



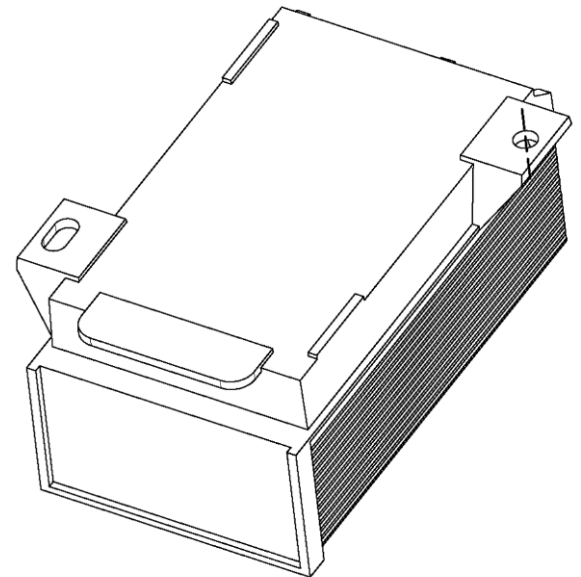
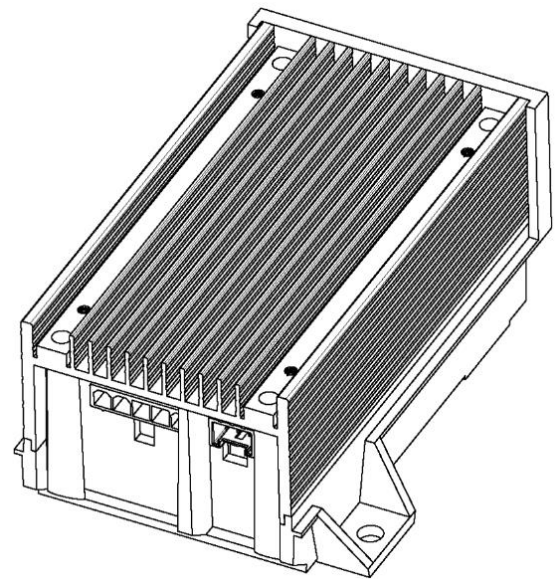
Brushless DC Variable Speed Controller Technical Data Sheet

General Information								
Controller Part Number	Description	Nominal Voltage Range	Controller Drawing	Wiring Diagram Drawing	Weight (Kg)	Compressor Harness	Manual Function Control	Signal Cable
025F0364	MESA 20-0085Y3 Controller	195.5~299 VAC	DGMX0090	DEMx0059	.23	040F0275	025F0377	040F0277
025F0365	MESA 19-0146Y4 Controller	85~130 VAC	DGMX0090	DEMx0059	.23	040F0275	025F0377	040F0277
025F0366	MESA 20-0146Y4 Controller	195.5~299 VAC	DGMX0090	DEMx0059	.23	040F0275	025F0377	040F0277

Controller			
Controller	# Per Box	Single Pack Part Number	# Per Box
025F0364	66	025F0364-SP	1
025F0365	66	025F0365-SP	1
025F0366	66	025F0366-SP	1

Agency Approvals			
Controller	UL	CE - LVD	CE-EMC
025F0364	-	-	-
025F0365	-	-	-
025F0366	-	-	-

Parameter	Condition	Min.	Nom.	Max.
Electrical Ratings / Specification		025F0364		
Operating Range		85 V	100 V	130 V
Speed Range		1200 RPM		6000 RPM
Electrical Ratings / Specification		025F0365		
Operating Range		85 V	100V	130 V
Speed Range		1200 RPM		6000RPM
Electrical Ratings / Specification		025F0366		
Operating Range		195.5 V	230 V	299 V
Speed Range		2100 RPM		6000 RPM



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.

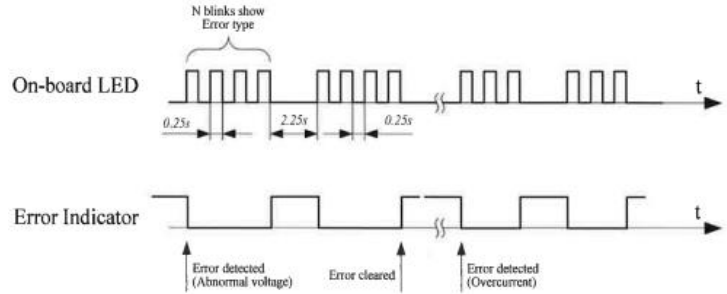
When cycling the power to the controller board the controller will start immediately, but when cycling power to the manual controller there will be a one minute delay.

