

# Demand more

Eaton's complete line of variable frequency drives



*Powering Business Worldwide*

# Demand more expertise

**Demand more expertise** means working with a variable frequency drives manufacturer for whom every detail, every idea and every concept counts.

**Demand Eaton variable frequency drives.**

[Eaton.com/drives](http://Eaton.com/drives)



# A drive for any application

Your application might call for an ultra-compact solution, clean power or future configurability.

Whether it is a standard product from the catalog or a custom-enclosed variable frequency drive (VFD) solution, Eaton delivers. Eaton drives are designed for industrial, HVAC, water/wastewater treatment, machinery OEM and other application demands.

Whether designing a new industrial complex, renovating an existing structure or developing a new machine, Eaton has the right product for your application.



## Product selection matrix









Application	DE1	DM1	DC1	DH1	DG1	SPX	EGS/EGF/EGP
Single-phase input	Yes	Yes	Yes	—	Yes	Yes	—
Maximum 230 V hp	3	20	5	125	125	125	125/—/—
Maximum 480 V hp	10	30	15	250	1000	1800	1000/400/800
Maximum 575 V hp	—	25	—	250	800	2300	—
OEM drives	●	●	●		●		
HVAC drives		●	●	● ■			
General purpose					● ■		
High performance						● ■	■
Harmonic mitigating							■

● = Open drive standard


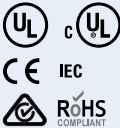
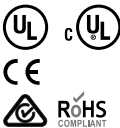
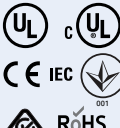
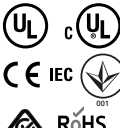
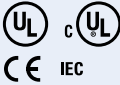
■ = Enclosed drive standard







▲ = Enclosed—consult Enclosed Drives Plant (Watertown, WI)













# Variable frequency drive Product overview

Drive	Applications	Description	Offering/ range
<b>DE1</b> 	<ul style="list-style-type: none"> <li>• Variable speed starter</li> </ul>	<p>The DE1 variable speed starter (VSS) is designed for customers who have basic applications but still require variable frequency and advanced motor protection. With industry-leading ease of use and a narrow, compact housing, the DE1 allows customers to simplify their design and reduce installation time.</p>	<p><b>Single-phase to three-phase</b> 230 V to 3 hp</p> <p><b>Three-phase to three-phase</b> 480 V to 10 hp</p>
<b>DM1</b> 	<ul style="list-style-type: none"> <li>• General-purpose microdrive</li> <li>• Machinery OEM drive</li> <li>• HVAC drive</li> </ul>	<p>The DM1 and DM1 PRO microdrives are part of Eaton's next generation PowerXL™ Series of adjustable frequency drives specifically engineered for today's more demanding commercial and industrial applications. The power unit makes use of the most sophisticated semiconductor technology and a highly modular construction that can be flexibly adapted to meet the customer's needs. The control module was designed to include today's standard communication protocols and I/O while still having the modularity to add additional option cards.</p>	<p><b>Single-phase to three-phase</b> 115 V to 2 hp 230 V to 7.5 hp</p> <p><b>Three-phase to three-phase</b> 230 V to 20 hp 480 V to 30 hp 575 V to 25 hp</p>
<b>DC1</b> 	<ul style="list-style-type: none"> <li>• General-purpose microdrive</li> <li>• Machinery OEM drive</li> </ul>	<p>The DC1 VFD is a compact VFD with only 14 basic parameters, SmartWire-DT™ connectivity and outstanding ease of mounting and installation. The DC1 is perfect for quick commissioning and is ideal for panel builders. This drive supports single-phase motor applications, and an IP66 offering provides unique mounting with integrated disconnect and cover controls.</p>	<p><b>Single-phase to single-phase</b> 115 V to 0.75 hp 230 V to 1.5 hp</p> <p><b>Single-phase to three-phase</b> 115 V to 1.5 hp 230 V to 5 hp</p>
<b>DH1/EH</b> 	<ul style="list-style-type: none"> <li>• HVAC drive</li> </ul>	<p>The DH1 and EH HVAC/R drives are part of the Eaton next generation PowerXL Series of variable frequency drives specifically engineered to exceed the demands of the HVAC/R market. With an industry-leading energy efficiency algorithm, high short-circuit current rating and robust design, DH1 and EH drives offer customers increased efficiency, safety and reliability.</p>	<p>—</p> <p><b>Three-phase to three-phase</b> 230 V to 125 hp 480 V to 250 hp 575 V to 250 hp</p>
<b>DG1/EGS</b> 	<ul style="list-style-type: none"> <li>• General-purpose drive</li> </ul>	<p>The DG1 and EGS enclosed general-purpose drives are part of the Eaton next-generation PowerXL Series of variable frequency drives specifically engineered for today's more demanding commercial and industrial applications. With an industry-leading energy-efficiency algorithm, high short-circuit current rating and robust design, the DG1 and EGS enclosed offer customers increased efficiency, safety and reliability in both an open and enclosed product.</p>	<p><b>Single-phase to three-phase</b> 230 V to 40 hp 480 V to 60 hp</p> <p><b>Three-phase to three-phase</b> 230 V to 125 hp 480 V to 1000 hp 575 V to 800 hp</p>
<b>SVX/SPX</b> 	<ul style="list-style-type: none"> <li>• General-purpose drive</li> <li>• High-performance drive</li> </ul>	<p>The SVX VFD is a general-purpose, compact, modular solution for variable speed applications and offers a variety of features and application capabilities. If high performance is critical to a customer's application, the SPX VFD is the ideal choice. They are equipped with high processing power, capable of closed loop feedback, safe torque off, permanent magnet motor operation and very precise motor control.</p>	<p><b>Single-phase to three-phase</b> 230 V to 40 hp 480 V to 60 hp</p> <p><b>Three-phase to three-phase</b> 230 V to 125 hp 480 V to 1800 hp 575 V to 2300 hp</p>



