DATASHEET - DG1-34245FB-C21C



Variable frequency drive, 400 V AC, 3-phase, 245 A, 132 kW, IP21/NEMA1, Brake chopper, DC link choke





Part no. DG1-34245FB-C21C Catalog No. 9702-6005-00P Alternate Catalog DG1-34245FB-C21C No.

| Delivery program | | | |
|---------------------------------|----------------|----|---|
| 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 $V_{\rm e}$ | 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 | l _e | Α | 245 |
| At 110% overload | I _e | Α | 310 |
| Note | | | Rated operational current for a switching frequency of 1 - 10 kHz and an ambient temperature of +50 $^{\circ}\text{C}$ for a 150% overload and +40 $^{\circ}\text{C}$ 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 | 132 |
| 110 % Overload | Р | kW | 160 |
| 150 % Overload | I _M | Α | 234 |
| 110 % Overload | I _M | Α | 283 |
| Note | | | at 500 V, 50 Hz |
| 150 % Overload | P | kW | 160 |
| 110 % Overload | Р | kW | 200 |
| 150 % Overload | I _M | Α | 224 |
| 110 % Overload | I _M | Α | 279 |
| Note | | | at 480 V, 60 Hz |
| 150 % Overload | Р | HP | 200 |
| 110 % Overload | Р | HP | 250 |
| 150 % Overload | I _M | Α | 240 |
| 110 % Overload | I _M | Α | 302 |
| Degree of Protection | | | IP21/NEMA1 |
| 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 |

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) | θ | °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% deratin 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 | I | 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 | | | IP21/NEMA1 |
| Protection against direct contact | | | BGV A3 (VBG4, finger- and back-of-hand proof) |
| 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 | ٧ | 380 (-15%) - 500 (+10%) |
| Input current (150% overload) | I _{LN} | Α | 252 |
| Input current (110% overload) | I _{LN} | Т | 315 |
| 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 | ·LIV | | Maximum of one time every 60 seconds |
| Mains current distortion | THD | % | 29 |
| Rated conditional short-circuit current | | kA | < 100 |
| Power section | Iq | N/A | **** |
| Function | | | Variable frequency drive with internal DC link, DC link choke and IGBT inverter |
| Overload current (150% overload) | | Λ | 367.5 |
| | IL . | A | |
| Overload current (110% overload) | I _L | A | 341 |
| max. starting current (High Overload) | I _H | % | 200 |
| Note about max. starting current | | | for 2 seconds every 20 seconds |

| Output voltage with V_{e} | U ₂ | | 400 V AC, 3-phase 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 | 245 |
| At 110% overload | le | Α | 310 |
| 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_{e} =150 $\%$ | P_{V} | W | 3280 |
| Heat dissipation at rated operational current $\rm I_e$ =110% | P_{V} | W | 2420 |
| 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 | | | STO (Safe Torque Off, SIL1, PLc Cat 1) |
| Frame size | | | 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 | 132 |
| 110 % Overload | Р | kW | 160 |
| Note | | | at 500 V, 50 Hz |
| 150 % Overload | Р | kW | 160 |
| 110 % Overload | Р | kW | 200 |
| Note | | 115 | at 480 V, 60 Hz |
| 150 % Overload | P | HP | 200 |
| 110 % Overload | P | HP | 250 |
| maximum permissible cable length | ı | m | screened: 200 |
| Apparent power | c | 1.1/4 | 214.0 |
| Apparent power at rated operation 400 V | S | kVA | 214.8 |
| Apparent power at rated operation 480 V | S | kVA | 268.5 |
| Braking function Standard braking torque | | | max. 30 % M _N |
| | | | · · |
| DC braking torque | | | adjustable to 150 % |
| Braking torque with external braking resistance | D | 0 | Max. 100% of rated operational current I _e with external braking resistor |
| minimum external braking resistance | R _{min} | Ω | 3.3 |
| Switch-on threshold for the braking transistor | U _{DC} | V | 850 V DC |
| DC braking | % | I/I _e | ≦ 150, adjustable |
| Control section | 11 | V | 24 V DC (may 250 mA antique in 1) |
| External control voltage | U _c | V | 24 V DC (max. 250 mA options incl.) |
| Reference voltage | Us | V | 10 V DC (max. 10 mA) |

