

## **Product Details**

## **DC Gearmotor** GM8212-41

Note: Product photo is for illustrative purposes. Please refer to Engineering Drawing for specifics.



Motor Series         Brush Commutated DC Gearmotors           Price (USD)           Frame Size (Mounting Face) (in)         1.37           Motor Frame Size (in)         1.175           Gear Frame Size (in)         1.370           Overall Body Length (in)         2.977           Supply Voltage (V)         19.1           Continuous Output Torque (oz-in)         100           Output Speed @ Cont. Torque (RPM)         21           Current @ Cont. Torque (A)         0.68           Continuous Output Power (W)         1.6           No Load Current (A)         0.21           No Load Output Speed (RPM)         38.8           Peak Current (A)         1.8           Peak Output Torque (oz-in)         530           Motor Constant (oz-in/\(\frame{M}\))         0.929           Motor Torque Constant (oz-in/\(\frame{M}\))         3.06           Motor Voltage Constant (V/krpm)         2.26           Terminal Resistance (Ohms)         10.8           Inductance (mH)         5.4           Coulomb Friction Torque (oz-in)         0.35           Viscous Damping Factor (oz-in/krpm)         0.0087           Electrical Time Constant (ms)         0.5           Mechanical Time Constant (ms)         21		
Frame Size (Mounting Face) (in)         1.37           Motor Frame Size (in)         1.175           Gear Frame Size (in)         1.370           Overall Body Length (in)         2.977           Supply Voltage (V)         19.1           Continuous Output Torque (oz-in)         100           Output Speed @ Cont. Torque (RPM)         21           Current @ Cont. Torque (A)         0.68           Continuous Output Power (W)         1.6           No Load Output Speed (RPM)         38.8           Peak Current (A)         1.8           Motor Output Goz-in)         530           Motor Torque (oz-in)         0.929           Motor Voltage Constant (V/krpm)         2.26           Terminal Resistance (Ohms)         10.8           Inductance (mH)         5.4           Coulomb Friction Torque (oz-in)         0.35           Viscous Damping Factor (oz-in/krpm)         0.0087           Electrical Time Constant (ms)         21           Thermal Resistance (°C/Watt)         24	Motor Series	
Motor Frame Size (in)	Price (USD)	
Cear Frame Size (in)	Frame Size (Mounting Face) (in)	1.37
Overall Body Length (in)         2.977           Supply Voltage (V)         19.1           Continuous Output Torque (oz-in)         100           Output Speed @ Cont. Torque (RPM)         21           Current @ Cont. Torque (A)         0.68           Continuous Output Power (W)         1.6           No Load Current (A)         0.21           No Load Output Speed (RPM)         38.8           Peak Current (A)         1.8           Peak Output Torque (oz-in)         530           Motor Constant (oz-in/W)         0.929           Motor Torque Constant (v/krpm)         2.26           Terminal Resistance (Ohms)         10.8           Inductance (mH)         5.4           Coulomb Friction Torque (oz-in)         0.35           Viscous Damping Factor (oz-in/krpm)         0.0087           Electrical Time Constant (ms)         0.5           Mechanical Time Constant (ms)         21           Thermal Time Constant (min)         7.8           Thermal Resistance (°C/Watt)         24           Maximum Winding Temperature (°C)         155           Rotor Inertia (oz-in-s2)         0.00013           Output Bearing         Sleeve           Gear Series         G35A           Gear Ratio	Motor Frame Size (in)	1.175
Supply Voltage (V)	Gear Frame Size (in)	1.370
Continuous Output Torque (oz-in) Output Speed @ Cont. Torque (RPM) Current @ Cont. Torque (A) Continuous Output Power (W) No Load Current (A) No Load Current (A) No Load Output Speed (RPM) Peak Current (A) Peak Output Torque (oz-in) Motor Constant (oz-in/NW) Motor Torque Constant (v/krpm) Continuous Perecurrent (V/krpm) Coulomb Friction Torque (oz-in) Viscous Damping Factor (oz-in/krpm) Discous Damping Factor (oz-in/krpm) Clectrical Time Constant (ms) Mechanical Time Constant (ms) Thermal Resistance (°C/Watt) Maximum Winding Temperature (°C) Rotor Inertia (oz-in-s2) Output Bearing Gear Ratio (xx.x:1) Gear Type Gear Maximum Torque (oz-in) Encoder Resolution (CPR) Encoder Note Correct (Constant (CPR) Encoder Note Constant (CPR) Const	Overall Body Length (in)	2.977
