AUTOMOTION

INFRANOR GROUP COMPANY

ACE1000 STATUS LED DESCRIPTIONS

April 1, 2003

Ready LED selv side (Yellow)

FLASH CODE	DESCRIPTION	POSSIBLE CAUSE	RESULT	RECOVERY METHOD
ON Steady	ACE is in RUN mode.	• User commanded RUN mode via User interface	• Clear all faults and STATUS flags. • Enable three-phase PWM	• N/A
LED OFF	Processor is inoperable.	• Drive is in reset • Processor fault • Faulty user supplied +5Volts	• ACE will stay in a DISABLED mode. • Processor code branches to dead-end program loop in order to prevent any ACE operation.	• Disconnect power from the ACE for 1 min to reset the microprocessor. Then re-apply power to allow microprocessors to operate.
1	Drive is in Standby mode	• The user commanded standby mode from the user interface	• The drive is placed in standby mode. See Note 1	• Command run mode
2	IPM Fault	• Nside short circuit • Nside ctl under voltage • IPM over temp fault • IPM CL	• The drive is placed in standby mode. See Note 1	• Toggle the run line, see Note 2
3	Shunt over stressed B+ rail voltage too high	• Shunt is turned on continuously for more than five seconds • The B+ rail greater than fixed 450 Volt limit.	• The drive is placed in standby mode. See Note 1	• Toggle the run line, see Note 2
4	B+ rail too low	• B+ rail is less than the B+ rail low limit.	• The drive is placed in standby mode. See Note 1	• Toggle the run line, see Note 2
5	User +5volt Logic supply fault	• User supplied SELV +5Volt out of spec.	• The drive is placed in standby mode. See Note 1	• Toggle the run line, see Note 2
6	SPI communications timeout detected.	• DSP Lost SPI synchronization from communication processor.	• The drive is placed in the disabled mode mode. (hard fault)	• Toggle the DRIVE ENABLE signal.
7	Phase to ground fault	• The output currents do not sum to zero. (3)TBD times in (10) TBD seconds.	• The drive is placed in standby mode. See Note 1	• Toggle the run line, see Note 2
8	Logic supply fault	• Line side logic power supplies out of spec.	• The drive is placed in standby mode See Note 1	• Toggle the run line, see Note 2
9	EEPROM Fault	• The user EEPROM has a checksum error	• The drive is placed in standby mode See Note 1	• Toggle the run line, see Note 2
9	External RAM	• power up ram test failed on the external ram • Ram size does not match the program needs.	• The drive is placed in disabled mode (hard fault) only if ram is to be used.	• Toggle the DRIVE ENABLE signal

10	SPI communications timeout detected.	• Communication processor lost SPI communications from the DSP	• The drive is placed in standby mode See Note 1	• Toggle the RUN line, see Note 2

Note 1: Low side pwm will be pulsed in standby mode to keep the powerx high side charge pump power supply within operational specs.

Note 2: To toggle the run command Set the Run/! Coast signal logic '0' state for 100mS, then back to a logic '1'.

Power led selv side (Green)

LED	Description	Possible Cause	Result	Recovery Method
• ON		• On if user power is on	• Required to Run	• N/A
• OFF		• No user supplied 5 Volts	• Drive will not Run	• Apply +5volts

Power led line side (Green)

LED	Description	Possible Cause	Result	Recovery Method
ON		• Logic power is on	• Required to Run	• N/A
OFF		• Logic power is not on	• Drive will not Run	• Check AC power • Check drive fuses

Current limit status

[redacted]

LED	Description	Possible Cause	Result	Recovery Method
		•	•	•
		•	•	•

Shunt status led line side (Yellow)

LED	Description	Possible Cause	Result	Recovery Method
ON		• B+ Rail is high above the Shunt turn on limit of 437V	• The shunt resistor is turned on	
OFF		• B+ Rail is below the shunt turn off limit of 425V	• The shunt resistor is turned off	