

# **Bardac Drives Catalog 2024**

**Issue 1**



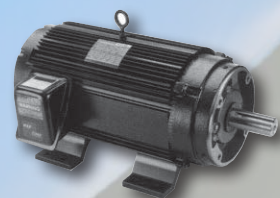
**drive.web AUTOMATION**



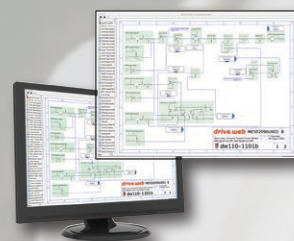
**AC DRIVES**



**DC DRIVES**



**MOTORS**



**SERVICE**

**AutomationThings**

**Everything is...**

**... Internet accessible**

**... Ethernet workable, peer-to-peer**

**... Configurable from anywhere**

**... IIoT ready**

**AutomationThings.com**

**Everything normally in stock!**

Since our founding in 1992 we have worked hard to build our reputation around key goals:

- Innovative technologies.
- Reliable products.
- Unrelenting customer support.
- All catalog items normally in stock.
- Competitive pricing.



Our Company President: Paul Crowhurst

***Bardac ...the safe bet!***

## ***Seamlessly Integrated Automation***



### **AC DRIVES**

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**Specifications** ... At the time of going to press we believe the information in this catalog to be accurate. However, the specifications of products may be amended at any time, so please check with us when ordering to ensure that such changes will not affect your requirements.

# AC drives



## P2 Series Closed Loop Vector

High performance coordinated drive for:

- Process automation
- Converting
- Printing
- Machine tools

Up to 100 HP at 230 volts  
Up to 400 HP at 460 volts  
Up to 150 HP at 600 volts

**IP20 package up to 400 HP - 50°C \***  
**Optional NEMA 4X (IP66) to 40HP - 40°C \***  
**NEMA 12 (IP55) 15 to 400 HP - 40°C \***  
**\* Approvals: UL, cUL, EAC, RCM**

Closed loop speed better than 0.1%  
150% overload, 60 secs (200%, 4 secs)  
Up to 200% torque at zero speed  
AC Induction, PM & Sync Rel motor modes  
Built in brake transistor  
EMC filter  
Quiet - with switching up to 32KHz  
Bright TFT display  
DC Bus sharing  
Safe Torque Off function  
(IEC61508 SIL 2 & IEC62062 SIL 2)  
Modbus or CANopen port  
Plug-in control terminals

### Options

**drive.web** programmable control  
Extended I/O and USB  
EIP, ModbusTCP, ProfibusDP, DeviceNet  
Remote keypad with TFT display  
**savvyPanel** touch screen HMI



## V3 Series - Energy Efficient Drives For Fans & Pumps

Variable torque, fan & pump drive for:

- HVAC
- Water treatment
- Building systems
- Climate control
- Flow control
- Swimming pool control

Up to 100 HP at 230 volts  
Up to 400 HP at 460 volts  
Up to 175 HP at 600 volts

**IP20 package up to 400 HP - 50°C \***  
**NEMA 4X (IP66) to 40HP - 40°C (indoor) \***  
**NEMA 12 (IP55) 15 to 400HP - 40°C \***  
**\* Approvals: UL, cUL, EAC, RCM**

**Motor options:** Standard Induction - PM AC - Brushless DC - Synchronous Reluctance

### Pump Features

Pump blockage detect/clear/stir  
Pump preheat anti-condensation mode  
Pump cascade control  
Dry run protection

### Options

**drive.web** programmable control  
Extended I/O and USB  
EIP, ModbusTCP, ProfibusDP, DeviceNet  
Remote keypad with TFT display  
Power disconnect  
**savvyPanel** touch screen HMI

Low input harmonic current distortion  
Compliant with EN61000-3-12  
>98% drive efficiency  
Low audible motor noise  
Internal EMC filter  
Smart energy optimization  
Resonance avoidance  
Sleep/wake functions  
Intelligent maintenance intervals  
110% overload, 60 secs  
Motor flux braking  
Quiet - with switching up to 32KHz  
Power loss ride through  
ModbusRTU, BACnet  
Bright TFT display

### Fan Features

Drive fault auto bypass  
Sleep mode with auto-boost  
Fire override mode

**drive.web** distributed Ethernet control  
Internet accessibility  
Ethernet peer-to-peer networking  
USB programming port  
IIoT ready

# TOUGH DRIVES FOR INDUSTRY



## E3 Series General Purpose VFD

Constant torque, heavy duty drive for:  
General purpose machine control  
Pumps and blowers  
Conveyors  
Mixers

