9.2 System Information Messages

Description

The system software monitors a number of analytical and system functions and will display information that indicates the possible attention of the operator. This information will alert the operator to check the system or sample or institute selected troubleshooting procedures. This information is presented on the touch screen as a code next to one or more parameters. Additional detail and recommendations may be accessed by either pressing the ***i***-button on the touch screen or reviewing the printed report.

System Information Messages

Aspiration Indicators (Aspiration Probe)			
Indicator	**Message**	**Description**	**Action**
AF	Aspiration failed, check sample	Possible reasons for AF flag include a short sample, clogging or air bubbles in sample tube. **Note:** This flag is also displayed when running a background count (blank) without selecting the background analysis profile.	Check profile type is correct and then re-analyze sample.
Distribution Indicators (RBC, PLT, WBC)			
Indicator	**Message**	**Description**	**Action**
DE	Small particle interference; re-analyze	The size distribution of the cell pulses departs from the expected one. Possible reasons might be pathological blood sample (e.g. nRBCs), PLT clumps, air bubbles, electrical disturbances, incomplete lysing or incorrect gain setting.	Re-analyze sample.
FD	RBC/PLT: Irregular Distribution, re-analyze	It was not possible to find the correct position for the floating RBC/PLT distribution curve. This flag often occurs on low PLT counts. The FD flag should only be reported if the corresponding parameter (PLT) value is high enough.	Re-analyze sample.
HGB Indicators (HGB)			
Indicator	**Message**	**Description**	**Action**
HF	HGB Measuring Problem – run prime cycle	The instrument detected a problem during the filling of liquid in WBC counting chamber during HGB blank.	Run a “Prime cycle”, before re-analyzing the sample.
HH	HGB Measuring Problem – run prime cycle	The HGB blank or sample readings reported a too high light level.	Run a “Prime cycle”, before re-analyzing the sample.
HL	HGB Measuring Problem – run prime cycle	The HGB blank or sample readings reported a light level that was too low.	
HN	HGB Measuring Problem – wait one minute then re-analyze	The HGB sample reading reported more light than the blank reading. This gives a negative HGB value.	Wait one minute, and then re-analyze sample.
HO	HGB Measuring Problem – restart system	The HGB dark (offset) reading reported a light level that was too high or too low.	Switch off the analyzer and switch it back on after 3 seconds, and then re-analyze sample.

HS	HGB Measuring Problem – run prime cycle	Individual HGB readings vary too much.	Run a "Prime cycle", before re-analyzing the sample.
Note: If various HF, HH, HL, or HN Indicators repeatedly appear check High Altitude Compensation, mode may need to be changed to Moderate or Maximum compensation in higher elevations. A more detailed description can also be found in the User Definable Settings document. Available from Clinical Diagnostic Solutions, Inc.			
Out-of-linear range indicators (WBC, HGB, RBC, PLT)			
AL	AL – Result is above linearity	The result is above linear range.	The sample can be diluted and rerun, and then the dilution factor can be multiplied with the result to calculate the correct value.
BL	BL – Result is below linearity	The result is below linear range.	Re-analyze sample.
Measuring Chamber Indicators (RBC, PLT, WBC)			
Indicator	**Message**	**Description**	**Action**
OR	Measurement warning – re-analyze	The cell pulses arrived faster than the analyzer could process them. Possible reasons might be air bubbles, electrical disturbances or incomplete lysing. **Note:** Filtered away cell pulses might raise the OR flag, so it might not be possible to see them in the histograms or the result parameters. This is a hard limit determined by the software.	Re-analyze sample
SE	Measurement Statistics Warning; re-analyze	The rate of cell pulses per time unit varies too much. Possible reasons might be clogging, air bubbles, electrical disturbances or difficult to lyse cells. **Note:** Filtered away cells might raise the SE flag, so it might not be possible to see them in the histograms or the result parameters.	Re-analyze sample
Mixing Beaker Indicators (RBC, PLT, WBC)			
Indicator	**Message**	**Description**	**Action**
TE	Liquid System Problem – run prime cycle	The analyzer detected an abnormality during the emptying of the first dilution from the mixing beaker. Reasons for flagging might be timeout, or too short of a transfer time.	Run a "Prime cycle", before re-analyzing the sample.
Reagent and Control Indicators (RBC, PLT, WBC, LYM/MID/GRAN)			
Indicator	**Message**	**Description**	**Action**
EC	Expired control	A control blood was used past its expiry date.	Use a fresh blood control
ER	Expired Reagent	The reagent was used past its expiry date. Change to a non-expired lot of reagent.	Use a new lot of reagents
NR	Not enough reagent left, check reagent levels	The analyzer's capacity counter has gone below zero and no reagent is detected. Reason for no reagent may include empty reagent container or reagent level sensor not inserted correctly into reagent container.	Check reagent levels
Reagent Pipette Indicators (RBC, PLT, WBC)			
Indicator	**Message**	**Description**	**Action**
DF	Diluent system problem – • Check Diluent container fluid Level	The instrument detected an abnormality during one of the fill cycles of the diluent pipette. Reasons for flagging might be timeout, short time or bubbles at the upper detector.	• Check Diluent container fluid Level • Check Diluent Input Line (red) is tight and connected