Output Speed @ Cont. Torque (RPM)         21           Current @ Cont. Torque (A)         0.68           Continuous Output Power (W)         1.6           No Load Current (A)         0.21           No Load Output Speed (RPM)         38.8           Peak Current (A)         1.8           Peak Output Torque (oz-in)         530           Motor Constant (oz-in/AW)         0.929           Motor Torque Constant (V/krpm)         2.26           Terminal Resistance (Ohms)         10.8           Inductance (mH)         5.4           Coulomb Friction Torque (oz-in)         0.35           Viscous Damping Factor (oz-in/krpm)         0.0087           Electrical Time Constant (ms)         0.5           Mechanical Time Constant (ms)         21           Thermal Resistance (°C/Watt)         24           Maximum Winding Temperature (°C)         155           Rotor Inertia (oz-in-s2)         0.00013           Output Bearing         Sleeve           Gear Series         G35A           Gear Ratio (xx.x:1)         187           Gear Type         standard spur           Gear Maximum Torque (oz-in)         100           Encoder Resolution (CPR)         n/a           Encoder Resolution (CPR)	Supply Voltage (V)	19.1
Current @ Cont. Torque (A) Continuous Output Power (W) 1.6 No Load Current (A) No Load Current (A) 1.8 Peak Current (A) 1.8 Peak Current (A) 1.8 Peak Output Torque (oz-in) Motor Constant (oz-in/NW) Motor Torque Constant (oz-in/A) 3.06 Motor Voltage Constant (V/krpm) 2.26 Terminal Resistance (Ohms) 10.8 Inductance (mH) 5.4 Coulomb Friction Torque (oz-in) Viscous Damping Factor (oz-in/krpm) 2.1 Electrical Time Constant (ms) Mechanical Time Constant (ms) 2.1 Thermal Resistance (°C/Watt) Maximum Winding Temperature (°C) Rotor Inertia (oz-in-s2) 0.00013 Output Bearing Gear Series Gas Ratio (xx.x:1) 187 Gear Type Gear Maximum Torque (oz-in) Encoder Output Channels Neight (Mass) (oz) Voltage Note  Torque Warning  Torque Warning  0.68  0.21  1.8  1.8  1.8  1.8  1.8  1.8  1.8	Continuous Output Torque (oz-in)	100
Continuous Output Power (W)  No Load Current (A)  No Load Output Speed (RPM)  Peak Current (A)  Peak Current (A)  Peak Current (A)  Notor Constant (oz-in/\W)  Motor Torque Constant (oz-in/A)  Motor Voltage Constant (V/krpm)  Inductance (mH)  Coulomb Friction Torque (oz-in)  Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  Ga5AA  Gear Ratio (xx.x:1)  Gear Type  Gear Maximum Torque (oz-in)  Encoder Resolution (CPR)  Encoder Note  Warning: potential peak torque at rated voltage exceeds gearbox torque  Warning: potential peak torque at rated voltage exceeds gearbox torque  Torque Warning  Torque Warning  Torque Warning  188.  1.6  1.8  1.8  1.8  1.8  1.8  1.	Output Speed @ Cont. Torque (RPM)	21
No Load Current (A)  No Load Output Speed (RPM)  Reak Current (A)  Peak Current (A)  Peak Output Torque (oz-in)  Motor Constant (oz-in/\W)  Motor Torque Constant (oz-in/A)  Motor Voltage Constant (V/krpm)  Terminal Resistance (Ohms)  Inductance (mH)  Coulomb Friction Torque (oz-in)  Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Thermal Time Constant (ms)  Thermal Time Constant (min)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  Ga35A  Gear Ratio (xx.x:1)  Gear Type  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Torque Warning  Torque Warning  Torque Warning  188  188  188  188  188  188  188  1	Current @ Cont. Torque (A)	0.68
No Load Output Speed (RPM)  Peak Current (A)  Peak Current (A)  Peak Output Torque (oz-in)  Motor Constant (oz-in/\W)  Motor Torque Constant (oz-in/A)  Motor Voltage Constant (V/krpm)  Ze6  Terminal Resistance (Ohms)  Inductance (mH)  Success Access Acce	Continuous Output Power (W)	1.6
Peak Current (A)  Peak Output Torque (oz-in)  Motor Constant (oz-in/√W)  0.929  Motor Torque Constant (oz-in/A)  Motor Voltage Constant (V/krpm)  10.8  Inductance (mH)  Coulomb Friction Torque (oz-in)  Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Time Constant (min)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  GasA  Gear Ratio (xx.x:1)  Gear Type  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Resolution (CPR)  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Torque Warning  Torque Warning  1.8  1.8  1.8  1.8  1.8  1.8  1.8  1.	No Load Current (A)	0.21
Peak Output Torque (oz-in)  Motor Constant (oz-in/√W)  Motor Torque Constant (oz-in/A)  Motor Voltage Constant (V/krpm)  2.26  Terminal Resistance (Ohms)  Inductance (mH)  Coulomb Friction Torque (oz-in)  Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Time Constant (min)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  GasAA  Gear Ratio (xx.x:1)  Gear Type  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  Encoder Resolution (CPR)  Encoder Output Channels  Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak  Torque Warning	No Load Output Speed (RPM)	38.8