To 1.5 HP at 110V in, 230V 3Ø out  
To 25 HP at 230 volts  
To 50 HP at 460 volts

Sensorless vector control for:  
High starting torque & accurate speed  
Motors: Induction, PM, BLDC, SynRM

**Standard IP20 - 50°C**  
**Optional NEMA 4X (IP66) to 30 HP, 40°C**  
**Approvals: UL, CE, RCM**

Industrial, Pump & Fan control modes  
150% overload, 60 secs (175%, 2 secs)  
Spinstart into rotating motor  
Built in brake transistor (sizes 2, 3 & 4)  
Motor flux braking  
Adjustable skip frequency  
Quiet - with switching up to 32KHz  
Power loss ride through  
ModbusRTU port  
Configurable I/O  
Simple programming  
On board help card  
DIN rail and foot mount (IP20) (size 1 & 2)  
NEMA 4X

### Options

**drive.web** programmable control  
Extended I/O  
EIP, ModbusTCP, ProfibusDP, DeviceNet  
Remote keypad with TFT display  
**savvyPanel** touch screen HMI



## NEMA 4X - IP66 Series For Harsh Environments

**P2 Series Open/Closed Loop Vector Drives**  
**E3 Series General Purpose VFDs**  
**V3 Series Energy Efficient Drives**  
Food processing  
Agricultural, water treatment  
Mining, cement, petrochemical

To 1.5 HP at 110V in, 230V 3Ø out (E3)  
To 15 HP at 230 volts (E3, P2)  
To 30 HP at 460 volts (E3, P2)

**NEMA 4X (IP66) - 40°C**  
**(outdoor rated)**  
**Approvals: V3 - UL, cUL, EAC, RCM**  
**P2 - UL, cUL, EAC, RCM**  
**E3 - UL, CE, RCM**

Open & closed loop vector or V/Hz  
Washdown, dust tight  
Chemical resistant ABS enclosure  
Corrosion protected heat sink  
Spinstart into rotating motor  
Built in brake transistor (sizes 2 & 3)  
Motor flux braking  
Adjustable skip frequency  
Quiet - with switching up to 32KHz  
Power loss ride through  
ModbusRTU port  
Compact packaging

### Options

**drive.web** programmable control  
Power isolator switch, speed pot, F/R switch  
EIP, ModbusTCP, ProfibusDP, DeviceNet  
Remote keypad with TFT display  
**savvyPanel** touch screen HMI



## E3 Single Phase VFD For SP & PSC motors

Variable torque, fan & pump drive for:  
Fans & blowers  
Centrifugal pumps  
Fume extractors  
Air flow control

To 0.75 HP at 110 volts  
To 1.5 HP at 230 volts

**Standard IP20 - 50°C**  
**Optional NEMA 4X (IP66) - 40°C**  
**(outdoor rated)**

**Approvals: UL, CE, RCM**

For motor types:  
Shaded Pole (SP)  
Permanent Split Capacitor (PSC)  
Built in brake transistor (size 2)  
Motor flux braking  
Adjustable skip frequency  
Quiet - with switching up to 32KHz  
Power loss ride through  
ModbusRTU port  
Innovative smart boost start  
Simple programming  
DIN rail and foot mount (IP20)

### Options

**drive.web** programmable control  
Extended I/O  
EIP, ModbusTCP, ProfibusDP, DeviceNet  
Remote keypad with TFT display  
**savvyPanel** touch screen HMI

## NEMA 4X (IP66) Enclosed Drives

For harsh, wet & dirty environments

**Switched** version with keypad, display, speed pot, forward/off/reverse switch & power isolator switch.

**Unswitched** version with keypad & display.

### Key Features:

- 40°C ambient temperature
- Conduit cable entry
- Padlockable power switch
- ModbusRTU port
- ABS moldings & corrosion resistant heat sink
- All standard drive features included
- Brake standard on sizes 2 & 3
- Optional internal Ethernet size 2 & 3

Embed a **speedy** in the drive to provide Ethernet networking & programmable control

### NEMA 4X (IP66) OUTDOOR RATED E3 SERIES GENERAL PURPOSE VFD

\*Outdoor Applications will require a Sun Shade (not included)

