

FalCon Modules

Program modules: Overview

FalCon eXtra

FalCon eXtra contains modules for image acquisition, video processing, visualization of multi-media test data as well as for analysis of image sequences.

FalCon eXtra covers the complete range of tasks in impact testing and supports all available standards.

Overview of the camera control and viewing tools:

Quick View

- Camera control (*ImagerControl Basic*): different camera types of one producer
- Autom. download of raw data
- Optimize sequence pictures: white balance, gamma, contrast, sharpening, saturation, automatic white balance
- AVI creation & compression, autom. multi-AVI-creation
- Insert texts, time values, own logos, drawing elements, substitution variables for text drawings
- Creation of AVIs with not equidistant time steps and save time values to each image in file header; export/load time values as time channel
- AVI and measurements viewer (synchronization)
- Measuring Data-Viewer with adjustable attributes and curve parameters
- Playback AVIs in extensive modes (selectable size and speed
- Standard file formats (MME, ISO, DIAdem, ASCII tables)
- Image overview by film strip
- PictureView: Viewer of picture series and videos incl. navigation tree, thumbnail, print templates and file format conversion

ImagerControl Basic (included in QuickView)

- Control of all camera types of 1 producer in unrestricted mixed-mode operation
- Automatic download of raw data and creation of AVIs (serial)
- Settings of camera parameters for each camera single or for all cameras
- Image optimization before recording possible
- Insert substitution variables for AVIs - with different output resolutions
- Test templates: Generation of templates with different cameras/-settings for reuse for other tests; (Allocation of logical names)
- SnapShot-Mode: Start-, T0- and End-Image
- File management: copy/delete/save of films/images in destination file
- Automatic saving in ISO-MME format

ImagerControl
 (Add-on to QuickView)

- Control of all camera types of diverse producers in unrestricted mixed-mode operation
- Automatic download of raw data and creation of AVIs (parallel QuickLook AVIs and ISO-MME support)
- AVI Reduction
- Raw data viewer
- Auto download of raw data with AVI creation
- Online Movie steadiness = anti-shake (MovXact or TrackingPlugIn is required)
- Support of logical names
- Help for focussing
- Help for camera positioning
- Lenscontrol, automatic adjustment, also in automatic mode
- Online-sharp tool
- ImagerTemplates
- Mobile setup of cameras via remote desktop
- Free editable user interface

AVI Creator

- Optimize sequence pictures: white balance, gamma, contrast, sharpening, saturation, automatic white balance
- AVI creation & compression, autom. multi-AVI-creation
- Insert texts, time values, own logos, drawing elements, substitution variables for text drawings
- Creation of AVIs with not equidistant time steps and save time values to each image in file header; export/load time values as time channel
- AVI and measurements viewer (synchronization) Measuring Data-Viewer with adjustable attributes and curve parameters
- Measuring Data-Viewer with adjustable attributes and curve parameters
- Playback AVIs in extensive modes (selectable size and speed
- Image overview by film strip
- PictureView: Viewer of picture series and videos incl. Navigation tree, thumbnail, print templates and file format conversion
- Standard file formats (MME, ISO, DIAdem, ASCII tables)

ImagerControl Option Client
 (Add-on to ImagerControl)

- Load-Balancing of multiple processing clients for reducing calculation period

ImagerControl Option Remote
 (Add-on to ImagerControl)

- Remote control via PLC
- Remote control via by Telnet

- GPU Speed**
- Reduction of the calculating time for processing of raw data and AVI-creation
 - Accelerated image processing and optimization
 - Accelerated changes of image sizes
 - Accelerated image processing during marker tracking and MovXact analysis
- FrameMerge**
 (Add-on to AVI Creator or QuickView)
- Overlay of AVIs
 - Transparency per channel adjustable (if necessary also temporally)
 - Free positioning of the channels
 - "Distortion" of a channel to balance different camera positions (CamFolder module is required)
 - Automatic positioning
 - "Colour falsifications" with objects of the same colour
 - Emphasis of the differences
- Tracking Plug-In**
 (Add-on to ImagerControl/FrameMerge)
- Removal of jitter (anti shake), automatic camera positioning, automatic overlay of films
 - Automatically measurement of movements with reference markers
- AVI Viewer**
- Playback AVIs in extensive modes (selectable size and speed
 - AVI and measurements viewer (synchronization)
 - Standard file formats (MME, ISO, DIAdem)
 - Image overview by film strip
 - Measuring Data-Viewer with adjustable attributes and curve parameters
- MME Creator**
- Merge several partitions of tests
 - Insert multimedia data:
 - AVIs, images, measurement data, documents and static data (Rename all photos with the help of logical names, Indication of number of novalues-channels)
 - Input and modification of descriptive data and parameters in clear input masks
 - Viewer for all data incl. movie player with viewing features (zoom, rotation, mirror ...) and measurement plots with adjustable attributes and parameters (display all names of curves with color identification, insert text notes, limit lines and logos ...)
 - Saving of data according ISO/TS13499
 - Transform of raw data formats
 - Export/Import layout-files from/to XML-format

Overview of the image analysis tools:

- MovXact**
- 2D measurements and marker tracking
 - Marker types: MXT-5 (5-point markers), MXT-6; DOT, DOT-I (inverse), QUAD, BALL; CODE (coded markers of type „AICON“, license required); COR (any picture templates), PIX (coordinate measurements); Virtual marker
 - All markers with defaults of ISO-Basis-Codes
 - Group model for dropout handling
 - Space and time calibration
 - Extraction of additional variable: resultants, angle...and area measurements
 - Recording of outlines (contours = f(t))
 - X Diagrams - Contour(t)-**Type Stick-Figure** = Polyline of Nodes
 - Measuring by planar stencils, X Diagrams – Stencils, Post-processing of contour lines with interactive tools, (“Erase” and “Extend/Add” of areas, Smoothing of interactively entered line chains)
- Mov3D**
 (Add-on to MovXact)
- 3D analysis
 - Photogrammetric triangulation by multi-camera views
 - Calculation of camera position using know control points
 - Calibration of camera and lens
 - 3D-prediction of marker with selectable coordinate-system of control points
 - 3D-xy-diagrams with choice of the 2D-plane of projection
 - Stabilization for compensation of small jitter of the camera
 - CamSplitter
- Mov6D**
 (Add-on to MovXact or Mov3D)
- 6D analysis
 - 6D motion of rigid objects by means of one camera
 - Type of marker CODE
 - Calibration of camera and lens
- MovBag**
 (available as add-on to MovXact or as stand alone)
- Analysis of airbag sequences
 - Automatic measurement of contour graphs
 - Evaluation of specific measurement values (maximum expansion, area, min. amplitude and distances x/y/Res to reference marker, center of gravity, perimeter)
 - Post-processing with „Erasure“ (cut) and interactive „Add“ of areas with the help of a polygon brush
 - Automatic measurement of time-variant contour graphs.
 - Analysis of “moment of contact” of an airbag contour to centre of reference
- CamFolder**
- Calibrate cameras and measure distortions (ISO)
 - Folder file with camera/lens combinations
 - Simultaneous calibration of camera pairs with identification of fixed relative camera positions
 - Quality management: Frequency of checks

Archive tool

- DataBase**
 (FQV/FAC Site License is required)
- Archive system for picture and measurement data with connection to a database and client access program, see data sheet.