

eDART® Extended Cycle Time Tool

Introduction

The *eDART®* was originally designed for cycle times up to 4 minutes and 20 seconds. Since that time some customers have found a need to take data over longer cycles. We have created an optional tool that extends the *eDART®*'s cycle time up to 35 minutes.

Installation

Install the long cycle time tool using over the network using the *eDART®* installer provided on the distribution CD. This installation does not require you to re-start the *eDART®* . The new software will be available at the next job start.

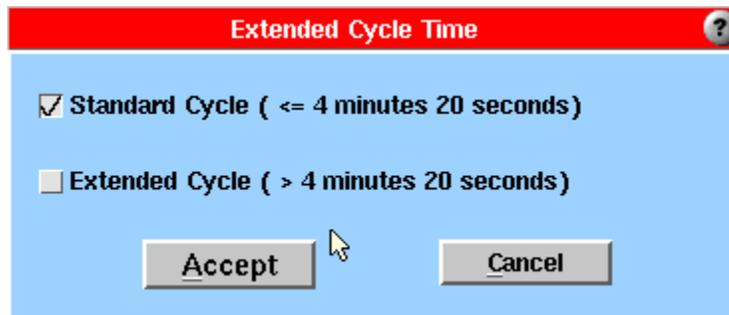
Note that this long cycle time tool only works on *eDART®* s that have 128 Meg of RAM or more. All of the "PCS" version of the *eDART®* have at least 128 Meg of RAM. These units have air vents on each side of the box. If you have an earlier *eDART®* with the sealed box then contact RJG for support.

Operation

Once installed the software starts automatically with each job start in order to determine the cycle time for that job.

First Startup

The first time the job starts the software will show a dialog box immediately after you click "Accept" on the Sensor Locations tool. The dialog looks like this:



It will always show the tick mark next to "Standard" cycle time because it does not yet know how you have chosen to configure the mold cycle time. If the mold does not have a cycle time longer than 4 minutes, 20 seconds then you can leave the tick mark on the "Standard". If the mold cycle time is longer then select the "Extended" tick box.

When finished, click "Accept".

Subsequent Startups

Once you have chosen the cycle time for the mold the choice is stored with the mold configuration. Thus, any process that you run on that mold will be assumed to have the chosen cycle time.

Once the expected cycle time is chosen and stored the eDART® does not ask for the expected cycle time at each job startup. It uses the last set time.

One exception to this is if the job starts on an eDART® that does not have enough memory (less than 128 MB). If the job first ran on an eDART® that did have enough memory and then later runs on one that does not then the software will pop up with a message indicating that it cannot run the extended cycle time with the smaller memory space. The message contains contact information for RJG in case you wish to upgrade memory.

If the memory is too small the eDART® runs the standard cycle time. The configuration will not be changed so that if the job runs in the future on an eDART® with enough memory then the extended cycle will work again.

Changing Cycle Time Later

If someone chooses the cycle time by mistake or you wish to change it later then click the eDART®'s main menu on the tool bar and select the Extended Cycle Time selection. This brings up the same dialog as you used to set the cycle time in the first place. However, when you change the cycle time from standard to long or vice versa the change will not take effect until you stop the job and start it again. A message pops up to remind you of this and to let you stop the job immediately.

Technical Details and Effects

The internal representations of values and time for cycle data must still fit in a number limited by the processor. So, in order to record long cycles we extended the minimum time between samples from 1 mS to 10 mS.

With extended cycles sampling at 10 mS you will see little or no effect on the data either in real-time on the eDART® or in the analyzer data later. This is because most of the changes in the data also occur slowly enough that a 10 mS sample interval is quite sufficient for any detail required for either viewing or computation.

Furthermore, if you choose the long cycle time, the eDART®'s delayed write cycle is increased from 20 minutes to two hours. This means that data are saved ("cached") in the eDART®'s memory for two hours before written to the disk. This memory is lost when the power is turned off.

If you have an eDART® with the air vents ("PCS" style) and you have the internal UPS battery turned on, this two-hour storage period is not a problem. On a power loss, the eDART® has enough time to write all of the data to disk before shutting itself down. However, the older eDART®s without the UPS will lose their data unless you first stop the job or the eDART® detects the job is "down" before the power is lost. Of course, this is true with the standard cycle eDART®s. But the standard cycle time set the possible data loss is only 20 minutes.