



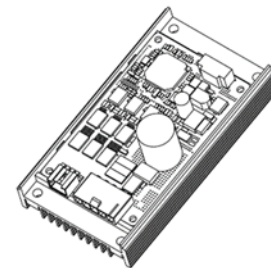
Brushless DC Variable Speed Controller Technical Data Sheet

General Information								
Controller Part Number	Description	Nominal Voltage Range	Controller Drawing	Wiring Diagram Drawing	Weight (Kg)	Compressor Harness	Manual Function Control	Signal Cable
025F0361	MESA 18-0146Y4 Controller	DC 16~32 V	DGMX0089	DEMX0058	.14	040F0275	025F0377	040F0277
025F0362	MESA 18-0085Y3 Controller	DC 16~32 V	DGMX0089	DEMX0058	.14	040F0275	025F0377	040F0277
025F0363	MESA 17-0085Y3 Controller	DC 30~60 V	DGMX0098	DEMX0064	.14	040F0284	025F0377	040F0285

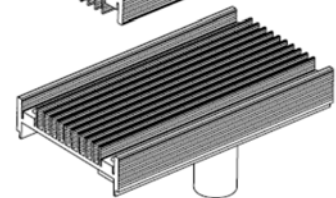
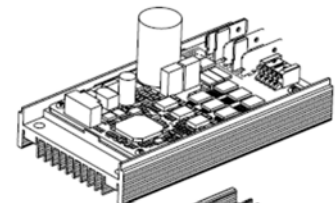
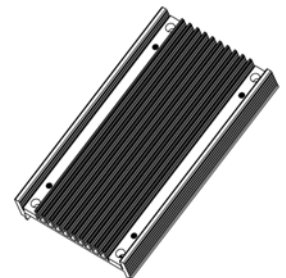
Controller			
Controller	# Per Box	Single Pack Part Number	# Per Box
025F0361	66	025F0361-SP	1
025F0362	66	025F0362-SP	1
025F0363	66	025F0363-SP	1

Agency Approvals			
Controller	UL	CE - LVD	CE-EMC
025F0361	-	-	-
025F0362	-	-	-
025F0363	-	-	-

Parameter	Condition	Min.	Nom.	Max.
Electrical Ratings / Specification		025F0361		
Operating Range		16 V	24 V	32 V
Speed Range		1200 RPM		6000 RPM
High Voltage Shutdown			38 V	
Low Voltage Shutdown			8.2 V	
Low Voltage Resume			9.0 V	
Input Power				250 W
Electrical Ratings / Specification		025F0362		
Operating Range		16 V	24 V	32 V
Speed Range		2100 RPM		6000RPM
High Voltage Shutdown			38 V	
Low Voltage Shutdown			8.2 V	
Low Voltage Resume			9.0 V	
Input Power				250 W
Electrical Ratings / Specification		025F0363		
Operating Range		30 V	48 V	60 V
Speed Range		1200 RPM		6000RPM
High Voltage Shutdown			71 V	
Low Voltage Shutdown			9.6 V	
Low Voltage Resume			10.5 V	
Input Power				480 W



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025F0362



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Measured current is steady state. The controller presents a capacitive load to the system. On initial application of power, a substantial in-rush current will result if not limited by external components.

If compressor stops running, there will be a one minute delay before restart

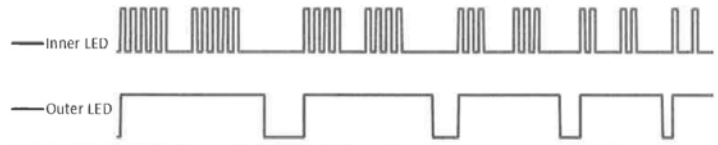
An external fuse with sufficient voltage and current ratings, must be used to protect the controller and associated wiring. This is required to protect the system from reverse-wiring and other adverse conditions.

When cycling the power to the controller board the controller will start immediately, but when cycling power to the manual controller there will be a one minute delay.

