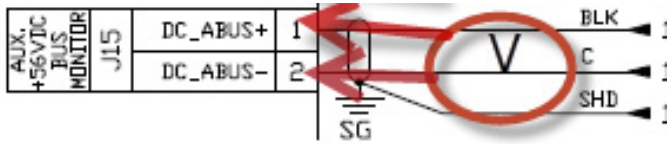
All Drive Types	PF7000A	PF7000B	PF7000C	Marine Drive	Heat pipe Drive	Fault Message	Fault Code	Description	Recommended Action(s)
			X	X		CabinetTemp High (C-Frame Only)	70	The drive has a temperature switch in several cabinets, and all the N/C switches are connected in series and fed back to the XIO input. The levels are set differently for different cabinets.	• Identify which switch has opened, and focus on that cabinet. • Check for proper air flow within the identified section. • Verify that the stirring fans are operating correctly. • Verify that the ambient temperature is within tolerances.
X						Capability Limit	465	The motor current exceeded maximum allowable level for the variable torque drive. Drive was limiting the motor current to the safe level for drive thermal protection, but new speed operating point cannot be achieved higher than 6 Hz.	• Ensure that the drive is not used for constant torque load condition.
					X	CMC Blcked Exhst	477	There is possibly blockage to the CMC exhaust/inlet airflow. **Note:** This fault word is used exclusively on Heatpipe drives.	• Ensure that there are no obstructions to the path of the outgoing/incoming air flow. • Check for cooling fan deterioration. • Verify if the trip setting (P813/P814) matched factory recommended value.
					X	CMC Blcked Inlet	480	There is possibly blockage to the CMC exhaust/inlet airflow. Note: This fault word is used exclusively on Heatpipe drives.	• Ensure that there are no obstructions to the path of the outgoing/incoming air flow. • Check for cooling fan deterioration. • Verify if the trip setting (P813/P814) matched factory recommended value.
					X	CMC Double Fans	474	The drive has just lost two or more of the cooling fans.	• Verify the fan contactors, fan overload and the 120V wiring to the XIO card.
					X	Cnv Airflow Loss	505	The cooling airflow velocity on the specified power stack is below the trip/warn level.	• Ensure that there are no obstructions to the path of the outgoing/incoming air flow. • Check for cooling fan deterioration. Verify if the trip (P840) and warn setting (P841) matched factory recommended values.
					X	Cnv Double Fans	473	The drive has just lost two or more of the cooling fans.	• Verify the fan contactors, fan overload and the 120V wiring to the XIO card.
					X	CMC Fan9 Ctctr	487	Loss of the cooling fan.	• Verify the fan contactor, fan overload and the 120V wiring to the XIO card.
					X	Cnv Fan3 Ctctr	482		
					X	Cnv Fan4 Ctctr	483		
					X	Cnv Fan5 Ctctr	484		
					X	Cnv Fan6 Ctctr	485		
					X	Cnv Fan7 Ctctr	486		
X						Control Pwr Loss	57	There has been a loss or dip in the control power feeding the drive for more than 5 cycles.	• Ensure that the power source is active and investigate the reliability of the source. • Check control power input to ACB.

All Drive Types	PF7000A	PF7000B	PF7000C	Marine Drive	Heat pipe Drive	Fault Message	Fault Code	Description	Recommended Action(s)
X						IGDPS 56V Loss	53	The drive has detected a loss of the 56V dc voltage feeding the IGDPS.	• Check connections, the DC output of the AC/DC converter and the input voltage to the IGDPS. • Replace the power supply if required. • Measure the voltage at the ACB connector J15 and compare it to parameter P101. P101 provides the value the drive processor board measures. If the actual value at J15 is 56V and P101 is lower than 56V, then problem is either the ACB or DPM—most likely the ACB. 
		X	X			InputLockOut 5Min	462	This fault is valid for 18-pulse drives and prevents damage to the isolation transformer. The input contactor has been locked out for 5 minutes due to a Line OverCurrent condition.	• Investigate the cause of the over-current condition. Fault can only be reset after 5 minutes. • Check the rectifier SCRs for short across anode to cathode
		X	X			InputLockOut Indef	463	This fault is valid for 18-pulse drives and prevents damage to the isolation transformer. The input contactor has been locked indefinitely due to a Line OverCurrent condition.	• It is likely that there is line to line short condition due to shorted SCR devices. • Investigate the cause of the over-current condition. • If nothing found short, cycle control power to reset the fault.
					X	Inv Airflow Loss	495	The cooling airflow velocity on the specified power stack is below the trip/warn level. This fault is not active starting in Firmware 11.001.	• Ensure that there are no obstructions to the path of the incoming/outgoing air flow. • Check for cooling fan deterioration. • Verify if the trip (P840) and warn setting (P841) matched factory recommended values.
X						InvA2D Seq Error	188	An error has been detected in A2D conversion.	• Cycle control power. • If the fault does not clear after cycling the control power, then replace ACB Board. If this does not resolve the issue, then replace DPM board.
X						InvFbrOpt Config	187	The drive has detected that the number of fiber-optic boards does not match the number of devices in the inverter section.	• Verify the parameter settings and check that the board in plugged properly on the OIBB.
	X	X			X	Inv Hs Over Temp	491	The drive detected high heatsink temperature at the specified location.	• Verify if the warn (rectifier P112, inverter P316) and trip settings (rectifier P111, inverter P315) match factory recommended values.
	X	X			X	InvHSnk FbrOptic	180	While Not Running, the fiber-optic signal from the TFB on the inverter heatsink, connected to Channel A fiber-optic receiver RX7 on FOI-M-A is not present. This is only a fault while not running. If this occurs while running it will appear as a warning.	• Check TFB and FOI board for power. • Check the fiber-optic cables are properly seated in the transmitters and receivers. • Check the fiber-optic cable for kinks, bends, breaks that could be blocking the signal. • This can occur if the sensor is not connected to the TFB.
	X	X			X	InvHSnk LowTemp	179	If the measured temperature IHeatsink Temp C (P252) is less than 2 °C, and the drive is not running, the drive will display this fault.	• Verify that the ambient in the control room is not below 2 °C (35.6 °F). • Verify power to the TFB. • There could be a mechanical problem with the temperature sensor or with the cable feeding the signal back to the TFB. • Swap with the rectifier hardware to identify the bad component.

