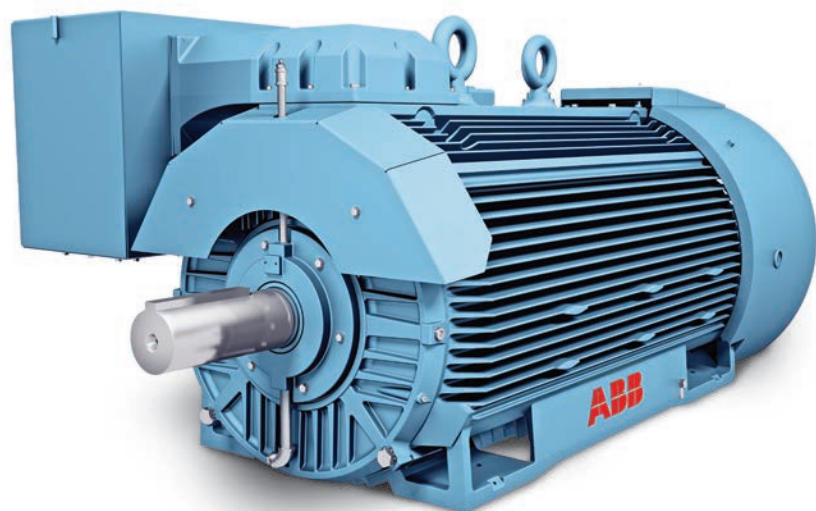


PRODUCT NOTE

General purpose above NEMA motors

Available from stock



Buying low and medium voltage motors has never been easier. ABB's N-series general purpose motors combine cost-efficient standardized designs and short lead times with safety, productivity, energy efficiency and reliability.

Easy to buy

General purpose above NEMA motors fit most applications where a highly customized motor is not needed. Totally enclosed fan cooled motors, type NXR, are available from stock or with short lead times.

Motor modifications to fit application requirements

Available direct from the factory in Kings Mountain, North Carolina, NXR motors have 42 modifications to allow motors to be fitted to specific application requirements. Modifications include bearing type change-outs to upgrading to IP55 ingress protection rating. These modifications allow you to tailor the N-series motors to fit your applications without ordering a highly customized engineered motor.

Main specifications

Rated horsepower:	250 Hp to 1000 Hp
Frame sizes:	5008 to 5810
Number of poles:	2 to 8 pole
Voltages:	460, 2300/4000
Frequency:	60 Hz (50 Hz re-ratable)
Service factor:	DOL: 1.15, VSD: 1.00
Insulation class:	F
Cooling:	Fan cooled
Protection:	IP54
Enclosure:	Totally enclosed fan cooled (TEFC)
Mounting:	Horizontal
Bearings:	Ball and roller (convertible)
Standards:	Above NEMA

Suitable for variable speed drive use

By controlling the motor with a variable speed drive, you can optimize the motor's performance, minimize energy consumption and control your process more accurately. With more and more VSDs being used it is always an advantage to have a motor that is capable of being adapted to a VSD later. This gives you more flexibility with configuring your processes in the future.

Key features and benefits

- High efficiency for energy savings
- 3.5 PU surge capability
- Suitable for use on a VSD 2:1 CT / 10:1 VT (most ratings)
- CSA approved
- Class I Division 2 Group C and D approved
- Cast iron frame and end brackets
- Space heaters
- 100 Ohm platinum winding RTDs
- Class F insulation
- Insulated ODE bearing
- F1 terminal box mounting
- Provisions for bearing RTDs
- "LR" shafts have roller bearings and are belted duty
- "L" shafts have ball bearings and are convertible to roller bearings
- "S" shafts have ball bearing for coupled duty
- The paint is a specially formulated modified epoxy coating with UV protection
- Performance data, drawings and other information is readily available
- In-stock or short lead times

—
01 The design of the outer cooling ribs is optimized to maximize the cooling surface area.



