

ENGINE PARAMETERS / ALARMS & WARNING LIMITS

ESD Octamatic Systems typically monitor the engine parameters shown below and are delivered with alarm and warning limits consistent with the relevant ASTM specification. These limits are easily changeable by the customer.

Alarms are considered more serious than warnings; the occurrence of an alarm requires corrective action before measurements can continue. Alarms and warnings are displayed to the operator and must be cleared by the operator. In addition, some alarms act as a backup to the safety systems provided by the engine manufacturer.



ON-LINE SYSTEM

Engine Parameters:

- Oil pressure
- Air refrigerant temperature
- Intake air temperature
- Mixture temperature (MON)
- Fuel refrigerant temperature
- Oil temperature
- Proto and product fuel temperatures
- Knock intensity (K.I.)

Some optional measurements that are often specified:

- Humidity
- Barometric pressure
- Oil pressure (switch)
- Water pressure (switch)
- Water level (switch)
- Product pressure (switch)
- Condenser temperature

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SEMI-AUTOMATIC LAB SYSTEM

Engine Parameters:

- Engine coolant temperature
- Intake air temperature
- Mixture temperature (MON)
- Fuel refrigerant temperature
- Oil temperature
- Fuel temperature
- Knock intensity (K.I.)

Some optional measurements that are often specified:

- Oil pressure
- Humidity
- Barometric pressure
- Oil pressure (switch)
- Water pressure (switch)
- Water level (switch)
- Condenser temperature

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MANUAL LAB SYSTEM

Engine Parameters:

- Intake air temperature
- Mixture temperature (MON)
- Knock intensity (K.I.)

Some optional measurements that are often specified:

- Engine coolant temperature
- Oil pressure
- Fuel refrigerant temperature
- Oil temperature
- Fuel temperature
- Humidity
- Barometric pressure
- Oil pressure (switch)
- Water pressure (switch)
- Water level (switch)
- Condenser temperature

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ENGINE PARAMETERS / ALARMS & WARNING LIMITS (continued)



ON-LINE SYSTEM

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Alarms & Warning Limits:

The following engine conditions will trigger engine shutdown:

- Coolant temperature over 220° F.
- Oil pressure under 20 PSI
- Low oil pressure switch (optional)
- Low water pressure switch (optional)
- Low water level switch (optional)
- High coolant temperature switch (optional)
- QC bowl became full during blending (indicates level sensor failure)

Other warning conditions:

- Excessive proto drift from previous proto measurement
- Any temperature out of operating limits
- Rate of change of delta O.N. too large
- Out of fuel warning
- Delta octane out of user-specified range
- Product pressure low (optional)

Other alarm conditions:

- Oil pressure out of operating range
- Product O.N. out of range
- No peak K.I. found after two attempts
- Proto K.I. over 80 or under 20
- Product K.I. over 99 or under 10
- Any abnormal exit from blending screen



SEMI-AUTOMATIC LAB SYSTEM

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Alarms & Warning Limits:

The following engine conditions will trigger engine shutdown:

- Coolant temperature over 220° F.
- Oil pressure under 20 PSI
- Low oil pressure switch (optional)
- Low water pressure switch (optional)
- Low water level switch (optional)
- High coolant temperature switch (optional)

Other warning conditions:

- Any temperature out of operating limits
- Out of fuel warning

Other alarm conditions:

- Oil pressure out of operating range
- No peak K.I. found after two attempts
- K.I. over 99 or under 10



MANUAL LAB SYSTEM

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Alarms & Warning Limits:

The following engine conditions will trigger engine shutdown:

- Coolant temperature over 220° F. (optional)
- Oil pressure under 20 PSI (optional)
- Low oil pressure switch (optional)
- Low water pressure switch (optional)
- Low water level switch (optional)
- High coolant temperature switch (optional)

Other warning conditions:

- Any temperature out of operating limits
- Out of fuel warning

Other alarm conditions:

- Oil pressure out of operating range (optional)
- No peak K.I. found after two attempts
- K.I. over 99 or under 10