

# Explore a World of Continuous Efficiency



**PowerXL variable frequency drives**  
**The DC1 and DA1 series**



*Powering Business Worldwide*

# Eaton – the Right Partner for your Drive Technology.

From starting motors in simple machines to speed control for complex applications, Eaton has the right drive control technology for your needs. The PowerXL™ family not only offers optimized device series, but also a comprehensive product range designed for energyefficient use in a broad variety of applications.



## DB1 Cold Plate Frequency Drives

The PowerXL DB1 brings together all functions of the established DC1 series while conforming to the smallest IEC-compatible size. Thanks to the cold plate technology, this powerful device is the ideal solution for customers who want to integrate frequency drives into existing systems that lack the space for heat sinks or proper ventilation.



## DE1 Variable Speed Starters

Frequency-controlled DE1 variable speed starters combine ease of use and maximum reliability for your equipment. With their variable motor speed during forward and reversing starting, DE1 devices close the gap between conventional motor starters and variable frequency drives while combining all the advantages of both in a single unit!



## DC1 Variable Frequency Drives

With their compact design and IP20 and IP66 degrees of protection, DC1 variable frequency drives are particularly well-suited for simple applications involving pumps, fans, or material handling systems. They can be quickly and easily commissioned even when using high-efficiency (IE3/IE4) motors, resulting in tangible savings.



## DA1 Variable Frequency Drives

With a large starting torque in their powerful vector control mode and safe operating states with STO functionality, DA1 variable frequency drives make a compelling case when it comes to demanding applications. The comprehensive communication protocols and the option of implementing customized modifications with the integrated Function Block Editor ensure that DA1 devices provide maximum versatility for the machine building industry.



## DG1 Variable Frequency Drives

"The Next Generation" in the PowerXL family is the DG1 variable frequency drive series. DG1 feature a patented energysaving algorithm, high short-circuit ratings, and a heavy-duty design that together guarantee maximum efficiency, safety, and reliability. The series' enormous versatility when it comes to control, communication, and even installation in control panels makes it the perfect match for the widest spectrum of standard applications.



## 9000X Variable Frequency Drives

The 9000X variable frequency drives are ideal for sophisticated applications and comprise two series: the SVX variable frequency drives are suitable for simple and complex motor controls within industrial machine building applications; the multi-purpose SPX variable frequency drives are the perfect choice for applications requiring high power and high performance.

Application	DB1	DE1	DC1	DA1	DG1	SVX	SPX	LCX	SPI/SPA
	PowerXL					9000X			
Single-phase supply	✓	✓	✓	✓	✓	-	-	-	-
Single-phase AC motors	-	-	115 V / 230 V	-	-	-	-	-	-
Performance range: 230 V [kW]	1.5	2.2	11	75	90	90	90	-	-
400 V [kW]	4	7.5	22	250	630	160	1,100	2,150	1,500
575 V [kW]	-	-	-	90	630	132	1,800	2,300	1,800
690 V [kW]	-	-	-	-	-	200	2,000	2,800	2,000
OEM drive	•	•	•	•	•				
Cold Plate	•								
HVAC			•		•				
Universal drive					•	•			
High-performance drive				•			•	•	•
Water cooling	-	-	-	-	-	-	-	•	-
Regenerative	-	-	-	-	-	-	-	-	•

## Energy efficiency in focus

With the adoption of ErP Directive 2009/125/EC, it has become more important than ever for companies to reduce their energy consumption even further – especially when it comes to electrical drive applications. This is where Eaton variable speed starters and variable frequency drives are useful. By using these devices for applications with variable speeds and loads subject to significant changes, you can increase the energy efficiency of your applications and achieve significant long-term savings.

## Electronics and hydraulics combined

When it comes to hydraulic applications that focus on controlling flow rates, a combination of electrical and mechanical components is usually used, with compressors, pumps, and valves being some of the most common PowerXL variable frequency drives are ideal for

