

FlexPak 3000 DC Drives

A THREE-PHASE DIGITAL DC DRIVE FOR REGENERATIVE AND NON-REGENERATIVE APPLICATIONS FROM 700-1000 HP

Pre-Configured Drive

The FlexPak 3000 digital DC drive for high horsepower applications has the same features, options, operator interface and simple startup configuration as the standard drive. The standard offering will be configured into the following package:

- NEMA 1 cabinet with door-mounted fan for positive pressure ventilation
- Input drive fusing
- Field regulator
- Output DC contactor
- 115 VAC control transformer
- DC fusing for regenerative applications
- Top entry AC, bottom exit DC

Optional Features

- Incoming AC Line disconnect
- Blower motor starter
- Speed feedback kit (specify type of feedback device)
- Remote-mountable OIM kit for cabinet door
- Dynamic braking
- I/O Expansion card
- AutoMax, ControlNet, or DeviceNet interface cards
- 115 VAC control interface

Service Conditions

- Standard altitude: to 3300 ft
- Standard ambient: 40°C
- AC line voltage variation: +/- 10%
- AC line frequency: 50 or 60 Hz (specify)
- Frequency variation: +/- 2 Hz
- Atmosphere: non-condensing Relative humidity 5-90%



Drive Ratings

HP	Full load AC line current		Full Load DC Arm. Current		Field Current
	460 V	575 V	500 V	600 V	300 V
700	952	795	1120	935	20
800	1088	905	1280	1065	20
900	1224	1020	1440	1200	20
1000	1360	1135	1585	1335	20

Overload Ratings

- All 700 HP, 800 HP, and 900 HP drives are capable of 150% overload for one minute.
- 1000 HP 460 VAC drives are capable of 140% overload for one minute.
- 1000 HP 575 VAC drives are capable of 140% overload for one minute.

DISCOUNT: MS-50D

MODIFIED STANDARD V*S DRIVES

FlexPak 3000 Drives: 460 VAC⁽⁵⁾

Base Non-Regen MN	700RDC4	800RDC4	900RDC4	1000RDC4
HP Rating	700	800	900	1000 ⁽⁶⁾
Base Drive List	\$41,000	\$41,310	\$42,075	\$43,095
Base Regen MN	700RDC4R	800RDC4R	900RDC4R	1000RDC4R
HP Rating	700	800	900	1000 ⁽⁶⁾
Base Drive List	\$44,880	\$45,185	\$47,940	\$48,960
Enclosure Options				
NEMA 1	STD	STD	STD	STD
NEMA 1A-Force Vent w Fan & Filter	STD	STD	STD	STD
Additional Bay of Cabinet NEMA 1A (2)	5,171	5,171	5,171	5,171
NEMA 12/4	CF	CF	CF	CF
Input Protection & Disconnect Options				
Input Fuses Only	STD	STD	STD	STD
Disconnect Switch & Door Handle	CF	CF	CF	CF
Inverting Circuit Breaker	CF	CF	CF	CF
Circuit Breaker Disconnect & Door Handle	9,495 ⁽³⁾	13,385 ⁽³⁾	13,385 ⁽³⁾	13,385 ⁽³⁾
Door Mounted Operator Devices				
Door Mounted OIM	320	320	320	320
Maintained Start/Stop Switch	106	106	106	106
Momentary Start/Stop Pushbuttons	172	172	172	172
E-Stop Pushbutton (Mushroom Head)	106	106	106	106
Jog Pushbutton	86	86	86	86
Pilot Lights (each) ⁽¹⁾	86	86	86	86
Contactors, Control Transformers & Line Reactors				
Input Contactor ⁽¹⁾	CF	CF	CF	CF
Output DC Contactor ⁽¹⁾	STD	STD	STD	STD
Blower Motor Starter ⁽¹⁾ (Each)	500	500	500	500
Control Transformer: 460:120 VAC, 250 VA	300	300	300	300
3% Impedance Input Line Reactor	CF	CF	CF	CF
Dynamic Braking				
Contactor & Resistors ⁽¹⁾⁽⁴⁾	6,543	6,906	7,511	7,960

