

Frequently Asked Questions

DCS800-EP Panel Drive

Definitions:

- Power module: This is the ABB product which converts AC power to DC power to run a variable speed motor. Example: DCS800-S02-0020-05
- Panel Drive: This is the power module and system components packaged on an open panel. Example: DCS800-EP2-0020-05

1. What is the DCS800-EP Panel Drive?

- It is a DCS800–S01 or –S02 power module mounted and wired on a panel with system components, such as the contactor, control transformer, and fuses.

2. Does it have to be installed in an enclosure?

- Yes. The DCS800-EP has a UL TYPE OPEN rating.

3. Who can buy it from ABB?

- ABB and Baldor authorized industrial distributors and system integrators.

4. Where is it made?

- The power module is made in Germany. The panel drive is made in America, presently by our authorized manufacturing center in Denver, CO.

5. Is ABB stocking this drive?

- All DCS800 Panel Drives are built to order to the exact specification and usually ship within 3-4 days. Large drives, 400 hp and above, require 6 weeks to produce and ship.

6. What are the voltage and power ratings?

- 10 to 600 HP
- 480 Vac as standard; 230 Vac as an option

7. What else is included as standard (in addition to the power module)?

- AC Line contactor
- Control transformer
- AC line fuses
- DC output fuses (regen only)

8. What tools are available for commissioning the DCS800-EP?

- The control panel includes the QuickStart assistant that steps you through the commissioning process. QuickStart was designed to have the same structure as the FlexPak 3000's QuickStart assistant.

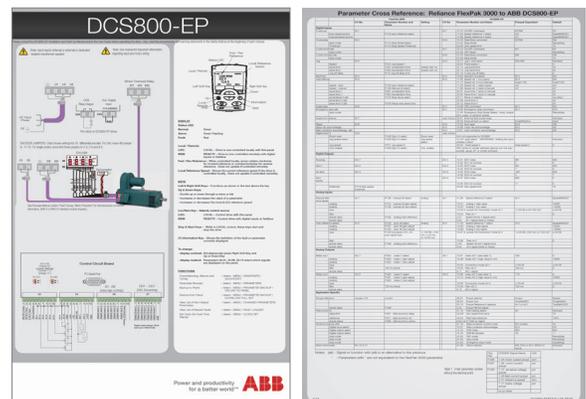


9. What start up documentation is available?

- The DCS800 User's Manual (included with each drive) provides background information on the QuickStart assistant. It also includes a condensed glossary of firmware parameters, wiring diagrams and descriptions of macros, faults, and alarms.

10. Is there a parameter cross-reference from the FlexPak 3000 to the DCS800-EP?

- Each drive includes a DCS800-EP wall chart with a parameter cross-reference table. The wall chart also has a basic wiring diagram for the drive and usage instructions for the control panel.



11. What are the options?

- Internal line reactor (E213)
- Blower motor starter and overload (M6xx)
- Main circuit breaker (F278)
- 230 V line voltage (S235)
- Without AC contactor (0F250)

12. I see the DCS800-S0x power module is rated at different power ratings based on level of overload. Can I do that with the Panel Drive?

- No, the DCS800-EP Panel Drive has only one overload rating, which is "heavy duty." Everything on the panel (wire, contactors, etc.) are sized based on this continuous rating so it is not possible to run it at a higher continuous / lower overload rating.

13. Does the DCS800-EP require a reactor?

- DC drives manufactured by ABB require a dedicated line reactor / isolation transformer as described in the DCS800-S0x Hardware Manual (Doc# 3ADW000194). For retrofits, if one isn't already present, it must be added. Failure to follow this could result in misfiring of the SCR's which could blow fuses or damage the drive.

14. My existing system did not need a reactor. Do I still need one with DCS800?

- Yes. Some older model drives were designed to run without a reactor or transformer under certain conditions. DCS800 requires it in all situations.

15. Are there any differences between the current ratings of the DCS800-EP and the FlexPak 3000?

- The field and armature current ratings are slightly different. DCS800-EP uses NEMA ratings; Reliance deviated slightly from this standard. See Table 1 at the end of this document for a summary.

16. I see the width dimension is greater than the width of the Reliance FlexPak 3000. How do you figure it will fit in the existing footprint?

