



Drive power loss data disclosure pursuant to COMMISSION REGULATION (EU) 2019/1781

FRENIC-Ace(HHD) Series Type ^{5,7}	(1) Power loss data at operating points according to Commission Regulation (EU) 2019/1781										(2) IE class	(3) Manufacturer, commercial registration number and address	(4) Product's model identifier ²	(5) Apparent output power ² [kVA]	(6) Indicative motor rated power output [kW]	(7) Rated output current ³ [A]	(8) Max. operating temperature [°C]	(9) Rated supply frequency [Hz]	(10) Rated supply voltage [V]	Power loss measurement method
	Standby [W]	Standby [%]	Partial load ¹ (90, 100) [%]	Partial load ¹ (50, 100) [%]	Partial load ¹ (0, 100) [%]	Partial load ¹ (90, 50) [%]	Partial load ¹ (50, 50) [%]	Partial load ¹ (0, 50) [%]	Partial load ¹ (50, 25) [%]	Partial load ¹ (0, 25) [%]										
FRN0022E2#-4U○	19.3	0.2%	1.9%	1.7%	1.4%	1.2%	1.1%	1.0%	0.9%	0.9%	IE2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0022E2#-4U○	10	5.5	13	Standard: HHD, HND: 50°C HD, ND: 40°C NEMA/UL Type 1: HHD, HND: 50°C HD, ND: 30°C	50Hz, 60Hz	380 to 480	Input-output
FRN0029E2#-4U○	19.6	0.1%	1.8%	1.5%	1.3%	1.1%	1.0%	0.9%	0.8%	0.8%	IE2		FRN0029E2#-4U○	14	7.5	18				
FRN0037E2#-4U○	19.8	0.1%	1.8%	1.4%	1.3%	1.1%	0.9%	0.9%	0.7%	0.7%	IE2		FRN0037E2#-4U○	19	11	24				
FRN0044E2#-4U○	21.0	0.1%	1.7%	1.4%	1.3%	1.0%	0.9%	0.8%	0.7%	0.6%	IE2		FRN0044E2#-4U○	24	15	30				
FRN0059E2#-4U○	21.0	0.1%	1.6%	1.4%	1.3%	1.0%	0.9%	0.8%	0.7%	0.6%	IE2		FRN0059E2#-4U○	31	18.5	39				
FRN0072E2#-4U○	20.3	0.1%	1.6%	1.4%	1.3%	1.0%	0.9%	0.8%	0.7%	0.6%	IE2		FRN0072E2#-4U○	36	22	45				
FRN0085E2#-4U○	23.6	0.0%	1.7%	1.5%	1.3%	0.9%	0.8%	0.8%	0.6%	0.6%	IE2		FRN0085E2#-4U○	48	30	60				
FRN0105E2#-4U○	24.2	0.0%	1.5%	1.4%	1.2%	0.9%	0.8%	0.8%	0.6%	0.6%	IE2		FRN0105E2#-4U○	60	37	75				
FRN0139E2#-4U○	32.9	0.0%	1.4%	1.3%	1.1%	0.8%	0.8%	0.7%	0.6%	0.5%	IE2		FRN0139E2#-4U○	73	45	91				
FRN0168E2#-4U○	20.0	0.0%	1.5%	1.3%	1.1%	0.8%	0.7%	0.7%	0.5%	0.5%	IE2		FRN0168E2#-4U○	89	55	112				
FRN0203E2#-4U○	57.0	0.0%	1.6%	1.3%	1.1%	1.0%	0.8%	0.7%	0.6%	0.6%	IE2		FRN0203E2#-4U○	120	75	150				
FRN0240E2#-4U○	43.0	0.0%	1.5%	0.9%	0.6%	1.1%	0.7%	0.4%	0.6%	0.4%	IE2		FRN0240E2#-4U○	140	90	176				
FRN0290E2#-4U○	63.0	0.0%	1.5%	0.8%	0.5%	1.0%	0.6%	0.4%	0.6%	0.4%	IE2		FRN0290E2#-4U○	167	110	210				
FRN0361E2#-4U○	80.0	0.0%	1.4%	0.8%	0.5%	1.0%	0.6%	0.4%	0.5%	0.3%	IE2		FRN0361E2#-4U○	202	132	253				
FRN0415E2#-4U○	81.1	0.0%	1.4%	0.8%	0.5%	1.0%	0.6%	0.4%	0.5%	0.3%	IE2		FRN0415E2#-4U○	242	160	304				
FRN0520E2#-4U○	78.7	0.0%	1.7%	1.0%	0.6%	1.2%	0.7%	0.5%	0.6%	0.4%	IE2		FRN0520E2#-4U○	300	200	377				
FRN0590E2#-4U○	92.0	0.0%	1.6%	0.9%	0.6%	1.1%	0.7%	0.4%	0.6%	0.4%	IE2		FRN0590E2#-4U○	331	220	415				
FRN0030E2#-2U○	8.3	0.1%	2.1%	1.7%	1.6%	1.2%	1.0%	0.9%	0.8%	0.7%	IE2		FRN0030E2#-2U○	10	5.5	25				
FRN0040E2#-2U○	8.8	0.1%	2.3%	1.9%	1.5%	1.2%	1.0%	0.9%	0.7%	0.7%	IE2		FRN0040E2#-2U○	13	7.5	33				
FRN0056E2#-2U○	10.4	0.1%	2.2%	1.8%	1.5%	1.2%	1.0%	0.9%	0.7%	0.6%	IE2		FRN0056E2#-2U○	19	11	47				
FRN0069E2#-2U○	10.4	0.0%	2.3%	1.8%	1.5%	1.2%	1.0%	0.9%	0.7%	0.6%	IE2	FRN0069E2#-2U○	24	15	60					
FRN0088E2#-2U○	14.9	0.1%	2.4%	2.0%	1.7%	1.3%	1.1%	0.9%	0.7%	0.7%	IE2	FRN0088E2#-2U○	29	18.5	76					
FRN0115E2#-2U○	15.8	0.0%	2.5%	2.1%	1.8%	1.3%	1.1%	1.0%	0.7%	0.7%	IE2	FRN0115E2#-2U○	34	22	90					

