DATASHEET - DG1-34205FB-C54C



Variable frequency drive, 400 V AC, 3-phase, 205 A, 110 kW, IP54/NEMA12, Brake chopper, DC link choke

FATON'

Powering Business Worldwide



Part no. DG1-34205FB-C54C Catalog No. 9702-6101-00P Alternate Catalog No. DG1-34205FB-C54C No.

Delivery program			
Photo			8
Product range			Variable frequency drives
Part group reference (e.g. DIL)			DG1
Rated operational voltage	U _e		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Output voltage with V_{e}	U ₂		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Mains voltage (50/60Hz)	U _{LN}	V	380 (-15%) - 500 (+10%)
Rated operational current			
At 150% overload	I _e	Α	205
At 110% overload	I _e	Α	261
Note			Rated operational current for a switching frequency of 1 - 10 kHz and an ambient temperature of +50 °C for a 150% overload and +40 °C for a 110% overload
Assigned motor rating			
Note			for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm ⁻¹ at 50 Hz or 1800 min ⁻¹ at 60 Hz
Note			Overload cycle for 60 s every 600 s
Note			at 400 V, 50 Hz
150 % Overload	P	kW	110
110 % Overload	P	kW	132
150 % Overload	I _M	Α	196
110 % Overload	I_{M}	Α	234
Note			at 500 V, 50 Hz
150 % Overload	P	kW	132
110 % Overload	P	kW	160
150 % Overload	I _M	Α	184
110 % Overload	I_{M}	Α	224
Note			at 480 V, 60 Hz
150 % Overload	Р	HP	150
110 % Overload	P	HP	200
150 % Overload	I _M	Α	180
110 % Overload	I _M	Α	240
Degree of Protection			IP54/NEMA12
Interface/field bus (built-in)			Modbus RTU Modbus TCP BACnet MS/TP Ethernet IP
Fieldbus connection (optional)			PROFIBUS CANopen® DeviceNet SmartWire-DT
Fitted with			Radio interference suppression filter Additional PCB protection Multi-line graphic display

	Brake chopper DC link choke
Parameterization	Keypad Fieldbus Power Xpert inControl
Frame size	FS6
Connection to SmartWire-DT	yes in conjunction with DXG-NET-SWD SmartWire DT module

Technical data General

General			
Standards			Specification for general requirements: IEC/EN 61800-2 EMC requirements: IEC/EN 61800-3 Safety requirements: IEC/EN 61800-5
Certifications			CE, UL, cUL, c-Tick, UkrSEPRO, EAC
Production quality			RoHS, ISO 9001
Climatic proofing	ρ_{W}	%	< 95%, average relative humidity (RH), non-condensing, non-corrosive
Air quality			3C2, 3S2
Ambient temperature			
Operating ambient temperature min.		°C	-10
Operating ambient temperature max.		°C	+ 50
operation (110 % overload)	9	°C	-10 - +40
			Operation with 110 % overload (1 min./10 min.): -10 to +40 (max. +55 with 1% derating per Kelvin above limit) Operation with 150% overload (1 min./10 min.): -10 to +50 (max. +60 with 1% derating per Kelvin above limit) -20 with cold-weather mode
Storage	θ	°C	-40 - +70
Overvoltage category			III
Pollution degree			2
Radio interference level			
Radio interference class (EMC)			C1 (with external filter, for conducted emissions only), C2, C3, depending on the motor cable length, the connected load, and ambient conditions. External radio interference suppression filters (optional) may be necessary.
Environment (EMC)			1st and 2nd environments as per EN 61800-3
maximum motor cable length	ı	m	C2 ≤ 10 m C3 ≤ 50 m
Mechanical shock resistance		g	EN 61800-5-1, EN 60068-2-27 UPS drop test (for weights inside the UPS frame) Storage and transportation: maximum 15 g, 11 ms (inside the packaging)
Vibration			EN 61800-5-1, EN 60068-2-6: 5 - 150 Hz Amplitude: 1 mm (peak) at 5 - 15.8 Hz Maximum acceleration amplitude: 1 g at 15.8 — 150 Hz
Mounting position			Vertical
Altitude		m	0 - 1000 m above sea level Above 1000 m: 1% derating for every 100 m max. 3000 m (2000 m for Corner Grounded TN Systems)
Degree of Protection			IP54/NEMA12
Protection against direct contact			BGV A3 (VBG4, finger- and back-of-hand proof)
Main circuit			
Supply			

