

Specifikace



Eaton 185724

Eaton DC1 Variable frequency drive, 400 V AC, 3-phase, 4.1 A, 1.5 kW, IP20/NEMA 0, FS1 DC1-344D1NN-A20CE1

Obečné specifikace

PRODUCT NAME	Eaton DC1 Variable frequency drive
CATALOG NUMBER	185724
EAN	4015081812233
PRODUCT LENGTH/DEPTH	124 mm
PRODUCT HEIGHT	184 mm
PRODUCT WIDTH	81 mm
PRODUCT WEIGHT	1.2 kg
CERTIFICATIONS	IEC/EN61800-5 RoHS, ISO 9001 CUL UL CSA-C22.2 No. 14 UL Category Control No.: NMMS, NMMS7 EAC UL report applies to both US and Canada IEC/EN61800-3 Specification for general requirements: IEC/EN 61800-2 IEC/EN 61800-3 CE UL 508C Certified by UL for use in Canada UkrSEPRO RCM Safety requirements: IEC/EN 61800-5-1 UL File No.: E172143

CATALOG NOTES

- Environmental class: 3C2, 3S2
- Overload cycle for 60 s every 600 s



Powering Business Worldwide

MODEL CODE	DC1-344D1NN-A20CE1
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Zdánlivý výkon

APPARENT POWER AT 400 V	2.84 kVA
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APPARENT POWER AT 480 V	3.41 kVA
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Klimatické podmínky a podmínky prostředí

ALTITUDE	Above 1000 m with 1 % derating per 100 m Max. 4000 m
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AMBIENT OPERATING TEMPERATURE - MAX	50 °C
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AMBIENT STORAGE TEMPERATURE - MAX	60 °C
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AMBIENT OPERATING TEMPERATURE - MIN	-10 °C
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AMBIENT OPERATING TEMPERATURE AT 150% OVERLOAD - MAX	50 °C
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AMBIENT OPERATING TEMPERATURE AT 150% OVERLOAD - MIN	-10 °C
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AMBIENT STORAGE TEMPERATURE - MIN	-40 °C
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CLIMATIC PROOFING	< 95 average relative humidity (RH), no condensation, no corrosion
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Funkce brzdění

BRAKING TORQUE

Max. 100 % of rated operational current I_e , variable, DC - Main circuit
Max. 30 % MN, Standard - Main circuit

Řídicí obvod

NUMBER OF INPUTS (ANALOG)	2 (parameterizable, 0 - 10 V DC, 0/4 - 20 mA)
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NUMBER OF INPUTS (DIGITAL)	4 (parameterizable, 10 - 30 V DC)
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NUMBER OF OUTPUTS (ANALOG)	1
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NUMBER OF OUTPUTS (DIGITAL)	1
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NUMBER OF RELAY OUTPUTS	1 (parameterizable, N/O, 6 A (250 V, AC-1) / 5 A (30 V, DC-1))
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Ověření návrhu

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.
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 RESIST. OF INSUL. MAT. TO ABNORMAL HEAT/FIRE BY INTERNAL ELECT. 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	Does not apply, since the

Features & functions

FEATURES

Parameterization:
drivesConnect
Parameterization:
drivesConnect mobile
(App)
Parameterization: Fieldbus

Parameterization: Keypad

FITTED WITH:

Internal DC link
7-digital display assembly
PC connection
IGBT inverter
Control unit
Additional PCB protection

AGAINST ELECTRIC SHOCK	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.
10.9.2 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.
EQUIPMENT HEAT DISSIPATION, CURRENT-DEPENDENT PVID	76.5 W
HEAT DISSIPATION CAPACITY PDISS	0 W
HEAT DISSIPATION DETAILS	Operation (with 150 % overload)
HEAT DISSIPATION PER POLE, CURRENT-DEPENDENT PVID	0 W
RATED OPERATIONAL CURRENT FOR SPECIFIED HEAT DISSIPATION (IN)	4.1 A
STATIC HEAT DISSIPATION, NON-CURRENT-DEPENDENT PVS	0 W