1. Operating point (x, y): x - percentage output frequency, y - percentage Torque-producing current.
 2. Apparent output power is calculated by assuming the output rated voltage as 440 V(-4).
 3. Apparent output power is calculated by assuming the output rated voltage as 220 V(-2).
 4. power losses in % of the rated apparent output power[kVA].
 5. "#" mark represents the enclosure code. (S: Standard type / E: EMC filter built in type)
 6. "*" mark represents the destination code. (A: Asia / C: China / E: Europe / K: South korea / GA: Global model-A / GB: Global model-B)
 7. "○" mark represents variations in order code. (letter(s) and/ or number(s), or blank)



Drive power loss data disclosure pursuant to COMMISSION REGULATION (EU) 2019/1781

FRENIC-Ace(HND)Series																								
(1) Power loss data at operating points according to Commission Regulation (EU) 2019/1781												(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)				
Type ^{5,7}	Standby [W]	Standby [%]	Partial load ¹ (90, 100) [%]	Partial load ¹ (50, 100) [%]	Partial load ¹ (0, 100) [%]	Partial load ¹ (90, 50) [%]	Partial load ¹ (50, 50) [%]	Partial load ¹ (0, 50) [%]	Partial load ¹ (50, 25) [%]	Partial load ¹ (0, 25) [%]	IE class	Manufacturer, commercial registration number and address	Product's model identifier ⁵	Apparent output power ² [kVA]	Indicative motor rated power output [kW]	Rated output current ³ [A]	Max. operating temperature [°C]	Rated supply frequency [Hz]	Rated supply voltage [V]	Power loss measurement method				
FRN0022E2#-4U○	19.5	0.1%	1.8%	1.5%	1.4%	1.1%	1.0%	0.9%	0.8%	0.8%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0022E2#-4U○	14	7.5	17.5	Standard: HHD, HND: 50°C HD, ND: 40°C NEMA/UL Type 1: HHD, HND: 40°C HD, ND: 30°C	50Hz, 60Hz	380 to 480	Input-output				
FRN0029E2#-4U○	18.9	0.1%	1.8%	1.5%	1.3%	1.1%	1.0%	0.9%	0.8%	0.7%	IE 2		FRN0029E2#-4U○	18	11	23								
FRN0037E2#-4U○	19.6	0.1%	1.8%	1.5%	1.3%	1.0%	0.9%	0.8%	0.6%	0.6%	IE 2		FRN0037E2#-4U○	25	15	31								
FRN0044E2#-4U○	22.0	0.1%	1.8%	1.5%	1.3%	1.0%	0.9%	0.8%	0.6%	0.6%	IE 2		FRN0044E2#-4U○	30	18.5	38								
FRN0059E2#-4U○	21.2	0.1%	1.7%	1.4%	1.2%	0.9%	0.8%	0.8%	0.7%	0.7%	IE 2		FRN0059E2#-4U○	36	22	45								
FRN0072E2#-4U○	20.8	0.0%	1.6%	1.4%	1.3%	0.9%	0.8%	0.8%	0.6%	0.6%	IE 2		FRN0072E2#-4U○	48	30	60								
FRN0085E2#-4U○	23.5	0.0%	1.4%	1.1%	1.0%	0.8%	0.7%	0.6%	0.5%	0.5%	IE 2		FRN0085E2#-4U○	60	37	75								