Motor Constant (oz-in/√W)       0.929         Motor Torque Constant (oz-in/A)       3.06         Motor Voltage Constant (V/krpm)       2.26         Terminal Resistance (Ohms)       10.8         Inductance (mH)       5.4         Coulomb Friction Torque (oz-in)       0.35         Viscous Damping Factor (oz-in/krpm)       0.0087         Electrical Time Constant (ms)       0.5         Mechanical Time Constant (ms)       21         Thermal Time Constant (min)       7.8         Thermal Resistance (°C/Watt)       24         Maximum Winding Temperature (°C)       155         Rotor Inertia (oz-in-s2)       0.00013         Output Bearing       Sleeve         Gear Series       G35A         Gear Ratio (xx.x:1)       187         Gear Type       standard spur         Gear Efficiency       0.59         Gear Maximum Torque (oz-in)       100         Encoder Series       n/a         Encoder Resolution (CPR)       n/a         Encoder Output Channels       n/a         Weight (Mass) (oz)       7.3         Voltage Note       n/a         Torque Warning       braken to limit the peak	Peak Current (A)	1.8
Motor Torque Constant (oz-in/A)  Motor Voltage Constant (V/krpm)  2.26  Terminal Resistance (Ohms)  Inductance (mH)  Coulomb Friction Torque (oz-in)  Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Time Constant (min)  Tas  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  Ga5A  Gear Ratio (xx.x:1)  Gear Type  Standard spur  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  In/a  Encoder Resolution (CPR)  Encoder Output Channels  Warning: potential peak torque at rated voltage exceeds gearbox torque  Torque Warning  Torque Warning	Peak Output Torque (oz-in)	530
Motor Voltage Constant (V/krpm)  Terminal Resistance (Ohms)  Inductance (mH)  Coulomb Friction Torque (oz-in)  Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Time Constant (min)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  GasA  Gear Ratio (xx.x:1)  Gear Type  Standard spur  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  n/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  D.226  10.8  10.8  10.8  10.8  10.8  10.8  10.8  10.8  10.9  10.0  10	Motor Constant (oz-in/√W)	0.929
Terminal Resistance (Ohms) Inductance (mH)  Coulomb Friction Torque (oz-in) Viscous Damping Factor (oz-in/krpm) Electrical Time Constant (ms) Mechanical Time Constant (ms) Thermal Time Constant (min) Thermal Resistance (°C/Watt) Maximum Winding Temperature (°C) Rotor Inertia (oz-in-s2) Output Bearing Gear Series GasA Gear Ratio (xx.x:1) Gear Type Gear Efficiency Gear Maximum Torque (oz-in) Encoder Series Encoder Resolution (CPR) Encoder Output Channels Weight (Mass) (oz) Voltage Note  Torque Warning  10.08  10.00017  10.00013  10.59  10.59  10.59  10.59  10.59  10.69  10.69  10.73  10.73  10.73  10.73  10.74  10.75  10.75  10.76  10.76  10.76  10.77  1	Motor Torque Constant (oz-in/A)	3.06
Inductance (mH)  Coulomb Friction Torque (oz-in)  Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Time Constant (min)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  Gash  Gear Ratio (xx.x:1)  Gear Type  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  Torque Warning  O.55  5.4  0.00087  21  155  0.00013	Motor Voltage Constant (V/krpm)	2.26
Coulomb Friction Torque (oz-in)  Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Time Constant (min)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  Gash  Gear Ratio (xx.x:1)  Gear Type  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  In/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  O.55  O.00013  O.000	Terminal Resistance (Ohms)	10.8
Viscous Damping Factor (oz-in/krpm)  Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Time Constant (min)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  GasA  Gear Ratio (xx.x:1)  Gear Type  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  In/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  O.50  O.00013  O.	Inductance (mH)	5.4
Electrical Time Constant (ms)  Mechanical Time Constant (ms)  Thermal Time Constant (min)  Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  GasSA  Gear Ratio (xx.x:1)  187  Gear Type  standard spur  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  n/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  No.5  21  155  0.00013  0.00013  0.00013  187  635A  635A  635A  648  649  649  640  640  640  640  640  640	Coulomb Friction Torque (oz-in)	0.35