	• Check Diluent Input Line (red) is tight and connected • Check waste line is not kinked or obstructed • Perform Prime Cycle		• Check waste line is not kinked or obstructed • Perform Prime Cycle
DP	Diluent system problem – • Check Diluent container fluid Level • Check Diluent Input Line (red) is tight and connected • Check waste line is not kinked or obstructed • Perform Prime Cycle	The instrument detected an abnormality during one of the empty cycles of the diluent pipette. Reasons for flagging might be timeout, short time or liquid not detected at the lower detector.	• Check Diluent container fluid Level • Check Diluent Input Line (red) is tight and connected • Check waste line is not kinked or obstructed Perform Prime Cycle
LF	Lyse system problem – • Check Lyse container fluid Level • Check Lyse Input Line (yellow) is tight and connected • Check waste line is not kinked or obstructed • Perform Prime Cycle	The instrument detected an abnormality during the fill cycle of the lyse pipette. Reasons for flagging might be timeout, short time or bubbles at the upper detector.	• Check Lyse container fluid Level • Check Lyse Input Line (yellow) is tight and connected • Check waste line is not kinked or obstructed • Perform Prime Cycle
LP	Lyse system problem – • Check Lyse container fluid Level • Check Lyse Input Line (yellow) is tight and connected • Check waste line is not kinked or obstructed • Perform Prime Cycle	The instrument detected an abnormality during the empty cycle of the lyse pipette. Reasons for flagging might be timeout, short time or liquid not detected at the lower detector.	• Check Lyse container fluid Level • Check Lyse Input Line (yellow) is tight and connected • Check waste line is not kinked or obstructed Perform Prime Cycle
Reagent Pipette Indicators (RBC, PLT, WBC)			
Indicator	**Message**	**Description**	**Action**
ST	Air bubbles – run prime cycle	The time for the liquid meniscus to pass from the lower to the upper detector is unreasonably short.	Run a “Prime cycle”, before re-analyzing the sample.

TB	Air bubbles – run prime cycle	Air bubbles were detected by the start detector in the measuring tubes.	
TL	Possible orifice blockage: • Perform Orifice Clean Cycle • Perform Prime Cycle • Perform Background Test	The liquid meniscus in the measuring tube never passed the lower detector.	• Perform Orifice Clean Cycle • Perform Prime Cycle • Perform Background Test
TU	Possible orifice blockage: • Perform Orifice Clean Cycle • Perform Prime Cycle • Perform Background Test	The liquid meniscus in the measuring tube passed the lower detector but never passed the upper one.	• Perform Orifice Clean Cycle • Perform Prime Cycle Perform Background Test
WBC Differential Abnormalities (LYM, MID, GRAN)			
Indicator	**Message**	**Description**	**Action**
BD	WBC DIFF: High interference between populations.	The calculated populations for LYM, MID, GRAN overlap too much. Often in pathological samples with granulocytosis or lymphocytosis a blood smear is recommended.	Blood sample too old or pathological sample. Follow laboratory's protocol for verification of results.
NM	WBC DIFF: No WBC population found; slide review advised.	There was no mode in the WBC distribution between the LYM-L and GRAN-H settings.	
OM	WBC DIFF: Only one WBC population found; slide review advised.	There was only one mode in the WBC distribution between the LYM-L and GRAN-H settings. Often in pathological samples with granulocytosis or lymphocytosis a blood smear is recommended.	
TM	WBC DIFF: Too many WBC population found; slide review advised.	There were more than two modes in the WBC distribution between the LYM-L and GRAN-H settings.	