FRN0105E2#-4U○	23.4	0.0%	1.4%	1.1%	1.0%	0.8%	0.7%	0.6%	0.5%	0.5%	IE 2		FRN0105E2#-4U○	73	45	91								
FRN0139E2#-4U○	31.0	0.0%	1.4%	1.2%	1.0%	0.7%	0.6%	0.5%	0.5%	0.5%	IE 2		FRN0139E2#-4U○	89	55	112								
FRN0168E2#-4U○	20.0	0.0%	1.7%	1.5%	1.2%	0.9%	0.8%	0.7%	0.5%	0.5%	IE 2		FRN0168E2#-4U○	120	75	150								
FRN0203E2#-4U○	57.0	0.0%	1.5%	0.9%	0.8%	1.2%	0.7%	0.6%	0.6%	0.5%	IE 2		FRN0203E2#-4U○	140	90	176								
FRN0240E2#-4U○	43.0	0.0%	1.5%	1.1%	1.1%	0.9%	0.6%	0.6%	0.5%	0.4%	IE 2		FRN0240E2#-4U○	167	110	210								
FRN0290E2#-4U○	63.0	0.0%	1.5%	1.0%	1.0%	0.8%	0.6%	0.6%	0.4%	0.4%	IE 2		FRN0290E2#-4U○	202	132	253								
FRN0361E2#-4U○	80.0	0.0%	1.4%	1.0%	1.0%	0.8%	0.6%	0.5%	0.4%	0.4%	IE 2		FRN0361E2#-4U○	242	160	304								
FRN0415E2#-4U○	81.1	0.0%	1.4%	1.0%	1.0%	0.8%	0.5%	0.5%	0.4%	0.3%	IE 2		FRN0415E2#-4U○	300	200	377								
FRN0520E2#-4U○	78.7	0.0%	1.7%	1.2%	1.2%	0.9%	0.7%	0.6%	0.5%	0.4%	IE 2		FRN0520E2#-4U○	331	220	415								
FRN0590E2#-4U○	92.0	0.0%	1.6%	1.1%	1.1%	0.9%	0.6%	0.6%	0.5%	0.4%	IE 2		FRN0590E2#-4U○	414	280	520								
FRN0030E2#-2U○	8.2	0.1%	2.1%	1.6%	1.4%	1.0%	0.9%	0.8%	0.7%	0.6%	IE 2		FRN0030E2#-2U○	12	7.5	30								
FRN0040E2#-2U○	8.3	0.1%	2.1%	1.7%	1.5%	1.1%	0.9%	0.9%	0.6%	0.6%	IE 2		FRN0040E2#-2U○	16	11	40								
FRN0056E2#-2U○	11.3	0.1%	2.3%	1.8%	1.5%	1.2%	1.0%	0.9%	0.7%	0.6%	IE 2		FRN0056E2#-2U○	22	15	56								
FRN0069E2#-2U○	10.6	0.0%	2.2%	1.8%	1.5%	1.1%	0.9%	0.8%	0.7%	0.6%	IE 2		FRN0069E2#-2U○	27	18.5	69								
FRN0088E2#-2U○	15.9	0.0%	2.4%	1.9%	1.7%	1.1%	1.0%	0.9%	0.7%	0.6%	IE 2		FRN0088E2#-2U○	34	22	88								
FRN0115E2#-2U○	15.2	0.0%	2.6%	2.1%	1.7%	1.2%	1.1%	0.9%	0.8%	0.7%	IE 2		FRN0115E2#-2U○	44	30	115								

1. Operating point (x, y): x - percentage output frequency, y - percentage Torque-producing current.
 2. Apparent output power is calculated by assuming the output rated voltage as 440 V(-4).
 3. Apparent output power is calculated by assuming the output rated voltage as 220 V(-2).
 4. power losses in % of the rated apparent output power[kVA].
 5. "H" mark represents the enclosure code. (S: Standard type / E: EMC filter built in type)
 6. "A" mark represents the destination code. (A: Asia / C: China / E: Europe / K: South Korea / GA: Global model-A / GB: Global model-B)
 7. "O" mark represents variations in order code. (letter(s) and/ or number(s), or blank)

FRENIC-Ace (HD)

Issued on 29th Jun 2021



Drive power loss data disclosure pursuant to COMMISSION REGULATION (EU) 2019/1781

