CVe monitor

Benefits of specifying CVe Monitoring:

- **cycle times are tracked**
  - reduce part quality variations due to inconsistent cycle times
  - verification that quoted cycle time is maintained

- **activity percentage is tracked**
  - correct inefficiencies early for consistent profitability

- **maintenance history is tracked**
  - reduce unscheduled mold stoppages

- **accessibility assured at the mold or across the world**
  - a system that is a hard Spec versus "recommended"

Overall Specifications:

- size is compatible with the CV Mechanical Counters
- 7-digit display for cycle counting to 10M
- 5-year battery
- max temperature range 90 C / 190 F
- Windows XP and Windows 7
- data can be transferred to a replacement unit, if needed
- additional versions and report options currently in development by AST

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General Description

Expanding beyond the capabilities of the Counterview R-Series and 100/200 Series, the new CVe Monitor v2 tracks mold activity, allowing users to view the data on the display or from comprehensive reports using OnDemand software or the new CVe System.

Benefits

- 7-digit LCD display with a push button to move through the display modes
- 4GB flash drive for file storage and 4+ year battery life
- Water resistant with an ingress protection rating of IP52
- Maximum temperature: 190° F (90° C)
- Dimensional compatibility with mechanical CounterViews

Mounting Options

How to order:
- For installation below parting line (i.e. rails as shown in center drawing above), order (1) CVENTID or CVENTMD
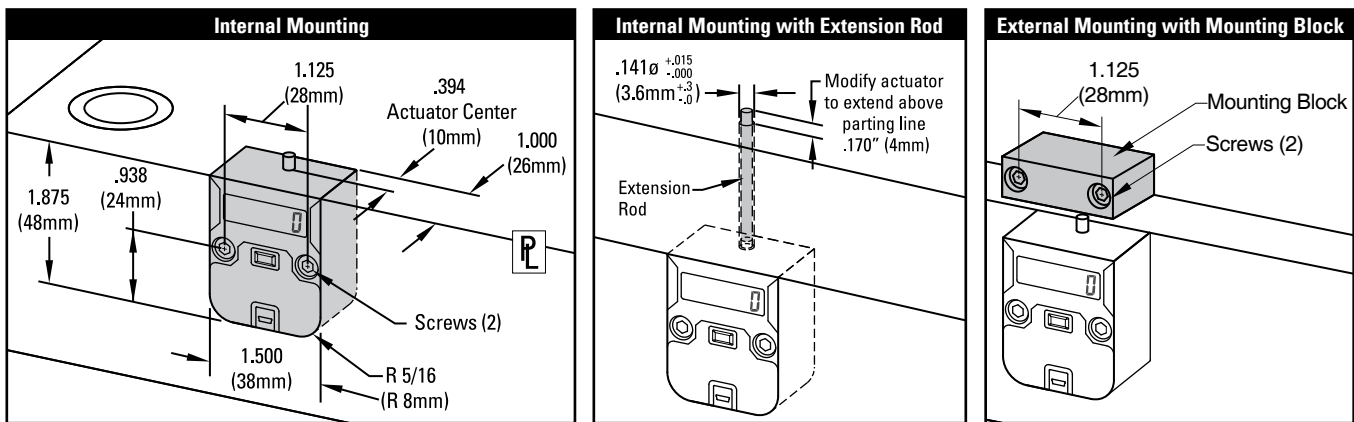- For installation outside of the mold (right drawing) order (1) CVEMBID or CVEMBMD

ITEM NUMBER	DESCRIPTION	MOUNTING STYLE	SCREWS (2)
CVEPLID	CVe Inch	Parting Line	#8-32 x 1" SHCS
CVEPLMD	CVe Metric	Parting Line	M4 x 25mm SHCS
CVENTID	CVe Inch (with 8"rod)	Extension (Includes 8" rod)	#8-32 x 1" SHCS
CVENTMD	CVe Metric (with 203mm rod)	Extension (Includes 203mm rod)	M4 x 25mm SHCS
CVEMBID	CVe Inch (with Mounting Block)	Parting Line	#8-32 x 1" SHCS
CVEMBMD	CVe Metric (with Mounting Block)	Parting Line	M4 x 25mm SHCS

REPLACEMENT PARTS	
ITEM NUMBER	DESCRIPTION
CVEINT	Internal Extension Rod (8"/203mm) including a hex key for CVe Monitor set screw removal
CVEXT	External Mounting Block including #8-32 x 1" SHCS (2)
CVEXT2	External Mounting Block including M4x25mm SHCS (2)

OEM-specific CVe Monitors are available with additional features. Contact DME for more information.