Main circuit			
Supply			
Rated operational voltage	U _e		400 V AC, 3-phase 480 V AC, 3-phase 500 V AC, 3-phase
Mains voltage (50/60Hz)	U_{LN}	V	380 (-15%) - 500 (+10%)
Input current (150% overload)	I _{LN}	Α	189
Input current (110% overload)	I _{LN}	Α	250
System configuration			TN-S, TN-C, TN-C-S, TT, IT
Supply frequency	f_{LN}	Hz	50/60
Frequency range	f_{LN}	Hz	45–66 (± 0%)
Mains switch-on frequency			Maximum of one time every 60 seconds
Mains current distortion	THD	%	29
Rated conditional short-circuit current	I_q	kA	< 100
Power section			

Function			Variable frequency drive with internal DC link, DC link choke and IGBT inverter
Overload current (150% overload)	IL	Α	307.5
Overload current (110% overload)	IL	Α	287.1
max. starting current (High Overload)	I _H	%	200
Note about max. starting current	-11		for 2 seconds every 20 seconds
Output voltage with V _e	U ₂		400 V AC, 3-phase
output voitage with ve	02		480 V AC, 3-phase 500 V AC, 3-phase
Output Frequency	f ₂	Hz	0 - 50/60 (max. 400)
Switching frequency	f _{PWM}	kHz	2 adjustable 1 - 10
Operation Mode			U/f control Speed control with slip compensation sensorless vector control (SLV) Torque regulation
Frequency resolution (setpoint value)	Δf	Hz	0.01
Rated operational current			
At 150% overload	I _e	Α	205
At 110% overload	Ie	Α	261
Note			Rated operational current for a switching frequency of 1 - 10 kHz and an ambient temperature of +50 °C for a 150% overload and +40 °C for a 110% overload
Motor current limit	I	Α	0.1 - 2 x I _H (CT)
Power loss			
Heat dissipation at rated operational current I $_{\text{e}}$ =150 $\%$	P_V	W	2620
Heat dissipation at rated operational current I _e =110%	P _V	W	1960
Efficiency	η	%	97.9
Maximum leakage current to ground (PE) without motor	I _{PE}	mA	9.5
Fan			temperature controlled externally accessible
Internal fan delivery rate		m ³ /h	679
Fitted with			Radio interference suppression filter Additional PCB protection Multi-line graphic display Brake chopper DC link choke
Safety function Frame size			STO (Safe Torque Off, SIL1, PLc Cat 1)
			FS6
Motor feeder			
Note			for normal internally and externally ventilated 4 pole, three-phase asynchronous motors with 1500 rpm ⁻¹ at 50 Hz or 1800 min ⁻¹ at 60 Hz
Note			Overload cycle for 60 s every 600 s
Note			at 400 V, 50 Hz
150 % Overload	Р	kW	110
110 % Overload	Р	kW	132
Note			at 500 V, 50 Hz
150 % Overload	Р	kW	132
110 % Overload	Р	kW	160
Note			at 480 V, 60 Hz
150 % Overload	P	НР	150
110 % Overload	P	НР	200
maximum permissible cable length	ı	m	screened: 200
Apparent power			
Apparent power at rated operation 400 V	S	kVA	180.8
Apparent power at rated operation 480 V	S	kVA	226
Braking function			
Standard braking torque			max. 30 % M _N
DC braking torque			adjustable to 150 %
Braking torque with external braking resistance			Max. 100% of rated operational current I _e with external braking resistor
	D	Ω	3.3
minimum external braking resistance	R _{min}	Ω	5.5