FRENIC-Ace(HD) Series												(1) Power loss data at operating points according to Commission Regulation (EU) 2019/1781												(2) IE class	(3) Manufacturer, commercial registration number and address	(4) Product's model identifier ⁵	(5) Apparent output power ² [kVA]	(6) Indicative motor rated power output [kW]	(7) Rated output current ³ [A]	(8) Max. operating temperature [°C]	(9) Rated supply frequency [Hz]	(10) Rated supply voltage [V]	Power loss measurement method
Type ^{5,6,7}	Standby [W]	Standby [%]	Partial load ¹ (90, 100) [%]	Partial load ¹ (50, 100) [%]	Partial load ¹ (0, 100) [%]	Partial load ¹ (90, 50) [%]	Partial load ¹ (50, 50) [%]	Partial load ¹ (0, 50) [%]	Partial load ¹ (50, 25) [%]	Partial load ¹ (0, 25) [%]																							
FRN0002E2#-4*○○	7.3	0.5%	3.3%	3.0%	3.1%	2.9%	2.7%	2.7%	2.7%	2.6%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0002E2#-4*○○	1.4	0.8	1.8	Standard: HHD, HND: 50°C HD, ND: 40°C	50Hz, 60Hz	380 to 480	Input-output													
FRN0004E2#-4*○○	6.6	0.3%	2.9%	2.8%	3.1%	2.1%	2.0%	2.2%	1.7%	1.8%	IE 2		FRN0004E2#-4*○○	2.6	1.1	3.4																	
FRN0006E2#-4*○○	7.7	0.2%	2.5%	2.2%	1.8%	1.7%	1.6%	1.5%	1.3%	1.3%	IE 2		FRN0006E2#-4*○○	3.8	2.2	5																	
FRN0007E2#-4*○○	7.6	0.2%	2.2%	1.8%	1.6%	1.7%	1.4%	1.3%	1.3%	1.2%	IE 2		FRN0007E2#-4*○○	4.8	3	6.3																	
FRN0012E2#-4*○○	7.2	0.1%	2.1%	1.7%	1.3%	1.4%	1.2%	1.1%	1.0%	1.0%	IE 2		FRN0012E2#-4*○○	8.5	5.5	11.1																	
FRN0022E2#-4*○○	19.3	0.1%	2.4%	2.1%	1.5%	1.4%	1.3%	1.0%	0.9%	0.9%	IE 2		FRN0022E2#-4*○○	13	7.5	17.5																	
FRN0029E2#-4*○○	19.6	0.1%	2.4%	1.7%	1.4%	1.4%	1.1%	1.0%	0.9%	0.8%	IE 2		FRN0029E2#-4*○○	18	11	23																	
FRN0037E2#-4*○○	19.8	0.1%	2.2%	1.7%	1.4%	1.3%	1.1%	0.9%	0.8%	0.7%	IE 2		FRN0037E2#-4*○○	24	15	31																	
FRN0044E2#-4*○○	21.0	0.1%	2.1%	1.6%	1.4%	1.2%	1.0%	0.9%	0.8%	0.7%	IE 2		FRN0044E2#-4*○○	29	18.5	38																	
FRN0059E2#-4*○○	21.0	0.1%	2.0%	1.7%	1.5%	1.1%	1.0%	0.9%	0.7%	0.7%	IE 2		FRN0059E2#-4*○○	34	22	45																	
FRN0072E2#-4*○○	20.3	0.0%	1.9%	1.7%	1.4%	1.1%	1.0%	0.9%	0.7%	0.7%	IE 2		FRN0072E2#-4*○○	46	30	60																	
FRN0085E2#-4*○○	23.6	0.0%	2.0%	1.7%	1.5%	1.1%	1.0%	0.9%	0.7%	0.6%	IE 2		FRN0085E2#-4*○○	57	37	75																	
FRN0105E2#-4*○○	24.2	0.0%	1.9%	1.6%	1.4%	1.1%	0.9%	0.8%	0.7%	0.6%	IE 2		FRN0105E2#-4*○○	69	45	91																	
FRN0139E2#-4*○○	32.9	0.0%	1.7%	1.5%	1.2%	1.0%	0.9%	0.7%	0.6%	0.6%	IE 2		FRN0139E2#-4*○○	85	55	112																	
FRN0168E2#-4*○○	20.0	0.0%	1.8%	1.5%	1.3%	0.9%	0.8%	0.7%	0.5%	0.5%	IE 2		FRN0168E2#-4*○○	114	75	150																	
FRN0203E2#-4*○○	57.0	0.0%	1.6%	1.0%	0.8%	1.2%	0.8%	0.6%	0.7%	0.5%	IE 2		FRN0203E2#-4*○○	134	90	176																	
FRN0240E2#-4*○○	43.0	0.0%	1.6%	1.1%	1.1%	0.9%	0.7%	0.6%	0.5%	0.4%	IE 2		FRN0240E2#-4*○○	160	110	210																	
FRN0290E2#-4*○○	63.0	0.0%	1.6%	1.1%	1.1%	0.9%	0.6%	0.6%	0.5%	0.4%	IE 2		FRN0290E2#-4*○○	193	132	253																	
FRN0361E2#-4*○○	80.0	0.0%	1.5%	1.0%	1.0%	0.8%	0.6%	0.6%	0.4%	0.4%	IE 2		FRN0361E2#-4*○○	232	160	304																	
FRN0415E2#-4*○○	81.1	0.0%	1.5%	1.0%	1.0%	0.8%	0.6%	0.5%	0.4%	0.4%	IE 2		FRN0415E2#-4*○○	287	200	377																	
FRN0520E2#-4*○○	78.7	0.0%	1.8%	1.2%	1.2%	1.0%	0.7%	0.5%	0.4%	0.4%	IE 2		FRN0520E2#-4*○○	316	220	415																	
FRN0590E2#-4*○○	92.0	0.0%	1.7%	1.2%	1.2%	0.9%	0.7%	0.6%	0.5%	0.4%	IE 2		FRN0590E2#-4*○○	364	250	477																	