SIZE	HP	AMPS	UNSWITCHED	SWITCHED
<b>115V, SINGLE PHASE IN, 230V, 3-PHASE MOTOR</b>				
1	0.5	2.3	E3-110023-101A	E3-110023-101B
1	1.0	4.3	E3-110043-101A	E3-110043-101B
2	1.5	5.8	E3-210058-104A	E3-210058-104B
<b>230V, SINGLE PHASE IN, 230V, 3-PHASE MOTOR</b>				
1	0.5	2.3	E3-120023-101A	E3-120023-101B
1	1	4.3	E3-120043-101A	E3-120043-101B
1	2	7	E3-120070-101A	E3-120070-101B
2	2	7	E3-220070-104A	E3-220070-104B
2	3	10.5	E3-220105-104A	E3-220105-104B
3	5	15.3	E3-320153-104A	E3-320153-104B
<b>230V, 3-PHASE IN, 230V, 3-PHASE MOTOR</b>				
1	0.5	2.3	E3-120023-301A	E3-120023-301B
1	1	4.3	E3-120043-301A	E3-120043-301B
1	2	7	E3-120070-301A	E3-120070-301B
2	2	7	E3-220070-304A	E3-220070-304B
2	3	10.5	E3-220105-304A	E3-220105-304B
3	5	18	E3-320180-304A	E3-320180-304B
3	7.5	24	E3-320240-304A	E3-320240-304B
4	10	30	E3-420300-304A	E3-420300-304B
4	15	46	E3-420460-304A	E3-420460-304B
<b>380/460V, 3-PHASE IN, 380/460V, 3-PHASE MOTOR</b>				
1	1	2.2	E3-140022-301A	E3-140022-301B
1	2	4.1	E3-140041-301A	E3-140041-301B
2	2	4.1	E3-240041-304A	E3-240041-304B
2	3	5.8	E3-240058-304A	E3-240058-304B
2	5	9.5	E3-240095-304A	E3-240095-304B
3	7.5	14	E3-340140-304A	E3-340140-304B
3	10	18	E3-340180-304A	E3-340180-304B
3	15	24	E3-340240-304A	E3-340240-304B
4	20	30	E3-440300-304A	E3-440300-304B
4	25	39	E3-440390-304A	E3-440390-304B
4	30	46	E3-440460-304A	E3-440460-304B

Ethernet networking & basic programmable control option dw228

### NEMA 4X (IP66) OUTDOOR RATED P2 OPEN/CLOSED LOOP VECTOR DRIVES

With EMC filter, brake transistor +/- DC bus

SIZE	HP	AMPS	UNSWITCHED	SWITCHED
<b>230V, SINGLE PHASE IN, 230V, 3-PHASE MOTOR</b>				
2	1	4.3	P2-22010-1HF4A	P2-22010-1HF4B
2	2	7	P2-22020-1HF4A	P2-22020-1HF4B
2	3	10.5	P2-22030-1HF4A	P2-22030-1HF4B
<b>230V, 3-PHASE IN, 230V, 3-PHASE MOTOR</b>				
2	1	4.3	P2-22010-3HF4A	P2-22010-3HF4B
2	2	7	P2-22020-3HF4A	P2-22020-3HF4B
2	3	10.5	P2-22030-3HF4A	P2-22030-3HF4B
3	5	18	P2-32050-3HF4A	P2-32050-3HF4B
<b>380/460V, 3-PHASE IN, 380/460V, 3-PHASE MOTOR</b>				
2	1	2.2	P2-24010-3HF4A	P2-24010-3HF4B
2	2	4.1	P2-24020-3HF4A	P2-24020-3HF4B
2	3	5.8	P2-24030-3HF4A	P2-24030-3HF4B
2	5	9.5	P2-24050-3HF4A	P2-24050-3HF4B
3	7.5	14	P2-34075-3HF4A	P2-34075-3HF4B
3	10	18	P2-34100-3HF4A	P2-34100-3HF4B
<b>500/600V, 3-PHASE IN, 500/600V, 3-PHASE MOTOR</b>				
2	1	2.1	P2-26010-3HF4A	P2-26010-3HF4B
2	2	3.1	P2-26020-3HF4A	P2-26020-3HF4B
2	3	4.1	P2-26030-3HF4A	P2-26030-3HF4B
2	5	6.5	P2-26050-3HF4A	P2-26050-3HF4B
2	7.5	9	P2-26075-3HF4A	P2-26075-3HF4B
3	10	12	P2-36100-3HF4A	P2-36100-3HF4B
3	15	17	P2-36150-3HF4A	P2-36150-3HF4B

Encoder feed back option T2-ENCOD-IN

Ethernet networking & smart programmable control option dw224-00

### P2 Series NEMA 4X - Dimensions and Weight

Size	Height	Width	Depth	Weight
2	10.1" (257mm)	7.4" (188mm)	9.4" (239mm)	10.6lb (4.8kg)
3	12.2" (310mm)	8.3" (211mm)	10.5" (266mm)	17.0lb (7.7kg)

