



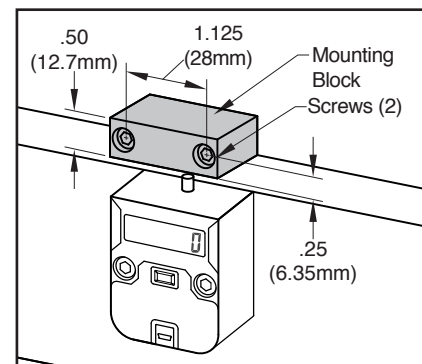
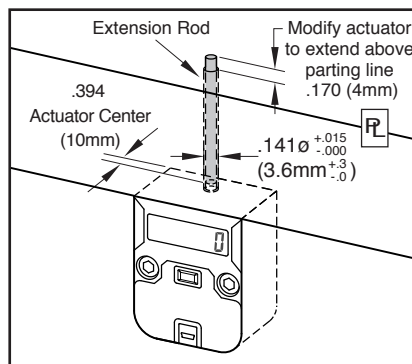
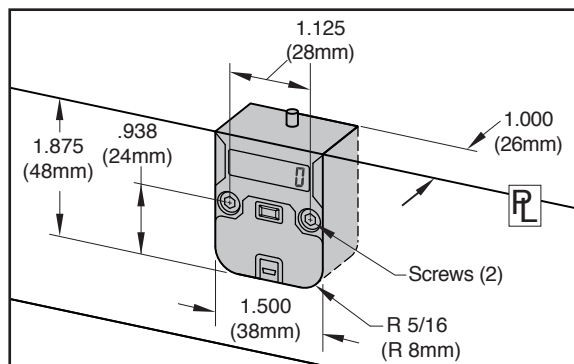
CVE MONITOR®

Progressive's CVE Monitor tracks tool activity, allowing users to view data on the display or from comprehensive reports using OnDemand or the new CVE Live System. Features include:

- 7-digit LCD display with a push button to move through the display modes.
- 16GB flash drive for file storage.
- Replaceable battery.
- Water resistant with an ingress protection rating of IP58.
- Maximum temperature: 190° F (90° C). For heat protection, refer to the Insulators available on pages F-10 and F-11.
- Recommended mounting is on the stationary half of the mold.
- Dimensional compatibility with Progressive's mechanical CounterViews.
- Mini USB connectivity for data retrieval with cables sold separately.



MOUNTING OPTIONS



| CATALOG NUMBER | DESCRIPTION |
|----------------|--|
| CVE | CVe Monitor including #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2) |

| CATALOG NUMBER | DESCRIPTION |
|----------------|--|
| CVE-INT | Internal Extension Rod (8"/200mm) |
| CVE-EXT | External Mounting Block including #8-32 x 1" SHCS (2) and M4 x 25mm SHCS (2) |

How to Order:

- For installation below parting line (ie. rails as shown in the center graphic above), order (1) CVE and (1) CVE-INT.
- For installation outside of the mold (right graphic), order (1) CVE and (1) CVE-EXT.

ON-MOLD DISPLAY MODES

Each device is provided at -25 cycles to allow for mold set up and initialization of the CVE Monitor. Once it reaches zero (0), all timers and data will reset on the monitor. During production, users can press the button on the front of the monitor and review the following information on the display:

Cycle Count

Total cycles for the life of the mold is presented on the main screen.



Efficiency Percentage

The percentage of time that the mold has been actively cycling vs being idle.



Cycle Time

Since the first production cycle, cycle time for the life of the mold.



Efficiency Percentage-Recent

The percentage of time the mold has been active in the past 500 cycles.



Cycle Time-Recent

Cycle time for the past 500 cycles is shown in seconds.



Cycle Count Reset

Press and hold button to reset separate counter to 0 for interim monitoring of cycles.



Mold Temperature

View current temperature experienced by the monitor (°C) by pressing button twice.



Flash Drive

Utilize the 16GB flash drive by connecting the CVE to a PC/Tablet with an industry-standard mini USB cable, sold on page F-2.



CVE MONITOR®

ON DEMAND ALERT MODES

Once data is initialized using the complimentary OnDemand software (from procomps.com/cve-ondemand) users can choose to be alerted to the following sets of conditions for the CVE Monitor.