FRENIC-Ace(HD) Series												(1) Power loss data at operating points according to Commission Regulation (EU) 2019/1781												(2) IE class	(3) Manufacturer, commercial registration number and address	(4) Product's model identifier ⁵	(5) Apparent output power ² [kVA]	(6) Indicative motor rated power output [kW]	(7) Rated output current ³ [A]	(8) Max. operating temperature [°C]	(9) Rated supply frequency [Hz]	(10) Rated supply voltage [V]	Power loss measurement method
Type ⁵	Standby [W]	Standby [%]	Partial load ¹ (90, 100) [%]	Partial load ¹ (50, 100) [%]	Partial load ¹ (0, 100) [%]	Partial load ¹ (90, 50) [%]	Partial load ¹ (50, 50) [%]	Partial load ¹ (0, 50) [%]	Partial load ¹ (50, 25) [%]	Partial load ¹ (0, 25) [%]																							
FRN0022E2#-4U○○	19.3	0.1%	2.2%	1.9%	1.4%	1.3%	1.2%	1.0%	0.9%	0.8%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0022E2#-4U○○	14.0	7.5	17.5	Standard: HHD, HND: 50°C HD, ND: 40°C	50Hz, 60Hz	380 to 480	Input-output													
FRN0029E2#-4U○○	19.6	0.1%	2.4%	1.7%	1.4%	1.4%	1.1%	1.0%	0.9%	0.8%	IE 2		FRN0029E2#-4U○○	18	11	23																	
FRN0037E2#-4U○○	19.8	0.1%	2.1%	1.6%	1.3%	1.3%	1.0%	0.9%	0.8%	0.7%	IE 2		FRN0037E2#-4U○○	25	15	31																	
FRN0044E2#-4U○○	21.0	0.1%	2.0%	1.6%	1.3%	1.2%	1.0%	0.8%	0.7%	0.7%	IE 2		FRN0044E2#-4U○○	30	18.5	38																	
FRN0059E2#-4U○○	21.0	0.1%	1.9%	1.6%	1.4%	1.1%	1.0%	0.9%	0.7%	0.6%	IE 2		FRN0059E2#-4U○○	36	22	45																	
FRN0072E2#-4U○○	20.3	0.0%	1.8%	1.6%	1.4%	1.1%	0.9%	0.8%	0.7%	0.6%	IE 2		FRN0072E2#-4U○○	48	30	60																	
FRN0085E2#-4U○○	23.6	0.0%	1.9%	1.6%	1.4%	1.0%	0.9%	0.8%	0.7%	0.6%	IE 2		FRN0085E2#-4U○○	60	37	75																	
FRN0105E2#-4U○○	24.2	0.0%	1.8%	1.6%	1.3%	1.0%	0.9%	0.8%	0.6%	0.6%	IE 2		FRN0105E2#-4U○○	73	45	91																	
FRN0139E2#-4U○○	32.9	0.0%	1.7%	1.5%	1.2%	0.9%	0.8%	0.7%	0.6%	0.5%	IE 2		FRN0139E2#-4U○○	89	55	112																	
FRN0168E2#-4U○○	20.0	0.0%	1.7%	1.5%	1.2%	0.9%	0.8%	0.7%	0.5%	0.5%	IE 2		FRN0168E2#-4U○○	120	75	150																	
FRN0203E2#-4U○○	57.0	0.0%	1.5%	0.9%	0.8%	1.2%	0.7%	0.6%	0.6%	0.5%	IE 2		FRN0203E2#-4U○○	140	90	176																	
FRN0240E2#-4U○○	43.0	0.0%	1.5%	1.1%	1.1%	0.9%	0.6%	0.6%	0.5%	0.4%	IE 2		FRN0240E2#-4U○○	167	110	210																	
FRN0290E2#-4U○○	63.0	0.0%	1.5%	1.0%	1.0%	0.8%	0.6%	0.6%	0.4%	0.4%	IE 2		FRN0290E2#-4U○○	202	132	253																	
FRN0361E2#-4U○○	80.0	0.0%	1.4%	1.0%	1.0%	0.8%	0.6%	0.6%	0.4%	0.4%	IE 2		FRN0361E2#-4U○○	242	160	304																	
FRN0415E2#-4U○○	81.1	0.0%	1.4%	1.0%	1.0%	0.8%	0.5%	0.5%	0.4%	0.3%	IE 2		FRN0415E2#-4U○○	300	200	377																	
FRN0520E2#-4U○○	78.7	0.0%	1.7%	1.2%	1.2%	0.9%	0.7%	0.6%	0.5%	0.4%	IE 2		FRN0520E2#-4U○○	331	220	415																	
FRN0590E2#-4U○○	92.0	0.0%	1.6%	1.1%	1.1%	0.9%	0.6%	0.6%	0.5%	0.4%	IE 2		FRN0590E2#-4U○○	380	250	477																	