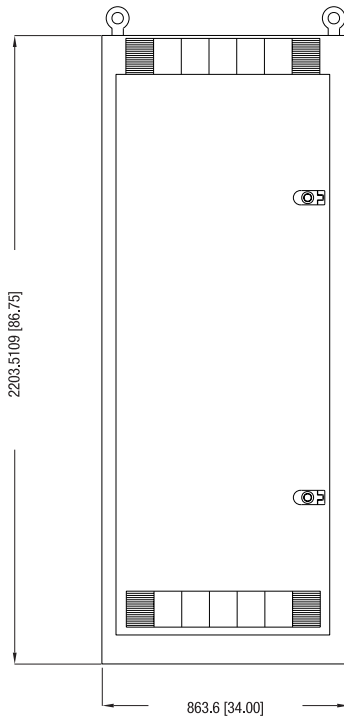
- (1) Requires Control Transformer option
 - (2) Usually includes a cooling device and control transformer
 - (3) Requires additional bay of cabinet
 - (4) Dynamic Braking may require resistors to be mounted on top of cabinet
 - (5) Contact factory for 575 VAC Drives
 - (6) 1000 HP Drive is limited to 140% overload for 1 minute
- CF = Contact Factory

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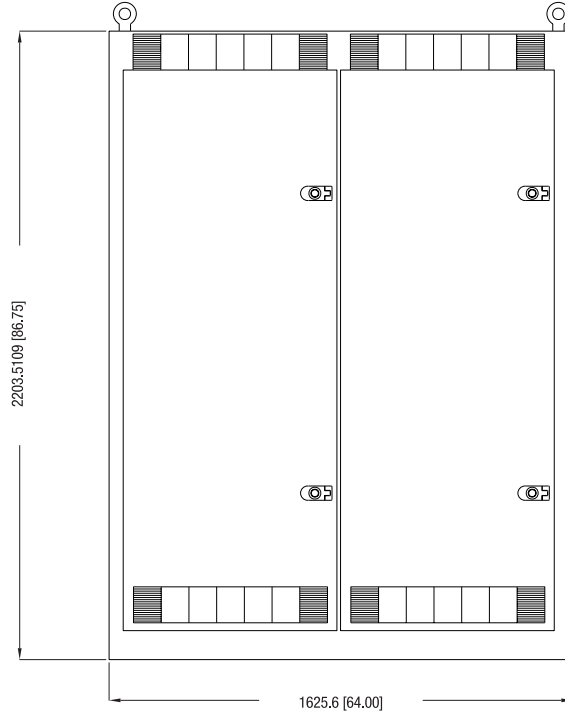
FlexPak 3000 DC Drives

Cabinet Dimensions

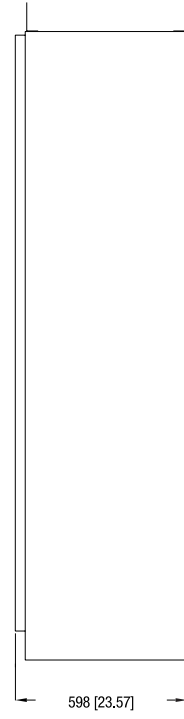
(mm/ins.)



1FD86 Basic



2FD86 Basic & Option



Side View

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FLEXPAK 3000 MODIFICATIONS AND OPTIONS

In most cases kits are supplied “loose only.” The following installed options allow kits to be pre-installed.

Note: The price includes installation and the kit only. The drive is priced separately.

Kit M/N	Description	Kit and Installation List	Enclosure Required	Notes
917FK0101	115 V Control Interface	\$680	yes	
911FKXX01	Field Current Regulator	420	no	Specify HP, Std. above 125HP
923FK0101	10 Amp Non-Standard, Voltage Field Supply	600	no	Cannot be used with field current regulator
923FK0201	20 Amp Non-Standard, Voltage Field Supply	750	no	Cannot be used with field current regulator
914FK0101	I/O Expansion Card	780	no	
915FK0101	AutoMax Network Card	561	no	Only one network card per drive
-	Passive Tap Installed	380	yes	Add to AutoMax network card
915FK2101	ControlNet Card	855	no	Only one network card per drive
915FK1100	DeviceNet Card	735	no	Only one network card per drive
915FK3101	Interbus-S Card	855	no	Only one network card per drive
907FK4101	Profibus Card	855	no	Only one network card per drive
905FK0101	Cabinet Mounted OIM	320	yes	n/a on NEMA 4
907FK0301	AC Tach Feedback Card	385	no	n/a on regenerative drives
907FK0101	Encoder Feedback Kit	385	no	

Motor Interface Options

The following are commonly requested options for interfacing to variable speed motors. These options require an enclosure option as well.

