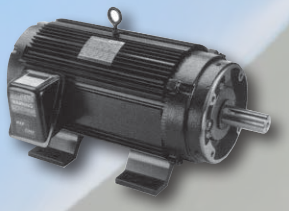
Bardac Drives Catalog 2024

Issue 1

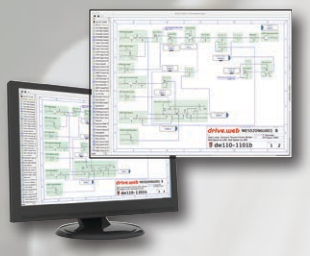
drive.web AUTOMATION

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

Vector Systems
To 400 HP - pages 36 - 38

ECO fan & pump
To 400 HP - pages 39 - 41

General Purpose
To 50 HP - pages 42 - 43

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To 1.5 HP - page 46 - 47

CONTROLLERS

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smarty
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speedy
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smart motion controllers
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DC DRIVES

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POWER QUALITY ~ MOTORS ~ ENGINEERING ~ SERVICE ~ SUPPORT ~ TRAINING

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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.

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**

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

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

Fan Features

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

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

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

E3 Sensorless Vector

General purpose drives with all purpose features
Up to 50 HP
Basic IP20 or NEMA 4X (IP66)
Basic control or full featured systems drive
3-Phase & single phase motor versions

Basic or loaded, the new E3 is designed to give the best in value, performance and ease of use.

Sensorless vector control for:

- *High efficiency operation*
- *Selectable motor types*
  Standard Induction, AC PM, BLDC, Sync Reluctance
- *3 selectable operating modes:*
  Industrial, Fan, & Pump

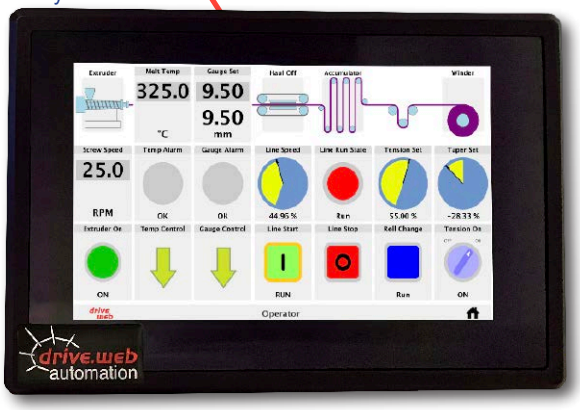
Expandable
Economical
Easy
Enduring
Efficient

T3-STICK
Plug-in upload/download configuration memory stick

speedy dw228
Programmable control & Ethernet networking

T3-OPPAD
Remote keypad & TFT display

savvyPanel touch
7" touch screen
Auto-connects to all drives & devices on your LAN



KEY FEATURES

Compact packaging
Simple mechanical and electrical installation
50°C ambient rating (IP20), 40°C ambient rating (NEMA 4X)
150% rating for 60 seconds, 175% for 2 seconds
Simple 14 parameter basic set up
Integral brake transistor, sizes 2, 3, 4, and 5 (100% continuous rated)
ModbusRTU serial port

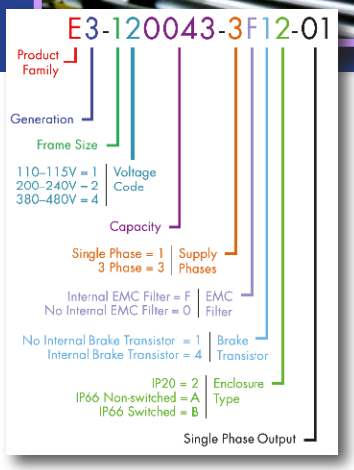
Options:

Remote keypad and display
OPTISTICK plug in unit for fast up/down load of parameters
smarty remote I/O, programmable control & Ethernet networking
speedy programmable control & Ethernet networking
savvyPanel smart touch screen operator station technology
Integral RFI filter option

For NEMA 4X versions, see Page 44

SPECIFICATION

Output	Frequency	0 to 500Hz. (Please call for special builds up to 2000Hz)
Supply options	Frequency	48 - 62 Hz
	Voltage/Phases	100 - 132 volts max, single phase (0.5 - 1.5HP)
		180 - 264 volts max, 1-phase (0.5 - 10HP)
		180 - 264 volts max, 3-phase (0.5 - 25HP)
		342 - 528 volts max, 3-phase (0.5 - 50HP)
Environment	Temperature	IP20: Operating, -10 to 50°C max | Storage, -40 to 60°C
		NEMA 4X: Operating, -10 to 40°C max | Storage, -40 to 60°C
	Altitude	0-2000M, derate 1% per 100M above 1000M
	Humidity	up to 95%, non condensing
	Ingress Protection	Basic IP20, Optional IP66 (NEMA 4X outdoor rated)
Control	Mode	Voltage vector
	PWM frequency	4 to 32KHz (effective)
	V/Hz ratio	Linear
	Boost	Yes
	Stop modes	Coast / ramp / DC brake
	Skip frequency	One point, adjustable frequency band
	Setpoint reference	0-10VDC, 4-20mA, 20-4mA, 0-20mA, Keypad, Modbus
	Preset speeds	4
	PI control	Direct & analog input trim
	Spin start	Starts safely into rotating motor
	Accel/Decel	0 - 600 seconds + Ramp stop decel 0 - 600 seconds
Configurable I/O		Input 1 Programmable digital input
	Input 2	Programmable digital input
	Input 3	Configurable analog or digital input
	Input 4	Configurable analog or digital input
	Output 1	Configurable analog or digital output
	Output 2	Normally open relay contact 30VDC 5A, 250VAC 6A
Protection	Drive trip	Over/under volts, over current, external trip,
	Motor	Overload, over temperature, short circuit, ground fault
	Trip memory	Last 4 trips stored