On-Mold Display Modes

Each device is provided at -25 cycles to allow for mold setup and initialization of the CVe Monitor. Once it reaches zero, 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 of the CVe Monitor.

Cycle Time
Since the first production cycle, the cycle time is shown in seconds for the life of the mold.

Cycle Time - Recent
Cycle time for the past 25,000 cycles.

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

Efficiency Percentage - Recent
The percentage of time the mold has been active in the past 25,000 cycles.

Cycle Count Reset
A separate counter that can be reset to zero for interim monitoring of cycles when pressed and held.

Users can utilize the 4GB flash drive on the CVe Monitor by connecting the device to a PC using an industry-standard mini USB cable (see next page). Users press the button to get to the flash drive mode and then the storage area is represented on the PC by a new drive letter.

Alert Mode

Once data is initialized using the OnDemand software, users will be alerted to different modes on the device:

Preventive Maintenance

During initialization, the initial preventive maintenance point and the PM interval is entered and saved onto the CVe Monitor. Then, when the PM is within 10% of the initial point, the display will flash "PM Due" as shown at right. Users can then 'snooze' the alert by holding for 2 seconds, returning it to Total Cycles.

When a PM is performed using OnDemand software and noted as such, the date/time will be written to the CVe Monitor and then the alert is stopped until reaching 10% of the next PM point. If no PM is performed, the CVe Monitor will continue to alert the user until snoozed or the PM is ultimately recorded.

Low Battery

The CVe Monitor has a battery life of approximately 4.5 years in typical molding environments where temperatures are controlled. When the battery is within 6 months of its expected end of life, the display will flash as shown at right. Users can then 'snooze' the alert by holding for 2 seconds, returning it to the Total Cycles. The alert will appear every 30 days as a reminder to transfer the stored data to a new CVe Monitor.

Retrofitting and Removal

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

Retrofit CVe for CounterView Tools

During initialization, users 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 screen at right, the tool had 1,000,000 cycles on it originally, but ran 507,288 cycles after the CVe Monitor was installed.

Removal Monitoring

When the CVe Monitor is removed from the tool for any reason (i.e. cleaning) the pins on the back of the device will record an event of its removal. After viewing the retrofit number above, the display will move into the screen shown at right, designating the number of times the monitor was removed from the mold.

OnDemand Activity Log [Software Version 2.0/2.0.1/2.2]

CVe Initialize Date	May 27, 2013	June 20, 2013
Device ID	MKX1234	MKX1234
Tool ID	8565B	8565B
	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*	0	0
OEM ID	N/A	ABT1
Asset ID	N/A	0356-5686

Date/Time	Battery	Cycles	OD User	Conn. By	Company	Destination	REV	PM	REP	GEN	REVW	CVe Removals	Notes
April 7, 2014	OK	507,288	INJECTI1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	0	Replaced damaged core pin in cavity 4
April 7, 2014	OK	506,524	INJECTI1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	0	Data Pull
March 23, 2014	OK	491,274	INJECTI1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	0	Pulled from production for mold operational issues. It is being sent for evaluation and rework
March 19, 2014	OK	482,567	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM: Cavity #2 was shutoff
December 30, 2013	OK	364,001	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	1	Full PM
December 2, 2013	OK	314,856	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM
October 30, 2013	OK	260,002	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM: Cavity #2 was shutoff
October 6, 2013	OK	211,563	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM
September 23, 2013	OK	193,268	INJECTI1	Blake Fitz	Injection Tech	CrimsonQ@crmn.com	N	N	Y	N	N/A	0	3 cavities are shutdown. Pulled for evaluation and repair
August 11, 2013	OK	106,235	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM
July 14, 2013	OK	58,725	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Full PM
June 20, 2013	OK	9,265	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	Y	N	N	N/A	0	Initial mold inspection. There is no wear or damage to mold following initial run. Targets are set. Mold is released for production
May 27, 2013	OK	0	MOLDHOU1	Chuck Louse	Mold House	CrimsonQ@crmn.com	N	N		Y	N/A	0	Mold is completed and released for sampling

Above: OnDemand software allows users to view data and keep a record of reports run, outlining the reason for the report generation including PM, general queries, revision changes, and repairs. Notes can be included and OnDemand records the person generating the document for accurate history.