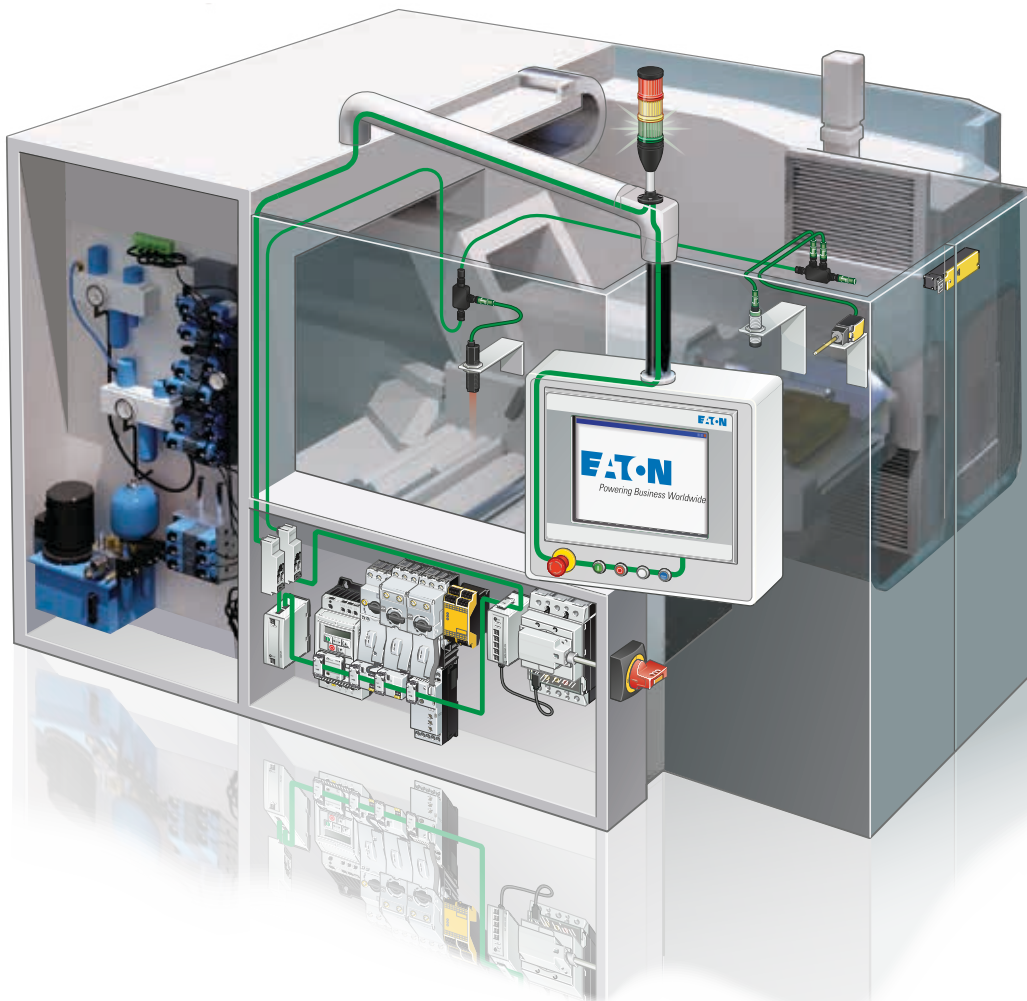
this type of application, as their variable speed drive capabilities make it possible to achieve significant energy savings.

With its hydraulic components Eaton is one of the preferred suppliers worldwide for hydraulic solutions in mobile and industrial applications.

<http://www.eaton.com/Eaton/ProductsServices/Hydraulics/index.htm>

## SmartWire-DT for drives engineering

Our intelligent connection and communications technology SmartWire-DT is gaining popularity and is successfully establishing in all segments. SmartWire-DT helps to identify and optimize operating sequences in machinery and control panel construction. Our product portfolio – from motor starters through soft starters to variable frequency drives – has continued to expand to the present day.



Download White Paper:  
<http://electricalsector.eaton.com/content/MOEMWhitepaperEN>



DX-NET-SWD3  
Plug-in module for DE1 variable speed starters and DC1 variable frequency drives.



For CAD data for our products see on [www.eaton.eu/cad](http://www.eaton.eu/cad)  
For your local support: [www.eaton.eu/electrical/customersupport](http://www.eaton.eu/electrical/customersupport)



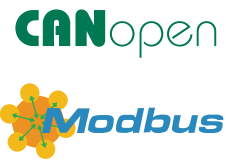
Download Drives Engineering catalog:  
[www.eaton.eu/catalog](http://www.eaton.eu/catalog)

# PowerXL – Rugged on the Outside, Efficient on the Inside.

PowerXL DC1 and DA1 variable frequency drives make a compelling case with their heavy-duty, compact design. Moreover, an additional conformal coating provides for longer lifespans and enhanced protection from soiling and moisture. Standardized keypads, parameter structures, interfaces, and connection terminals all characterize the system-based approach behind these series.

Powerful **performance** for any application:  
**DC1, DA1:** 150% torque during overload  
**DC1:** 175 % Torque during start  
**DA1:** 200% torque during start and at zero speed, with vector control

DC1 and DA1 come with CANopen and Modbus onboard as standard:



Concise overview of start parameters with the integrated **information card**

**Easy commissioning** with only 14 basic parameters

**Simple mounting** with DIN rail mounting

**Savings in the control panel**

No derating even at 50 °C, allowing side-by-side mounting in compact control panels without fan

**Clear navigation** through self-explanatory menu structure



**Cohesiveness** with connection to SmartWire-DT

**Series production** made easy, thanks to parameter copy function through communication stick



**Fast installation** through plug-in terminal strip

## The right variable frequency drive for any requirement – DC1 and DA1 with unbeatable features

PowerXL variable frequency drives are fully short-circuit protected, and the conformal coating on their PCBs ensures that they are wellprotected when used in harsh environments. In fact, these are just two of the many reasons behind the devices' reputation as solidly heavyduty solutions.

Sensorless vector control makes it easier to operate the devices. In highly dynamic applications, this translates into large torques when starting and outstanding speed control characteristics. On top of this, both the DC1 and DA1 series are 'IE4-ready' and enable users to efficiently and reliably control all types of motors.

