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jBEAM Powertrain

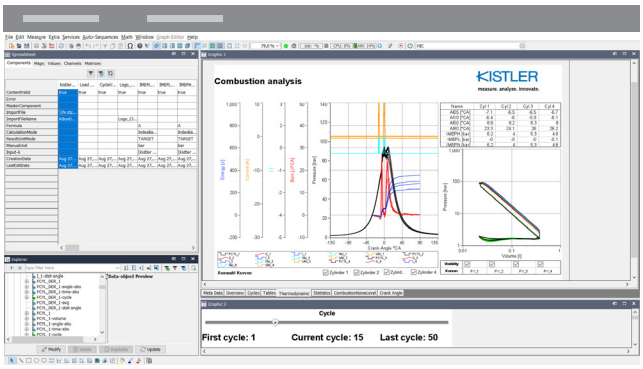
Type 2848A

Software for data analysis, visualization, and report generation for powertrain testing

jBEAM Powertrain is a software for data analysis, visualization and report generation specifically targeted at powertrain testing. With jBEAM measurement data analysis is made easy.

The benefits of jBEAM Powertrain:

- Better and faster analysis of your data thanks to perfect presentation through extensive visualization tools
- Accomplish the required analysis quickly and efficiently with the interactive toolset
- Save time for creating reports with the automated reporting in different standard file formats
- Powerful calculations to simplify your powertrain workflows



Description

jBEAM Powertrain is a comprehensive post-processing software with extensive analysis, visualization and reporting capabilities. With its platform independence and multi-language support, powertrain customers worldwide use the software for quick analysis as well as for managing complex projects. jBEAM supports the import of multiple measurement file formats commonly used in powertrain test labs as well as multimedia formats to combine your measurement data with images, audio and video. Extensive analysis functions range from simple arithmetic operations, waveform analysis, and FFT calculations to matrix operations, signal filters, statistics, map calculations, map plots, and cycle-oriented evaluations. With comprehensive visualization capabilities ranging from simple text elements, forms and tables to all types of 2D and 3D graphs, there is always a suitable format to display your measurement data and analysis results. You can also use the controls to create interactive visualizations and reports.

jBEAM Powertrain is available in Starter and Professional variants as a single user, dongle or floating license that can be used by multiple users in the same network. With the command line interface, folder and file monitoring, and script support, there are also various options for automating the analysis functionality. For a comparison of the two available variants, please see the section “Technical data”.

System requirements and recommendations

The system requirements for jBEAM Powertrain Starter/Professional very much depend on your analysis needs. The following system configuration is recommended for a setup that covers most use cases:

Operating system	Windows 10 & 11 Linux MacOS (Intel-based)
Processor	Intel Core i5-7500, 2.7 GHz or better (recommended)
Memory	4 GB (minimum)
Mass storage	SSD (recommended) 2 GB free disk space for installation (minimum)
Display resolution	1920 x 1080 / full HD (recommended)

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Technical data

		Starter	Professional
Data import			
Data file	ASAM-MDF (v3/ v4) (mdf, dat)	✓	✓
	ASAM-ODS (atf, atfx)		✓
	ASCII	✓	✓
	AVL Concerto (html)		✓
	AVL iFile		✓
	Catalog Container (cml)		✓
	DASYLab v7		✓
	DeweSoft (d7d, d7x, dxd)		✓
	DIAdem™ (dat, tdm, tdms)		✓
	DiagRA Vehicle Diagnostics		✓
	EdasWin		✓
	FAMOS (fam, dat, raw)		✓
	Gantner Universal-Bin-File		✓
	HBM Catman (bin)		✓
	HBM Perception (pnrf)		✓
	Hioki HiCORDER (mem)		✓
	INCA CVX (csv)		✓
	jBEAM project (jbs)		✓
	Kistler Andromeda Data File (adf)	✓	✓
	Kistler Como (ComoNeo, ComoScout, CDC, AkvisIO) (csv)	✓	✓
	Kistler HIS Combustion Indexin	✓	✓
	Kistler KiBox 2 MDF (mdf)	✓	✓
	Kistler maXYmos (csv)	✓	✓
	Kistler Open File	✓	✓
	LMS Test Lab (tdf)		✓
	Matlab (mat)	✓	✓
	Micro Control MC911 (acf)		✓
	Microsoft Excel (xls, xlsx)	✓	✓
	MTS RPC III (rpc, rsp, drv)	✓	✓
	NetCDF (cdf, nc, nc2, he5)		✓
	PEMS XML (aip)		✓
	Uniplot UTX (dat, atl, tdl)		✓
	Universal File Format (15 & 58) (unv, uff)		✓
	Vehicle Bus Files CAN/ LIN (blf, asc, dbc)		✓
	Yokogawa (hdr, wdf)		✓
GPS data	Garmin (fit)		✓
	Garmin-Database-File (crs, hst tcx)		✓
	Google (kml)		✓
	GPS Exchange (gpx)	✓	✓
	NMEA (gps)		✓