1. Operating point (x, y): x - percentage output frequency, y - percentage Torque-producing current.
2. Apparent output power is calculated by assuming the output rated voltage as 440 V(-4).
3. Apparent output power is calculated by assuming the output rated voltage as 220 V(-2).
4. power losses in % of the rated apparent output power[kVA].
5. "H" mark represents the enclosure code. (S: Standard type / E: EMC filter built in type)
6. "A" mark represents the destination code. (A: Asia / C: China / E: Europe / K: South Korea / GA: Global model-A / GB: Global model-B)
7. "O" mark represents variations in order code. (letter(s) and/ or number(s), or blank)



Drive power loss data disclosure pursuant to COMMISSION REGULATION (EU) 2019/1781

FRENIC-Ace(ND) Series												(2) IE class	(3) Manufacturer, commercial registration number and address	(4) Product's model identifier ⁵	(5) Apparent output power ² [kVA]	(6) Indicative motor rated power output [kW]	(7) Rated output current ³ [A]	(8) Max. operating temperature [°C]	(9) Rated supply frequency [Hz]	(10) Rated supply voltage [V]	Power loss measurement method
Type ^{5,6}	Standby [W]	Standby [%]	Partial load ¹ (90, 100) [%]	Partial load ¹ (50, 100) [%]	Partial load ¹ (0, 100) [%]	Partial load ¹ (90, 50) [%]	Partial load ¹ (50, 50) [%]	Partial load ¹ (0, 50) [%]	Partial load ¹ (50, 25) [%]	Partial load ¹ (0, 25) [%]											
FRN0002E2#-4*○○	7.3	0.5%	3.2%	2.9%	3.0%	2.8%	2.5%	2.6%	2.5%	2.6%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0002E2#-4*○○	1.6	0.8	2.1	Standard: HHD, HND: 50°C HD, ND: 40°C NEMA/UL Type 1: HHD, HND: 40°C HD, ND: 30°C	50Hz, 60Hz	380 to 480	Input-output	
FRN0004E2#-4*○○	6.6	0.2%	2.9%	2.8%	3.2%	2.1%	2.0%	2.2%	1.7%	1.8%	IE 2			FRN0004E2#-4*○○	3.1	1.5					4.1
FRN0006E2#-4*○○	7.7	0.2%	2.5%	2.1%	1.7%	1.7%	1.6%	1.4%	1.3%	1.3%	IE 2			FRN0006E2#-4*○○	4.2	2.2					5.5
FRN0007E2#-4*○○	7.6	0.1%	2.1%	1.8%	1.5%	1.6%	1.4%	1.3%	1.2%	1.1%	IE 2			FRN0007E2#-4*○○	5.3	3					6.9
