349PDM - Power Distribution Module

The 349PDM is a digital I/O module. It has 12 solid state output channels, each capable of 15A, 4 5A capable relays, and 4 digital inputs that can be configured active high or active low. The 349PDM features a manual mode to allow operation of outputs and relays without a functioning E-Plex connection. The total current handling capability is 75A and we recommend that a supply breaker or fuse of 80A maximum is used. The module is split into two sides, and channels 2 and 3 on each side are diode protected against backfeeding.

Links

- Distributor resources (requires distributor login 🔵)

Pinout

Deutsch part number for mating connector: DRC16-40SA-P013

Deutsch part number for contacts (up to 40 required): 0462-209-16141

Pin	Description	Manual Override	Current Capability
J1-1	Chan 5 Stbd	Switch 13	0-15 A
J1-2	Relay #1 Port	Switch7	0-5 A
J1-3	Relay #1 Port	Switch7	0-5 A
J1-4	Relay #1 Stbd	Switch15	0-5 A
J1-5	Relay #1 Stbd	Switch15	0-5 A
J1-6	Relay #2 Port Comm Ext Pwr	Switch8	0-5 A
J1-7	Relay #2 Port No Switch	Switch 8	0-5 A
J1-8	Relay #2 Stbd Comm Ext Pwr	Switch16	0-5 A
J1-9	Relay #2 Stbd No	Switch16	0-5 A
J1-10	Chan 6 Port	Switch6	0-15 A
J1-11	Chan 5 Port	Switch5	0-15 A
J1-12	E-Plex Data +	-	-
J1-13	E-Plex Data -	-	-
J1-14	Common	-	-
J1-15	P-Tach Input	-	0 A
J1-16	Common	-	-
J1-17	Common	-	-

J1-18	Common	-	-
J1-19	Common	-	-
J1-20	Chan 6 Stbd	Switch14	0-15 A
J1-21	Chan 2 Port	Switch2	0-15 A
J1-22	E-Plex Data +	-	-
J1-23	E-Plex Data -	-	-
J1-24	Common	-	-
J1-25	S-Tach Input	-	0 A
J1-26	Common	-	-
J1-27	Common	-	-
J1-28	Common	-	-
J1-29	Common	-	-
J1-30	Chan 4 Port	Switch4	0-15 A
J1-31	Chan 2 Stbd	Switch10	0-15 A
J1-32	Chan 1 Stbd	Switch9	0-15 A
J1-33	Chan 1 Port	Switch1	0-15 A
J1-34	Stbd DI 1 Pull High/Low	DI3	0 A
J1-35	Port DI 1 Pull High/Low	DI1	0 A
J1-36	Stbd DI 2 Pull High/Low	DI4	0 A
J1-37	Port DI 2 Pull High/Low	DI2	0 A
J1-38	Chan 3 Port	Switch3	0-15 A
J1-39	Chan 3 Stbd	Switch11	0-15 A
J1-40	Chan 4 Stbd	Switch12	0-15 A

Frequently Asked Questions

How do I add a 349PDM to my E-Logic schematic?

The 349PDM is internally split into two modules, but they share the same E-plex interface. When you are adding it to E-Logic, you will find the 349PDM object under 'DIGITAL I/O'. You need to add two logic objects, for each physical 349PDM. Then, using the unique properties set one of the objects to 'Side A', and the other to 'Side B'. Each side will have a different address. When programming the module, you will need to address each side seperately. You cannot use master address on this module because it contains two processors, so be careful not to set both sides to the same address. Only use initialise and unaddress with this module, never use the change address command.

How does the feedback channel on the 349PDM work?

The feedback channel on the 366HMM indicates if there is a voltage on a particular channel. If the channel is on, this provides confirmation that it is working normally. If the channel is not on, it represents a input signal on that channel.

How does the over current protection work?

The module has two current ratings, the channel rating and the module rating. The channel rating is the maximum current that can be drawn by any given channel. If a channel exceeds this current, that channel is automatically disabled (tripped). To re-enable the channel, it must be switched off then back on from software. This trip current can (and should) be adjusted per channel from the object's unique properties in order to match the rating of the connected load.

The module rating is the maximum current that can be drawn by all channels combined. This is less than the sum of the channel ratings, so it is not possible to have all channels running at full load simultaneously. If this limit is exceeded for more than a short period of time the module will be damaged. It is therefore necessary to protect the module by fitting an appropriately sized fuse/breaker on the input.

I accidentally did something with side B, and now I cannot talk to it. How do I get it back?

The 349PDM contains two processors that share an E-Plex circuit. This requires E-Logic to change the way it communicates when it needs to talk to side B. Some of the E-Logic commands only currently work with side A, so some advanced troubleshooting tasks can be tricky when dealing with side B. One common problem that can occur is if the address of side B is changed to something other than the blank address, or the address specified in the design. If this happens, it is possible to recover the B side, but you need to know which address it has been assigned. The most likely scenario is that side B will have been assigned the address intended for side A. In this case, the following procedure can be used to correct the address of side B.

1. Open the design that you are using to program the PDM (this will be referred to as the original design).
2. Open the E-Plex interface.
3. Select side A in the module selector.
4. Click on unaddress.
5. Close the E-Plex interface.
6. Copy the clock module and the PDM side B object into a new design (this will be referred to as the helper design).
7. Change the address of the PDM in the helper design to the address of side A in the original design.
8. Open the E-Plex interface.
9. Click on unaddress.
10. Close the E-Plex interface.
11. Switch back to the original design.
12. Open the E-Plex interface.
13. Select side A in the module selector.
14. Click on initialize.
15. Close the module test program.
16. Select side B in the module selector.
17. Click on initialize.
18. Close the module test program.
19. Click on search for modules; both sides of the PDM should be found at the correct addresses.