Data Acquisition	@FUEL_READING_STATS

Take fuel samples until specified statistical criteria are met. This keyword is similar to @FUEL_READING except that the number of readings taken may be variable and will depend upon the specified statistical confidence requirements. Also, it is optional to have a single composite datapoint transmitted to PAM which represents the mean value of the set of readings which meet the confidence criteria. In addition, data which is grossly in error may be discarded from the set as outliers.

Keyword:

@FUEL_READING_STATS

Usage:

Take one or more fuel readings during this test mode. If the `desired_time` is `0` or "`-`", the time specified by the variable `target_fr_tim` will be used.

The *number_of_readings*, *interval*, and *desired_time* data fields can all be specified as a constant, variable label, or computed expression.

Data Fields:

start_type	code for when to send a start signal to the collector task. Options are AT_START, AFTER_STABILITY, EXTERNAL_SYNC
stop_path	code for what action to take when the fuel reading collector task completes its function. Options are NONE, MODE_TERMINATE,RETURN, a mode number, or a procedure file pathname.
number_readings	the maximum number of fuel readings - if reached, data set is considered complete - a minimum of 3 readings will be taken
interval	the time between requests (if number_readings > 1)
sync_event	an event name for external synchronization
desired_time	the desired fuel reading sample time
dp_storage_method	flag to save all readings as datapoints or only the composite average - ALL=save all, ONE=composite only

outlier_significance	The probability of erroneously rejecting a good observation. A value of 0.01 would mean that there is a 1% chance of rejecting a good reading. A low significance level such as 0.01 is recommended. Levels greater than 0.05 should not be common practice.
deviation_min	a minimum standard deviation from the mean to be considered for outlier evaluation
variable	a variable for which confidence criteria will be evaluated
confidence_interval	an error band for the variable

confidence_level	a probability that the maximum error lies within the specified confidence_interval
target	(not used at this time)

Example Specification:

```
@FUEL_READING_STATS
#start_type          stop_path
 AT_START          MODE_TERMINATE
#number_of_readings     interval     extern_sync_event          desired_time
     4[none]            0.00[sec]            -                    2.5[min]
#save_type [ ALL/ONE ]     #outlier_significance     min_deviation
         ALL                        .0[none]           .005[none]
#up to 32 variables may be listed
#variable          confidence_interval         confidence_level          target_value
FR_BSFC               .001[lb/hp-hr]               .95[none]
FR_RPM                    5[rpm]                   .95[none]              speed_setpt
```

Request up to 10 fuel readings after stabilization is complete. Terminate the mode when enough readings have been to meet all confidence criteria. Save all the individual readings as datapoints, unless they have identified as outliers.