All Drive Types	PF7000A	PF7000B	PF7000C	Marine Drive	Heat pipe Drive	Warning Message	Warning Code	Description	Recommended Action(s)
						L Magnetize Low	70	Indicates that the Autotune L Magn (P221) measured was less than 1.00 pu, and Lm Rated (P131) will have to be tuned manually. Verify the motor name plate data entered in the drive.	• Refer to the Commissioning chapter in the PowerFlex 7000 Medium Voltage AC Drives, User Manual for autotune procedures, results and actions.
						L Magnetize High	71	Indicates that the Autotune L Mag (P221) measured was greater than 10.00 pu, and Lm Rated (P131) will have to be tuned manually. Verify the motor name plate data entered in the drive. Manually tune flux regulator.	
						Line Cap Range	165	The calculated pu value of the line filter cap (P133) is either less than 0.35 pu or bigger than 0.55 pu. Verify capacitor nameplate data and compare with the drive and motor ratings.	• Verify the capacitor nameplate data and compare with information entered in the drive for the drive and motor ratings.
						Line Loss	161	The drive has detected a loss of input voltage from losing the frequency (PLL) lock on the input voltage. This is designed to be a faster method of detecting an undervoltage. The drive responds to this warning as it does to a Master UV warning.	• Verify the VSB connections and tap settings and the check resistance of VSB board. Megger the board to confirm the integrity. • Check the TSN fusing. • Check the actual voltage values on the terminal for each bridge and the total line voltage. • Check for possible source voltage supply problems. • Check the input contactor status or if it is open.
						Line Synch Loss	158	The drive has lost synchronization with the incoming line voltage and has announced a phase lock loop warning.	• Capture the voltage waveforms from the ACB test points and examine for inconsistency. • Verify the incoming voltage, input contactor status, VSB and TSN fuses. • Verify that the drive power system is properly grounded. • Check for noise on the control power in the drive. • Check the grounding for all signal and control wiring. • Verify the Input Impedance parameter is valid and retune if required.
						LiqCool Leakage	356	A converter, pump or DB coolant leak has been detected.	• Look through all of the cabinets for evidence of leaks. If a leak is found, identify source of leak and resolve the issue. • Verify that all leak detection sensors are operating correctly.
			X			Liqd IO Config (C-Frame Only)	21	The XIO card which was being assigned to the liquid cooling system faults input is not a card which can be used for this purpose.	• Select the proper slot containing the XIO card which is compatible for liquid cooling system faults usage.
			X			Liqd IO Conflict (C-Frame Only)	22	The XIO card previously being used for liquid cooling system faults has been reassigned for another purpose.	• Check the configuration of all XIO slots and reassign if necessary.
						LogixIO Config	23	The XIO card assigned to Logix I/O is not usable for this purpose.	• Select the proper slot that is compatible for usage.
						LogixIO Conflict	24	Logix IO card has been re-assigned for another purpose.	• Check configuration of all cards and reassign if necessary.

Item	Description	Part Number
SCR Matched set of two		
350A	Matched set of two 350A SCR	81001-335-72-R
800A	Matched set of two 800A SCR	81003-437-52-R
SCR Matched set of three		
350A	Matched set of three 350A SCR	81001-335-73-R
800A	Matched set of three 800A SCR	81003-437-53-R
Power Supplies		
AC/DC	Single phase input, 56V DC output, AC/DC 1000W	80026-529-01-R
AC/DC	Single phase input, 56V DC output, AC/DC 1500W	80026-524-01-R
AC/DC	Single phase input, 56V DC output, AC/DC 300W	80026-088-01-R
DC/DC	56V DC input, Absopulse	80026-518-01-R
IGDPS	56V DC / 20V DC	80026-044-06-R