With a high IP66/NEMA 4x degree of protection, DC1 and DA1 variable frequency drives can be used in areas where they will be exposed to moisture and/or splash water. Moreover, they can be installed directly on machines.



### Convincing technology

In machinery construction and in conveying and building services engineering motors often drive pumps, fans, conveyors, cranes, winding machines, compressors or elevators. This calls for simple, user-friendly and energy-efficient technology. The new PowerXL variable frequency drives DC1 and DA1 have been specially designed for this kind of application and excel with their rugged design, availability and universal functionality.

### Rugged design

All devices unfold their full performance at an ambient temperature of up to 50 °C (IP20) and feature a short-circuit proof output. Fans with rolling bearings and an exceptionally long service life increase

reliability. The rugged design is also reflected in the devices' degree of protection: Both device series are available for ratings up 7.5 kW and with degree of protection IP66 resp. the American standard NEMA 4x.

### Simplifying technology

With their self-explanatory keys to part numbers, auto-tune function, convenient parameterization (only 14 basic parameters) and fast engineering and commissioning these devices help minimize planning, installation and technical support costs.

The PowerXL variable frequency drives can be programmed with keypad and LED or OLED (multi-language display) and from a PC. With a Bluetooth PC stick parameter settings can be quickly transferred to other devices.



The information card in each device provides a quick overview of basic parameters and control terminals.



With the communication stick you can simply and quickly copy all parameters from one variable frequency drive to another.

## Protected against dust and splashing water

DC1 and DA1 variable frequency drives series with motor ratings of up to 7.5 kW are also available with an IP66/NEMA 4x degree of protection. This means that the drives can be used in areas with moisture, dust, or contaminants without hesitation.

The water-tight ABS housing and the corrosion-resistant heat sink make it possible to clean the units with pressure washers, making them ideal for use in landscaping and agricultural applications,

in the food industry, in concrete and cement equipment, and in drive-through and selfservice car washes.

Protected from adverse environmental conditions, DC1 and DA1 devices (IP66/NEMA 4X) can be installed directly at the processing location. With an integrated setpoint potentiometer, selector switch, and main switch, these versions can be controlled directly at the point of use.



The plug-in control signal terminals on DC1 and DA1 devices reduce installation costs and make maintenance and servicing much easier.

## Variable frequency drives for all motors up to IE4

IEC 60034-30: 2008 distinguishes between the following efficiency classes when it comes to low-voltage three-phase asynchronous motors:

- IE1 (standard efficiency)
- IE2 (high efficiency)
- IE3 (premium efficiency)
- IE4 (super premium efficiency)

Within this context, IE4 motors are energysaving motors and feature the

highest efficiency out of all four classes. Accordingly, Eaton has ensured that its PowerXL variable frequency drives are suitable for use with the corresponding motors:

- standard induction motors,
- three-phase asynchronous motors,
- permanent magnet motors (PMM),
- brushless DC motors (BLDC),
- synchronous reluctance motors (SyncRM).

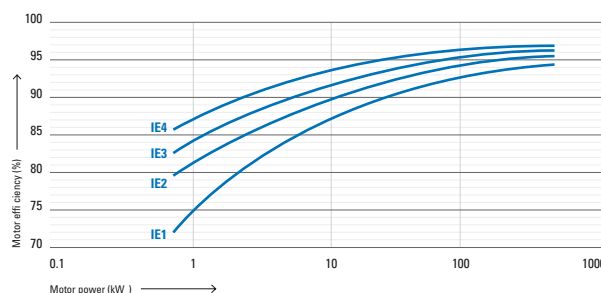


Fig. 1: Efficiency curves (IE code) for standard asynchronous motors, valid worldwide, Source: IEC 60034-30



Up to 63 devices can be accessed through a keypad mounted in the control panel door.

# DC1 – the Ideal Solution for Conventional Applications.

The DC1 is Eaton's compact variable frequency drives. Simple to mount and install, the DC1 is ideal for fans, pumps and conveyors. Additional parameters and functionalities can be enabled to master more demanding applications with highly efficient IE4-motors.



Standard applications such as pumps, conveyor belts and fans can be implemented easily and quickly by simply configuring the basic parameters.



### Perfect adaptability

DC1 devices can be used to drive IE2, IE3, and high-efficiency IE4 motors. Their sensorless vector control is suitable for all motor types (induction, permanent magnet, brushless DC; and synchronous reluctance motors). DC1 devices can also be used to drive single-phase motors (AC and shaded-pole motors) with ratings of up to 1.1 kW. A built-in PI controller can be used externally, allowing a control circuit to be set up, for example by connecting sensors for flow or pressure control to the device's 0-10 V analog input. The available 'firemode' is ideal for HVAC applications, making it possible to remove smoke from buildings in the event of a fire.

### Flexible expansion capability

All models come with a 7-digital LED display assembly and a keypad are optionally available with a built-in EMC filter or braking transistor.