FRN0012E2#-4*○○	7.2	0.1%	2.1%	1.7%	1.3%	1.4%	1.2%	1.1%	1.0%	0.9%	IE 2			FRN0012E2#-4*○○	9.1	5.5					12
FRN0022E2#-4*○○	19.3	0.1%	2.4%	2.1%	1.4%	1.4%	1.3%	1.0%	1.0%	0.8%	IE 2			FRN0022E2#-4*○○	16	11					21.5
FRN0029E2#-4*○○	19.6	0.1%	2.5%	1.7%	1.4%	1.4%	1.1%	0.9%	0.9%	0.7%	IE 2			FRN0029E2#-4*○○	22	15					28.5
FRN0037E2#-4*○○	19.8	0.1%	2.3%	1.7%	1.4%	1.3%	1.1%	0.9%	0.8%	0.7%	IE 2			FRN0037E2#-4*○○	28	18.5					37
FRN0044E2#-4*○○	21.0	0.1%	2.1%	1.6%	1.3%	1.2%	1.0%	0.8%	0.7%	0.7%	IE 2			FRN0044E2#-4*○○	34	22					44
FRN0059E2#-4*○○	21.0	0.0%	2.0%	1.7%	1.5%	1.2%	1.0%	0.9%	0.8%	0.7%	IE 2			FRN0059E2#-4*○○	45	30					59
FRN0072E2#-4*○○	20.3	0.0%	1.9%	1.7%	1.4%	1.1%	1.0%	0.9%	0.7%	0.7%	IE 2			FRN0072E2#-4*○○	55	37			72		
FRN0085E2#-4*○○	23.6	0.0%	2.0%	1.7%	1.5%	1.1%	1.0%	0.9%	0.7%	0.6%	IE 2			FRN0085E2#-4*○○	65	45			85		
FRN0105E2#-4*○○	24.2	0.0%	1.9%	1.6%	1.4%	1.0%	0.9%	0.8%	0.6%	0.6%	IE 2			FRN0105E2#-4*○○	80	55			105		
FRN0139E2#-4*○○	32.9	0.0%	1.8%	1.6%	1.2%	1.0%	0.9%	0.7%	0.6%	0.5%	IE 2			FRN0139E2#-4*○○	106	75			139		
FRN0168E2#-4*○○	20.0	0.0%	1.8%	1.6%	1.3%	1.0%	0.8%	0.7%	0.6%	0.5%	IE 2			FRN0168E2#-4*○○	128	90			168		
FRN0203E2#-4*○○	57.0	0.0%	1.5%	0.9%	0.8%	1.1%	0.7%	0.6%	0.6%	0.5%	IE 2			FRN0203E2#-4*○○	155	110			203		
FRN0240E2#-4*○○	43.0	0.0%	1.6%	1.1%	1.2%	0.9%	0.7%	0.6%	0.5%	0.4%	IE 2			FRN0240E2#-4*○○	183	132			240		
FRN0290E2#-4*○○	63.0	0.0%	1.6%	1.1%	1.1%	0.9%	0.6%	0.6%	0.5%	0.4%	IE 2			FRN0290E2#-4*○○	221	160			290		
FRN0361E2#-4*○○	80.0	0.0%	1.5%	1.0%	1.1%	0.8%	0.6%	0.6%	0.4%	0.4%	IE 2			FRN0361E2#-4*○○	275	200			361		
FRN0415E2#-4*○○	81.1	0.0%	1.5%	1.0%	1.0%	0.8%	0.6%	0.5%	0.4%	0.3%	IE 2			FRN0415E2#-4*○○	316	220			415		
FRN0520E2#-4*○○	78.7	0.0%	1.8%	1.2%	1.2%	1.0%	0.7%	0.7%	0.5%	0.4%	IE 2	FRN0520E2#-4*○○	396	280	520						
FRN0590E2#-4*○○	92.0	0.0%	1.7%	1.2%	1.2%	0.9%	0.7%	0.6%	0.5%	0.4%	IE 2	FRN0590E2#-4*○○	450	315	590						