Benefits	Acceptance	Communication options	Cross-reference	Enclosure
<p><b>Ease of use:</b> Copy/paste tool, programmable multi-function inputs, configuration module for quick programming.</p> <p><b>Space-saving design:</b> DIN rail mountable, side-by-side mounting, numerous orientations, small footprint.</p> <p><b>Efficiency:</b> Temperature controlled fan.</p> <p><b>Rugged and reliable:</b> High overload rating (CT), ambient temperature –10 °C to +60 °C without derating, harmonics mitigating design.</p>		<ul style="list-style-type: none"> <li>• Modbus® RTU</li> <li>• SmartWire-DT</li> </ul>	<ul style="list-style-type: none"> <li>• ABB (ACS Series 55)</li> <li>• Lenze / AC Tech (8400 Series)</li> <li>• Schneider/Square D™ (Altivar™ Series 12)</li> <li>• Yaskawa J1000</li> <li>• Siemens G110</li> </ul>	<ul style="list-style-type: none"> <li>• Open IP20</li> </ul>
<p><b>Ease of use:</b> Easily programmed through on-board keypad, remote keypad, <i>inControl</i> software or web server.</p> <p><b>Space-saving design:</b> Compact footprint allows for side-by-side mounting.</p> <p><b>Efficiency:</b> Features Active Energy Control.</p> <p><b>Rugged and reliable:</b> SCCR combination ratings with molded case circuit breakers, miniature circuit breakers, manual motor protectors and fuses.</p>		<ul style="list-style-type: none"> <li>• Modbus RTU</li> <li>• Modbus TCP</li> <li>• EtherNet/IP</li> <li>• BACnet MSTP</li> <li>• BACnet/IP</li> <li>• SmartWire-DT</li> <li>• PROFIBUS</li> <li>• CANopen®</li> <li>• Dual-port PROFINET (coming in 2021)</li> </ul>	<ul style="list-style-type: none"> <li>• Rockwell PowerFlex® 525</li> <li>• Schneider Altivar 320</li> <li>• Danfoss FC51</li> <li>• Lenze i500</li> <li>• Delta MS300</li> </ul>	<ul style="list-style-type: none"> <li>• Open IP20, IP21 with kit</li> </ul>
<p><b>Ease of use:</b> Only 14 standard parameters for startup—quick commissioning, parameter copy function from drive to drive and PC connectivity via COM-STICK, integrated info card.</p> <p>Space-saving design: DIN rail mountable, side-by-side mounting, contactor style wiring.</p> <p><b>Efficiency:</b> Temperature controlled fan.</p> <p><b>Rugged and reliable:</b> Ambient temperature –10 °C to +50 °C without any derating, high protection degree classes: IP66 for decentralized applications.</p>		<ul style="list-style-type: none"> <li>• Modbus RTU</li> <li>• CANopen</li> <li>• SmartWire™</li> </ul>	<ul style="list-style-type: none"> <li>• ABB (ACS 55, 150)</li> <li>• Danfoss (Micro Drive, VLT® 2800)</li> <li>• Hitachi (WJ200)</li> <li>• Yaskawa (J1000, V1000)</li> <li>• Lenze (SMD, 8400 BaseLine/StateLine)</li> <li>• Siemens (Micromaster 420, G110, Sinamics G120C)</li> <li>• WEG (CFW-10, CFW-08, CFW-09)</li> </ul>	<ul style="list-style-type: none"> <li>• Open IP20, IP66</li> </ul>