### Control methods: Voltage/frequency (V/f) control and sensorless vector control (SLV)

part no.	Input voltage	Output voltage	Assigned motor rating	Degrees of protection	Note
DC1-12...	1~ 230 V	3~ 230 V	0,37 – 4 kW	IP20, IP66	Three-phase motors
DC1-32...	3~ 230 V	3~ 230 V	0,37 – 11 kW	IP20, IP66	Three-phase motors
DC1-34...	3~ 400 V	3~ 400 V	0,75 – 22 kW	IP20, IP66*	Three-phase motors
DC1-1D...	1~ 115 V	3~ 230 V	0,37 – 1,1 kW	IP20, IP66	Three-phase motors, voltage doubler
DC1-S2...	1~ 230 V	1~ 230 V	0,37 – 1,1 kW	IP20, IP66	AC motors
DC1-S1...	1~ 115 V	1~ 115 V	0,37 – 0,55 kW	IP20, IP66	AC motors

\* to 75kW

Should the variable frequency drives basic equipment level not be sufficient, it can be easily extended with expansion modules, for example with additional relay outputs.

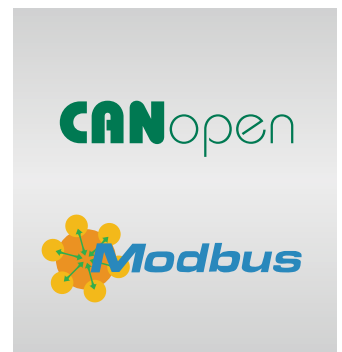
### Universal application

In addition to the protection class IP20 up to 22 kW devices with a high degree of protection (IP66) for up to 7.5 kW for remote applications are available. With mains voltages of 115 V, 230 V and 400 V and the required CE, UL, Ukr SEPRO, EAC and c-Tick approvals the DC1 is a true global market product.

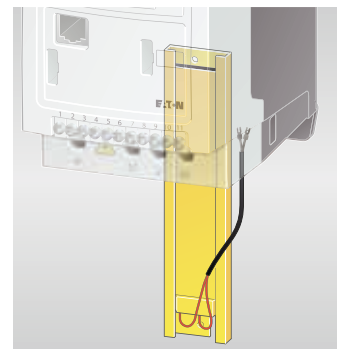
Variable frequency drives DC1 is also fully equipped for communications, featuring a CANopen and Modbus RTU interface as standard and – in conjunction with the SWD module – with SmartWire-DT capability.



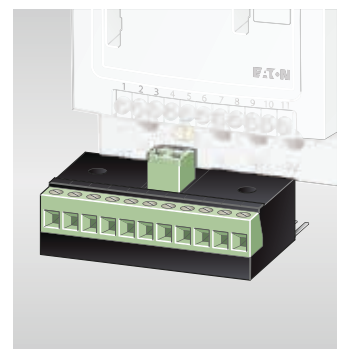
Ethernet/IP module enables expansion of communication.



The DC1 has CANopen and Modbus RTU onboard as standard



A braking resistor can be built into the enclosure.



Retrofit relay extensions optionally available

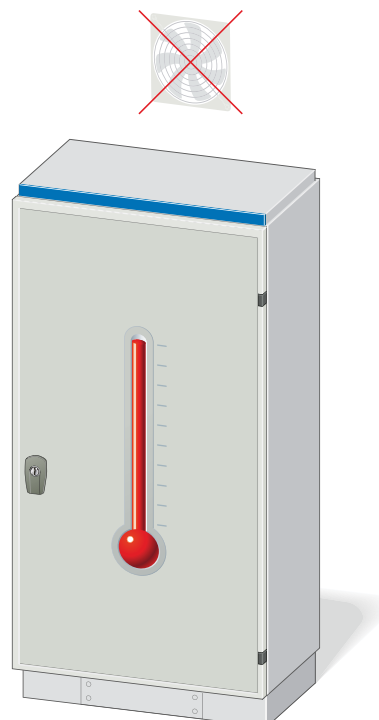
## No problems at 50 °C

All IP20 devices of series DC1 and DA1 support an ambient temperature of 50 °C without needing derating, i.e. the variable frequency drives can be operated at the device's full rated current.

#### Advantages:

- Smaller control panel possible
- No added costs for additional ventilation

In addition side-by-side mounting of the devices allows an optimized space utilization in the control panel.



# DA1 – The Multi-talent for Demanding Drives.

DA1 variable frequency drives are the perfect solution for demanding, speed-dependent and torque-dependent applications. Their wide performance range of up to 250 kW, together with their compact dimensions and high level of functionality, are sure to leave a lasting impression.



With local controls



Plenty of performance even for demanding lifting applications.

With their DNV classification society approval, DA1 units are the perfect drive for equipment such as ship winches.

For Emergency Stop functionality the DA1 has the STO function built in.





## Full range of features

The DA1 series is equipped for every application as standard, supports the Modbus RTU and CANopen protocols and features a built-in EMC filter, braking transistor and a performance range up to 250 kW.

In addition to sensorless vector control (SLV) the motor can be operated at 150% in rated operation and at 200% overload at startup.

Ingress-protected to IP66 the DA1 is ideally suited for remote applications outside the control panel.

## Ready for all eventualities

With the PLC functionality of the drivesConnect parameterization software you can create your own logic links, for example with time

dependencies, to generate your own applications. A comprehensive range of expansions as well as additional inputs and outputs (analog and digital) can be added to the devices.