Reference votings	Switch-on threshold for the braking transistor	U_{DC}	V	850 V DC
Reference votings	DC braking	%	I/I _e	≦ 150, adjustable
Reference voltage	Control section			
Analog inputs Analog inputs 2. parameterizable, 0. 10 V.D.C, 2. 10 V.D.C, 40 V.D.C, 44 - 20 mA Popilari inputs 3. parameterizable, 2. 10 V.D.C, 44 - 70 mA Diplata inputs 5. parameterizable, 2. 10 V.D.C, 44 - 70 mA Diplata inputs 5. parameterizable, max. 30 V.D.C Diplata inputs 5. parameterizable, max. 30 V.D.C Biddy outputs 6. parameterizable, max. 30 V.D.C Biddy outputs 7. parameterizable, max. 30 V.D.C Biddy outputs 7. parameterizable, max. 30 V.D.C Biddy outputs 7. parameterizable, max. 30 V.D.C Biddy outputs 8. parameterizable, para V.D.C 1. parameterizable, parameterizable, para V.D.C 1. parameterizable, para V.D.C 1. parameterizable, para V.D.C 1. parameterizable, para V.D.C 1. parameterizable, parameterizable, para V.D.C 1. parameterizable, para V.D.C 1. parameterizable, para V.D.C 1. parameterizable,	External control voltage	U _c	V	24 V DC (max. 250 mA options incl.)
Amalog outputs Digital inquises Bigital	Reference voltage	Us	V	10 V DC (max. 10 mA)
Digital inputs Digital couples	Analog inputs			2, parameterizable, 0 - 10 V DC, 2 - 10 V DC, -10 - +10 V DC, 0/4 - 20 mA
Digital outputs Riskley outputs Riskley outputs Riskley outputs Expension dots Expension	Analog outputs			2, parameterizable, 0 - 10 V, 0/4 - 20 mA
Relay outputs 3. parameterizable, 2 changeover contacts and 1 N/O, 5 A (240 VAC) / 6 A (74 VOC) interface/field bus (built-in) Modbus 170 BAChest MS/TP Ehrentet IP 2 8. Accest MS/TP Ehrentet IP 2 8. Satisty device (fuse or ministeric circuit-breaker) 8. Satisty device (fuse or ministeric circuit-breaker) 8. EC (Type B., 6B, 159 % NZMC2-A559 NZM	Digital inputs			8, parameterizable, max. 30 V DC
Interface/field bus (built-in) Mothus TID Modelhos TID Modelhos TID Modelhos TID BACKER MX/TP Ethernet IP Zestarion slots	Digital outputs			1, parameterizable, 24 V DC
Expansion slots 2 Sassigned switching and protective elements Power Wining Safety device (fixe or miniature circuit-breaker) EC (Type B, gG, 195 % EC (Type	Relay outputs			3, parameterizable, 2 changeover contacts and 1 N/O, 6 A (240 VAC) / 6 A (24 VDC)
Assigned switching and protective elements Safety device (fuse or ministure circuit-breaker) IEC (Type B, g6), 150 % IEC (Type B, g6), 110 % UL (Class CC or J) Main contactor 150 % overload (UT/I _{II,} at 50 °C) Ill Mil85A DILMI85A DILMI85A Main choke 110% overload (UT/I _{II,} at 50 °C) Integrated DC link choke, uk = 5% Radio interference suppression filter (external, 150 %) Radio interference suppression filter (external, 110 %) Radio interference suppression filter (external, 110 %) Radio interference suppression filter (external, 110 %) Radio interference suppression filter, love leakage currents (external, 110 %) Radio interference suppression filter, love leakage currents (external, 110 %) Radio interference suppression filter, love leakage currents (external, 110 %) Radio interference suppression filter, love leakage currents (external, 110 %) Rout regarding radio interference suppression filter Braking resistance 10 % duly factor (DF) R2 x DX = BR002-54K3 20 % duly factor (DF) R2 x DX = BR002-102K4 Rm = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (a.g. different duc volviels are available upon request. Motor feeder motor choke 150 % overload (UT/I _{II,} at 50 °C) 110 % overload (UT/I _{II,} at 50 °C) 110 % overload (UT/I _{II,} at 50 °C) DX - LM3-303 Sine filter DX - SNS-3250	Interface/field bus (built-in)			Modbus TCP BACnet MS/TP
Safety device (fuse or ministure circuit-breaker) IEC (Type B, g6), 150 % IEC (Type B, g6), 110 % IEC (Type B, g6), 110 % IEC (Type B, g6), 110 % Mains contactor I 50 % overload (CT/I _{I+} at 50 °C) III % overload (VT/I _{I+} at 50 °C) Radio interference suppression filter (external, 110 %) Radio interference suppression filter, low leakage currents (external, 150 %) Radio interference suppression filter, low leakage currents (external, 110 %) Note regarding radio interference suppression filter II % overload (VT/I _{I+} at 50 °C) II % overload (VT/I _{I+} at 50 °C) Notes concerting braking resistances: II % overload (VT/I _{I+} at 50 °C) Notes concerting braking resistances: II % overload (VT/I _{I+} at 50 °C) Note overload (VT/I _{I+} at 50 °C) Note overload (VT/I _{I+} at 50 °C) II % overload (VT/I _{I+} at 50 °C) Note overload (VT/I _{I+} at 50 °C) Note overload (VT/I _{I+} at 50 °C) Notes overload (VT/I _{I+} at	Expansion slots			2