| Analog inputs | | 2, parameterizable, 0 - 10 V DC, 2 - 10 V DC, -10 - +10 V DC, 0/4 - 20 mA |
|---|---|--|
| Analog outputs | | 2, parameterizable, 0 - 10 V, 0/4 - 20 mA |
| Digital inputs | | 8, parameterizable, max. 30 V DC |
| Digital outputs | | 1, parameterizable, 24 V DC |
| Relay outputs | | 3, parameterizable, 2 changeover contacts and 1 N/O, 6 A (240 VAC) / 6 A (24 VDC) |
| Interface/field bus (built-in) | | Modbus RTU Modbus TCP BACnet MS/TP Ethernet IP |
| Expansion slots | | 2 |
| Assigned switching and protective elements | | |
| Power Wiring | | |
| Safety device (fuse or miniature circuit-breaker) | | |
| IEC (Type B, gG), 150 % | | NZMC2-A250 |
| IEC (Type B, gG), 110 % | | NZMC3-A320 |
| UL (Class CC or J) | Α | 400 |
| Mains contactor | | |
| 150 % overload (CT/I _H , at 50 °C) | | DILM185A |
| 110 % overload (VT/I _L , at 40 °C) | | DILM225A |
| Main choke | | |
| 150 % overload (CT/I _H , at 50 °C) | | Integrated DC link choke, uk = 5% |
| 110 % overload (VT/I _L , at 40 °C) | | Integrated DC link choke, uk = 5% |
| Radio interference suppression filter (external, 150 %) | | DX-EMC34-400 |
| Radio interference suppression filter (external, 110 %) | | DX-EMC34-400 |
| Radio interference suppression filter, low leakage currents (external, 150 %) | | DX-EMC34-400-L |
| Radio interference suppression filter, low leakage currents (external, 110 %) | | DX-EMC34-400-L |
| 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) | | 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 duty cycles) are available upon request. |
| Motor feeder | | |
| motor choke | | |
| 150 % overload (CT/I _H , at 50 °C) | | DX-LM3-260 |
| 110 % overload (VT/I _L , at 40 °C) | | DX-LM3-370 |
| Sine filter | | |
| 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 | 245 |
| Equipment heat dissipation, current-dependent | P _{vid} | W | 3280 |
| 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