With the Safe Torque Off (STO) function the DA1 provides the most basic drive-integrated safety function, keeping the motor torque-free and preventing inadvertent starting.

## The communications genius

A range of field bus modules for the DA1 provide connectivity using Ethernet-based protocols (PROFINET, Ethernet/IP, EtherCAT, Modbus TCP, BACnet IP), the widely-used PROFIBUS or – for the North American market – DeviceNet. With an SWD module, the variable frequency drives can be connected to SmartWire-DT.

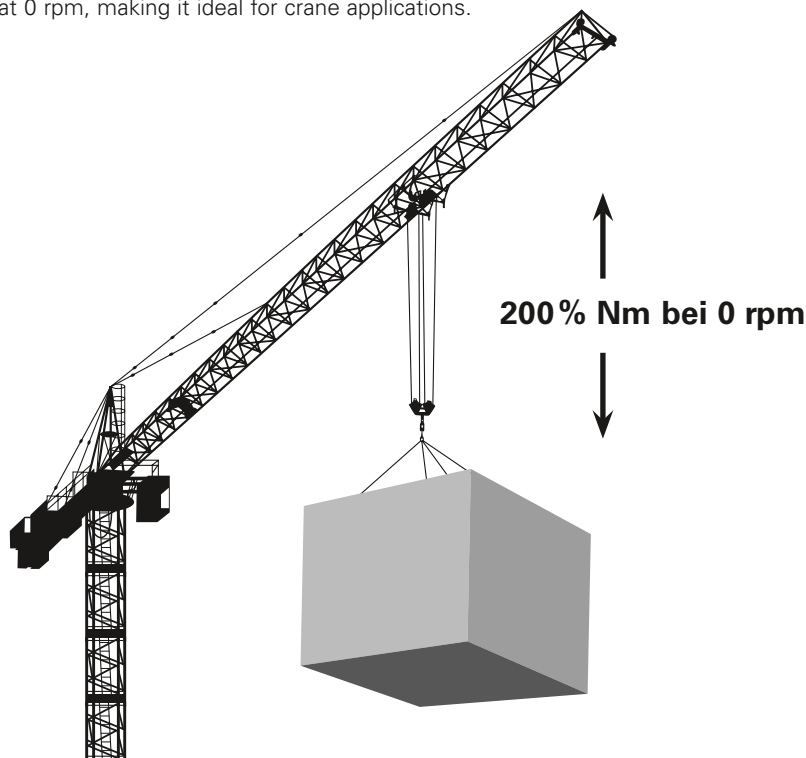
## Control methods: Voltage/frequency (V/f) control as well as sensorless vector (SLV) and closed-loop vector (CLV) control

part no.	Input voltage	Output voltage	Assigned motor rating	Degrees of protection	Note
DA1-12...	1~ 230 V	3~ 230 V	0,75 – 2,2 kW	IP20, IP66	Three-phase motors
DA1-32...	3~ 230 V	3~ 230 V	0,75 – 75 kW	IP20, IP55, IP66*	Three-phase motors
DA1-34...	3~ 400 V	3~ 400 V	0,75 – 250 kW	IP20, IP40, IP55, IP66**	Three-phase motors
DA1-35...	3~ 575 V	3~ 575 V	0,75 – 110 kW	IP20, IP55, IP66**	Three-phase motors

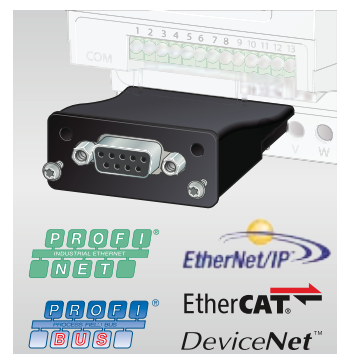
\* up to 4 kW, \*\* up to 7,5 kW

## Ideal for all heavyweights

The sensorless vector control (SLV) of variable frequency drives DA1 offers 200% torque at 0 rpm, making it ideal for crane applications.



High-resolution OLED display with language selection available for all ratings



All common field bus types available as modules.



DA1 can be used to drive high-efficiency permanent-magnet motors.



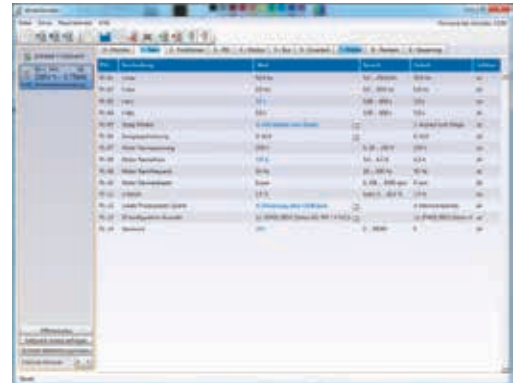
The built-in STO (Safe Torque Off) safety function makes a mains contactor unnecessary.

# drivesConnect – the Software for Optimum Implementation.

The drivesConnect software for PCs is a powerful commissioning tool for the PowerXL family. Beside parameterization and diagnosis user-defined internal logic links can be set up through the function block editor and transferred to the variable frequency drives.