—
01

General purpose above NEMA motor, type NXR, three phase, totally enclosed, foot mounted

Hp	RPM	NEMA frame	Encl.	Catalog no.	List price	Mult. sym.	C dim.	Aprx. weight (lb.)	Full load efficiency	Voltage	Full load amps	Notes
460 volts												
250	1200	5008	TEFC	N50256LR-4	39,865	LG	63.48	4600	95.8	460	293	1,5
	900	5010	TEFC	N50258LR-4	45,901	LG	70.48	5400	95.1	460	335	1,5
300	1200	5010	TEFC	N50306LR-4	41,133	LG	70.48	5115	95.8	460	357	1,5
	900	5012	TEFC	N50308LR-4	49,424	LG	78.48	5925	95.2	460	428	1,5
350	1200	5010	TEFC	N50356LR-4	44,445	LG	70.48	5265	95.8	460	409	1,5
	900	5012	TEFC	N50358LR-4	53,690	LG	78.48	6000	95.0	460	496	1,5
400	1200	5010	TEFC	N50406LR-4	41,031	LG	70.48	5415	95.8	460	478	1,5
	900	5012	TEFC	N50408LR-4	60,807	LG	78.48	6250	95.2	460	578	1,5
450	3600	5010	TEFC	N50452S-4	44,401	LG	83.57	4932	95.8	460	521	1
	1800	5010	TEFC	N50454L-4	40,856	LG	70.48	5543	96.3	460	527	1
	1200	5012	TEFC	N50456LR-4	46,810	LG	78.48	6065	95.8	460	528	1,5
	900	5012	TEFC	N50458LR-4	63,847	LG	78.48	6500	95.0	460	627	1,5
500	3600	5010	TEFC	N50502S-4	48,093	LG	83.57	5088	95.8	460	566	1
	1800	5010	TEFC	N50504L-4	46,492	LG	70.48	5675	95.9	460	588	1
	1200	5012	TEFC	N50506LR-4	53,039	LG	78.48	6215	95.8	460	588	1,5
	900	5012	TEFC	N50508LR-4	78,072	LG	78.48	6600	95.0	460	672	1,5,7
600	3600	5010	TEFC	N50602S-4	52,207	LG	83.57	5400	95.8	460	691	1
	1800	5012	TEFC	N50604L-4	55,152	LG	78.48	6007	95.4	460	752	1
	1200	5012	TEFC	N50606LR-4	61,203	LG	78.48	6365	95.4	460	714	1,5
	900	5810	TEFC	N58608L-4	85,261	LG	89.55	7600	96.0	460	743	1,10
700	3600	5010	TEFC	N50702S-4	55,029	LG	83.59	5500	96.1	460	810	1
	1800	5012	TEFC	N50704L-4	63,072	LG	78.48	6072	95.4	460	874	1
	1200	5012	TEFC	N50706LR-4	67,797	LG	78.48	6365	95.8	460	835	1,5,7
	900	5810	TEFC	N58708L-4	105,121	LG	89.55	7850	95.9	460	873	1,10
800	3600	5810	TEFC	N58802S-4	69,833	LG	100.32	7100	96.3	460	839	1
	1800	5012	TEFC	N50804L-4	67,731	LG	78.48	6420	95.4	460	1014	1
	1200	5810	TEFC	N58806LR-4	75,237	LG	89.55	7280	96.2	460	907	1,10
	900	450	TEFC	M450808L-4	105,121	LG	86.42	11000	95.9	460	1011	1,7,9,10*
900	3600	5810	TEFC	N58902S-4	72,637	LG	100.32	7900	96.5	460	939	1,10
	1800	5012	TEFC	N50904L-4	69,190	LG	95.57	6250	95.8	460	1050	1,7,10
	1200	5810	TEFC	N58906L-4	92,733	LG	89.55	7600	96.2	460	907	1,10
	900	500	TEFC	M500908L-4	121,922	LG	99.02	14925	95.6	460	1095	1,7,9,10*
1000	1800	5810	TEFC	N581004L-4	100,178	LG	107.01	7250	96.6	460	1042	1,10
	1200	5810	TEFC	N581006L-4	105,979	LG	89.55	8500	96.3	460	1155	1,7,10
	900	500	TEFC	M5001008L-4	123,922	LG	99.02	15000	95.7	460	1229	1,7,9,10*
1250	1800	500	TEFC	M5001254L-4	120,836	LG	72.64	14000	96.1	460	1387	1,7,9,10*
	1200	500	TEFC	M5001256L-4	115,034	LG	96.65	14500	96.4	460	1441	1,7,9,10*
1500	1800	500	TEFC	M5001504L-4	133,358	LG	120.28	15500	96.4	460	1645	1,7,9,10*

Notes:

- 1 Class F insulated motor with 1.15 service factor or higher that operates within Class "B" temperature limits at rated horsepower.
- 5 Belted duty only, roller bearing.
- 7 Copper bar rotor
- 9 Metric frame dimensions.
- 10 Non-stock, built on demand.
- 17 Motor is not Class 1 Division 2 approved

To convert to a severe duty motor use Inpro seal mod for both ends and Winding Corrosion Protection

Inpro mod - M12B and corrosion protection - M26C

Option not available on motors denoted with a (*) in the notes column

General purpose above NEMA motor, type NXR, three phase, totally enclosed, foot mounted

Hp	RPM	NEMA frame	Encl.	Catalog no.	List price	Mult. sym.	C dim.	Aprx. weight (lb.)	Full load efficiency	Voltage	Full load amps	Notes
2300/4000 Volts												
250	3600	449TS	TEFC	EM44252TS-2340	33,234	LG	49.49	2338	95.0	2300/4000	33	1*
	1800	L449T	TEFC	EM44254T-2340	36,300	LG	60.21	2694	95.0	2300/4000	32	1*
	1200	5008	TEFC	N50256LR-2340	41,964	LG	63.48	5070	94.5	2300/4000	61/31.5	1,5
300	900	5010	TEFC	N50258LR-2340	48,317	LG	70.48	5420	94.5	2300/4000	65.4/37.6	1,5,10
	3600	L449TS	TEFC	EM44302TS-2340	40,255	LG	56.48	3149	95.3	2300/4000	39	1*
	1800	L449T	TEFC	EM44304T-2340	36,979	LG	60.21	3676	95.0	2300/4000	39	1,5*
350	1200	5010	TEFC	N50306LR-2340	43,298	LG	70.48	5250	95.0	2300/4000	71.7/41.2	1,5
	900	5012	TEFC	N50308LR-2340	54,916	LG	78.48	5985	94.5	2300/4000	78.1/44.9	1,5,10
	3600	5010	TEFC	N50352S-2340	43,766	LG	83.57	4812	94.5	2300/4000	80.9/46.5	1
400	1800	5008	TEFC	N50354L-2340	44,000	LG	63.48	4940	94.7	2300/4000	83.7/48.1	1
	1200	5010	TEFC	N50356LR-2340	49,383	LG	70.48	5400	95	2300/4000	83.7/48.1	1,5
	900	5012	TEFC	N50358LR-2340	63,165	LG	78.48	6250	94.5	2300/4000	92.7/53.3	1,5,10
450	3600	5010	TEFC	N50402S-2340	48,213	LG	83.57	4959	95	2300/4000	92.6/53.2	1
	1800	5010	TEFC	N50404L-2340	47,745	LG	70.48	5400	95	2300/4000	96.3/55.4	1
	1200	5012	TEFC	N50406LR-2340	54,064	LG	78.48	6050	95	2300/4000	95.7/55.0	1,5
500	900	5012	TEFC	N50408LR-2340	72,357	LG	78.48	6460	94.5	2300/4000	103/59	1,5,10
	3600	5010	TEFC	N50452S-2340	56,872	LG	83.57	5106	95	2300/4000	103/59	1
	1800	5010	TEFC	N50454L-2340	51,957	LG	70.48	5523	94.9	2300/4000	108/62.1	1
550	1200	5012	TEFC	N50456LR-2340	62,021	LG	78.48	6200	95	2300/4000	107/61.5	1,5
	900	5012	TEFC	N08458LR-2340	78,596	LG	78.48	6530	94.8	2300/4000	116.8/67.3	1,5,10
	3600	5010	TEFC	N50502S-2340	62,021	LG	83.57	5253	95	2300/4000	113/64.8	1
600	1800	5012	TEFC	N50504L-2340	59,681	LG	78.48	5655	95.4	2300/4000	119/68.5	1
	1200	5012	TEFC	N50506LR-2340	70,915	LG	78.48	6350	95	2300/4000	118/68	1,5
	900	5012	TEFC	N50508LR-2340	88,384	LG	78.48	6600	95	2300/4000	125/72	1,5,7,10
650	3600	5010	TEFC	N50602S-2340	67,872	LG	83.57	5400	95.4	2300/4000	138/79.2	1
	1800	5012	TEFC	N50604L-2340	70,213	LG	78.48	5787	95	2300/4000	145/83.3	1
	1200	5012	TEFC	N50606LR-2340	78,404	LG	78.48	6450	95	2300/4000	141/81.1	1,5,7
700	900	5810	TEFC	N58608L-2340	100,169	LG	89.55	7600	95.1	2300/4000	87	1,10
	3600	5810	TEFC	N58702S-2340	71,851	LG	100.32	7100	95.9	2300/4000	86	1,10
	1800	5012	TEFC	N50704L-2340	77,234	LG	78.48	6052	95.4	2300/4000	168/96.5	1,10
750	1200	5810	TEFC	N58706L-2340	89,652	LG	89.55	7700	95.5	2300/4000	94	1,10
	900	5810	TEFC	N58708L-2340	113,182	LG	89.55	8600	95.4	2300/4000	108	1,7,10
	3600	5810	TEFC	N58802S-2340	89,362	LG	100.32	7500	96.0	2300/4000	98	1,10
800	1800	5012	TEFC	N50804L-2340	89,872	LG	78.48	6400	95.4	2300/4000	185/107	1,7
	1200	5810	TEFC	N58806L-2340	102,853	LG	89.55	8500	95.7	2300/4000	107	1,7,10
	900	450	TEFC	EM450808L-2340	122,452	LG	83.47	10800	95.6	2300/4000	113	1,7,9,10*
850	3600	5810	TEFC	N58902S-2340	93,637	LG	100.32	7900	96.2	2300/4000	109	1,10
	1800	5810	TEFC	N58904L-2340	94,553	LG	107.01	7135	95.8	2300/4000	115	1,10
	1200	450	TEFC	EM450906L-2340	112,006	LG	83.47	10000	96.2	2300/4000	118	1,7,9,10*
900	900	500	TEFC	EM500908L-2340	141,652	LG	99.02	14000	95.6	2300/4000	124	1,7,9,10*
	1800	5810	TEFC	N581004L-2340	108,596	LG	107.01	7500	96.0	2300/4000	127	1,10
	1200	450	TEFC	EM4501006L-2340	115,432	LG	83.47	11000	95.9	2300/4000	130	1,7,9,10*
950	900	500	TEFC	EM5001008L-2340	143,652	LG	99.02	14000	95.6	2300/4000	138	1,7,9,10*
	1800	500	TEFC	EM5001254L-2340	138,765	LG	120.23	13100	96.0	2300/4000	159	1,7,9,10*
	1200	500	TEFC	EM5001256L-2340	126,546	LG	99.65	13000	96.3	2300/4000	167	1,7,9,10*
1000	900	500	TEFC	EM5001258L-2340	144,599	LG	99.02	14000	95.9	2300/4000	179	1,7,9,10*
	1800	500	TEFC	EM5001504L-2340	144,882	LG	120.28	14300	96.4	2300/4000	189	1,7,9,10*
	1200	500	TEFC	EM5001506L-2340	139,139	LG	96.65	14700	96.6	2300/4000	200	1,7,9,10*
1050	900	500	TEFC	EM5001508L-2340	150,998	LG	99.02	16700	96.1	2300/4000	207	1,7,9,10*