Cost effective either stand alone or networked in coordinated systems

Standard IP20 Protected

Ambient Rating 50°C except where marked
* Ambient Rating 45°C

IP20

Size	1		2		3		4		5	
	in	mm	in	mm	in	mm	in	mm	in	mm
High	6.8	173	8.7	221	10.3	261	16.6	420	19.13	486
Wide	3.3	83t	4.4	110	5.2	131	6.7	171	8.74	222
Deep	4.9	123	5.9	150	6.9	175	8.4	212	8.9	226
Weight	lbs	kg	lbs	kg	lbs	kg	lbs	kg	lbs	kg
	2.2	1.0	3.75	1.7	7.0	3.2	20.0	9.1	39.9	18.1

drive.web
smart automation

- powerful programmable control functions
- peer-to-peer over Ethernet
- smart iPad, Android or touch screen PC operation
- Internet access

savvyPanel operator station technology runs on iPad, iPhone, Android or touch screen PC

STANDARD IP20 DRIVES

Model	Supply	Motor	Power	Amps	Size
E3-110023-1012	1Ø, 115V	3Ø, 230V	0.5HP	2.3	1
E3-110043-1012	1Ø, 115V	3Ø, 230V	1.0HP	4.3	1
E3-210058-1042	1Ø, 115V	3Ø, 230V	1.5HP	5.8	2
E3-120023-1012	1Ø, 230V	3Ø, 230V	0.5HP	2.3	1
E3-120043-1012	1Ø, 230V	3Ø, 230V	1HP	4.3	1
E3-120070-1012	1Ø, 230V	3Ø, 230V	2HP	7	1
E3-220070-1042	1Ø, 230V	3Ø, 230V	2HP	7	2
E3-220105-1042	1Ø, 230V	3Ø, 230V	3HP	10.5	2
E3-320153-1042	1Ø, 230V	3Ø, 230V	5HP	15.3	3
E3-120023-3012	3Ø, 230V	3Ø, 230V	0.5HP	2.3	1
E3-120043-3012	3Ø, 230V	3Ø, 230V	1HP	4.3	1
E3-120070-3012	3Ø, 230V	3Ø, 230V	2HP	7	1
E3-220070-3042	3Ø, 230V	3Ø, 230V	2HP	7	2
E3-220105-3042	3Ø, 230V	3Ø, 230V	3HP	10.5	2
E3-320180-3042	3Ø, 230V	3Ø, 230V	5HP	18	3
E3-320240-3042	3Ø, 230V	3Ø, 230V	7.5HP	24	3
E3-420300-3042	3Ø, 230V	3Ø, 230V	10HP	30	4
E3-420460-3042	3Ø, 230V	3Ø, 230V	15HP	46	4
E3-520610-3F42	3Ø, 230V	3Ø, 230V	20HP	61	5
E3-520720-3F42	3Ø, 230V	3Ø, 230V	25HP	72	5
E3-140022-3012	3Ø, 460V	3Ø, 460V	1HP	2.2	1
E3-140041-3012	3Ø, 460V	3Ø, 460V	2HP	4.1	1
E3-240041-3042	3Ø, 460V	3Ø, 460V	2HP	4.1	2
E3-240058-3042	3Ø, 460V	3Ø, 460V	3HP	5.8	2
E3-240095-3042	3Ø, 460V	3Ø, 460V	5HP	9.5	2
E3-340140-3042	3Ø, 460V	3Ø, 460V	7.5HP	14	3
E3-340180-3042	3Ø, 460V	3Ø, 460V	10HP	18	3
E3-340240-3042	3Ø, 460V	3Ø, 460V	15HP	24	3
E3-440300-3042	3Ø, 460V	3Ø, 460V	20HP	30	4
E3-440390-3042	3Ø, 460V	3Ø, 460V	25HP	39	4
E3-440460-3042	3Ø, 460V	3Ø, 460V	30HP	46	4
E3-540610-3F42	3Ø, 460V	3Ø, 460V	40HP	61	5
E3-540720-3F42	3Ø, 460V	3Ø, 460V	50HP	72	5