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		Starter	Professional
Database	ASAM-ODS		✓
Multimedia	Images (bmp, gif, jpeg, jpg, png, svg, wbmp)	✓	✓
	Audio (au, rmf, mid, wav, aif, aiff)		✓
	Video (avi, mpg, mov, mp4, m4v)		✓
	G Streamer Video Technology		✓
Layouts			
	DIAdem™ Version 9		✓
	INCA XDA		✓
	jBEAM XML Layout (import & export)		✓
	Multilanguage Protocol-Layouts		✓
	Page Management	✓	✓
	Sublayout Management	✓	✓
Data export			
Data file	ASAM-MDF (mdf)		✓
	ASAM-ODS (atf, atfx)		✓
	ASCII	✓	✓
	Catalog Export		✓
	GPS Exchange Format (GPX)		✓
	Matlab		✓
	Microsoft Excel (xls, xlsx)	✓	✓
	Microsoft Excel with template (xls, xlsx)		✓
	NetCDF		✓
	RPC III		✓
Report	Graphics (png, jpeg, svg)	✓	✓
	HTML pages		✓
	Microsoft Excel (table graphs)		✓
	Microsoft Powerpoint (ppt)		✓
	Microsoft Word document		✓
	PDF document (high resolution)	✓	✓
	SVG File		✓
	Screen video (recording of dynamic analysis)		✓
Automation			
Importer utilities	Channel name and unit mapping		✓
	Datasource manager	✓	✓
	Importer cleaner	✓	✓
	Import-File watcher	✓	✓
	Multi-File importer	✓	✓

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		Starter	Professional
Measurement			
Trigger modules	Data object observer		✓
Measurement modules	Kistler LabAmp	✓	✓
Calculations			
Arithmetic	Bit calculations, boolean algebra with relations, FlipFlops	✓	✓
	Coordinate transformation (polar ↔ cartesian)		✓
	Formula editor for numeric channels (line by line)		✓
	Formula editor for numeric objects	✓	✓
	Formula editor with text resolver		✓
	Integration, Derivative, Double-Integration	✓	✓
	Matlab wrapper		✓
	User-defined Java calculations class (needs JDK)		✓
	User-defined Java function (needs JDK)		✓
	X-values, Pythagoras	✓	✓
Curve calculations	Complex channel extractor		✓
	Envelope curve	✓	✓
	Integration of hysteresis curves		✓
	Least Mean Square fit		✓
	Manual channel adjustment		✓
	Memory		✓
	Move tests		✓
	Offset & Drift Correction		✓
	Partial curve (controlled)	✓	✓
	Resample angle-based		✓
	Resampling		✓
	Resolve Newton formula		✓
	Signal calibration		✓
	Sort channel values		✓
	Spike correction		✓
	Split channel by date		✓
	Split channel into matrix		✓
	Synchronize curves		✓
	Synchronize via time channel (date/ time)		✓
	Synchronize hysteresis curves		✓
	Visual Signal Editor		✓
	X-data change	✓	✓
	Y (X) synchronization		✓
Curve analysis	Compression work		✓
	Correlation of 2 signals		✓