| Low-voltage industrial components (EG000017) / Frequency converter =< 1 kV (EC001857) | | | |
|--|----|-----------|--|
| 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 | 380 - 500 | |
| 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 | Α | 245 | |
| Max. output at quadratic load at rated output voltage | kW | 160 | |
| Max. output at linear load at rated output voltage | kW | 264 | |
| 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 | |
| With 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 CBA % % Supporting protocol for PROFINET CBAC 0 No Supporting protocol for SERCOS 0 No Supporting protocol for Education Fieldbus 0 No Supporting protocol for Fundation Safety Work 0 No Supporting protocol for Fundation Safety Work 0 No Supporting protocol for Safety WUS Page No No Supporting protocol for Safety WUS Page 0 No Supporting protocol for Safety WUS Page 0 No Supporting protocol for Safety WUS Page 0 No Number of HW-interfaces industrial Ethernet 0 0 Number of HW-interfaces Safety WUS Page 0 0 Number of HW-interfaces Safety WUS Page 0 0 Number of HW-interfaces page and Fundation Page | | | |
|--|---|----|-------------|
| Supporting protocol for SERCOS | Supporting protocol for PROFINET IO | | Yes |
| Supporting protocol for Foundation Fieldbus Mo Supporting protocol for EherNeVIP No Supporting protocol for AS-Interface Safety at Work No Supporting protocol for AS-Interface Safety at Work No Supporting protocol for INTERBUS-Safety No Supporting protocol for PROFISER No Supporting protocol for SafetyBUS p No Supporting protocol for SafetyBUS p No Supporting protocol for BACnet Yes Supporting protocol for HW-interfaces the bus systems Yes Number of HW-interfaces PROFINET O Number of HW-interfaces RS-422 0 Number of HW-interfaces RS-425 0 Number of HW-interfaces Safety 0 Number of HW-interfaces parallel 0 With optical interface 0 Operating | Supporting protocol for PROFINET CBA | | No |
| Supporting protocol for EtherNevIP No Supporting protocol for AS-Interface Safety at Work No Supporting protocol for INTERBUS-Safety No Supporting protocol for INTERBUS-Safety No Supporting protocol for PROFIsafe No Supporting protocol for SafetyBUS p No Supporting protocol for BAChest Yes Supporting protocol for other bus systems Yes Number of HW-interfaces industrial Ethernet Yes Number of HW-interfaces PROFINET 0 Number of HW-interfaces SA-422 0 Number of HW-interfaces RS-452 0 Number of HW-interfaces SR-458 1 Number of HW-interfaces prailel 0 Number of HW-interfaces prailel 0 Number of HW-interfaces prailel 1 Number of HW-interfaces prailel 1 Number of HW-interfaces prailel 1 With optical interface 1 With optical interface 1 With optical interface 1 With optical interface 1 Yes Quantary of protocolor (PSA) | Supporting protocol for SERCOS | | No |
| Supporting protocol for As-Interface Safety at Work No Supporting protocol for DeviceNet Safety No Supporting protocol for INTERBUS-Safety No Supporting protocol for PRDFIsafe No Supporting protocol for SafetyBUS p No Supporting protocol for BACnet Yes Supporting protocol for BACnet Yes Supporting protocol for ther bus systems Yes Number of HW-interfaces industrial Ethernet 1 Number of HW-interfaces RS-232 0 Number of HW-interfaces RS-232 0 Number of HW-interfaces RS-425 1 Number of HW-interfaces RS-485 0 Number of HW-interfaces RS-485 0 Number of HW-interfaces spatial TY 0 Number of HW-interfaces spatial 0 Yes 0 | Supporting protocol for Foundation Fieldbus | | No |
| Supporting protocol for DeviceNet Safety Mo Supporting protocol for INTERBUS-Safety Mo Supporting protocol for PROFisate Mo Supporting protocol for SAGNER Mo Supporting protocol for SAGNER Mo Supporting protocol for SAGNER Yes Supporting protocol for Other bus systems Yes Number of HW-interfaces industrial Ethernet Yes Number of HW-interfaces RS-232 0 Number of HW-interfaces RS-232 0 Number of HW-interfaces RS-425 0 Number of HW-interfaces RS-426 0 Number of HW-interfaces SHAME 0 Number of HW-interfaces SHAME 0 Number of HW-interfaces SHAME 0 Number of HW-interfaces other 0 With optical interface Yes With optical interface Yes With optical interface Yes Vial optical interface | Supporting protocol for EtherNet/IP | | No |