Preventive Maintenance

During initialization, Preventive Maintenance (PM) checkpoints are entered and saved onto the CVE Monitor. If a PM checkpoint is exceeded, the CVE Monitor enters the PM alert mode and displays both a wrench icon and PM Due as shown at right.



When a PM is performed and entered via OnDemand or by the in-mold actuation/button push combination, the next checkpoint for the PM will be written. If no PM is performed, the CVE Monitor will remain in PM alert mode until the user performs all PMs whose thresholds have been exceeded.

Cycle Time

During initialization, the target cycle time can be written to the monitor using OnDemand. Any variation greater than 2% from the target will enter the alert mode and display the clock icon as shown at right. When the cycle time returns to within 2% of the target, the alert is removed.



Efficiency

During initialization, the target efficiency can be written to the monitor using OnDemand. Any variation greater than 2% from the target will enter the alert mode and display the percentage (%) icon as shown at right. When the efficiency returns to within 2% of the target, the alert is removed.



Low Battery

The CVE Monitor has a battery life of approximately 4 years in typical molding environments where temperatures are controlled. When the battery reaches a specified level, the display will show a battery icon as shown at right, and the replacement kit can be ordered separately below. This is the indication to replace the battery, which can be ordered by contacting Customer Service.



RETROFITTING

Users can view additional data by double-clicking the button on the monitor:

Retrofit CVE for CounterView Tools

During initialization, molders can start the cycle count with the tool's actual cycle count from an existing CounterView or known cycles from maintenance records. Once entered, the user can see the total cycles for the tool, which includes the count of the cycles from the counter and those run with the CVE Monitor.



In the graphic at right, the tool had 1,000,000 cycles on it originally, but ran 507,288 after the CVE Monitor was installed.



CABLES AND CONNECTIVITY

Using a USB cable, users can connect the CVE Monitor to their computer or tablet and view data in OnDemand, outlining the reason for the report generation. Notes can be included and user information is recorded for historical reference. More details about OnDemand are on the following pages.



| OnDemand Activity Log [Software Version 3.1.0/2.6.1/3.1.9] | | | | | | | | | |
|--|-------------------|-------------------|----------|-------------|----------------|---------------------|-----|----|---|
| Cve Initialize Date | November 23, 2017 | December 17, 2017 | | | | | | | |
| Device ID | MIX1234 | MIX1234 | | | | | | | |
| Tool ID | 85658 | 85658 | | | | | | | |
| Blower Housing | Blower Housing | Blower Housing | | | | | | | |
| Part ID | ABT57 | ABT57 | | | | | | | |
| Program Name | Mocha | Mocha | | | | | | | |
| Customer | Crimson Fan | Crimson Fan | | | | | | | |
| Target Efficiency % | N/A | 94% | | | | | | | |
| Target Cycle Time | N/A | 7.5 | | | | | | | |
| Initial PM Point | 50000 | 50000 | | | | | | | |
| Target PM Interval | 100000 | 100000 | | | | | | | |
| Cycles Prior to Cve Installation* | 1000000 | 1000000 | | | | | | | |
| QIS# ID | N/A | ABT1 | | | | | | | |
| ASSET ID | N/A | 0356-5686 | | | | | | | |
| Reason for connecting CVE Monitor | | | | | | | | | |
| Date/Time | Battery | Cycles | OD User | Conn. By | Company | Destination | REV | PM | Notes |
| October 4, 2018 | OK | 507,288 | INJECT1 | Blake Fitz | Injection Tech | Crimson@crimson.com | N | Y | N/A Replaced damaged core pin in cavity 4 |
| October 4, 2018 | OK | 506,534 | INJECT1 | Blake Fitz | Injection Tech | Crimson@crimson.com | N | Y | N/A Data Pul |
| September 19, 2018 | OK | 491,274 | INJECT1 | Blake Fitz | Injection Tech | Crimson@crimson.com | N | Y | Pulled from production for mold operational issues. It is being sent for evaluation and rework |
| September 15, 2018 | OK | 482,567 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Full PM Cavity #2 was shutdown |
| June 28, 2018 | OK | 364,001 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Full PM |
| May 31, 2018 | OK | 314,856 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Full PM |
| April 28, 2018 | OK | 260,002 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Full PM Cavity #2 was shutdown |
| April 4, 2018 | OK | 211,563 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Full PM |
| March 22, 2018 | OK | 193,268 | INJECT1 | Blake Fitz | Injection Tech | Crimson@crimson.com | N | Y | N/A 3 cavities are shutdown. Pulled for evaluation and repair |
| February 7, 2018 | OK | 106,235 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Full PM |
| January 10, 2018 | OK | 58,725 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Full PM |
| December 17, 2017 | OK | 9,265 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Initial mold inspection. There is no wear or damage to mold following initial run. Targets are set. Mold is released for production |
| November 23, 2017 | OK | 0 | MOLDHOU1 | Chuck Louse | Mold House | Crimson@crimson.com | N | Y | N/A Mold is completed and released for sampling |