Mechanical Time Constant (ms) Thermal Time Constant (min) Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing Gear Series GasSA Gear Ratio (xx.x:1)  Gear Type standard spur  Gear Efficiency Gear Maximum Torque (oz-in) Encoder Series Encoder Resolution (CPR) Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  21  155  24  187  24  187  28  187  29  39  48  48  48  49  49  40  40  40  40  40  40  40  40	Viscous Damping Factor (oz-in/krpm)	0.0087
Thermal Time Constant (min) Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C) Rotor Inertia (oz-in-s2) Output Bearing Gear Series GasSA Gear Ratio (xx.x:1) 187 Gear Type standard spur Gear Efficiency Gear Maximum Torque (oz-in) Encoder Series In/a Encoder Resolution (CPR) Encoder Output Channels Weight (Mass) (oz) Voltage Note  Torque Warning  7.8 155  24  155  0.00013  0.00013  187  635A  Gear Series G35A  Gear Type Standard spur 100 100 100 100 100 100 100 100 100 10	Electrical Time Constant (ms)	0.5
Thermal Resistance (°C/Watt)  Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  GasSA  Gear Ratio (xx.x:1)  Gear Type  Standard spur  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  n/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  Torque Warning	Mechanical Time Constant (ms)	21
Maximum Winding Temperature (°C)  Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  GasSA  Gear Ratio (xx.x:1)  187  Gear Type  standard spur  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  n/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  155  0.00013  107  187  187  187  187  187  189  190  100  100  100  100  100  100	Thermal Time Constant (min)	7.8
Rotor Inertia (oz-in-s2)  Output Bearing  Gear Series  GasSA  Gear Ratio (xx.x:1)  187  Gear Type  standard spur  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  n/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  0.00013	Thermal Resistance (°C/Watt)	24
Output Bearing Gear Series GasSA Gear Ratio (xx.x:1) 187 Gear Type standard spur Gear Efficiency 0.59 Gear Maximum Torque (oz-in) 100 Encoder Series n/a Encoder Resolution (CPR) n/a Encoder Output Channels Note Weight (Mass) (oz) Voltage Note  Torque Warning Sleeve GasA  Standard spur  0.59  Note Note Note Note Note Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Maximum Winding Temperature (°C)	155
Gear Series G35A Gear Ratio (xx.x:1) 187 Gear Type standard spur Gear Efficiency 0.59 Gear Maximum Torque (oz-in) 100 Encoder Series n/a Encoder Resolution (CPR) n/a Encoder Output Channels n/a Weight (Mass) (oz) 7.3 Voltage Note Warning: potential peak torque at rated voltage exceeds gearbox torque Torque Warning capacity. Care must be taken to limit the peak	Rotor Inertia (oz-in-s2)	0.00013
Gear Ratio (xx.x:1)  Gear Type  Gear Efficiency  Gear Maximum Torque (oz-in)  Encoder Series  In/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  187  187  187  187  108  100  100  100	Output Bearing	Sleeve
Gear Type standard spur Gear Efficiency 0.59 Gear Maximum Torque (oz-in) 100 Encoder Series n/a Encoder Resolution (CPR) n/a Encoder Output Channels n/a Weight (Mass) (oz) 7.3 Voltage Note Narning: potential peak torque at rated voltage exceeds gearbox torque Torque Warning the peak to limit the peak	Gear Series	G35A
Gear Efficiency 0.59 Gear Maximum Torque (oz-in) 100 Encoder Series n/a Encoder Resolution (CPR) n/a Encoder Output Channels n/a Weight (Mass) (oz) 7.3 Voltage Note Warning: potential peak torque at rated voltage exceeds gearbox torque Torque Warning the peak	Gear Ratio (xx.x:1)	187
Gear Maximum Torque (oz-in)  Encoder Series  n/a  Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  Torque Warning  100  n/a  7.3  Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Gear Type	standard spur
Encoder Series n/a  Encoder Resolution (CPR) n/a  Encoder Output Channels n/a  Weight (Mass) (oz) 7.3  Voltage Note n/a  Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Gear Efficiency	0.59
Encoder Resolution (CPR)  Encoder Output Channels  Weight (Mass) (oz)  Voltage Note  N/a  Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Gear Maximum Torque (oz-in)	100
Encoder Output Channels  Weight (Mass) (oz)  7.3  Voltage Note  n/a  Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Encoder Series	n/a
Weight (Mass) (oz)  7.3  Voltage Note  n/a  Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Encoder Resolution (CPR)	n/a
Voltage Note  n/a  Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Encoder Output Channels	n/a
Warning: potential peak torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Weight (Mass) (oz)	7.3
torque at rated voltage exceeds gearbox torque capacity. Care must be taken to limit the peak	Voltage Note	n/a
exceed the gearbox rating	Torque Warning	exceeds gearbox torque capacity. Care must be taken to limit the peak torque so as not to exceed the gearbox