| Supporting protocol for INTERBUS-Safety No Supporting protocol for SafetyBUS p No Supporting protocol for SafetyBUS p Yes Supporting protocol for BACnet Yes Supporting protocol for their bus systems Yes Number of HW-interfaces industrial Ethernet Yes Number of HW-interfaces RS-422 0 Number of HW-interfaces RS-422 0 Number of HW-interfaces RS-428 1 Number of HW-interfaces RS-428 0 Number of HW-interfaces Supporting the Winterfaces RS-429 0 Number of HW-interfaces RS-429 0 Number of HW-interfaces RS-429 0 Number of HW-interfaces Support RW-interfaces Support R | Supporting protocol for AS-Interface Safety at Work | | No |
| Supporting protocol for PROFIsafe Mo Supporting protocol for SafetyBUS p Mo Supporting protocol for BACnet Me Supporting protocol for other bus systems Me Number of HW-interfaces industrial Ethernet Me Number of HW-interfaces RS-232 Me Number of HW-interfaces RS-425 Me Number of HW-interfaces RS-426 Me Number of HW-interfaces RS-485 Me Number of HW-interfaces RS-486 Me Number of HW-interfaces are lattry Me Number of HW-interfaces other Me Number of HW-interfaces other Me Number of HW-interfaces serial TTY Me Number of HW-interfaces other Me Number of HW-interfaces other Me With optical interface Me With optical interface Me Via Yes Integrated breaking resistance Me 4-quadrant operation possible Me Type of converter Me Degree of protection (IP) Me Degree of protection (NEMA) Me | Supporting protocol for DeviceNet Safety | | No |
| Supporting protocol for BACnet Yes Supporting protocol for BACnet Yes Supporting protocol for other bus systems Yes Number of HW-interfaces industrial Ethernet 1 Number of HW-interfaces RS-232 0 Number of HW-interfaces RS-428 0 Number of HW-interfaces RS-485 1 Number of HW-interfaces RS-486 1 Number of HW-interfaces Serial TTY 0 Number of HW-interfaces Serial TTY 0 Number of HW-interfaces parallel 0 Number of HW-interfaces parallel 0 Number of HW-interfaces parallel 0 Number of HW-interfaces brail Yes Number of HW-interfaces brail Yes Number of HW-interfaces parallel Yes Number of HW-interfaces brail Yes Number of HW-interfaces other Yes Number of HW-interfaces parallel Yes Number of HW-interfaces other Yes Number of HW-interfaces parallel Yes Yes Yes | Supporting protocol for INTERBUS-Safety | | No |
| Supporting protocol for BACnet Yes Supporting protocol for other bus systems Yes Number of HW-interfaces industrial Ethernet 1 Number of HW-interfaces PROFINET 2 Number of HW-interfaces RS-232 6 Number of HW-interfaces RS-428 6 Number of HW-interfaces RS-485 1 Number of HW-interfaces serial TTY 6 Number of HW-interfaces USB 0 Number of HW-interfaces used 1 Number of HW-interfaces other 6 With optical interface 7 With optical interface other 8 With optical interface 7 Ves 8 4-quadrant operation possible 7 Type of converter 1 Degree of protection (IP) 1 Degree of protection (NEMA) 1 Height mm With 10 Muth 10 Number of HW-interfaces other 1 With optical interface 1 Ves 1 4-quadrant operation | Supporting protocol for PROFIsafe | | No |
| 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 Vith optical interface Yes Integrated breaking resistance Yes 4-quadrant operation possible Yes Type of converter U converter Degree of protection (IP) U converter Degree of protection (NEMA) Yes Height Mm 1035 With 1035 | Supporting protocol for SafetyBUS p | | No |
| Number of HW-interfaces industrial Ethernet 0 0 Number of interfaces PROFINET 0 0 Number of HW-interfaces RS-232 0 0 Number of HW-interfaces RS-422 0 0 Number of HW-interfaces RS-485 0 0 Number of HW-interfaces serial TTY 0 0 Number of HW-interfaces USB 0 0 Number of HW-interfaces parallel 0 0 Number of HW-interfaces other 0 0 With polical interface 0 0 With PC connection 0 No With PC connection 0 Yes 4-quadrant operation possible 0 Yes 4-quadrant operation possible 0 Yes 5 Yes Yes 9 0 Yes 10 Yes Yes 10 Yes 10 Yes 10 Yes 10 Yes 10 Yes < | Supporting protocol for BACnet | | Yes |