<p><b>Ease of use:</b> Startup Wizard, three built-in applications; customizable software, real time clock, on-board communications, modular design, full text display, keypad copy/paste functionality, two configurable keypad soft keys.</p> <p><b>Space-saving design:</b> Compact design, open NEMA® 12 option, on-board I/O expansion provisions.</p> <p>Efficiency: Built-in 5% DC Link Choke with input surge protection.</p> <p><b>Rugged and reliable:</b> Robust time-proven design, durable metal power section, temperature deratings up to 60 °C, conformal coated boards standard.</p>		<ul style="list-style-type: none"> <li>• Modbus/TCP</li> <li>• Modbus RTU</li> <li>• BACnet MS/TP</li> <li>• BACnet/IP</li> </ul>	<ul style="list-style-type: none"> <li>• ABB (ACS310, ACS550)</li> <li>• GE (AF-650)</li> <li>• Rockwell/Allen-Bradley (PowerFlex 70, 753)</li> <li>• Schneider/Square D (Altivar 61, 71)</li> <li>• Siemens (Sinamics G120)</li> <li>• Vacon (NXS)</li> <li>• Yaskawa (P1000, A1000)</li> </ul>	<ul style="list-style-type: none"> <li>• Open IP21, IP54</li> <li>• Open NEMA 1, 12</li> <li>• Enclosed NEMA 1, 12, 3R</li> <li>• Consult Eaton for NEMA 4X, bypass, disconnect, and compact disconnect enclosed options</li> </ul>
<p>Ease of use: Startup Wizard, four built-in applications, real time clock, on-board communications, modular design, full text display, keypad copy/paste functionality.</p> <p>Space-saving design: Compact design, open NEMA 12 option, on-board I/O expansion provisions.</p> <p>Efficiency: Built-in 5% DC Link Choke with input surge protection and EMC Category C2 standard.</p> <p>Rugged and reliable: High overload (CT) and low overload (VT) rated, robust time-proven design, durable metal power section, brake chopper circuit, temperature deratings up to 60 °C.</p>		<ul style="list-style-type: none"> <li>• EtherNet/IP</li> <li>• Modbus RTU/TCP</li> <li>• PROFIBUS DP</li> <li>• DeviceNet™</li> <li>• CANopen</li> <li>• BACnet MS/TP</li> <li>• SmartWire-DT</li> </ul>	<ul style="list-style-type: none"> <li>• ABB (ACS550, ACS580)</li> <li>• Danfoss/Vacon (VLT Series, NXS, 100 Series)</li> <li>• Rockwell/Allen-Bradley (PowerFlex 753, 755)</li> <li>• Schneider/Square D (ATV 630, 930, Altivar 61, 71)</li> <li>• Siemens (Sinamics G120, G130, G150)</li> <li>• Yaskawa (P1000, A1000)</li> </ul>	<ul style="list-style-type: none"> <li>• Open IP00, IP20, IP21, IP54</li> <li>• Open NEMA 1, 12</li> <li>• Enclosed NEMA 1, 12, 3R, 7</li> <li>• Consult Eaton for NEMA 4X</li> </ul>
<p><b>Ease of use:</b> Startup Wizard, seven built-in applications, customizable software, advanced capabilities and inputs, local/remote button, modular design, text display.</p> <p><b>Space-saving design:</b> Compact design, open NEMA 12 option, on-board I/O expansion provisions.</p> <p><b>Efficiency:</b> Built-in 3% line reactor and EMI RFI filter H standard, increased microprocessing power.</p> <p><b>Rugged and reliable:</b> High overload (CT) and low overload (VT) rated, robust time-proven design, durable metal power section, brake chopper circuit.</p>		<ul style="list-style-type: none"> <li>• EtherNet/IP</li> <li>• Modbus RTU/TCP</li> <li>• PROFIBUS DP</li> <li>• DeviceNet</li> <li>• CANopen</li> <li>• LonWorks®</li> </ul>	<ul style="list-style-type: none"> <li>• ABB (ACS880)</li> <li>• Rockwell/Allen-Bradley (PowerFlex 700, 755)</li> <li>• Schneider/Square D (Altivar 71)</li> <li>• Siemens (Sinamics G130, G180, S120)</li> <li>• Vacon (NXS)</li> <li>• Yaskawa (A1000)</li> </ul>	<ul style="list-style-type: none"> <li>• Open IP20, IP21, IP54</li> <li>• Open NEMA 1, 12</li> <li>• Enclosed NEMA 1, 12, 3R</li> <li>• AGSVX (agriculture config)</li> <li>• Consult Eaton for NEMA 4X</li> </ul>