Safety device (fuse or ministure circuit-breaker) IEC (Type B, gB, 150 % IEC	Assigned switching and protective elements			
IEC Type B, gG), 150 % NZMCZ-A250 NZMC	•			
IEC (Type B, g6), 110 %				NTMOS ASSO
UL (Class CC or J) Mains contactor 150 % overload (CT/I _H , at 50 °C) 110 % overload (CT/I _H , at 40 °C) Main choke 150 % overload (CT/I _H , at 40 °C) All integrated DC link choke, uk = 5% Radio interference suppression filter (external, 150 %) Radio interference suppression filter (external, 110 %) Radio interference suppression filter (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) DX-EMC34-400 DX-EMC34-400-L Optional external radio interference suppression filter for longer motor ceble lengths and for use in different EMC environments Braking resistance 10 % duty factor (DF) R2 x DX-BR002-54K3 R3 x DX-BR002-54K3 R4 x SZ DX-BR002-54K3 R5 x DX-BR002-54K3 R6 x x Z DX-BR002-10ZK4 Noter resistors are assigned based on the maximum rated power of the variable frequency chadditional brake resistors and designs (e.g., different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _{II} , at 50 °C) DX-LM3-220 DX-LM3-230	.,, ., ., .,			
Mains contactor 150 % overload (CT/h, at 50 °C) DILM185A DILM185 DI			Δ.	
DILM185A DILM185A Main choke 150 % overload (CT/I _H , at 50 °C) 110 % overload (VT/I _L , at 40 °C) Radio interference suppression filter (external, 150 %) Radio interference suppression filter, low leakage currents (external, 150 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Note regarding radio interference suppression filter Braking resistance 10 % duty factor (DF) A0 % duty factor (DF) A0 % duty factor (DF) A0 % duty factor (DF) Notes concerning braking resistances: Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-EMC34-250 DX-EMC34-400-L DX-EMC34-400-L DX-EMC34-400-L DX-EMC34-400-L DX-EMC34-400-L DX-EMC34-400-L DX-EMC34-400-L DX-EMC34-400-L A0 % duty factor (DF) R2 x DX-BR002-54K3 R3 x DX-BR002-102K4 R3			А	400
110 % overload (VT/I _L at 40 °C) Main choke 150 % overload (CT/I _{I+} at 50 °C) Integrated DC link choke, uk = 5% DX-EMC34-250 DX-EMC34-250 DX-EMC34-400 DX-EMC34-260-1 Radio interference suppression filter (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Note regarding radio interference suppression filter, low leakage currents (external, 110 %) DX-EMC34-400-1 DX-EMC				DII M10FA
Main choke 150 % overload (CT/h _t , at 50 °C) 110 % overload (CT/h _t , at 50 °C) Radio interference suppression filter (external, 150 %) Radio interference suppression filter (external, 150 %) Radio interference suppression filter, low leakage currents (external, 150 %) Radio interference suppression filter, low leakage currents (external, 110 %) Radio interference suppression filter, low leakage currents (external, 110 %) Note regarding radio interference suppression filter Note regarding radio interference suppression filter DC link connection Braking resistance 10 % duty factor (DF) 40 % duty factor (DF) A0 % duty factor (DF) A0 % duty factor (DF) R2 x DX-BR002-54K3 R.m = "m resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/h _t , at 50 °C) DX-LM3-220 DX-LM3-303 Sine filter 150 % overload (CT/h _t , at 50 °C) DX-SIN3-250 DX-SIN3-250				
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Radio interference suppression filter (external, 150 %) Radio interference suppression filter (external, 110 %) Radio interference suppression filter, low leakage currents (external, 150 %) Radio interference suppression filter, low leakage currents (external, 110 %) Note regarding radio interference suppression filter Note regarding radio interference suppression filter Dybional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments DC link connection Braking resistance 10 % duty factor (DF) A0 % duty factor (DF) Notes concerning braking resistances: Rn = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different dute cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-230 Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250				
Radio interference suppression filter (external, 110 %) Radio interference suppression filter, low leakage currents (external, 150 %) Radio interference suppression filter, low leakage currents (external, 110 %) Note regarding radio interference suppression filter Note regarding radio interference suppression filter DC link connection Braking resistance 10 % duty factor (DF) 20 % duty factor (DF) Notes concerning braking resistances: Motor feeder motor choke 150 % overload (CT/l _H , at 50 °C) 110 % overload (CT/l _H , at 50 °C) Sine filter 150 % overload (CT/l _H , at 50 °C) DX-EMC34-400 DX-EMC34-250-L DX-EMC34-400-L DX-EMC34-400-L DX-EMC34-250-L DX-EMC34-250-L DX-EMC34-400-L DX-EMC34-250-L DX-EMC34-250	-			