### E3 Series NEMA 4X - Dimensions and Weight

Size	Height	Width	Depth	Weight
1	9.1" (232mm)	6.4" (161mm)	6.4" (162mm)	5.5lb (2.5kg)
2	10.1" (257mm)	7.4" (188mm)	7.2" (182mm)	7.7lb (3.5kg)
3	12.2" (310mm)	8.3" (211mm)	9.4" (238mm)	15.4lb (7.0kg)
4	14.2" (360mm)	9.5" (240mm)	10.8" (275mm)	20.9lb (9.5kg)

## AC Drive Options

ITEM	DESCRIPTION	MODEL		
		P2	V3	E3
Touch Screen Programmable Operator Stations				
dw230	<b>savvyPanel touch</b> , programmable NEMA 4 diplay	✓	✓	✓
Remote Keypads				
T2-OPOINT-IN	Remote Keypad (with cable)	✓	✓	✓
T3-OPPAD-IN	Remote keypad with TFT display (with cable)	✓	✓	✓
Communications				
speedy dw22X-00	ModbusTCP/IP Interface Module	✓	✓	✓
speedy dw22X-1121	Onboard controller w/EIP/PCCC Ethernet, <b>savvyPanel</b>	✓	✓	✓
T2-DEVNT-IN	DeviceNet Interface Module	✓	✓	✓
T2-PFNET-IN	ProfiNET Interface Module	✓	✓	✓
T2-PROFB-IN	Profibus DPV-1 Interface Module	✓	✓	✓
T2-BNTIP-IN	Bacnet IP Interface Module	✓	✓	✓
T2-BNTSP-IN	Bacnet RJ45 connector	✓	✓	✓
LA503846	Through-Door Ethernet Coupler RJ45-RJ45	✓	✓	✓
Programming Interface				
speedy dw21X	USB Interface Module	✓	✓	✓
T3-STICK-IN	Optistick parameter copying stick with Bluetooth	✓	✓	✓
Encoder Feedback				
T2-ENCOD-IN	5v Encoder feedback module for P2	✓		
T2-ENCHT-IN	24v Encoder feedback module for P2			
EMC Filters				
T2-E3300-00	Optifilter, EMC input filter, 3-phase, 300A, IP00	✓		
Brake Resistors (Case Type)				
OD-BR100-IN	DB Resistor, drive size 2 & 3, IP20, 100Ω, 200W	✓		✓
OD-BRES4-IN	DB Resistor, drive size 4 & 5, IP20, 33Ω, 500W	✓		✓
Brake Resistors (Enclosed, ventilated with over temp switch)				
Intermittent duty 10%, 10 sec				
CX503554	1 HP 230VAC, 190Ω, 12"x5"x5"	✓		
CX503068	2 HP 230VAC, 95Ω, 12"x5"x5"	✓		✓
CX503069	3 HP 230VAC, 63Ω, 12"x5"x5"	✓		✓
CX503070	5 HP 230VAC, 38Ω, 12"x5"x5"	✓		✓
CX503071	7.5 HP 230VAC, 19Ω, 12"x7"x5"	✓		✓
CX503072	10 HP 230VAC, 19Ω, 12"x7"x5"	✓		✓
CX503073	15 - 20 HP 230VAC, 12.6Ω, 12"x10"x5"	✓		✓
CX503075	25 HP 230VAC, 7.5Ω, 12"x16"x5"	✓		✓
CX503076	30 HP 230VAC, 6.3Ω, 19"x10"x5"	✓		✓
CX503077	40 HP 230VAC, 4.9Ω, 19"x10"x5"	✓		✓
CX503078	50 HP 230VAC, 3.9Ω, 19"x10"x5"	✓		✓
CX503079	60 HP 230VAC, 3.3Ω, 19"x13"x5"	✓		✓
CX503080	1 HP 460VAC, 750Ω, 12"x5"x5"	✓		
CX503081	2 HP 460VAC, 375Ω, 12"x5"x5"	✓		✓
CX503082	3 HP 460VAC, 250Ω, 12"x5"x5"	✓		✓
CX503083	5 HP 460VAC, 150Ω, 12"x7"x5"	✓		✓
CX503084	7.5 HP 460VAC, 100Ω, 12"x7"x5"	✓		✓
CX503085	10 HP 460VAC, 75Ω, 12"x7"x5"	✓		✓
CX503086	15 HP 460VAC, 50Ω, 12"x10"x5"	✓		✓
CX503087	20 HP 460VAC, 38Ω, 12"x13"x5"	✓		✓
CX503088	25 HP 460VAC, 30Ω, 12"x16"x5"	✓		✓
CX503089	30 HP 460VAC, 25Ω, 19"x10"x5"	✓		✓
CX503090	40 HP 460VAC, 19Ω, 19"x13"x5"	✓		✓
CX503091	50 HP 460VAC, 15Ω, 19"x13"x5"	✓		✓
CX503092	60 HP 460VAC, 12.6Ω, 19"x13"x5"	✓		✓
CX503093	75 HP 460VAC, 10Ω, 26.5"x10"x5"	✓		✓
CX503094	100 HP 460VAC, 7.5Ω, 26.5"x16"x5"	✓		✓
CX503095	125 - 150 HP 460VAC, 6Ω, 28"x10"x10"	✓		✓
Output Filters				
T2-M3008-20	Output filter, 8A, IP20	✓	✓	✓
T2-M3008-66	Output filter, 8A, IP66	✓	✓	✓
T2-M3012-20	Output filter, 12A, IP20	✓	✓	✓
T2-M3012-66	Output filter, 12A, IP66	✓	✓	✓
T2-M3018-66	Output filter, 18A, IP66	✓	✓	✓
T2-M3030-20	Output filter, 30A, IP20	✓	✓	✓
T2-M3075-20	Output filter, 75A, IP20	✓	✓	✓
T2-M3180-00	Output filter, 180A, IP00	✓	✓	✓
T2-M3300-00	Output filter, 300A, IP00	✓	✓	✓
RJ45 Data Cables & Splitters				
T-J4505-IN	Data cable, 0.5M, (RJ45 - RJ45)	✓	✓	✓
T-J4510-IN	Data cable, 1M, (RJ45 - RJ45)	✓	✓	✓
T-J4530-IN	Data cable, 3M, (RJ45 - RJ45)	✓	✓	✓
T-J45SP-IN	Data cable 3-way splitter (RJ45)	✓	✓	✓
T2-BNTSP-IN	RJ45 BacNet connector	✓		
I/O Boards				
T-LOGIP-11	110VAC logic input isolator			✓
T-LOGIP-23	230VAC logic input isolator			✓
T3-2ROUT-IN	Relay output module			✓
T2-CASCD-IN	Cascade control plug in option board	✓	✓	
T2-EXTIO-IN	Extended I/O, plug in option board	✓	✓	