| CATALOG NUMBER | DESCRIPTION |
|----------------|---|
| CVEL-DATA9 | USB 2.0 to Type B Mini 9 Foot Long, Right-Angle Cable |
| CVE-REPLKIT | Battery Replacement Kit for the CVE Monitor. |



CVE ONDEMAND®

Drive comprehensive reporting using data from the CVE Monitor when running OnDemand software, available at no charge from procomps.com/cve-ondemand. OnDemand software enables the user to generate Adobe Acrobat (.pdf), Excel (.xls), and encrypted (.enc) reports to share with customers and other colleagues with these metrics:

- A: When the CVE is initialized, users can identify their tool and align with the device serial number which is tracked on reports utilizing different field options.
- B: The target cycle times and efficiency percentages can be entered. OnDemand also supports ten languages: English, German, Mandarin, Spanish, French, Italian, Japanese, Korean, Portuguese and Thai. Reports, generated in the chosen language, compare actual values to targets, providing a quick view of any variances.
- C: Statistics are provided to show quantity of total cycles and inactivity for the life of the tool.
- D: Weekly sessions are presented graphically to show production efficiency levels.
- E: Weekly cycle time and maximum mold temperature tracking identifies tools with variances over the past year.
- F: The productivity portion of the report takes the target preventive maintenance (PM) points set by the molder and compares them to actual maintenance pulls.
- G: The Maintenance Tab has nine user-definable PM points. In addition, customers can perform maintenance without having their laptop or computer near the CVE Monitor. By holding down the button, cycling the monitor once, and releasing the button, an event will be recorded. This is then added to the OnDemand reports when run.

CVE OnDemand
 CVE Device ID: MKX1234
 Status: Please click "Generate Report" to continue
 Tool Info: Target Data Settings Support Reports
 Customer: Crimson Fan, OEM ID: ABT1
 Program Name: Mango, Part ID: Blower Housing ABT15
 Asset ID: 235-5689-LN, Tool ID: 8565B
 Buttons: Get CVE Data, Generate Report

CVE OnDemand
 CVE Device ID: MKX1234
 Status: Data ready. Click "Generate Report" button to save
 Tool Info: Target Data Settings Support Reports
 Target Efficiency (%): 94, Percentage of time that tool is expected to be running
 Target Cycle Time: 7.5, Target cycle time in seconds
 Initial PM Point: 10000, Cycle count when initial PM will occur (Example 25000)
 Target PM Interval: 50000, Number of cycles between scheduled PMs (Example 78000)
 Buttons: Get CVE Data, Generate Report

CVE OnDemand - (Email Enabled)
 CVE Device ID: OKN0543
 Status: Listening for response from Monitor
 Tool Info: Target Data Maintenance Settings Support Reports
 Maintenance Targets in Effect: Current Cycle Count: 3,950,041

| Title | Interval | Last Performed | Next Due |
|------------------------------|------------|----------------|------------|
| In-Press Maintenance | 50,000 | 3,898,055 | 3,948,055 |
| B-Side Teardown | 200,000 | 4,047,082 | 4,247,082 |
| A-Side Teardown | 400,000 | 4,047,082 | 4,447,082 |
| Cooling System Maintenance | 500,000 | 4,003,950 | 4,503,950 |
| Tool refurbishment | 10,000,000 | NA | 10,000,000 |
| Initial New Tool Maintenance | 5,000 | 4,873 | NA |