Radio interference suppression filter, low leakage currents (external, 150 %) Radio interference suppression filter, low leakage currents (external, 110 %) Note regarding radio interference suppression filter Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments DC link connection Braking resistance 10 % duty factor (DF) 20 % duty factor (DF) A0 % duty factor (DF) Notes concerning braking resistances: R:2 x DX-BR002-54K3 R:2 x DX-BR002-54K3 R:2 x DX-BR002-54K3 R:2 x DX-BR002-102K4 R:3 x DX-BR002-102K4 R:3 x DX-BR002-102K4 R:4 x DX-BR002-102K4 R:5 x DX-BR002-102K				
Radio interference suppression filter, low leakage currents (external, 110 %) Note regarding radio interference suppression filter Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments DC link connection Braking resistance 10 % duty factor (DF) 20 % duty factor (DF) A0 % duty factor (DF) Notes concerning braking resistances: R:2 x DX-BR002-54K3 R:2 x DX-BR002-54K3 R:2 x DX-BR002-10ZK4 R:2 x DX-BR002-10ZK4 R:m = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-303 Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250 DX-SIN3-250				
Note regarding radio interference suppression filter Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments DC link connection Braking resistance 10 % duty factor (DF) 20 % duty factor (DF) 40 % duty factor (DF) Notes concerning braking resistances: R:m = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-220 DX-LM3-303 Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250	**			
lengths and for use in different EMC environments DC link connection				
Braking resistance 10 % duty factor (DF) R:2 x DX-BR002-54K3 20 % duty factor (DF) R:2 x DX-BR002-54K3 40 % duty factor (DF) R:2 x DX-BR002-102K4 Notes concerning braking resistances: R:m = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different dute cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-303 Sine filter DX-SIN3-250 DX-SIN3-250	Note regarding radio interference suppression filter			
10 % duty factor (DF) R:2 x DX-BR002-54K3 40 % duty factor (DF) R:2 x DX-BR002-54K3 40 % duty factor (DF) R:2 x DX-BR002-102K4 Notes concerning braking resistances: R:m = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-303 Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250 DX-SIN3-250	DC link connection			
20 % duty factor (DF) R:2 x DX-BR002-54K3 40 % duty factor (DF) R:2 x DX-BR002-102K4 Notes concerning braking resistances: R:m = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-303 Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250 DX-SIN3-250	Braking resistance			
A0 % duty factor (DF) Notes concerning braking resistances: R:m = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-303 Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250	10 % duty factor (DF)			R:2 x DX-BR002-54K3
Notes concerning braking resistances: R:m = "m" resistors connected in series The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-220 DX-LM3-303 Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250	20 % duty factor (DF)			R:2 x DX-BR002-54K3
The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty cycles) are available upon request. Motor feeder motor choke 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 DX-LM3-303 Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250	40 % duty factor (DF)			R:2 x DX-BR002-102K4
motor choke DX-LM3-220 150 % overload (CT/I _H , at 50 °C) DX-LM3-220 110 % overload (VT/I _L , at 40 °C) DX-LM3-303 Sine filter DX-SIN3-250	Notes concerning braking resistances:			The brake resistors are assigned based on the maximum rated power of the variable frequency drive. Additional brake resistors and designs (e.g. different duty
150 % overload (CT/I _H , at 50 °C) DX-LM3-220 110 % overload (VT/I _L , at 40 °C) DX-LM3-303 Sine filter DX-SIN3-250	Motor feeder			
110 % overload (VT/I _L , at 40 °C) Sine filter 150 % overload (CT/I _H , at 50 °C) DX-LM3-303 DX-LM3-303	motor choke			
Sine filter 150 % overload (CT/I _H , at 50 °C) DX-SIN3-250	150 % overload (CT/I _H , at 50 °C)			DX-LM3-220
150 % overload (CT/I _H , at 50 °C) DX-SIN3-250	110 % overload (VT/I _L , at 40 °C)			DX-LM3-303
	Sine filter			
110 % overload (VT/I _I , at 40 °C) DX-SIN3-440	150 % overload (CT/I _H , at 50 °C)			DX-SIN3-250
	110 % overload (VT/I _L , at 40 °C)			DX-SIN3-440