Motor Interface Options		
Description	List	Notes
Blower Motor Starter	\$500	See FlexPak 3000 options; price as factory installed
E.S.P. Brush Monitor ⁽¹⁾⁽²⁾	950	Price Brushes from Reliance DC Motor Catalog
240 VDC Field Regulator ⁽³⁾	1,220	Transformer & Fuses for FlexPak 3000 Field Regulator
Motor Heater Control, 115 V, 360W ⁽²⁾	475	Heater must be added to motor

Pre-Defined Operator Interface

The following are commonly requested operator interface functions and devices. Each option includes the appropriate operator device(s), engraved nameplate(s), and any additional control hardware required for the pre-defined function. These options require an enclosure option as well.

Pre-Defined Operator Interface		
Description	List	Notes
Start, Stop PB	\$172	
Jog PB	80	
Auto/Manual SS	100	
Speed Pot	106	
E-stop PB	110	
E-stop PB, Reset PB	190	
Forward/Reverse SS	100	For Regenerative Drives only
Power On, Run & Drive Fault PLs ⁽²⁾	275	
Nameplate, lamacoid	35	Specify wording on order form
Relay, Plug-in 24 VDC / 115 VAC Coil ⁽²⁾	215	
Timer Relay - Electronic - 2 Form C Contact ⁽²⁾	287	
Voltage Relay - Electronic - 2 Form C Contact ⁽²⁾	287	
Brake Control - AC Type with Contactor and Fuses ⁽²⁾	520	

(1) Monitor is compatible with Reliance DC motors only

(2) 115 VAC control transformer must be included for this option or customer supplied 115 VAC

DISCOUNT: MS-50D (3) Select the FlexPak 3000 field current regulator as factory installed from above

ENGINEERED MODIFICATIONS

OPERATOR CONTROLS⁽¹⁾

This section allows you to create custom operator panels and pushbutton stations. Operator controls are priced from this section by adding the desired operators' devices to the required enclosure price. Devices can also be selected for mounting and wiring in control cabinets. All devices include a legend and appropriate contact blocks

Operator Controls⁽¹⁾

The operator panels supplied have hinged covers and are suitable for wall mounting. Operator components are mounted in the cover and wired

to terminals on the inside of the enclosure. Use mounted and wired device prices, and add the price for the operator's enclosure having an area factor larger than the sum of the devices selected area factor. On the order form or via attached sketch, detail the device names and location.

Operator Panels				
Mod No.	Description	Area Factor	NEMA 4/12	NEMA 4X
E01	16"x16"x6"	150	\$450	\$1,300
E02	24"x16"x6"	300	600	1,500
E03	30"x24"x6"	580	820	2,060
E04	36"x30"x16"	950	900	2,720
E05	48"x36"x16"	1,560	1,370	3,500

Pushbutton Stations⁽¹⁾

The pushbutton stations in the table at right can contain any of the operator devices below whose model numbers begin with a "P." Use mounted only prices. Unused element locations will have plugs installed. On the order entry form or via attached sketch, detail the device names and locations.

Pushbutton Stations			
Mod. No.	Description	NEMA 12	NEMA 4X
E06	1 Device	\$80	\$180
E07	2 Devices	95	210
E08	3 Devices	105	240
E09	4 Devices	120	272
E10	6 Devices	145	-
E11	12 Devices	180	-
E12	16 Devices	205	670

Operator Devices and Meters ⁽¹⁾					
Mod. No.	Description	Area Factor	Mounted and Wired	Mounted ONLY	Separate Mounting
METERS					
M01	3.5" Ammeter (AC or DC)	25	\$260	\$180	\$160
M02	3.5" Loadmeter w/calibration	25	260	180	160
M03	3.5" Voltmeter (AC or DC)	25	260	180	160
M04	KWH Meter	25	2,215	2,100	2,000
M05	Elapse Time Meter	20	500	390	360
SPEED METERS					
M07	3.5" Analog	25	405	330	305
M08	3.5" Digital (analog input)	30	810	680	655
M09	Digital (frequency input)	30	720	635	585
PUSHBUTTONS					
P01	Standard Pushbutton	10	150	70	35
P02	Standard Pilot Light	10	135	70	30
P03	Illuminated Pushbutton	10	150	75	45
P04	Push to test Pilot Light	10	150	75	40
P05	Add Standard Accessories - Mushroom head, Levers, Guards, etc.	10	50	50	30
SELECTOR SWITCHES					
P06	Pushbutton type Selector Switch	10	120	70	50
POTENTIOMETER - with legend plates					
P07	Pushbutton type - Single Turn	10	120	70	30
P08	10 Turn with Dial	15	230	145	95
P09	NEMA 4 Single Turn	10	145	105	65

(1) Available only with a modified drive package

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