## Parameter editor

The parameterization function has an uncluttered, easy to understand user interface. With the editor variable frequency drives can be parameterized both online and offline. In online mode monitor values can be used for diagnostics.



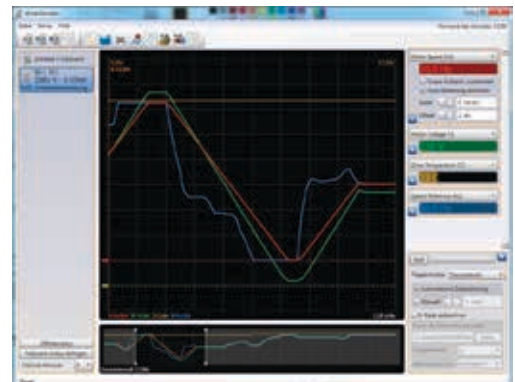
Parameter editor – start interface

## Drive control/monitor

The drive control/monitor function makes it possible to easily run connected variable frequency drives with the use of software. This not only means that individual drive functions can be quickly accessed, but also that devices can be easily activated and deactivated.

## Scope/data logger

The scope/data logger can be used to graphically show up to four selected variable frequency drive parameters as curves. This ensures that the behavior of display values such as motor voltage and motor current during ongoing operation can be tracked directly – and even recorded.

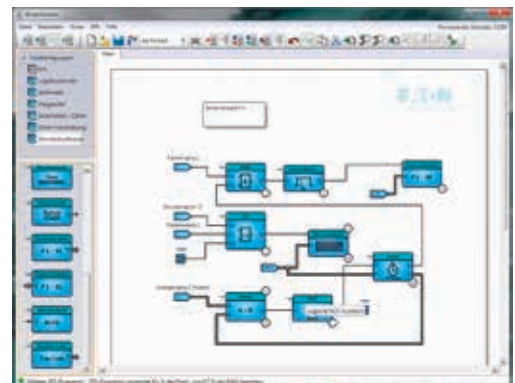


Display of recorded signals

## Function block editor

Together with the DA1 variable frequency drive, the function block editor provides the option of using PLC programming to create separate logic operations – with time dependencies, for example – within the variable frequency drive. In fact, using the blocks from the 'Inputs/Outputs', 'Logic Functions', 'Arithmetic', 'Comparators', 'Timers', 'Counters', 'Data Handling', and 'Drive Functions' function groups makes it possible to generate your own applications within the editor.

By simulating the PLC program, invalid blocks can be identified as errors and corrected directly. This makes it possible to adapt the variable frequency drive to any application, cutting down on additional hardware costs in the process.



Interface example with different blocks

Download Software drivesConnect:

[www.eaton.eu/DC1](http://www.eaton.eu/DC1)  
[www.eaton.eu/DA1](http://www.eaton.eu/DA1)

Installation online:

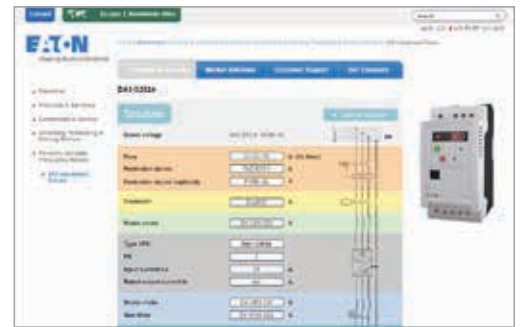
<http://www.drive-support-studio.com/OTS/Eaton/downloads/deploy/drivesConnect.htm>

# Selection Aid

## Efficient planning and engineering

An electronic selection aid provides simple planning, helping you quickly select the drive required for your application and the associated switchgear, protective elements chokes and filters complete with the corresponding article number.

[www.eaton.eu/config/powerxl](http://www.eaton.eu/config/powerxl)



# Communications Stick

## Easily transfer parameter configurations

The 'DX-COM-STICK2' it possible to quickly and easily transfer parameters from your laptop to PowerXL variable frequency drives using Bluetooth. The convenience of this feature is only matched by the stick's copy function, which can be used to transfer parameter sets from one variable frequency drive to another. This makes the stick a perfect little helper – especially when it comes to mass production operations.



# Energy Savings Estimator

## A few steps are all it takes to determine your energy needs and save big

The 'Energy Savings Estimator' is a program that calculates the estimated energy needed for applications involving fans and/or pumps. After entering your project information, you will get an estimate of the energy savings and payback time that can be achieved when using variable frequency drives instead of conventional speed controllers.