Design verification as per IEC/EN 61439

Technical data for design verification			
Rated operational current for specified heat dissipation	In	Α	205
Equipment heat dissipation, current-dependent	P _{vid}	W	2620
Static heat dissipation, non-current-dependent	P_{vs}	W	62.45
Operating ambient temperature min.		°C	-10
Operating ambient temperature max.		°C	50

IEC/EN 61439 design verification	
10.2 Strength of materials and parts	
10.2.2 Corrosion resistance	Meets the product standard's requirements.
10.2.3.1 Verification of thermal stability of enclosures	Meets the product standard's requirements.
10.2.3.2 Verification of resistance of insulating materials to normal heat	Meets the product standard's requirements.
10.2.3.3 Verification of resistance of insulating materials to abnormal heat and fire due to internal electric effects	Meets the product standard's requirements.
10.2.4 Resistance to ultra-violet (UV) radiation	Meets the product standard's requirements.
10.2.5 Lifting	Does not apply, since the entire switchgear needs to be evaluated.
10.2.6 Mechanical impact	Does not apply, since the entire switchgear needs to be evaluated.
10.2.7 Inscriptions	Meets the product standard's requirements.
10.3 Degree of protection of ASSEMBLIES	Does not apply, since the entire switchgear needs to be evaluated.
10.4 Clearances and creepage distances	Meets the product standard's requirements.
10.5 Protection against electric shock	Does not apply, since the entire switchgear needs to be evaluated.
10.6 Incorporation of switching devices and components	Does not apply, since the entire switchgear needs to be evaluated.
10.7 Internal electrical circuits and connections	Is the panel builder's responsibility.
10.8 Connections for external conductors	Is the panel builder's responsibility.
10.9 Insulation properties	
10.9.2 Power-frequency electric strength	Is the panel builder's responsibility.
10.9.3 Impulse withstand voltage	Is the panel builder's responsibility.
10.9.4 Testing of enclosures made of insulating material	Is the panel builder's responsibility.
10.10 Temperature rise	The panel builder is responsible for the temperature rise calculation. Eaton will provide heat dissipation data for the devices.
10.11 Short-circuit rating	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.12 Electromagnetic compatibility	Is the panel builder's responsibility. The specifications for the switchgear must be observed.
10.13 Mechanical function	The device meets the requirements, provided the information in the instruction leaflet (IL) is observed.