DC MESA Controllers

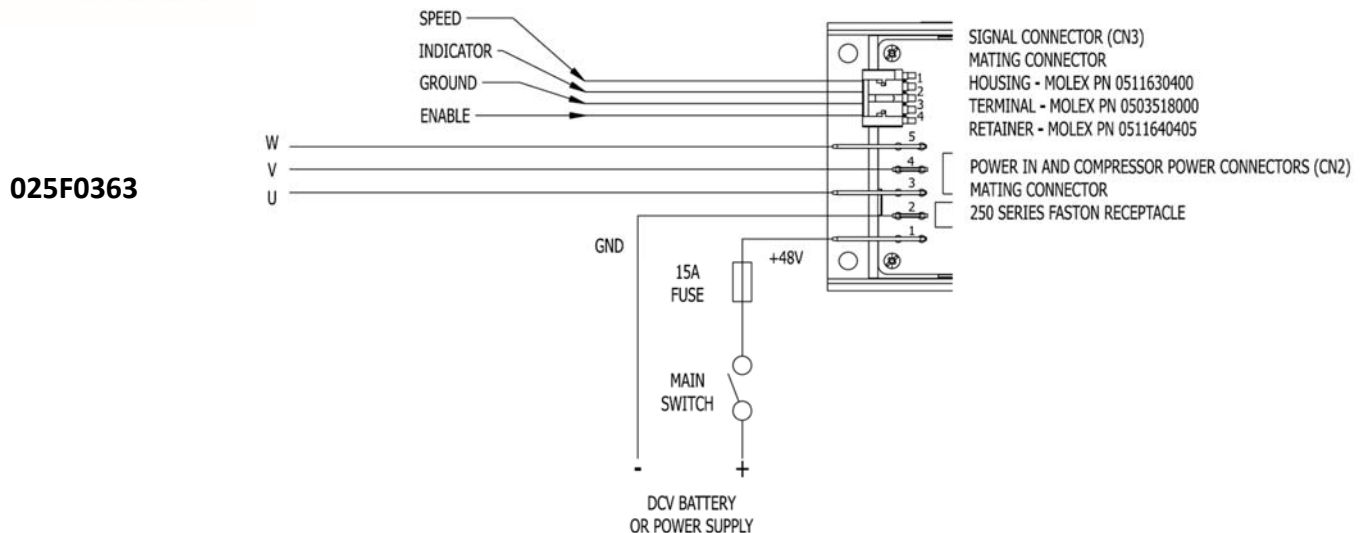
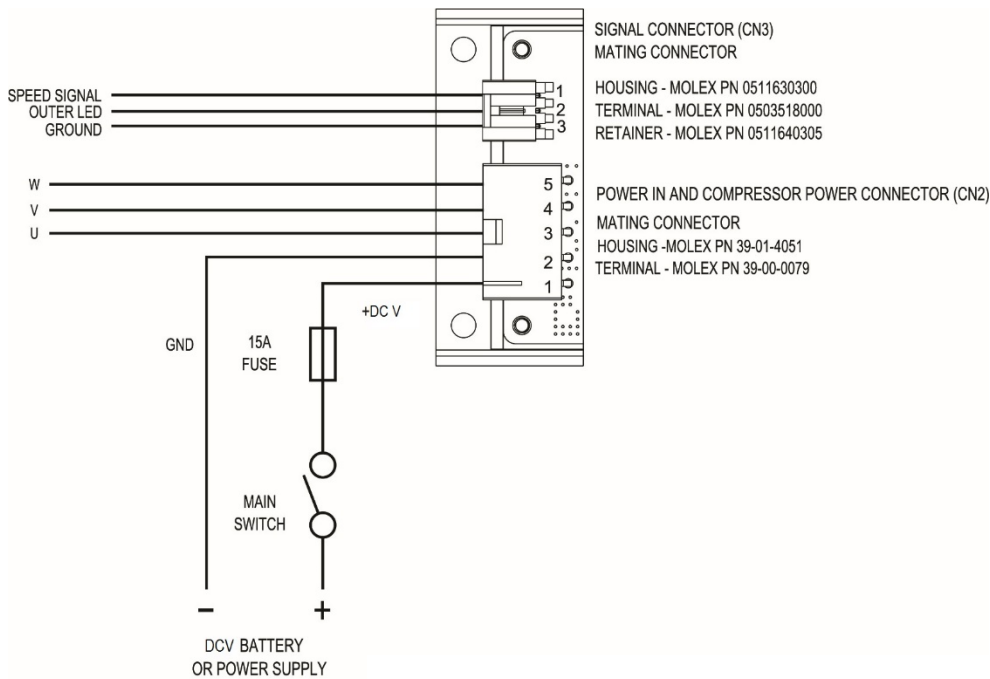