Drive	Applications	Description	Offering/ range
<b>EGP</b> 	<ul style="list-style-type: none"> <li>• 18-pulse drive</li> <li>• Low harmonic drive</li> </ul>	<p>EGP drives use advanced 18-pulse clean power technology that significantly reduces line harmonics at the drive input terminals and is designed to exceed IEEE® 519-1992 requirements. Delivering true power factor and reducing harmonic distortion prevents upstream transformer overheating and overloading of breakers and feeders, enabling the application of variable frequency drives on generators and other high-impedance power systems.</p>	<p>—</p> <p><b>Three-phase to three-phase</b> 480 V to 800 hp (Consult Eaton for larger hp or 230 V and 575 V engineered-to-order designs)</p>
<b>EGF</b> 	<ul style="list-style-type: none"> <li>• Passive filtered drive</li> <li>• Low harmonic drive</li> </ul>	<p>EGF drives use a tuned passive filter to significantly reduce the line harmonics generated by a standard 6-pulse drive. Designed for small to mid-sized drive applications, the EGF, in conjunction with the EGP, offers the user a tiered approach to harmonic mitigation.</p>	<p>—</p> <p><b>Three-phase to three-phase</b> 480 V to 400 hp (Consult Eaton for larger hp or 230 V and 575 V engineered-to-order designs)</p>
<b>EGS Pump</b> 	<ul style="list-style-type: none"> <li>• Remote pumping</li> <li>• Irrigation</li> <li>• Outdoor applications</li> <li>• IoT enabled for remote monitoring and control via Eaton's Control Xpert mobile app</li> </ul>	<p>The Eaton PowerXL DG1 three-phase irrigation drive pump panel is specifically designed for the irrigation pumping industry. With a weathertight, painted white NEMA 3R enclosure, the PowerXL DG1 drive pump panel is an energy-efficient and environmentally friendly solution for motor-driven equipment.</p>	<p><b>Single-phase to three-phase</b> 230 V to 40 hp 480 V to 60 hp</p> <p><b>Three-phase to three-phase</b> 480 V to 200 hp</p>
<b>RGX</b> 	<ul style="list-style-type: none"> <li>• Active front end drive</li> <li>• Regenerative drive</li> </ul>	<p>The Eaton RGX is specifically designed to meet regenerative and/or low harmonic needs through the use of an active, bidirectional power converter on the front end of a common DC bus drive. The RGX provides dynamic performance for great motor handling, eliminating the need for an external resistor or mechanical braking, thus simplifying system design. It also delivers superior reliability, reducing total current distortion to 2–3%. The active front end design offers great energy savings and design compatibility for a wide range of applications.</p>	<p>—</p> <p><b>Three-phase to three-phase</b> 480 V to 800 hp 575 V to 650 hp</p>
<b>LCX</b> 	<ul style="list-style-type: none"> <li>• Liquid cooled drive</li> </ul>	<p>The LCX VFD is well suited for locations when air-cooling would be difficult or expensive or when space is at a premium. These extremely compact drives are suitable for ships, mines and heavy industry.</p>	<p>—</p> <p><b>Three-phase to three-phase</b> 480 V to 1600 hp 575 V to 3600 hp</p>
<b>SPI/SPA</b> 	<ul style="list-style-type: none"> <li>• Common DC bus drive</li> <li>• Active front end drive</li> <li>• Regenerative drive</li> </ul>	<p>Eaton offers a comprehensive range of common DC bus VFD products. This includes a number of front-end units and inverter units in the entire power range. Common DC bus drives are used in a multitude of applications and combinations. Drives that are braking can transfer the energy directly to the drives in a motoring mode.</p>	<p>—</p> <p><b>Three-phase to three-phase</b> 480 V to 1800 hp 575 V to 2300 hp</p>