AC MESA Controllers

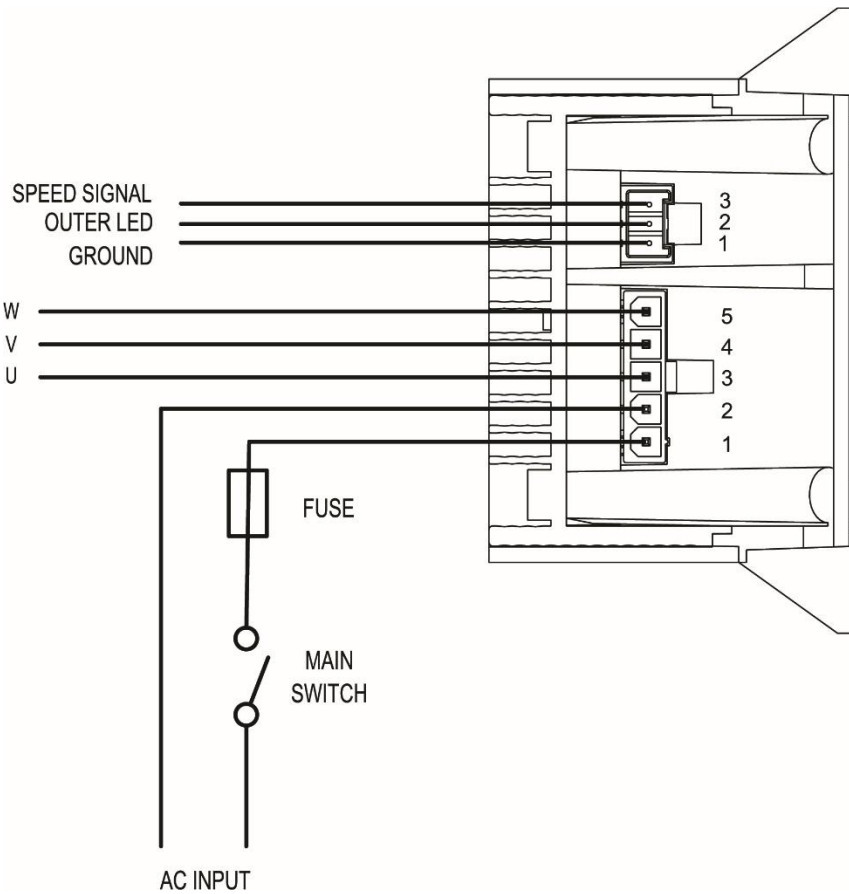


MASTERFLUX

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**



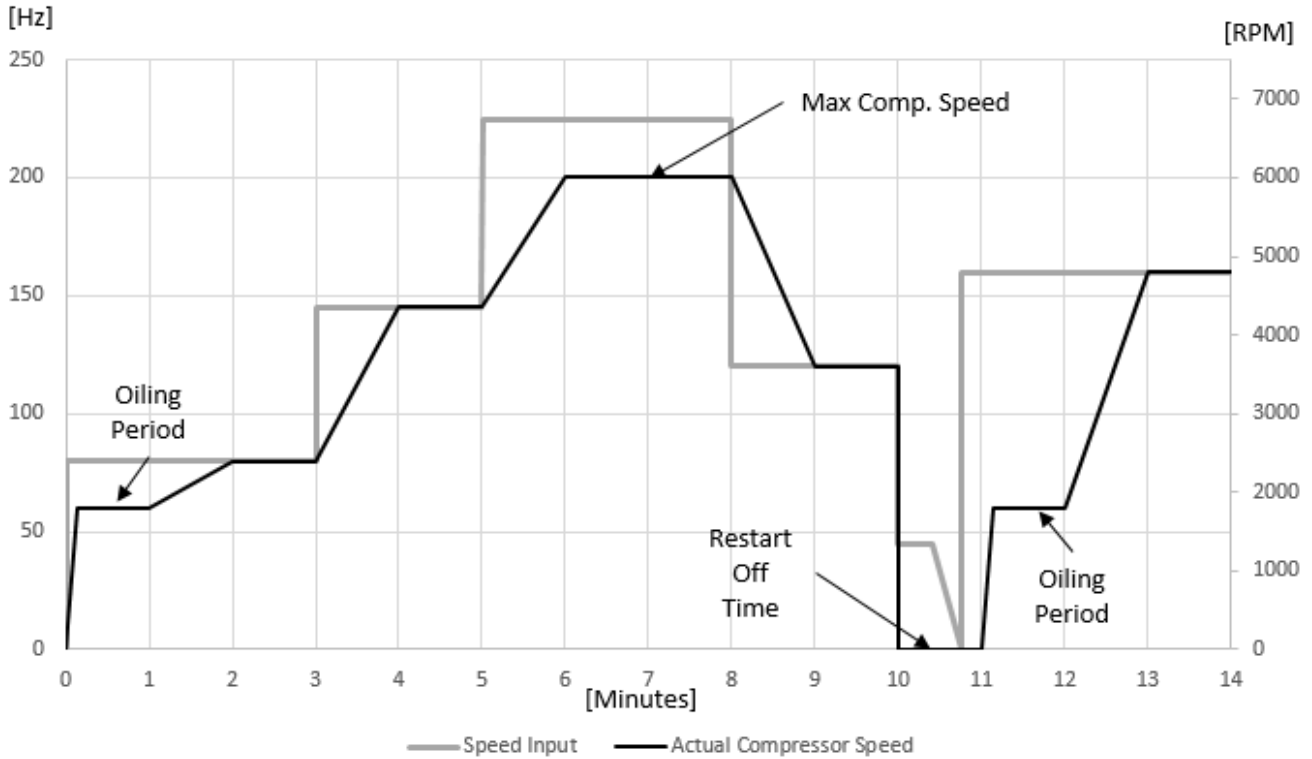
SIGNAL CONNECTOR (CN3)
 MATING CONNECTOR

HOUSING - MOLEX PN 0511630300
 TERMINAL - MOLEX PN 0503518000
 RETAINER - MOLEX PN 0511640305

POWER IN AND COMPRESSOR POWER CONNECTOR (CN2)
 MATING CONNECTOR