Fault Indicator Output		
Error Type	Flashes	Error
5	1	Compressor Overload
4	2	Loss of Compressor Connection
3	3	Over Current/Short Circuit
2	4	Over/Under Voltage
1	5	Controller Overheat

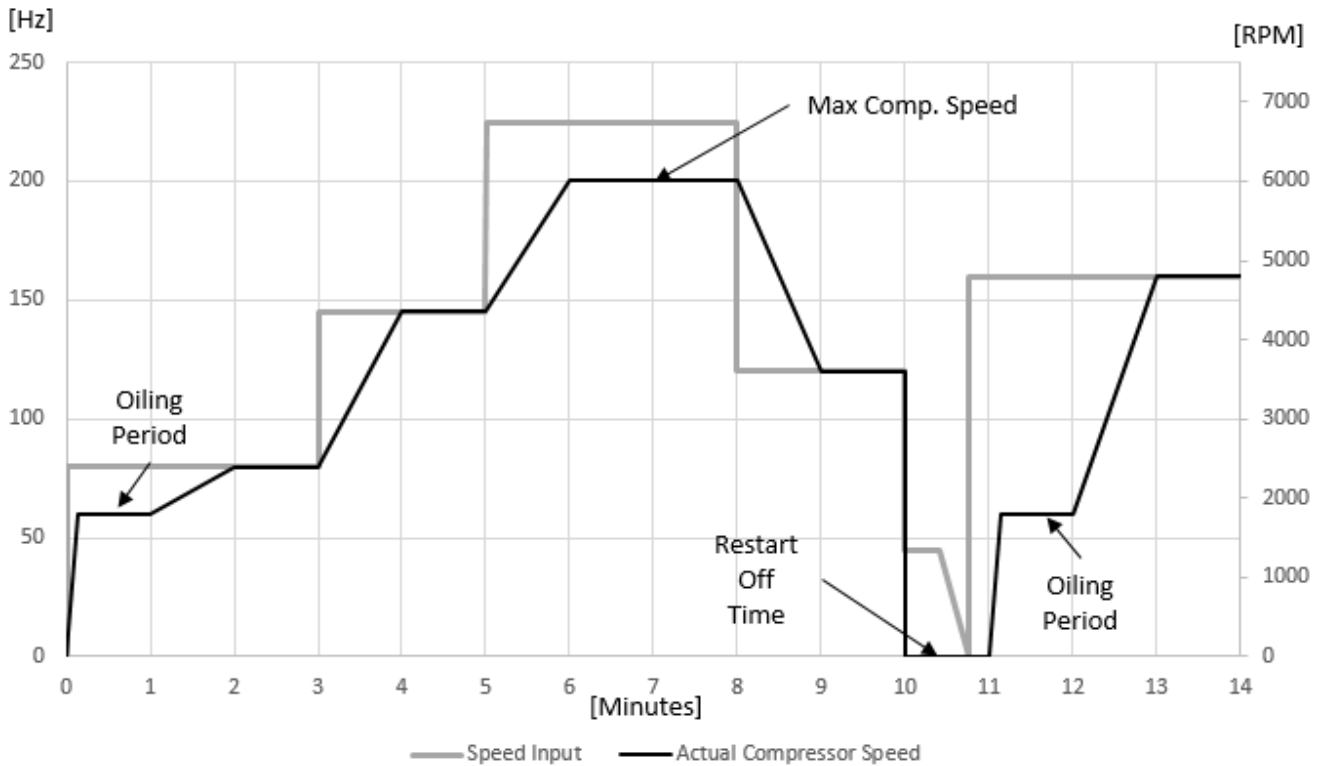


When an error occurs, compressor will stop signal for 1 min.
 If error is not cleared after 1 min, the stop time is increased by 1 min.
 Errors can be checked using CN3 Molex housing pin #2