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		Starter	Professional
	Elastic modules (E-Modulus)		✓
	Multiple events analysis		✓
	Peak area detection		✓
	Peak detection		✓
	Plateau analysis		✓
	Plausibility of channels		✓
	Step - response		✓
	Value ranges around boolean trigger		✓
Vibration analysis (FFT)	Auto correlation		✓
	Auto spectrum		✓
	Coherence quotient		✓
	Complex FFT		✓
	Convolution		✓
	Cross correlation		✓
	Cross spectrum		✓
	Effective value of an oscillation (RMS)		✓
	FFT spectrum (amplitude & phase)	✓	✓
	Inverse FFT		✓
	Order analysis		✓
	Real FFT		✓
	Spectrogram & Waterfall diagrams		✓
	Terz/ Octave analysis (FFT-based)		✓
Signal filters	Bandpass (FFT-based)		✓
	CFC-Filter (FFT-based)		✓
	Filter editor (FFT-based)		✓
	FIR filter		✓
	ISO 2631 filter		✓
	Moving average	✓	✓
	Universal signal filter		✓
Data filters	Manual value filter	✓	✓
	Matrix columns filter/sorter		✓
	Value filter		✓
Statistics	Append values, event triggered		✓
	Append values (statistical or formula)	✓	✓
	Box-Whisker statistic		✓
	Distributions (normal, Chi2...)		✓
	Extract statistical values	✓	✓
	Extract values by index list	✓	✓
	Statistic over channels	✓	✓
	Statistic over matrix columns	✓	✓

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		Starter	Professional
Counting procedures	1D classification	✓	✓
	Dwell time		✓
	Min/ Max classification		✓
	Pivot table analysis		✓
	Rainflow analysis		✓
	Reversal points		✓
	Statistical frequency 1D	✓	✓
	Statistical frequency 2D		✓
	Pivot table analysis		✓
Conversions	Absolute date time → Relative time	✓	✓
	Change item creation time		✓
	Channel → Group of values		✓
	Channels → Matrix		✓
	Concatenate channels	✓	✓
	Concatenate producers		✓
	Concatenate values	✓	✓
	Convert date time		✓
	Convert string to numeric value		✓
	Counter to physical values		✓
	Cuts through maps and matrices		✓
	Data objects switch		✓
	Grouping data objects	✓	✓
	Grouping of calculations/graphics		✓
	Grouping components		✓
	Component collection		✓
	Extract bits	✓	✓
	Index for relative time		✓
	Integer channel to bit matrix		✓
	Key ↔ Label		✓
	Kistler HIS cycle & crank angle → Image	✓	✓
	List of properties	✓	✓
	Position vectors ↔ Matrix		✓
	Property ↔ Data item	✓	✓
	Ungroup group of data objects	✓	✓
	Video → Timed images		✓
	YMDHMS → Date/Time	✓	✓
Geodesy	Geofencing		✓
	GPS → Distance/Heading (2 point)		✓
	GPS → Distance/Heading/Speed		✓
	GPS ↔ Gauss-Krüger		✓
	GPS ↔ UTM		✓

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		Starter	Professional
	Longitude/Latitude/Altitude ↔ XYZ		✓
	Split GPS-polygons		✓
Characteristic maps	Characteristic map trace		✓
	Engine map statistics		✓
	Iso torque curve		✓
	Turbocharger map statistics		✓
Graphic functions			
Simple forms	Line, Rectangle, Circle, Curved line	✓	✓
	Speechbox	✓	✓
Text elements	Formatted text		✓
	MathML graphic		✓
	Plain string (rotatable)	✓	✓
	Plain text	✓	✓
	Variables as text	✓	✓
Tables	Chart legend as table		✓
	Free table	✓	✓
	Interactive table (multiple column lines for display and controls)		✓
	Item property table	✓	✓
	Matrix table		✓
	Spreadsheet	✓	✓
	Table of content		✓
Graphics	Bar graph (multicolor, voice output)	✓	✓
	Boolean display	✓	✓
	Controlled arrow		✓
	Controlled image	✓	✓
	Curved line (controlled)		✓
	Digital display	✓	✓
	Moving images		✓
	Multi digital display		✓
	Needle indicator	✓	✓
	Realtime table		✓
	TY stripchart		✓
	Vector display		✓
Graphs/Charts	Universal 2D graph (accepts any combination of following diagrams)	✓	✓
	- Box-Whisker diagram		✓
	- Bubbles diagram	✓	✓
	- Engine map statistic diagram	✓	✓
	- Error bars diagram		✓
	- Isoline/Contour diagram		✓
	- Line/Points diagram	✓	✓