 HOUSING - MOLEX PN 39-01-4051
 TERMINAL - MOLEX PN 39-00-0079

WIRING DIAGRAM

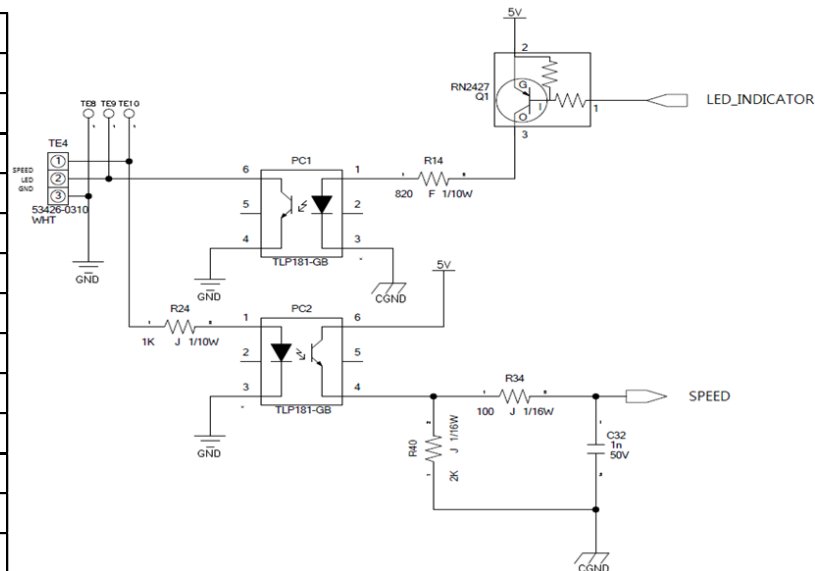
Compressor Speed Controls



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

Target	Speed Signal
RPM	Hz
1200	40
1560	52
1920	64
2280	76
2640	88
3000	100
3360	112
3720	124
4080	136
4440	148
4800	160
6000	200



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