Benefits	Acceptance	Communication options	Cross-reference	Enclosure
<p><b>Ease of use:</b> Uses the core DG1 and SVX/SPX drive platforms; therefore, sharing many of the drive-related characteristics of the component drive including Startup Wizard and built-in applications.</p> <p><b>Space-saving design:</b> Designed and engineered to optimize space, including flange mounting the drive with the heat sink external to the enclosure. Smallest footprint in the industry.</p> <p><b>Efficiency:</b> Designed and tested to provide maximum efficiency through best-in-class components.</p> <p><b>Rugged and reliable:</b> Proven design built on 10+ years of experience in 18-pulse engineering.</p>		<ul style="list-style-type: none"> <li>• EtherNet/IP</li> <li>• Modbus RTU/TCP</li> <li>• PROFIBUS DP</li> <li>• DeviceNet</li> <li>• CANopen</li> <li>• LonWorks</li> </ul>	<ul style="list-style-type: none"> <li>• ABB</li> <li>• Rockwell/Allen-Bradley</li> <li>• Schneider/Square D</li> <li>• Yaskawa</li> </ul>	<ul style="list-style-type: none"> <li>• Enclosed NEMA 1, 12, 3R</li> <li>• Consult Eaton for NEMA 4X</li> </ul>
<p><b>Ease of use:</b> Uses the core DG1 and SVX drive platforms, Startup Wizard, built-in applications.</p> <p><b>Space-saving design:</b> Designed and engineered to optimize space including flange mounting the drive with the heat sink external to the enclosure. Smallest footprint in the industry.</p> <p><b>Efficiency:</b> Designed and tested to provide maximum efficiency through best-in-class components.</p> <p><b>Rugged and reliable:</b> Tested and proven solution built to meeting commercial and industrial applications. Engineered solutions to further protect filter and drive available.</p>		<ul style="list-style-type: none"> <li>• EtherNet/IP</li> <li>• Modbus RTU/TCP</li> <li>• PROFIBUS DP</li> <li>• DeviceNet</li> <li>• CANopen</li> <li>• LonWorks</li> </ul>	<ul style="list-style-type: none"> <li>• ABB</li> <li>• Rockwell/Allen-Bradley</li> <li>• Schneider/Square D</li> <li>• Yaskawa</li> </ul>	<ul style="list-style-type: none"> <li>• Enclosed NEMA 1, 12, 3R</li> <li>• Consult Eaton for NEMA 4X</li> </ul>
<p><b>Ease of use:</b> The PowerXL DG1 drive pump panel is enclosed in a painted white NEMA 3R panel to provide weathertight protection, allowing panel installation outdoors near irrigation equipment without additional shelter. Internet of Things (IoT) connectivity via cellular gateway enables remote monitoring and control.</p> <p><b>Space-saving design:</b> The PowerXL DG1 drive pump panel is one of the first irrigation panels with an easy-to-use bottom entry. The floor stand enables mounting the panel as a standalone electrical panel.</p> <p><b>Efficiency:</b> The PowerXL DG1 drive pump panel is an efficient and cost-effective solution.</p> <ul style="list-style-type: none"> <li>• Eliminates pump motor inrush current</li> <li>• Lower energy consumption than rotary phase converters</li> </ul> <p><b>Rugged and reliable:</b> The PowerXL DG1 drive pump panel greatly reduces environmental impact and the high costs associated with powering agricultural and irrigation pump equipment.</p> <ul style="list-style-type: none"> <li>• Reduces air and groundwater contamination</li> <li>• Decreases fuel and lubricant leakage</li> </ul>		<ul style="list-style-type: none"> <li>• EtherNet/IP</li> <li>• Modbus RTU/TCP</li> <li>• PROFIBUS DP</li> <li>• DeviceNet</li> <li>• CANopen</li> <li>• LonWorks</li> <li>• Cellular connectivity</li> </ul>	<ul style="list-style-type: none"> <li>• ABB</li> <li>• Rockwell/Allen-Bradley</li> <li>• Schneider/Square D</li> <li>• Yaskawa</li> </ul>	<ul style="list-style-type: none"> <li>• Enclosed NEMA 3R painted white</li> </ul>