## 3-Phase Line Reactors for AC Drives

460 volts, 3% impedance, open construction for mounting in a protected enclosure

HP	Model	Amps	mH
1	LMAC341	2	12
2	LMAC342	4	6.5
5	LMAC345	8	3
7.5	LMAC347.5	12	2.5
10	LMAC3410	18	1.5
15	LMAC3415	25	1.2
25	LMAC3425	35	0.8
30	LMAC3430	45	0.7
40	LMAC3440	55	0.5
75	LMAC3475	100	0.3
100	LMAC34100	130	0.2
150	LMAC34150	200	0.11
200	LMAC34200	250	0.09
250	LMAC34250	320	0.075
300	LMAC34300	400	0.06
400	LMAC34400	500	0.05

### Options:

230 VAC ratings  
NEMA 1 & NEMA 4X enclosed units

**Consult  
Factory**

## drive.web smart drives

Add a **drive.web** Universal Automation Controller to any drive for unlimited automation capability (see pages 3-33):

- Powerful programmable control functions
- Peer-to-peer networking over Ethernet
- Smart iPad/Android or touch screen PC operation
- Internet access
- Unlimited additional I/O

	E3	P2
<b>smarty2</b>	dw248-DM-C2CD	dw244-DM-C2CD
<b>smarty3</b>	dw248-DM-C3CD	dw244-DM-C3CD
<b>smarty4</b>	dw248-DM-C4CD	dw244-DM-C4CD
<b>smarty7</b>	dw258-DM-S7PD	dw254-DM-S7PD

### Smart Control + Peer-to-Peer Networking + ModbusTCP/IP

dw228 **drive.web speedy** interface for E3 models  
dw223 **drive.web speedy** interface for ODP models  
dw224 **drive.web speedy** interface for P2 models  
dw226 **drive.web speedy** interface for V3 models

Pack-1 Opt-1121 ModbusTCP/IP, EthernetIP, Process Lib, **savvyPanel**  
Pack-2 Opt-1122 Pack 1 + Winder & Motion FB Libraries