WIRING DIAGRAMS



Compressor Speed Controls



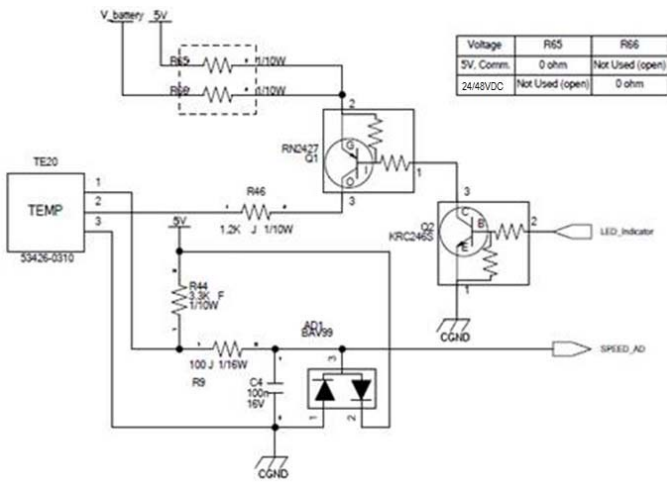
Compressor Operation Based on Inputs

1. Target Speed: In digital signal target speed [RPM] = Freq [Hz] × 30. See below table for more information.
2. Minimum frequency input for compressor to start 35 Hz or 20 Hz
3. Oiling Period: When started compressor will run for at least 1 min at 1800 RPM upon startup to allow oil circulation
4. Max Speed: Max compressor speed is 6000 RPM. If 200 Hz input is exceeded compressor will run at 6000 RPM
5. Acceleration/Deceleration Rate: Compressor speed will change by 60 RPM per second
6. Restart Time: After shutting down, compressor will remain off for a minimum of 1 minute

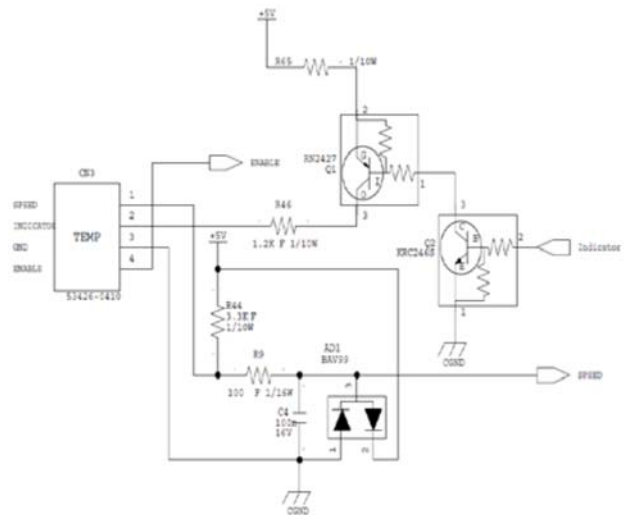
Controller Signal Input

Target	Speed Signal		
	Digital	Variable Resistor	
RPM	Hz	V	kΩ
1200	40	1.89	2.0
1560	52	2.20	2.6
1920	64	2.46	3.2
2280	76	2.68	3.8
2640	88	2.86	4.4
3000	100	3.01	5.0
3360	112	3.15	5.6
3720	124	3.26	6.2
4080	136	3.37	6.8
4440	148	3.46	7.4
4800	160	3.54	8.0
6000	200	3.76	10.0

If digital signal is applied, use square wave with duty rate of 50%.



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