<p><b>Ease of use:</b> Uses the core SPA/SPI drive platform; therefore, sharing many of the drive-related characteristics of the component drive including Startup Wizard and built-in applications.</p> <p><b>Space-saving design:</b> The RGX is an all-in-one package that includes circuit protection, LCL filtering, and AFE drive in a single enclosure.</p> <p><b>Efficiency:</b> Exceptional energy savings is achieved through the use of regenerative braking.</p> <p><b>Rugged and reliable:</b> Same reliable control module and operating system as SPX, shared components for inverter and active front end for reduced spare parts.</p>		<ul style="list-style-type: none"> <li>• EtherNet/IP</li> <li>• Modbus RTU/TCP</li> <li>• PROFIBUS DP</li> <li>• DeviceNet</li> <li>• CANopen</li> <li>• LonWorks</li> </ul>	<ul style="list-style-type: none"> <li>• ABB</li> <li>• Rockwell/Allen-Bradley</li> <li>• Yaskawa</li> </ul>	<ul style="list-style-type: none"> <li>• Enclosed NEMA 1</li> </ul>
<p><b>Ease of use:</b> Startup Wizard, customizable software, advanced capabilities and inputs, local/remote button, modular design, text display.</p> <p><b>Space-saving design:</b> Compact space-saving design especially beneficial for NEMA 4X applications.</p> <p><b>Efficiency:</b> Advanced low heat transfer cooling system, increased microprocessing power.</p> <p><b>Rugged and reliable:</b> Same reliable control module and operating system as SPX.</p>	   	<ul style="list-style-type: none"> <li>• EtherNet/IP</li> <li>• Modbus RTU/TCP</li> <li>• PROFIBUS DP</li> <li>• DeviceNet</li> <li>• CANopen</li> <li>• LonWorks</li> </ul>	<ul style="list-style-type: none"> <li>• ABB (ACS800-07LC)</li> <li>• Rockwell/Allen-Bradley (PowerFlex 700L)</li> <li>• Schneider/Square D (Altivar 61Q)</li> <li>• Siemens (Sinamics G150)</li> <li>• Vacon (NXL)</li> </ul>	<ul style="list-style-type: none"> <li>• Open IP00</li> </ul>
<p><b>Ease of use:</b> Startup Wizard, customizable software, advanced capabilities and inputs, local/remote button, modular design, text display.</p> <p><b>Space-saving design:</b> Compact modular expandable design.</p> <p><b>Efficiency:</b> Bidirectional/regenerative energy savings capabilities.</p> <p><b>Rugged and reliable:</b> Same reliable control module and operating system as SPX, shared components for inverter and active front end for reduced spare.</p>	   	<ul style="list-style-type: none"> <li>• EtherNet/IP</li> <li>• Modbus RTU/TCP</li> <li>• PROFIBUS DP</li> <li>• DeviceNet</li> <li>• CANopen</li> <li>• LonWorks</li> </ul>	<ul style="list-style-type: none"> <li>• ABB (ACS880-14)</li> <li>• Emerson (Unidrive SP)</li> <li>• Rockwell/Allen-Bradley (PowerFlex 20, 700AFE)</li> <li>• Schneider/Square D (Altivar ATV32, LXM32)</li> <li>• Siemens (Sinamics S120)</li> <li>• Vacon (NXP)</li> <li>• Yaskawa (F7)</li> </ul>	<ul style="list-style-type: none"> <li>• Open IP00, IP21</li> <li>• Open NEMA 1</li> </ul>