- First, the mounting holes line up with the FlexPak 3000. Second, Reliance required more clearance area on the sides of the drive than what is required for the DCS800-EP. When this difference is taken into account, the DCS800-EP is actually less wide than the FlexPak 3000.

Panel Size		FlexPak		DCS800-EP		FlexPak Total	DCS800 Total
		Panel	Clearance	Panel	Clearance		
A	height	18.8	10	18.8	9	28.8	27.8
	width	10.6	4	12.2	1	14.6	13.2
	depth	12.2	0	14.4	0	12.2	14.4
B	height	19.3	17	19.3	15	36.3	34.3
	width	18.1	4	20.0	1	22.1	21
	depth	13.5	0	13.8*	0	13.5	13.8*
C	height	33.5	17	33.5	15	50.5	48.5
	width	23.6	4	23.6	1	27.6	24.6
	depth	16.7	0	16.2	0	16.7	16.2
D	height	43.5	17	43.5	17	60.5	60.5
	width	26.7	4	26.7	4	30.7	30.7
	depth	18.8	0	16**	0	18.8	16**

*depth with optional reactor is 19.3"

17. When replacing a FlexPak, could there be a depth issue?

- The DCS800-EP is deeper than the FlexPak as shown above, especially frame A and frame B with reactor, so it is important that this be checked before specifying the drive.

18. If I am replacing a FlexPak 3000 that has a disconnect, will the handle on my enclosure work with the DCS800-EP's circuit breaker?

- Probably not. The DCS800-EP uses a different brand of breaker than the FlexPak 3000 and the location is slightly different. You will need to install a handle for an ABB Tmax breaker and relocate it on the enclosure door.

19. Will the DCS800-EP work for replacing older Reliance drives, such as the MaxPak Plus?

- Yes, it will work but more "homework" is required. The hole patterns will probably be different and there may be variations as to the type of contactor used (AC vs. DC). There may be other differences as well.

20. Why would someone want to replace their FlexPak with a DCS800?

- Rockwell has discontinued the FlexPak 3000 and they do not have a "chassis" (panel) version of the PowerFlex DC. The DCS800 has a proven track record since its launch in late 2006. It is a state-of-the-art DC drive. If the FlexPak fails, the entire panel must be replaced but for the DCS800-EP, the power module, alone, could be replaced.

21. Can the DCS800-EP be used to replace other manufacturer's panel drives, like the Emerson/CT Quantum III or Parker/SSD 590+DRV?

- There is a lot of variation in what is included on a panel drive. Each must be considered carefully before doing a retrofit. Pay special attention to: dimensions, presence of AC contactor or DC contactor, I/O voltage and isolation, features and options, and presence of dynamic braking.

22. Is there an installation guide?

- Yes, the DCS800-EP User Manual (Doc# 3AUA0000148993) is available.

23. Is there a conversion guide?

- Yes, the FlexPak 3000 Replacement Guide (Doc# DCS800-PHTG01U-EN) is available.

24. How do I get CAD drawings for the DCS800-EP?

- The Panel Drive CAD drawings are available on the on-line CAD catalog. (www.abbnow.com)

25. How do I get electrical drawings for the DCS800-EP?

- Power and control wiring diagrams are available from the online Configurator tool. (They are also in the Installation Guide.)

To access the online tool:

1. Go to www.abb.us/drives
2. Click on “Product Configurator” in left menu
3. Click on “Public Version”

26. What’s the easiest way to quote a DCS800-EP?

- Use the Configurator tool mentioned above.

27. The packaging looks pretty tight. Will I be able to work on it without tearing it apart?

- This drive was designed with maintainability in mind. Access to fuses is possible without removing any other parts. Whenever possible, tool access is designed into the product. On the frame A drive, the power module must be removed to gain access to the control transformer, reactor, and AC contactor, but this can be accomplished in only a few minutes.

28. Why does it stop at 600 HP?

- A larger drive would require moving to the D5 frame power module which is too large and heavy to mount on a “shippable” panel, not to mention the large contactors, etc. that would be required.

29. What if my PLC needs to know when the AC contactor is closed?

- An auxiliary dry N.O. contact is brought out to the main terminal strip on the panel drive. This is especially convenient for two wire control.