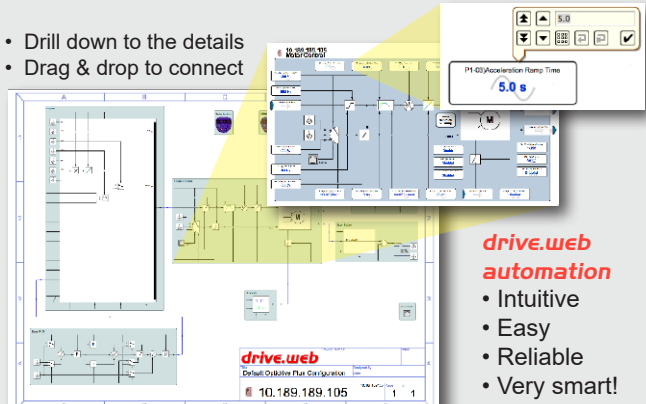
### savvyPanel touch -

5" dw230-050 operator station  
7" dw230-070 operator station  
9.7" dw230-097 operator station

Get **savvySFD** Signal Flow  
Diagram design tools

Get **savvy FREE** from [www.driveweb.com](http://www.driveweb.com)

- Drill down to the details
- Drag & drop to connect



**drive.web  
automation**

- Intuitive
- Easy
- Reliable
- Very smart!

## E3 SINGLE PHASE

### Single Phase Motor Controller

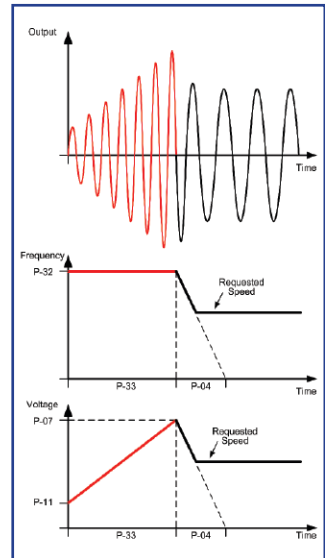
For Shaded Pole (SP) & Permanent Split Capacitor (PSC) motors used in direct drive, variable torque, fan and pump type applications only



The innovative E3 Single Phase motor controller, uses a unique boost control algorithm that ensures reliable starting and control.

- Energy saving
- Macros for fan & pump applications
- Built in PI control
- Bluetooth connectivity
- High frequency switching for quite running in:
  - ~ Commercial and residential HVAC
  - ~ Fume extraction
  - ~ Laboratories
  - ~ Quiet locations

*Expandable • Versatile • Economical*



Basic IP20 or NEMA4X (outdoor rated) versions  
Basic or full featured systems drive  
Basic or peer-to-peer networking over Ethernet

#### SPECIFICATION

Output	Frequency	0 to 120Hz
Supply options	Frequency	48 - 62 Hz, >0.98PF, inrush current < rated current
	Volts/Phases	100 - 132 volts max, single phase (0.5 - .75HP)
		180 - 264 volts max, 1-phase (0.5 - 1.5HP)
		180 - 264 volts max, 3-phase (0.5 - 1.5HP, special order)
Environment	Temperature	IP20, operating, -10 to 50°C max, storage, -40 to 60°C
	Altitude	IP66, NEMA 4X, operating -10 to 40°C max, storage, -40 to 60°C
	Humidity	0-2000M, derate 1% per 100M above 1000M
	Ingress	up to 95%, non condensing
		Basic IP20
		Optional IP66 (NEMA 4X), outdoor rated
Control	Mode	V/F voltage vector, with energy optimizer
	PWM Hz	4 to 32KHz (effective)
	Skip Freq	Single point, user adjustable
	Boost	Automatic boost phase operation
	Stop modes	Coast / ramp / DC brake
	Setpoint ref	0-10VDC, 4-20mA, 0-20mA, Keypad, Modbus
	Preset	8 preset speeds
	PI control	Direct & analog input trim
Configurable I/O	Accel/Decel	0 - 600 secs + Ramp stop decel 0 - 600 secs
	Input 1	Programmable digital input
	Input/output 2	Selectable digital input / output
	Input 3	Configurable analog or digital input
	Input 4	Configurable analog or digital input
	Output 1	Configurable analog or digital output
	Relay 1	Normally open relay contact 30VDC 5A, 250VAC 6A
Protection	Drive trip	Over/under volts, over current, external trip,
	Motor	Overload, over temp, short circuit, ground fault
	Trip memory	Last 4 trips stored