Technical data ETIM 7.0

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Low-voltage industrial components (EG000017) / Frequency converter =< 1 kV (I	C001857)			
Electric engineering, automation, process control engineering / Electrical drive / Static frequency converter / Static frequency converter = < 1 kV (ecl@ss10.0.1-27-02-31-01 [AKE177014])				
Mains voltage	V	323 - 550		
Mains frequency		50/60 Hz		
Number of phases input		3		
Number of phases output		3		
Max. output frequency	Hz	400		
Max. output voltage	V	500		
Nominal output current I2N	А	205		
Max. output at quadratic load at rated output voltage	kW	132		
Max. output at linear load at rated output voltage	kW	220		
Relative symmetric net frequency tolerance	%	10		
Relative symmetric net voltage tolerance	%	10		
Number of analogue outputs		2		
Number of analogue inputs		2		
Number of digital outputs		1		
Number of digital inputs		8		
Nith control unit		Yes		
Application in industrial area permitted		Yes		
Application in domestic- and commercial area permitted		Yes		
Supporting protocol for TCP/IP		Yes		
Supporting protocol for PROFIBUS		Yes		
Supporting protocol for CAN		Yes		
Supporting protocol for INTERBUS		No		
Supporting protocol for ASI		No		
Supporting protocol for KNX		No		

Supporting protocol for MODBUS		Yes
Supporting protocol for Data-Highway		No
Supporting protocol for DeviceNet		Yes
Supporting protocol for SUCONET		No
Supporting protocol for LON		No
Supporting protocol for PROFINET IO		Yes
Supporting protocol for PROFINET CBA		No
Supporting protocol for SERCOS		No
Supporting protocol for Foundation Fieldbus		No
Supporting protocol for EtherNet/IP		Yes
Supporting protocol for AS-Interface Safety at Work		No
Supporting protocol for DeviceNet Safety		No
Supporting protocol for INTERBUS-Safety		No
Supporting protocol for PROFIsafe		No
Supporting protocol for SafetyBUS p		No
Supporting protocol for BACnet		Yes
Supporting protocol for other bus systems		Yes
Number of HW-interfaces industrial Ethernet		1
Number of interfaces PROFINET		0
Number of HW-interfaces RS-232		0
Number of HW-interfaces RS-422		0
Number of HW-interfaces RS-485		1
Number of HW-interfaces serial TTY		0
Number of HW-interfaces USB		0
Number of HW-interfaces parallel		0
Number of HW-interfaces other		1
With optical interface		No
With PC connection		Yes
Integrated breaking resistance		Yes
4-quadrant operation possible		Yes
Type of converter		U converter
Degree of protection (IP)		IP54
Degree of protection (NEMA)		12
Height	mm	1035
Width	mm	486
Depth	mm	371

Approvals

Product Standards	UL508C, CSA-C22.2 No. 274-13; IEC/EN61800-3; IEC/EN61800-5; CE marking
UL File No.	E134360
UL Category Control No.	NMMS, NMMS7
CSA File No.	UL report applies to both US and Canada
North America Certification	UL listed, certified by UL for use in Canada
Suitable for	Branch circuits
Max. Voltage Rating	3~500 V AC IEC: TN-S UL/CSA: 'Y' (Solidly Grounded Wey)
Degree of Protection	IP54/NEMA12

Additional product information (links)

Documentation	http://www.eaton.eu/Europe/Electrical/ProductsServices/AutomationControl/ SwitchingProtectingDrivingMotors/PowerXLfrequencydrives/DG1GeneralPurposeDrives/index.htm? wtredirect=www.eaton.eu/dg1#tabs-7
Manuals	http://www.eaton.eu/Europe/Electrical/ProductsServices/AutomationControl/SwitchingProtectingDrivingMotors/PowerXLfrequencydrives/DG1GeneralPurposeDrives/index.htm?wtredirect=www.eaton.eu/dg1#tabs-8