30. I see the drive comes with fuses for the blower motor circuit. Are these the best fuses for my application?

- The fuses that are supplied from the factory are sized at the lowest overload setting. If used at a higher setting, larger fuses may be required. See the Installation and Start Up Manual / Replacement Parts for specific recommendations.

31. What are the benefits of installing a panel drive vs. a power module?

- It simplifies the process of procuring the accessory components; is a pre-wired, pre-tested solution for smooth, fast start ups, and is a space efficient design.

32. My 600 hp FlexPak 3000 has a DC contactor. Can I get one with my DCS800-EP?

- The DCS800-EP only comes with an AC contactor through the entire size range.

33. How do I use the DCS800-EP with a DC contactor?

- The DCS800-EP’s have an AC contactor as standard, but all frames can be ordered without a contactor. This is to allow the user to install a DC contactor externally if desired. Note: Never connect more than one contactor to the drive’s relay output “D08” or on-board control transformer.

34. My 600 hp FlexPak 3000 has an inverting breaker. Can I get one with my DCS800-EP?

- Inverting breakers are not available but all regenerative DCS800-EP drives come with DC fuses which fill the same functional requirement.

35. How do I get technical support for the drive?

- Call 1-800-HELP-365 (1-800-435-7365)
- Email drivessupportline@us.abb.com

36. How do I get warranty parts?

- Contact Technical Support as above.

37. How do I get parts after the warranty period expires?

- The Hardware Manual Supplement (Doc# 3AUA0000076338) has a complete list of replacement parts. You can source them on your own. Many parts are available from ABB Low Voltage Products. See your Product Selector catalog.

38. What is required to convert DCS800-EP to 230 Vac?

- The drive fan(s) and relay coils are rated for 120Vac. Therefore, the control transformer must be reconfigured so it will output 120 Vac if fed with 230V instead of 460V.

39. Can it be converted to 230 Vac in the field?

- Yes, in the field or at the factory. See the Hardware Manual Supplement (Doc# 3AUA0000076338) for instructions.

40. Do I need a field kit to do the 230 Vac conversion?

- A field conversion kit is available but not required. The Hardware Manual Supplement (Doc# 3AUA0000076338) lists what parts are required.

1. Table 1: Current ratings for DCS800-EP vs. comparably-sized Reliance FlexPak 3000 DC drive.

Unit Type (2 Quadrant)	Unit Type (4 Quadrant)	460V Motor	DCS800-EP AC Amps	Armature Current (Adc)			Field Current (Adc)		
				DCS800-EP / NEMA Motor	FlexPak 3000	Var.	DCS800-EP	FlexPak 3000	Var.
DCS800-S01-0020-05	DCS800-S02-0025-05	10	8	17	19	-2	6	10	-4
DCS800-S01-0045-05	DCS800-S02-0050-05	20	8	35	35	0	6	10	-4
DCS800-S01-0065-05	DCS800-S02-0075-05	30	8	53	52	1	6	10	-4
DCS800-S01-0090-05	DCS800-S02-0100-05	40	12	68	73	-5	6	15	-9
DCS800-S01-0125-05	DCS800-S02-0140-05	60	12	104	100	4	6	15	-9
DCS800-S01-0180-05	-	75	12	125	129	-4	15	15	0
-	DCS800-S02-0200-05	100	12	164	167	-3	15	15	0
DCS800-S01-0230-05	DCS800-S02-0260-05	125	12	205	207	-2	15	15	0
DCS800-S01-0315-05	DCS800-S02-0350-05	150	12	245	250	-5	20	15	5
DCS800-S01-0405-05	DCS800-S02-0450-05	200	12	325	330	-5	20	15	5
DCS800-S01-0470-05	DCS800-S02-0520-05	250	12	405	412	-7	20	15	5
DCS800-S01-0610-05	DCS800-S02-0680-05	300	12	480	495	-15	25	15	10
DCS800-S01-0740-05	DCS800-S02-0820-05	400	12	640	667	-27	25	15	10
DCS800-S01-0900-05	DCS800-S02-1000-05	500	12	795	800	-5	25	15	10
-	DCS800-S02-1010-05	600	12	950	960	-10	25	15	10

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