Obecné informace

CABLE LENGTH	50 m, screened, maximum permissible, Motor feeder 100 m, screened, with motor choke, maximum permissible, Motor feeder 75 m, unscreened, maximum permissible, Motor feeder 150 m, unscreened, with motor choke, maximum permissible, Motor feeder
COMMUNICATION INTERFACE	SmartWire-DT, optional CANopen®, built in OP-Bus (RS485), built in Modbus RTU, built in
CONNECTION TO SMARTWIRE-DT	Yes In conjunction with DX-NET-SWD3 SmartWire DT module
DEGREE OF PROTECTION	IP20 NEMA Other
FRAME SIZE	FS1
MOUNTING POSITION	Vertical
PRODUCT CATEGORY	Variable frequency drives
PROTECTION	Finger and back-of-hand proof, Protection against direct contact (BGV A3, VBG4)
PROTOCOL	CAN Other bus systems MODBUS EtherNet/IP
RADIO INTERFERENCE CLASS	Optional external radio interference suppression filter for longer motor cable lengths and for use in different EMC environments
SUITABLE FOR	Branch circuits, (UL/CSA)

Hlavní obvod

EFFICIENCY	94.9 % (η)
HEAT DISSIPATION AT CURRENT/SPEED	20 W at 25% current and 0% speed 27 W at 25% current and 50% speed 27 W at 50% current and 50% speed 28 W at 50% current and 0% speed 36 W at 100% current and 0% speed 36 W at 50% current and 90% speed 46 W at 100% current and 50% speed 49 W at 100% current and 90% speed
INPUT CURRENT ILN AT 150% OVERLOAD	5.6 A
LEAKAGE CURRENT AT GROUND IPE - MAX	13 mA
MAINS SWITCH-ON FREQUENCY	Maximum of one time every 30 seconds
MAINS VOLTAGE - MAX	480 V
MAINS VOLTAGE - MIN	380 V
OPERATING MODE	Sensorless vector control (SLV) Speed control with slip compensation U/f control BLDC motors PM motors Synchronous reluctance motors
OUTPUT FREQUENCY - MAX	500 Hz
OUTPUT FREQUENCY - MIN	0 Hz
OUTPUT VOLTAGE (U2)	400 V AC, 3-phase 480 V AC, 3-phase
OVERLOAD CURRENT IL AT 150% OVERLOAD	6.15 A
RATED CONTROL SUPPLY VOLTAGE	10 V DC (Us, max. 10 mA)
RATED FREQUENCY - MAX	62 Hz
RATED FREQUENCY - MIN	48 Hz
RATED OPERATIONAL CURRENT (IE)	4.1 A at 150% overload (at an operating frequency of 16 kHz and an ambient air temperature of +50 °C)

RATED OPERATIONAL POWER AT 380/400 V, 50 HZ, 3-PHASE	1.5 kW
RATED OPERATIONAL VOLTAGE	400 V AC, 3-phase 480 V AC, 3-phase
RESOLUTION	0.1 Hz (Frequency resolution, setpoint value)
SHORT-CIRCUIT PROTECTION RATING	6 A, UL (Class CC or J), Safety device (fuse or miniature circuit-breaker), Power Wiring
STARTING CURRENT - MAX	175 %, IH, max. starting current (High Overload), For 2.5 seconds every 600 seconds, Power section
SUPPLY FREQUENCY	50/60 Hz
SWITCHING FREQUENCY	8 kHz, 4 - 32 kHz adjustable (audible), fPWM, Power section, Main circuit
SYSTEM CONFIGURATION TYPE	AC supply systems with earthed center point
VOLTAGE RATING - MAX	480 V

Jmenovité charakteristiky motoru

ASSIGNED MOTOR CURRENT IM AT 400 V, 50 HZ, 150% OVERLOAD 3.6 A

ASSIGNED MOTOR CURRENT IM AT 440 - 480 V, 60 HZ, 150% OVERLOAD 3.4 A

ASSIGNED MOTOR POWER AT 460/480 V, 60 HZ, 3-PHASE 2 HP

Zdroje

[How does the internal motor protection work?](#)

[The OP System Bus - Parameterizing - Control](#)

[DX-COM-STICK3 Connection](#)

[eaton-variable-frequency-drive-declaration-of-conformity-eu250595en.pdf](#)

[eaton-variable-frequency-drive-declaration-of-conformity-uk251078en.pdf](#)

[DA-CE-ETN.DC1-344D1NN-A20CE1](#)

[IL04020009Z](#)

[Video PowerXL DA1](#)

[eaton-micro-compact-drives-mcad-drawings-dc1-fs1.dwg](#)

[DA-CS-dc1_fs1](#)

[eaton-frequency-inverter-dimensions-017.eps](#)

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dimensions-016.eps](#)

[eaton-frequency-inverter-
3d-drawing-003.eps](#)

NÁZEV PROJEKTU:

ČÍSLO PROJEKTU:

PŘIPRAVIL:

DATUM:



Eaton Corporation Plc. Eaton House
30 Pembroke Road
Dublin 4, Irsko
Eaton.com

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