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	- Graph objects diagram		✓
	- Matrix diagram		✓
	- Moving map (needs a map service)		✓
	- Moving sprites		✓
	- Scaled images	✓	✓
	- Timed images		✓
	- Turbocharger map statistic diagram	✓	✓
	- Vector field diagram		✓
	Box-Whisker graph		✓
	Difference engine map graph		✓
	Difference turbocharger map graph		✓
	Grid chart		✓
	Isolines/Contour graph (dynamic for 3D matrices)		✓
	Line/Points graph (polar coordinates)		✓
	Net grid chart		✓
	Spectrogram & Waterfall diagrams		✓
	Vectorfield graph (incl. difference field)		✓
	Number of curves per 2D chart	10	100
	Number of axis per 2D chart	5	50
	Universal 3D graph (OpenGL based) (accepts any combination of following diagrams)		✓
	- 3D bar diagram		✓
	- 3D points diagram		✓
	- 3D surface diagram (incl. Z projection)		✓
	- 3D waterfall diagram		✓
	- 4D surface diagram		✓
Other graphs	Html viewer		✓
	Pie graph		✓
Multimedia graphic	Audio player (synchronized)		✓
	Dynamic image graph		✓
	Image graph	✓	✓
	Video mixer graph		✓
	Video player (synchronized)		✓
Control elements	Button (to run a command)	✓	✓
	Button (to run an action)	✓	✓
	Checkbox for boolean values	✓	✓
	Combobox (selector for strings)	✓	✓
	Command field		✓
	Command push button		✓
	Data item reference holder		✓
	Data item selector	✓	✓
	Dialog configurator		✓
	Iterable graph input controller		✓

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		Starter	Professional
	Multi-button line (to start different actions)		✓
	Property editor	✓	✓
	Radio buttons (selector for strings)	✓	✓
	(Turning) knob		✓
	Slider (selector for numeric values)	✓	✓
	Switch/Toggle button (for boolean values)	✓	✓
	Tabbed graphic area		✓
	Text input field	✓	✓
	Time controller	✓	✓
	Value input field (for numbers)	✓	✓
Miscellaneous			
Configuration management	Component collections		✓
	Project analyzer		✓
	Template library (template manager)		✓
Messaging Elements	Data object observing trigger		✓
Protocol generator	Page formatter		✓
	Report generator (section types: event analysis, table of contents, template, speed chart)		✓
	Report generator (section type: KiBox Cockpit layout import)	✓	✓
Data generator	Actual time		✓
	Basic graphic objects		✓
	Grouped maps		✓
	Numeric channel	✓	✓
	Numeric matrix (2D & 3D)	✓	✓
	Property map	✓	✓
	Signal data		✓
	Text channel	✓	✓
	Text matrix (2D)		✓
	Time channel	✓	✓
Map services	Google		✓
	OpenStreetMap (OSM)		✓
	HERE		✓
General			
	Axis synchronization service		✓
	Data analysis window	✓	✓
	Generic unit service	✓	✓
	Graphic user interface	✓	✓
	GUI language (english & german)	✓	✓
	Multi language GUI (11 languages see below)	✓	✓
	Release Notes dialog	✓	✓
	Resolver for text embedded formulas	✓	✓

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		Starter	Professional
	Scripts (Java, Bean shell, Groovy, Python syntax)		✓
	Scripts (native Python support)		✓
	Toolbox	✓	✓
	User-defined menu/ tool bar	✓	✓
Project size			
	Number of importers & calculations	100	3.000
	Number of graphic objects	500	50.000
Languages			
	Arabic	✓	✓
	Chinese	✓	✓
	Czech	✓	✓
	English	✓	✓
	French	✓	✓
	German	✓	✓
	Italian	✓	✓
	Portuguese	✓	✓
	Russian	✓	✓
	Spanish	✓	✓
	Swedish	✓	✓

Services & trainings for jBEAM Powertrain software
(please contact sales-software@kistler.com for requests)

jBEAM Powertrain (18047117)
jBEAM Powertrain Subscription

Services
- First Level supprt
- Maintenance
- Template service

Training (44002613)
- jBEAM Basic User Training
- jBEAM Advanced User Training
- jBEAM Expert User Training

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