| Number of interfaces RPGFINET 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) P21 Degree of protection (NEMA) 1 Height mm 1035 With the Comment of the C | Supporting protocol for other bus systems | | Yes |
| 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) IP21 Degree of protection (NEMA) IMM 1035 Height IMM 1035 Width IMM 486 | Number of HW-interfaces industrial Ethernet | | 1 |
| 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) IP21 Degree of protection (NEMA) IP21 Height mm 1035 Witth Optical interface mm 1035 | Number of interfaces PROFINET | | 0 |
| Number of HW-interfaces RS-485 Number of HW-interfaces serial TTY Number of HW-interfaces USB Number of HW-interfaces USB Number of HW-interfaces parallel Number of HW-interfaces other No Note the Connection Nith PC connection Nith P | Number of HW-interfaces RS-232 | | 0 |
| Number of HW-interfaces serial TTY Number of HW-interfaces USB Number of HW-interfaces parallel Number of HW-interfaces other Number of HW-interfaces other Number of HW-interfaces other Number of HW-interfaces other No Vith optical interface With PC connection Nith PC connection Nith grated breaking resistance 4-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height Mm M Na Ves 10 10 10 10 10 10 10 10 10 1 | Number of HW-interfaces RS-422 | | 0 |
| Number of HW-interfaces USB Number of HW-interfaces parallel Number of HW-interfaces other No No No Number of HW-interfaces other No No No Number of HW-interfaces other No No No Number of HW-interfaces other No No No Number of HW-interfaces other No | Number of HW-interfaces RS-485 | | 1 |
| Number of HW-interfaces parallel Number of HW-interfaces other With optical interface With PC connection With PC connection Integrated breaking resistance 4-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height With PC connection Mind PC Connec | Number of HW-interfaces serial TTY | | 0 |
| Number of HW-interfaces other With optical interface With PC connection With PC connection Integrated breaking resistance 4-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height Width Midth I 1 I 2 I 3 I 3 I 3 I 3 I 3 I 3 I 3 | Number of HW-interfaces USB | | 0 |
| With optical interface With PC connection With PC connection Integrated breaking resistance 4-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height With optical interface No Yes Ves U converter IP21 IP21 IP21 IP35 IP35 IP36 IP36 IP36 IP36 IP36 IP36 IP36 IP36 | Number of HW-interfaces parallel | | 0 |
| With PC connection Integrated breaking resistance 4-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height Width Width Yes Yes Ves Ves Ves Ves Ves Ves | Number of HW-interfaces other | | 1 |
| Integrated breaking resistance 4-quadrant operation possible Type of converter Degree of protection (NEMA) Height Width | With optical interface | | No |
| 4-quadrant operation possible Type of converter Degree of protection (IP) Degree of protection (NEMA) Height Width | With PC connection | | Yes |
| Type of converter U converter Degree of protection (IP) IP21 Degree of protection (NEMA) I 1 Height Midth | Integrated breaking resistance | | Yes |
| Degree of protection (IP) Degree of protection (NEMA) Height Width IP21 I 1 I 2 I 3 I 3 I 3 I 3 I 3 I 3 I 3 | 4-quadrant operation possible | | Yes |
| Degree of protection (NEMA) Height Width 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 | Type of converter | | U converter |
| Height mm 1035 Width mm 486 | Degree of protection (IP) | | IP21 |
| Width mm 486 | Degree of protection (NEMA) | | 1 |
| | Height | mm | 1035 |
| Depth mm 371 | Width | mm | 486 |
| | Depth | mm | 371 |

Approvals

| UL508C, CSA-C22.2 No. 274-13; IEC/EN61800-3; IEC/EN61800-5; CE marking |
|--|
| E134360 |
| NMMS, NMMS7 |
| UL report applies to both US and Canada |
| UL listed, certified by UL for use in Canada |
| Branch circuits |
| 3~500 V AC IEC: TN-S UL/CSA: 'Y' (Solidly Grounded Wey) |
| IP21/NEMA1 |
| |

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 |