[www.eaton.eu/EnergySavingsEstimator](http://www.eaton.eu/EnergySavingsEstimator)



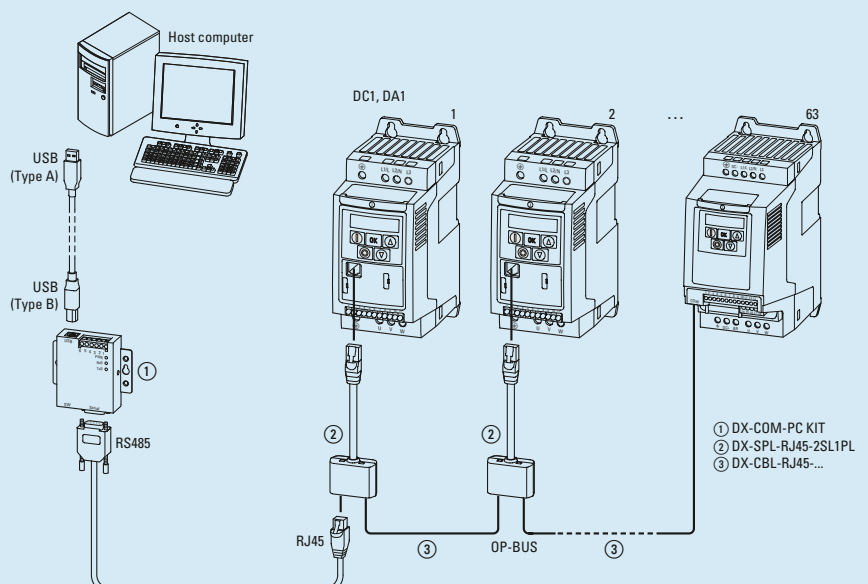
# PC connection

## Hardwired:

With a hardwired USB connection you can connect up to 63 variable frequency drives with the PC and conveniently parameterize them with the software and used with the PLC's functionality.

## Wireless (Bluetooth):

The communications sticks can be used to establish a wireless Bluetooth connection to the variable frequency drives.

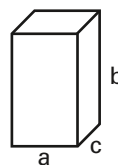


# Data Overview

## PowerXL variable frequency drives DC1

Input/output voltage [V]	Motor [kw]	Motor [HP]	Input phases	Output phases	Output current [A]	Frame size	Part no. Article no. IP20 / NEMA 0	Part no. Article no. IP66 / NEMA 4x	Part no. Article no. IP66 / NEMA 4x local control
115	0.37	0.5	1	1	7	1	DC1-S17D0NN-A20CE1 186073	DC1-S17D0NN-A66CE1 186074	DC1-S17D0NN-A6SCE1 186075
	0.55	0.75	1	1	10.5	2	DC1-S1011NB-A20CE1 186076	DC1-S1011NB-A66CE1 186077	DC1-S1011NB-A6SCE1 186078
230	0.37	0.5	1	1	4.3	1	DC1-S24D3FN-A20CE1 186088	DC1-S24D3FN-A66CE1 186089	DC1-S24D3FN-A6SCE1 186090
	0.75	1	1	1	7	1	DC1-S27D0FN-A20CE1 186091	DC1-S27D0FN-A66CE1 186092	DC1-S27D0FN-A6SCE1 186093
	1.1	1.5	1	1	10.5	2	DC1-S2011FB-A20CE1 186094	DC1-S2011FB-A66CE1 186095	DC1-S2011FB-A6SCE1 186096
	0.37	0.5	1	3	2.3	1	DC1-122D3FN-A20CE1 185803	DC1-122D3FN-A66CE1 185804	DC1-122D3FN-A6SCE1 185805
	0.75	1	1	3	4.3	1	DC1-124D3FN-A20CE1 185806	DC1-124D3FN-A66CE1 185807	DC1-124D3FN-A6SCE1 185808
	1.5	2	1	3	7	2	DC1-127D0FB-A20CE1 185812	DC1-127D0FB-A66CE1 185813	DC1-127D0FB-A6SCE1 185814
	1.5	2	1	3	7	1	DC1-127D0FN-A20CE1 185809	DC1-127D0FN-A66CE1 185810	DC1-127D0FN-A6SCE1 185811
	2.2	3	1	3	10.5	2	DC1-12011FB-A20CE1 185815	DC1-12011FB-A66CE1 185816	DC1-12011FB-A6SCE1 185817
400	0.75	1	3	3	2.2	1	DC1-342D2FN-A20CE1 185743	DC1-342D2FN-A66CE1 185744	DC1-342D2FN-A6SCE1 185745
	1.5	2	3	3	4.1	2	DC1-344D1FB-A20CE1 185749	DC1-344D1FB-A66CE1 185750	DC1-344D1FB-A6SCE1 185751
	1.5	2	3	3	4.1	1	DC1-344D1FN-A20CE1 185746	DC1-344D1FN-A66CE1 185747	DC1-344D1FN-A6SCE1 185748
	2.2	3	3	3	5.8	2	DC1-345D8FB-A20CE1 185752	DC1-345D8FB-A66CE1 185753	DC1-345D8FB-A6SCE1 185754
	4	5	3	3	9.5	2	DC1-349D5FB-A20CE1 185755	DC1-349D5FB-A66CE1 185756	DC1-349D5FB-A6SCE1 185757
	5.5	7.5	3	3	14	3	DC1-34014FB-A20CE1 185758	DC1-34014FB-A66CE1 185759	DC1-34014FB-A6SCE1 185760
	7.5	10	3	3	18	3	DC1-34018FB-A20CE1 185761	DC1-34018FB-A66CE1 185762	DC1-34018FB-A6SCE1 185763
	11	15	3	3	24	3	DC1-34024FB-A20CE1 185764		
	15	20	3	3	30	4	DC1-34030FB-A20CE1 185780		
	18.5	25	3	3	39	4	DC1-34039FB-A20CE1 185781		
22	30	3	3	46	4	DC1-34046FB-A20CE1 185782			