#### THE BASICS

Compact packaging  
Simple mechanical and electrical installation  
50°C ambient rating  
150% rating for 60 seconds, 175% for 2 seconds  
Simple basic set up  
Integral brake transistor (size 2, 100% rated)  
ModbusRTU serial port  
Remote keypad and display option  
OPTISTICK plug-in for easy parameter up/down load



# E3 Single Phase IP20

Single phase motor controller for use only with Shaded Pole (SP) or Permanent Split Capacitor (PSC) type motors on variable torque, direct drive fans and centrifugal pumps

## STANDARD E3 1Ø IP20 DRIVES

Model	Supply	Motor	Power	Amps	Size
E3-110070-1012-01	1Ø, 115V	1Ø, 115V	0.5HP	7.0	1
E3-210105-1042-01	1Ø, 115V	1Ø, 115V	0.75HP	10.5	2
E3-120043-1012-01	1Ø, 230V	1Ø, 230V	0.5HP	4.3	1
E3-120070-1012-01	1Ø, 230V	1Ø, 230V	1HP	7.0	1
E3-220105-1042-01	1Ø, 230V	1Ø, 230V	1.5HP	10.5	2

### DIMENSIONS & WEIGHT

Size	Height	Width	Depth	Weight
1	6.8" (173mm)	3.3" (83mm)	4.9" (123mm)	2.2lbs (1kg)
2	8.7" (221mm)	4.4" (110mm)	5.9" (150mm)	3.8lbs (1.7kg)



**smart options**

**speedy control**

**savvyPanel vision**



## E3 SINGLE PHASE, NEMA 4X (IP66)

Single phase motor controller for use only with Shaded Pole (SP) or Permanent Split Capacitor (PSC) type motors in variable torque, fan and centrifugal pump applications

**Switched** version with keypad, display, speed pot, forward/off switch & power isolator switch

**Unswitched** version with keypad & display

### For outdoor and harsh, dirty indoor environments

- 40°C ambient temperature
- Conduit cable entry
- Padlockable power switch
- Wash down duty
- ModbusRTU port
- Compact packaging
- All standard drive features included
- Brake switch standard on 230V, size 2
- Optional internal Ethernet
- Optional internal **drive.web** smart control
- Sunshade required for outdoor use

## NEMA 4X / IP66 DRIVES (outdoor rated)

Model	Supply	Motor	Power	Amps	Size
E3-120043-101#-01	1Ø, 230V	1Ø, 230V	0.5HP	4.3	1
E3-120070-101#-01	1Ø, 230V	1Ø, 230V	1HP	7.0	1
E3-220105-104#-01	1Ø, 230V	1Ø, 230V	1.5HP	10.5	2

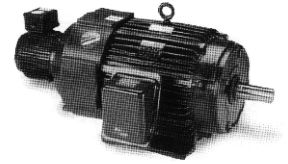
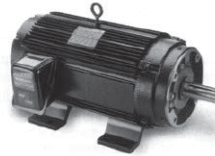
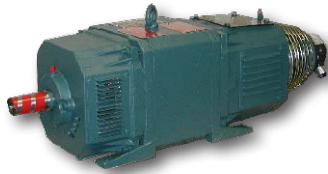
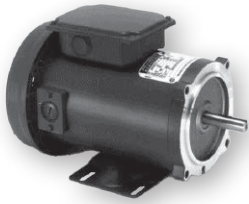
# A = Unswitched, B = Switched

### DIMENSIONS & WEIGHT

Size	Height	Width	Depth	Weight
1	9.1" (232mm)	6.4" (161mm)	6.4" (162mm)	5.5lb (2.5kg)
2	10.1" (257mm)	7.4" (188mm)	7.2" (182mm)	7.7lb (3.5kg)



# Engineering & Support



## AC and DC motors from fractional to over 2000 HP

All speed ranges, duties, enclosures and voltages complete with a full range of accessories such as encoders, tachs, thermal protection, brakes, blowers, filters, brushes and slide bases. Please call for details and competitive pricing.

## Modulus Packaged Drives

**Modulus** solutions are a range of standard, pre-engineered drive packages with a selection of options for wide range common applications.

Using the flexible **drive.web** programmable automation technology it is possible to adapt a small range of hardware configurations to a wide range of applications thereby keeping design and manufacturing costs to a minimum.

**Modulus** drives are available either as packages mounted on an open panel, **Modulus P**, or as assemblies installed in an enclosure, **Modulus E**, to suit the type of operating environment and the control scheme required.

Every **Modulus** project is accompanied by a detailed, 50-point, Quality Control Report covering every facet of the product, its design, construction, testing and shipping.