Notes:

- 1 Class F insulated motor with 1.15 service factor or higher that operates within Class "B" temperature limits at rated horsepower.
- 5 Belted duty only, roller bearing.
- 7 Copper bar rotor
- 9 Metric frame dimensions.
- 10 Non-stock, built on demand.
- 17 Motor is not Class 1 Division 2 approved

To convert to a severe duty motor use Inpro seal mod for both ends and Winding Corrosion Protection

Inpro mod - M12B and corrosion protection - M26C

Option not available on motors denoted with a (*) in the notes column

Modifications available for NXR products

	List price
M1 Balance	\$2,342
M2B ball to roller conversion	2,435
M2D bearing temperature detector (100 Ohm)	2,222
M2F insulated bearing	1,305
M2G conversion roller to ball	1,995
M7B drains choose requirement	427
M12B Inpro seal (DE)	1,508
M12C Inpro seal (ODE)	1,508
M13F-2 NEMA F2 mounting	414
M13F3 top mount	2,976
M13M low noise fan cover	2,245
M14A open crate NXR5000	1,634
M14A open crate NXR5800	1,743
M14B totally enclosed crate NXR5000	7,323
M14B totally enclosed crate NXR5800	7,979
M15A auxiliary N/P	369
M15B auxiliary N/P	400
M15D provide original N/P	400
M15E mail N/P	369
M17 black motor paint	1,359
M17 blue motor paint	1,359