Frame size	Protection class	Weight [kg]	Dimensions (a x b x c) [mm]		
			a	b	c
1	IP20 / NEMA 0	1.1	81	184	124
2	IP20 / NEMA 0	2.6	107	231	152
3	IP20 / NEMA 0	4	129	273	175
4	IP20 / NEMA 0	8.4	173	418.5	211
5	IP20 / NEMA 0	18.2	234	485	261
1	IP66 / NEMA 4x	2.8	161	232	184
2	IP66 / NEMA 4x	5	188	257	192
3	IP66 / NEMA 4x	8.2	210	310	234



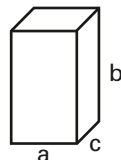
For complete assortment see online catalog [www.eaton.eu/ecat](http://www.eaton.eu/ecat)

# Data Overview

## PowerXL variable frequency drives DA1

Input/output voltage [V]	Motor [kw]	Motor [HP]	Input phases	Output phases	Output current [A]	Frame size	Part no. Article no. IP20 / NEMA 0	Part no. Article no. IP55 / NEMA 12	Part no. Article no. IP66 / NEMA 4x	Part no. Article no. IP66 / NEMA 4x local control
230	0.75	1	1	3	4.3	2	DA1-124D3FB-A20C 169078		DA1-124D3FB-B66C 169347	DA1-124D3FB-B6SC 169348
	1.5	2	1	3	7	2	DA1-127D0FB-A20C 169081		DA1-127D0FB-B66C 169349	DA1-127D0FB-B6SC 169350
	2.2	3	1	3	10.5	2	DA1-12011FB-A20C 169084		DA1-12011FB-B66C 169351	DA1-12011FB-B6SC 169352
400	0.75	1	3	3	2.2	2	DA1-342D2FB-A20C 169117		DA1-342D2FB-B66C 169378	DA1-342D2FB-B6SC 169379
	1.5	2	3	3	4.1	2	DA1-344D1FB-A20C 169120		DA1-344D1FB-B66C 169380	DA1-344D1FB-B6SC 169381
	2.2	3	3	3	5.8	2	DA1-345D8FB-A20C 169051		DA1-345D8FB-B66C 169382	DA1-345D8FB-B6SC 169383
	4	5	3	3	9.5	2	DA1-349D5FB-A20C 169054		DA1-349D5FB-B66C 169384	DA1-349D5FB-B6SC 169385
	5.5	7.5	3	3	14	3	DA1-34014FB-A20C 169057		DA1-34014FB-B66C 169386	DA1-34014FB-B6SC 169387
	7.5	10	3	3	18	3	DA1-34018FB-A20C 169060		DA1-34018FB-B66C 169388	DA1-34018FB-B6SC 169389
	11	15	3	3	24	3	DA1-34024FB-A20C 169063			
	11	15	3	3	24	4		DA1-34024FB-B55C 169390		
	15	20	3	3	30	4	DA1-34030FB-B20C 197493	DA1-34030FB-B55C 169391		
	18.5	25	3	3	39	4	DA1-34039FB-B20C 197494	DA1-34039FB-B55C 169392		
	22	30	3	3	46	4	DA1-34046FB-B20C 197495	DA1-34046FB-B55C 169393		
	30	40	3	3	61	5	DA1-34061FB-B20C 197496	DA1-34061FB-B55C 169394		
	37	50	3	3	72	5	DA1-34072FB-B20C 197497	DA1-34072FB-B55C 169395		
	45	60	3	3	90	6		DA1-34090FB-B55C 169397		
	55	75	3	3	110	6		DA1-34110FB-B55C 169399		
	75	125	3	3	150	6		DA1-34150FB-B55C 169401		
	90	150	3	3	180	6		DA1-34180FB-B55C 169403		
	110	200	3	3	202	7		DA1-34202FB-B55C 169405		
	132	200	3	3	240	7		DA1-34240FB-B55C 169407		
	160	250	3	3	302	7		DA1-34302FB-B55C 169217		
200	300	3	3	370	8	DA1-34370FB-B20C 169219				
250	350	3	3	450	8	DA1-34450FB-B20C 169221				

Frame size	Protection class	Weight [kg]	Dimensions (a x b x c) [mm]		
			a	b	c
2	IP20 / NEMA 0	1.8	107	231	186
3	IP20 / NEMA 0	3.5	131	273	204
4	IP20 / NEMA 0	9.2	173	419	241
5	IP20 / NEMA 0	18.2	234	485	261
8	IP20 / NEMA 0	130	482	1,006	481
4	IP55 / NEMA 12	11.5	173	450	240
5	IP55 / NEMA 12	22.5	235	540	270
6	IP55 / NEMA 12	50	330	865	322
7	IP55 / NEMA 12	80	330	1,280	348
2	IP66 / NEMA 4x	4.8	188	257	239
3	IP66 / NEMA 4x	7.3	211	310	266



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