FRENIC-Ace(ND) Series												(2) IE class	(3) Manufacturer, commercial registration number and address	(4) Product's model identifier ⁵	(5) Apparent output power ² [kVA]	(6) Indicative motor rated power output [kW]	(7) Rated output current ³ [A]	(8) Max. operating temperature [°C]	(9) Rated supply frequency [Hz]	(10) Rated supply voltage [V]	Power loss measurement method
Type ⁵	Standby [W]	Standby [%]	Partial load ¹ (90, 100) [%]	Partial load ¹ (50, 100) [%]	Partial load ¹ (0, 100) [%]	Partial load ¹ (90, 50) [%]	Partial load ¹ (50, 50) [%]	Partial load ¹ (0, 50) [%]	Partial load ¹ (50, 25) [%]	Partial load ¹ (0, 25) [%]											
FRN0022E2#-4U○○	19.3	0.1%	2.3%	1.9%	1.3%	1.3%	1.2%	0.9%	0.9%	0.8%	IE 2	Fuji Electric Co., Ltd 5520, Minami Tamagaki-cho, Suzuka-city, Mie 513-8633, Japan	FRN0022E2#-4U○○	17.0	11.0	21.5	Standard: HHD, HND: 50°C HD, ND: 40°C NEMA/UL Type 1: HHD, HND: 40°C HD, ND: 30°C	50Hz, 60Hz	380 to 480	Input-output	
FRN0029E2#-4U○○	19.6	0.1%	2.4%	1.7%	1.3%	1.4%	1.0%	0.9%	0.8%	0.7%	IE 2			FRN0029E2#-4U○○	23	15					28.5
FRN0037E2#-4U○○	19.8	0.1%	2.2%	1.7%	1.3%	1.3%	1.0%	0.9%	0.8%	0.7%	IE 2			FRN0037E2#-4U○○	29	18.5					37
FRN0044E2#-4U○○	21.0	0.1%	2.0%	1.6%	1.3%	1.2%	1.0%	0.8%	0.7%	0.6%	IE 2			FRN0044E2#-4U○○	35	22					44
FRN0059E2#-4U○○	21.0	0.0%	1.9%	1.7%	1.4%	1.1%	1.0%	0.9%	0.7%	0.6%	IE 2			FRN0059E2#-4U○○	47	30					59
FRN0072E2#-4U○○	20.3	0.0%	1.9%	1.6%	1.4%	1.1%	1.0%	0.8%	0.7%	0.6%	IE 2			FRN0072E2#-4U○○	57	37					72
FRN0085E2#-4U○○	23.6	0.0%	1.9%	1.6%	1.4%	1.0%	0.9%	0.8%	0.7%	0.6%	IE 2			FRN0085E2#-4U○○	68	45					85
FRN0105E2#-4U○○	24.2	0.0%	1.8%	1.6%	1.3%	1.0%	0.9%	0.8%	0.6%	0.6%	IE 2			FRN0105E2#-4U○○	84	55					105
FRN0139E2#-4U○○	32.9	0.0%	1.7%	1.5%	1.2%	0.9%	0.8%	0.7%	0.6%	0.5%	IE 2			FRN0139E2#-4U○○	111	75					139
FRN0168E2#-4U○○	20.0	0.0%	1.7%	1.5%	1.2%	0.9%	0.8%	0.7%	0.5%	0.5%	IE 2			FRN0168E2#-4U○○	134	90					168
FRN0203E2#-4U○○	57.0	0.0%	1.4%	0.8%	0.7%	1.1%	0.7%	0.5%	0.6%	0.5%	IE 2			FRN0203E2#-4U○○	162	110			203		
FRN0240E2#-4U○○	43.0	0.0%	1.5%	1.1%	1.1%	0.9%	0.6%	0.6%	0.5%	0.4%	IE 2			FRN0240E2#-4U○○	191	132			240		
FRN0290E2#-4U○○	63.0	0.0%	1.5%	1.0%	1.1%	0.8%	0.6%	0.6%	0.4%	0.4%	IE 2			FRN0290E2#-4U○○	231	160			290		
FRN0361E2#-4U○○	80.0	0.0%	1.4%	1.0%	1.0%	0.8%	0.6%	0.6%	0.4%	0.4%	IE 2			FRN0361E2#-4U○○	288	200			361		
FRN0415E2#-4U○○	81.1	0.0%	1.4%	1.0%	1.0%	0.7%	0.5%	0.5%	0.4%	0.3%	IE 2			FRN0415E2#-4U○○	331	220			415		
FRN0520E2#-4U○○	78.7	0.0%	1.7%	1.1%	1.2%	0.9%	0.7%	0.6%	0.5%	0.4%	IE 2			FRN0520E2#-4U○○	414	280			520		
FRN0590E2#-4U○○	92.0	0.0%	1.6%	1.1%	1.1%	0.9%	0.6%	0.6%	0.4%	0.4%	IE 2			FRN0590E2#-4U○○	470	315			590		

1. Operating point (x, y): x - percentage output frequency, y - percentage Torque-producing current.

2. Apparent output power is calculated by assuming the output rated voltage as 440 V(-4).

3. Apparent output power is calculated by assuming the output rated voltage as 220 V(-2).

4. power losses in % of the rated apparent output power[kVA].

5. "*" mark represents the enclosure code. (S: Standard type / E: EMC filter built in type)

6. "**" mark represents the destination code. (A: Asia / C: China / E: Europe / K: South Korea / GA: Global model-A / GB: Global model-B)