 Buttons: Get CVE Data, Add PM Requirement

Crimson Fan Performance Summary
 Device ID: MKX1234, Program: Green, OEM ID: ABT1, Asset ID: 354-1856, Part ID: Blower Housing ABT57, 04 Oct 2018
 Tool ID: 8565B
 Legend: Within Target (94%), Outside Target (9%), Between (2%, 2%, 9%)
 Metrics: Target Efficiency (94%), Target Cycle Time (7.5), Since Last Report Efficiency (100%), Since Last Report Cycle Time (7.2), Last Full Week Efficiency (94%), Last Full Week Cycle Time (7.4), Life-To-Date Efficiency (92%), Life-To-Date Cycle Time (8.5)
 Summary: Life-To-Date Cycles: 507,288, Cycles since last: 24,721, Cycles Prior to CVE Installation: 1,000,000, Hours Idle: 111, Repair: 0, Hours in Sleep Mode: 6,287, Part Revision: Never, Hours in Active Mode: 1,197, General Query: 764, Report: 764
 Efficiency: Line graph showing Active Time, Idle Time, and Sleep Time over time.
 Cycle Time: Line graph showing cycle times over time.
 Productivity: Bar chart showing cycles per week with categories: PM Target Exceeded, Maintenance Required, PM Performed, Repair, Revision, General Query.
 Initial PM Point: 10,000, Cycles-Target: 9,265, Cycles-Actual: 10,000, Target PM Interval: 50,000, Cycles until PM: 25,279, Next PM Due: Intermediate Preventive Maintenance

Crimson Fan In-Press Tool Maintenance Report
 Device ID: MQM4767, Program Name: Mocha, OEM ID: ABT1, Asset ID: 354-1856, Part ID: Blower Housing ABT59, 13-Sep-19
 Tool ID: 8565B, Current Cycle Count: 63,467, Cycles until In-Press Maintenance: 1,000, Last In-Press Maintenance: 63,467, Date of last In-Press Maintenance: 9/13/2019 9:44
 Previous 100 In-Press Maintenance Events: Bar chart showing maintenance events over time.
 Historical In-Press Maintenance Summary: Pie charts and tables showing maintenance status.
 Trailing 5 Weeks: Pie chart showing On-Time PM (68%), Overdue PM (<10%) (2%), Overdue PM (>10%) (30%).

| Date | Due | Performed | Overdue |
|-----------------|-------|-----------|---------|
| 8/22/2019 3:36 | 91222 | 51416 | 194 |
| 8/12/2019 15:07 | 46889 | 44887 | 179 |
| 9/11/2019 0:00 | 61367 | 61534 | 177 |
| 8/18/2019 16:04 | 41233 | 41401 | 168 |
| 9/8/2019 0:00 | 58197 | 58267 | 140 |
| 8/4/2019 15:07 | 57197 | 57156 | 139 |
| 8/28/2019 21:21 | 54734 | 54844 | 110 |
| 7/26/2019 4:23 | 28952 | 29652 | 100 |
| 7/22/2019 19:40 | 27496 | 27596 | 100 |
| 8/1/2019 22:19 | 33837 | 33736 | 99 |
| 8/1/2019 0:00 | 46887 | 46884 | 97 |
| 7/18/2019 19:48 | 24950 | 25047 | 97 |
| 8/18/2019 18:43 | 47796 | 47891 | 95 |
| 7/26/2019 15:28 | 35428 | 35263 | 95 |
| 8/10/2019 16:14 | 58820 | 58917 | 88 |
| 8/5/2019 7:12 | 37135 | 37222 | 87 |
| 8/13/2019 0:00 | 63067 | 63067 | 86 |
| 8/25/2019 12:28 | 63060 | 63078 | 78 |

 On-Time Maintenance: 68 (90.7%), Overdue Maintenance (<10%): 2 (2.7%), Overdue Maintenance (>10%): 30 (37.5%)
 Total Maintenance: 70, 100.0%