User manuals for all products are available from [www.bardac.com](http://www.bardac.com)

## Online Product Support

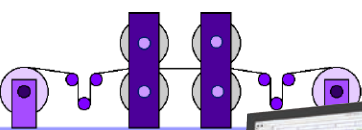
Using innovative, interactive, Internet online technologies we can provide either product training or product support through your browser from the comfort of your desk! Simply connect via your browser and get live interactive support where ever you are - with savvy running on your computer call +410-604-3400 and in less than a minute an engineer will be able to see your system live and give you the support you need.

*... it's as easy as that!*

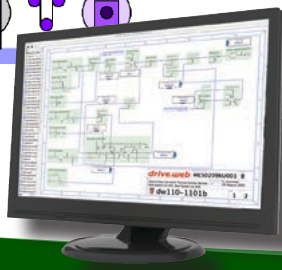
Our support view

Internet

**Unbeatable!**



Your plant view



# Online Training

Online product training courses are scheduled every week with options for users of all levels of interest and ability.

## Level 1 - drive.web introductory seminar - 1½ hours - Free!

This provides an overview of the **drive.web** automation technology. Learn how to connect to drives, create drive “phantoms”, navigate systems, create signal flow diagrams and system drawings, find information, identify object attributes, make connections, show trend charts, build **savvyPanel** operator stations, etc.

## Level 2 - drive.web design technology course - 3 hours (Level 1 is a prerequisite)

Covers configuration of drives, basic system design concepts, Ethernet networking, password protection, system safety

## Level 3 - drive.web system design and application courses (Level 2 is a prerequisite)

### 3a) Drive and device interfaces - 2 hours

Covers the use of “Templates” and “Helpers” for documented drives, generic ModbusRTU master interfaces to third party drives, operator stations, etc.

### 3b) Winder Control Systems - 3 hours

Covers standard solutions for open loop CTCW winders, closed loop dancer controlled winders and closed loop load cell controlled winders.

### 3c) Encoder Control Systems - 3 hours

Covers applications such as “electronic line shaft”, spindle orientation, registration and position control.

### 3d) Advanced Ethernet, Internet Access and Security - 3 hours

Covers local and wide area network configuration, IP addressing, user access and device and system password protection.

For course details, registration, international training options and charges please call us at 1-888-667-7333 (toll free USA 888-ON SPEED) or international at +410-604-3400. Alternatively please contact [training@driveweb.com](mailto:training@driveweb.com)

## Terms of Sale & Payment

Complete Terms & Conditions of Sale are shown at [www.bardac.com](http://www.bardac.com). Net 30 day credit terms are available subject to prior approval. Credit card payments are only accepted for payments made at the time of service or shipment of products and will be subject to a 4% surcharge.

## Field Service, Service Center Repair, Training and Start-up - Call +410-604-3400 Rates for the Continental United States

### Charge Basis

### Rates (US\$)

a. Basic Rate - Field Service, Training & Start-up Assistance - up to 8 hours daily Monday to Friday, 7am to 6pm	\$190 per hour
b. Standard Overtime - Weekdays 6pm to 7am & all day Saturday - Total work time not to exceed 12 hrs in any 24 hrs	\$285 per hour
c. Special Overtime - Sundays, Holidays and excess of 8 hours on Saturday	\$380 per hour
d. Overnight - Includes meals, and hotel accommodation	\$280 per night
e. Auto Travel - Covering cost of use of company or personal cars, distance to and from the local office	\$0.67 per mile
f. Public Transport - Rental cars, Air fares, etc.	At Cost
g. Holdover & Standby Time	Same as service
h. Travel Time - Time taken from Bardac to job site and return	Same as service
i. Basic Rate - Service Center Repair charges - Diagnosis & repair time	\$130 per hour + parts
j. Design or application engineering services	\$220 per hour

Notes:

1. Minimum service billing is 4 hours for field services, 1 hour for service center services.
2. Parts, materials, special visas, duties, and extraordinary expenses will be charged extra.
3. Warranty credits will be identified on the Daily Field Service Report.

For rates and availability of sales and service outside the US, please call +410-604-3400

## 24/7 Tech Support

During normal business hours basic tech support will be provided free of charge

Outside normal business hours call +410-604-3535. Tech support will be provided at \$380/hour (minimum of 1/2 hour per call) and this must be paid for with a credit card at the time of service.

# Bardac

# drive.web

## Bardac ...the safe bet!

*Everything normally in stock!*

### Bardac Corporation

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**AutomationThings.com**

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**Catalog 2024.1**



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