	List price
M17 charcoal gray motor paint	\$1,359
M17 industrial gray motor paint	1,359
M17 industrial red motor paint	1,359
M17 white motor paint	1,359
M17 traffic yellow motor paint	1,359
M20 stainless steel hardware	3,410
M26A protection from tropical environment	1,609
M26C corrosion treatment of windings	1,738
M27B upgrade to IP55	815
M29J shorten shaft	5,500
M31D add encoder	2,614*
M32A CSA C390 Method 1: (IEEE 112 Method B)	5,250
M32B witness CSA C390 Method 1: (IEEE 112 Method B)	9,450
M41A provision for vibration detection (1/4-28)	3,076
M41B vibration switch "Robert Shaw"	12,300
M41C velocity transducer 1 each end B/N 9200	5,490
M41C velocity transducer 2 each end B/N 9200	10,980
M41C velocity transducer 3 each end B/N 9200	16,470
M41D accelerometer 1 each end B/N 33040	5,350
M41D accelerometer 2 each end B/N 33040	10,700
M41D accelerometer 3 each end B/N 33040	16,500

Notes:

Modifications are not available on catalog numbers beginning with EM44, EM450 and EM500.

* Encoders must be ordered separately.

To create a Severe Duty motor please apply the following modifications:

M26C - Corrosion treatment

M12B - Inpro seal DE

M12C - Inpro seal ODE

M27B - Upgrade to IP55



Division 2 capabilities

The following list of motors are marked for Class I, Division 2, Group C and D for Sine Wave and Inverter Power.

Division 2 Temp Codes are provided in the standard format per the NEC Article 500 requirements. Equivalent Zone Temp Codes are provided in the “T=°C” format because NEC Article 505 does not allow all T Codes permitted by NEC 500. Inverter Temp Codes are provided in the “T=°C” format because they apply to both the Equivalent Zone (NEC 505) requirements and NEC 500 requirements. Please reference the following table for Temperature and Temp Code values.

Maximum surface temperature	US (NEC 500) CA (CEC Annex J)	US (NEC 505) CA (CEC Section 18)
450° C	T1	T1
300° C	T2	T2
280° C	T2A	-
260° C	T2B	-
230° C	T2C	-
215° C	T2D	-
200° C	T3	T3
180° C	T3A	-
165° C	T3B	-
160° C	T3C	-
135° C	T4	T4
120° C	T4A	-
100° C	T5	T5
85° C	T6	T6

Catalog number	Sine wave, 1.15 S.F.			Inverter power, 1.0 S.F.		
	Sine wave temp. code	Equivalent zone temp. code T = °C	Inverter temp code T = °C	V.T. speed range (Hz)*	C.T. speed range (Hz)*	CHP speed range (Hz)
N50256LR-2340	T2D	215° C	215° C	6-60	30-60	60-90
N50256LR-4	T3	200° C	200° C	6-60	30-60	60-90
N50258LR-2340	T3A	180° C	180° C	6-60	30-60	60-90
N50258LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50306LR-2340	T2B	260° C	260° C	6-60	30-60	60-90
N50306LR-4	T2D	215° C	215° C	6-60	30-60	60-90
N50308LR-2340	T3A	180° C	180° C	6-60	30-60	60-90
N50308LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50352S-2340	T3A	180° C	180° C	6-60	30-60	60-70
N50354L-2340	T3A	180° C	180° C	6-60	30-60	60-66
N50356LR-2340	T2C	230° C	230° C	6-60	30-60	60-90
N50356LR-4	T2C	230° C	230° C	6-60	30-60	60-90
N50358LR-2340	T3A	180° C	180° C	6-60	30-60	60-90
N50358LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50402S-2340	T3A	180° C	180° C	6-60	30-60	60-70
N50404L-2340	T3A	180° C	180° C	6-60	30-60	60-66
N50406LR-2340	T2B	260° C	260° C	6-60	30-60	60-90
N50406LR-4	T2D	215° C	215° C	6-60	30-60	60-90

Notes:

(1) Overspeed capability not available

Division 2 capabilities

Catalog number	Sine wave, 1.15 S.F.			Inverter power, 1.0 S.F.		
	Sine wave temp. code	Equivalent zone temp. code T = °C	Inverter temp code T = °C	V.T. speed range (Hz)*	C.T. speed range (Hz)*	CHP speed range (Hz)
N50408LR-2340	T3	200° C	200° C	6-60	30-60	60-90
N50408LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50452S-2340	T3A	180° C	180° C	6-60	30-60	60-70
N50452S-4	T3A	180° C	180° C	6-60	30-60	60-70
N50454L-2340	T3A	180° C	180° C	6-60	30-60	60-66
N50454L-4	T3	200° C	200° C	6-60	30-60	60-66
N50456LR-2340	T2C	230° C	230° C	6-60	30-60	60-90
N50456LR-4	T2B	260° C	260° C	6-60	30-60	60-90
N50458LR-2340	T3	200° C	200° C	6-60	30-60	60-90
N50458LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50502S-2340	T3	200° C	200° C	6-60	30-60	60-70
N50502S-4	T3	200° C	200° C	6-60	30-60	60-70
N50504L-2340	T3A	180° C	180° C	6-60	30-60	60-66
N50504L-4	T3	200° C	200° C	6-60	30-60	60-66
N50506LR-2340	T2B	260° C	260° C	6-60	30-60	60-90
N50506LR-4	T2B	260° C	260° C	6-60	30-60	60-90
N50508LR-2340	T3	200° C	200° C	6-60	30-60	60-90
N50508LR-4	T3A	180° C	180° C	6-60	30-60	60-90
N50602S-2340	T3	200° C	200° C	6-60	30-60	60-70
N50602S-4	T3	200° C	200° C	6-60	30-60	60-70
N50604L-2340	T3A	180° C	180° C	6-60	30-60	60-66
N50604L-4	T3A	180° C	180° C	6-60	30-60	60-66
N50606LR-2340	T3	200° C	200° C	6-60	30-60	60-90
N50606LR-4	T2B	260° C	260° C	6-60	30-60	60-90
N50702S-4	T2C	230° C	230° C	6-60	30-60	60-70
N50704L-2340	T3	200° C	200° C	6-60	30-60	60-66
N50704L-4	T3	200° C	200° C	6-60	30-60	60-66
N50706LR-4	T3	200° C	200° C	6-60	30-60	60-90
N50804L-2340	T3	200° C	200° C	6-60	30-60	60-66
N50804L-4	T3	200° C	200° C	6-60	30-60	60-66
N50904L-4	T3	200° C	200° C	6-60	30-60	60-66
N581004L-2340	T2B	260° C	260° C	6-60	30-60	60-66
N581004L-4	T2A	280° C	280° C	6-60	30-60	60-66
N581006L-4	T3A	180° C	180° C	6-60	30-60	60-90
N58608L-2340	T2B	260° C	260° C	6-60	30-60	60-90
N58608L-4	T3	200° C	200° C	6-60	30-60	60-90
N58702S-2340	T2D	215° C	215° C	6-60	30-60	(1)
N58706L-2340	T2B	260° C	260° C	6-60	30-60	60-90
N58708L-2340	T3C	160° C	160° C	6-60	30-60	60-90
N58708L-4	T2C	230° C	230° C	6-60	30-60	60-90
N58802S-2340	T2C	230° C	230° C	6-60	30-60	(1)
N58802S-4	T2C	230° C	230° C	6-60	30-60	(1)
N58806L-2340	T3A	180° C	180° C	6-60	30-60	60-90
N58806L-4	T2A	280° C	280° C	6-60	30-60	60-90
N58902S-2340	T2D	215° C	215° C	6-60	30-60	(1)
N58902S-4	T2C	230° C	230° C	6-60	30-60	(1)
N58904L-2340	T2C	230° C	230° C	6-60	30-60	60-66
N58906L-4	T2A	280° C	280° C	6-60	30-60	60-90

Notes:

(1) Overspeed capability not available

ABB Motors and Mechanical Inc.
5711 R.S. Boreham, Jr. Street
Fort Smith, AR 72901
Ph: 1.479.646.4711

new.abb.com/motors-generators

We reserve the right to make technical changes or modify the contents of this document without prior notice. With regard to purchase orders, the agreed particulars shall prevail. ABB does not accept any responsibility whatsoever for potential errors or possible lack of information in this document.

We reserve all rights in this document and in the subject matter and illustrations contained therein. Any reproduction, disclosure to third parties or utilization of its contents – in whole or in parts – is forbidden without prior written consent of ABB.
Copyright© 2017 ABB
All rights reserved