

# Sechrist Millennium Technical Bulletin 003

## Corrective Actions for System Errors, Alarms, & Warnings

- NOTE**
1. **IM** is the abbreviation for Interface **Micro** electronic sub-system.
  2. **CM** is the abbreviation for Control **Micro** electronic sub-system.
  3. **CODE** Legends: **E** = System Error; **A** = Alarm; **W** = Warning.

CODE	MESSAGE	Corrective Action
E01	CM Watchdog Fail	System PC Board malfunction. If Watchdog LED remains ON, this indicates CM circuitry malfunction.
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E02	IM Watchdog Fail	System PC Board malfunction. If Watchdog LED stays OFF, this indicates IM circuitry malfunction.
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E03	CM EEPROM Fail	Ventilator was not properly calibrated or EEPROM malfunction. Re-calibrate pressure transducers.
		<i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E04	IM EEPROM Fail	Ventilator was not properly calibrated or EEPROM malfunction. Re-calibrate pressure transducers.
		<i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E05	Dump Driver Fail	Dump-To-Ambient solenoid/driver failure.
		Make sure DUMP connector is properly seated.
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E06	Exh Driver Fail	Exhalation solenoid/driver failure.
		Make sure EXH connector is properly seated.
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E07	IM Inter Comm Fail	System PC Board malfunction.
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E08	CM Inter Comm Fail	System PC Board malfunction.
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E09	IM ADC Error	IM Data acquisition reference/circuit malfunction.
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E10	CM ADC Error	CM Data acquisition reference/circuit malfunction.
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>
E11	IM EPROM Fail	Program <u>Cyclic Redundancy Check</u> (CRC) error in IM EPROM (U1).
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>

CODE	MESSAGE	Corrective Action	
E12	CM EPROM Fail	Program <u>Cyclic Redundancy Check</u> (CRC) error in CMEPROM (U4).	
		Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>	
E13	Prolonged Insp Time	Exhalation solenoid is activated longer than the set Ti by 0.5 second.	
		The ventilator must be HARD RESET: Remove AC power. Turn ventilator back on. <i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>	
A01	Low/Loss of Inlet Gas	Check inlet air and oxygen supplies. Make sure they are above 30 PSIG. Make sure also the pressure differential between air and oxygen supplies are not greater than 20 PSI.	
A02	Internal Battery Power	No corrective action required. This alarm is activated to notify the operator when the AC power source is replaced (first-time) by internal battery power source (if the battery assembly P/N 21513 or 21561 is installed). The operator can acknowledge the alarm status by pressing the Alarm Reset button.	
A03	High Insp Pres	Reduce Inspiratory Pressure below High Pressure limit.	
		Increase High Pressure limit above peak pressure. Make sure no kink or fluid trapped in patient circuit.	
A04	Low Insp Pres	Make sure the peak inspiratory pressure crosses above the Low Pressure limit. <i>NOTE: IM V1.6 &amp; higher, the alarm is operated on breath-to-breath basis, independent of Alarm Delay.</i>	
A05	Check Sense Lines (V1.7 or greater)	Proximal airway pressure or reference sense line is disconnected.	
		Excessive humidified water is accumulated in the patient circuit.	
		Check SmartSync™ circuit.	
	Sense Line Disconnect (V1.6)	<i>NOTE: The alarm is active only if a mechanical breath is delivered and Sensitivity is SET (i.e. NOT turned OFF).</i>	
		Low Insp Pres / Apnea ((V1.5 or less)	Make sure the peak inspiratory pressure crosses above the Low Pressure limit.
			Make sure that Sensitivity is properly set.
			Make sure that the Alarm Delay time is set longer than the respiratory cycle time.
			Make sure pressure sense line or patient circuit is not disconnected.
<i>NOTE: IM V1.5 or less, mechanical breath delivery does not restart Apnea alarm delay timer. IM 1.6 or greater, "A04: Low Insp Pres" supercedes "A05: Low Insp Pres/Apnea".</i>			
A06	Prolonged Insp Pres	Make sure inspiratory pressure crosses above & below the Low Pressure limit setting, and is within a fixed 20-second duration.	
		Make sure exhalation block is functioning normally.	
		Make sure no partial occlusion in exhalation block or patient circuit.	
A07	Apnea	Make sure that the Alarm Delay time is set longer than the respiratory cycle time.	
		Make sure pressure sense line or patient circuit is not disconnected.	
		Make sure Trigger transducer is properly calibrated.	
		<i>NOTE: Millennium will reset Apnea timer if either patient trigger or mechanical breath delivery is detected.</i>	
A08	Low PEEP	Set Low PEEP limit below PEEP.	
		Increase Expiratory Pressure above Low PEEP limit.	
		Make sure no leak in patient circuit.	
		Make sure that the Alarm Delay time is set longer than the respiratory cycle time.	
A09	High Resp Rate	Set High Rate limit above the combined mechanical and spontaneous rates.	
		Make sure no partial occlusion or excessive humidified water trapped in patient circuit.	
		Reduce Sensitivity.	
W01	Low Batt./DC Input Voltage (V01.3 or greater) Low DC Input Voltage (V1.2 or less)	Charge the battery if battery is low.	
		Replace AC adapter if DC input voltage is consistently low.	
		<i>NOTE: Both alarm messages apply to either low DC input or low battery voltage. Revised message (V01.3 or greater) is for clarification only.</i>	
W02	Low 5V DC	System PC Board +5VDC regulator malfunction.	
		<i>NOTE: If the system error message persists, remove from clinical use, &amp; refer to a Sechrist authorized service technician.</i>	
W03	Standby Too Long	Ventilator is left in Standby for longer than 120 seconds.	
		<i>NOTE: Setting or pressing Ventilator Mode, Ti, f, Sensitivity, Alarm Delay, Alarm Select, Alarm Reset, Alarm Silence, or Data knob will reset the warning message.</i>	