Please call +410-604-3400 for availability

NEMA 4X (IP66) Enclosed Drives

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

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

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

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

SIZE	HP	AMPS	UNSWITCHED	SWITCHED
115V, SINGLE PHASE IN, 230V, 3-PHASE MOTOR				
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
230V, SINGLE PHASE IN, 230V, 3-PHASE MOTOR				
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
230V, 3-PHASE IN, 230V, 3-PHASE MOTOR				
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
380/460V, 3-PHASE IN, 380/460V, 3-PHASE MOTOR				
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
230V, SINGLE PHASE IN, 230V, 3-PHASE MOTOR				
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
230V, 3-PHASE IN, 230V, 3-PHASE MOTOR				
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
380/460V, 3-PHASE IN, 380/460V, 3-PHASE MOTOR				
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
500/600V, 3-PHASE IN, 500/600V, 3-PHASE MOTOR				
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	MODEL V3	MODEL E3
Touch Screen Programmable Operator Stations				
dw230	*savvyPanel touch*, programmable NEMA 4 diaplay	✓	✓	✓
Remote Keypads				
T2-OPORT-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, *savvyPanel*	✓	✓	✓
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
smarty2	dw248-DM-C2CD	dw244-DM-C2CD
smarty3	dw248-DM-C3CD	dw244-DM-C3CD
smarty4	dw248-DM-C4CD	dw244-DM-C4CD
smarty7	dw258-DM-S7PD	dw254-DM-S7PD

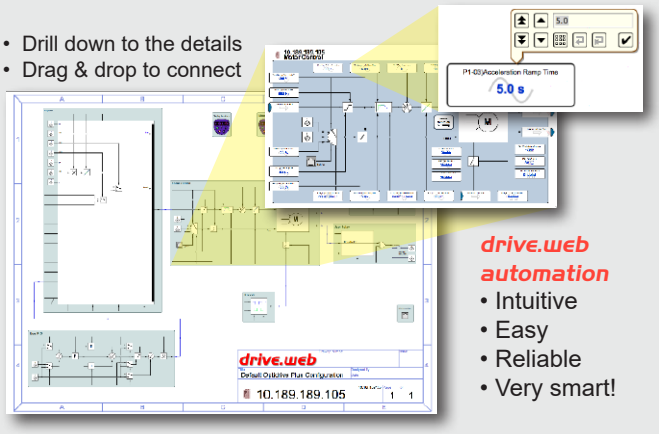
Smart Control + Peer-to-Peer Networking + ModbusTCP/IP
dw228 *drive.web speedy* interface for E3 models
dw223 *drive.web speedy* interface for ODP models
dw224 *drive.web speedy* interface for P2 models
dw226 *drive.web speedy* interface for V3 models
Pack-1 Opt-1121 ModbusTCP/IP, EthernetIP, Process 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

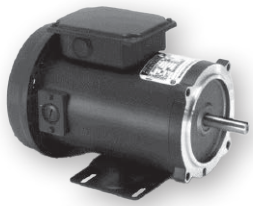
Get *savvy* ***FREE*** from www.driveweb.com

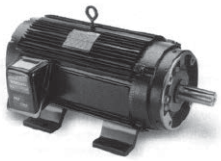
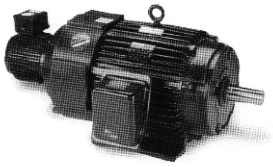
- Drill down to the details
- Drag & drop to connect



drive.web automation
- Intuitive
- Easy
- Reliable
- Very smart!

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.

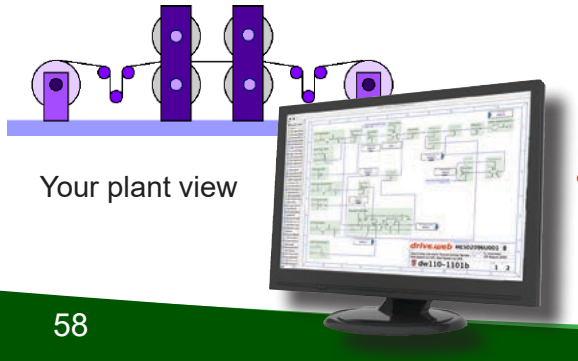
Every ***Modulus*** project is accompanied by a detailed, 50-point, Quality Control Report covering every facet of the product, its design, construction, testing and shipping.

User manuals for all products are available from www.bardac.com

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!

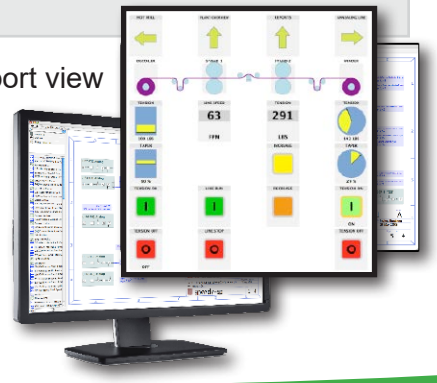


Your plant view

Internet

Unbeatable!

Our support 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

Terms of Sale & Payment

Complete Terms & Conditions of Sale are shown at 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 drives

drive.web

Bardac ...the safe bet!

Everything normally in stock!

Bardac Corporation

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Stevensville, MD 21666 USA

bardac.com
driveweb.com
AutomationThings.com

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