## Selection considerations

- What is your system application?
- Is your load constant torque or variable torque?
- What are your voltage and hp requirements?
- What is the motor Full Load Amps (FLA)?
- Do you need an open or enclosed product?
- What NEMA enclosure rating do you need?
- Do you need a main breaker or a bypass?
- Do you need any accessories or communication cards?

## EatonCare Technical Resource Center (TRC)— low-voltage variable frequency drives support

### 24/7 phone support

- 1-877-386-2273 option 2, option 6
  - Option 1: Pre-sale application support, new or aftermarket part number identification
  - Option 2: Network and communication questions
  - Option 3: Startup or programming questions
  - Option 4: Troubleshooting assistance
- Email
  - Technical support: [TRCDrivesTechSupport@Eaton.com](mailto:TRCDrivesTechSupport@Eaton.com)
  - Pre-sale support: [PresaleVFD@Eaton.com](mailto:PresaleVFD@Eaton.com)
  - Aftermarket: [VFDAftermarketEG@Eaton.com](mailto:VFDAftermarketEG@Eaton.com)

## Startup and service

Startup and service support can be provided by Eaton's Electrical Engineering Services & Systems (EESS) or an Eaton certified independent service provider (ISP).

[www.eaton.com/vfdaftermarket](http://www.eaton.com/vfdaftermarket)

- To contact EESS: Use the Locate an Eaton Engineering Office tool on the right-hand side of the screen
- To contact an ISP: Select the ISP nearest you using the list of independent service providers found on the Documentation tab, under Service and Startup

## Online resources

Resource	Website
Eaton drives	<a href="http://Eaton.com/drives">Eaton.com/drives</a>
Eaton engineer services	<a href="http://Eaton.com/EESS">Eaton.com/EESS</a>
Eaton software downloads	<a href="http://Eaton.com/software">Eaton.com/software</a>
Eaton Europe	<a href="http://Eaton.eu/electrical">Eaton.eu/electrical</a>
Eaton Asia	<a href="http://Eaton.com.cn">Eaton.com.cn</a>

## PC software

### Software

9000XDrive and 9000XLoad—Used with SVX, SPX, LCX, SPI, SPA and all enclosed drives using these units

MaxConnect and MaxLoader—Used with H-Max

DrivesConnect—Used with DE1, DC1 and DA1

Power Xpert *inControl*—Used with PowerXL DG1

### Notes:

Download at [Eaton.com/software](http://Eaton.com/software) → Adjustable Frequency Drives → select your product in the next drop down.

Download at [Eaton.com/drives](http://Eaton.com/drives) → Resources → Software.

## Online training

### Eaton 101 Series—low-voltage motor control

<http://www.eaton.com/Eaton/ProductsServices/Electrical/Support/Training/101BasicsSeries/index.html>

### H-Max VFD demo simulator—online H-Max demo simulation

Online H-Max training simulator that reviews the keypad, display, menu navigation, basic parameter changes and the operation of the demo cases ([www.eaton.com/h-max](http://www.eaton.com/h-max))

### PowerXL DG1 VFD demo simulator—online DG1 demo simulation

Online PowerXL DG1 training simulator that reviews the keypad, display, menu navigation, basic parameter changes and the operation of the demo cases ([www.eaton.com/DG1](http://www.eaton.com/DG1))

## Classroom training

### Certification and service training

Commissioner certification training (SVX, SPX, H-Max, CPX, CFX)

Service provider training (SVX, SPX, CPX, CFX, HVX)

Access via [Eaton.com/drivetraining](http://Eaton.com/drivetraining)

## Calculators

### Harmonics estimator—estimate total harmonic distortion (THD) of system

By having the transformer information and the one-line diagrams, a harmonics analysis can be quickly put together to ensure that the system will meet requirements set by IEEE 519. Drive configurations can quickly be changed, allowing engineers to provide the most cost-effective solution ([www.eaton.com/drives](http://www.eaton.com/drives) → Resources → Harmonics Calculator)

### Energy savings estimator—estimate ROI for system

The program creates an energy savings estimation report that details yearly energy savings, reduction in CO<sub>2</sub> emissions and estimated payback time by analyzing system configuration, total installation costs and duty cycle ([www.eaton.com/drives](http://www.eaton.com/drives) → Resources → Energy Savings Estimator)

For more information, visit

[Eaton.com/drives](http://Eaton.com/drives)



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