FALCON Balancer-Analyzer Technical Datasheet

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Technical Datasheet

USE AND APPLICATIONS

Relying on ACOEM's 30+ years of experience in developing portable instruments for condition monitoring, FALCON includes all the technology to perform a balancing on any set of machine in situ.

SMART BALANCER

With FALCON, It is possible to balance rotors of any size, from the simplest to the most complex one (1 to 4-plane balancing). Using multi-channel acquisition, parallel measurements are possible on all sensors.

FALCON Balancer includes all tools to guide the operator and control the results during the entire balancing process:

- Easy to use with the "guided" mode
- Graphic display of measurements and weight positions
- Automatic setup of tachometer
- Trial weight estimation
- Control of the data at each step with recommendation to improve result quality
- Rotation speed control
- Tools to split or merge weights
- Direct access to spectrum during the balancing procedure
- Result assessment according to ISO 10816-3 and ISO 1940
- Automatic and customizable word report with histograms, pictures and spectra.



With FALCON, the balancing of your machines is more accurate, more secure and faster.

VIBRATION ANALYZER

In addition to the main balancing module, every FALCON Balancer comes with vibration analyzer capabilities. It is then possible to perform any vibration control in the field in matter of seconds, using and modifying the built-in in libraries of measurements and analyzing data in the field on FALCON large colorful touchscreen:



Quick measurement from templates

- Easy addition and modification in the field
- Compatible with various types of inputs (Accelerometers, proximity probes...)
- Quick access to bump test
- Built-in analysis tools (access to spectrum, time waveforms, cursors...)



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FALCON GENERAL SPECIFICATIONS

Touchscreen

Graphic colour touchscreen Resolution: 800x480 pixels Dimension: 154x92 mm (D7") Adjustable brightness Can be used in direct sunlight Icon functions

Acquisition

Synchronous on 2 channels + trigger input (Option 4 channels) 24-bits conversion Sampling frequency:

- 102.4 kHz for each channel ٠
- Up to 204.8 kHz on 1 channel

Antialiasing filter Wireless acquisition with FALCON WLS triaxial accelerometer Digital signal processors Real-time processing: 40 kHz on 4 channels ٠

• Up to 80 kHz on 2 channels Memory: 3.5 GB for measurements

Communication

USB 2 type B device (direct connection to PC) USB 2 type A host (for USB stick) Ethernet Wi-Fi

Battery

Auto test and calibration function High density Li-Ion type Rechargeable without removing Battery lifetime: 10 hours under intense use Programmable automatic standby mode and switch-off

Analogue Inputs

Up to 4 programmable signal inputs (depending on instrument option):

- Frequency range: 0 40 kHz on 4 channels, 80 kHz on 1 channel
- Overload indicator in % with memorisation
- IEPE interface with real time integrity control, range \pm 8V (power supply: 4 mA constant current 23 VDC)
- Dynamic signal measurements (acceleration, vibration velocity, absolute displacement, relative displacement, electrical current, etc.) +/- 10 VAC 0
 - 0, -24 V for proximity probes (a -24Vdc 0 power supply is available on each channel using cable ref FLC1005000))
 - Input impedance AC/DC: 100 kΩ
- Accuracy: +/- 1%
- Sensors without electronics with optional charge amplifier
- DC input: from -24 VDC to +24 VDC for measurements of position and process parameters
- AC coupling: 0.3 Hz
- Compatible with triaxial sensor

Trigger input: Range: +/- 10 V, 0 to +24 V, 0 to - 24 V Adjustable triggering parameters Automatic setup function For rotation speed measurement, synchronous analysis, balancing, order analysis. Input impedance: 100 kΩ

+ 5 Vdc power supply for tacho probe -24 Vdc power supply for proximity probes driver using optional cable ref FLC1006000

ANALOGUE OUTPUTS

1 headphone output to listen sensor signal, recorded signal or audio inspection notes

1 stroboscope output: TTL

For each channel and trigger input: -24 Vdc power supply for proximity probe

BUILT-IN PYROMETER WITH LASER-SIGHTING

Contactless temperature measurement:

- Range: 0 to 200°C
- Accuracy: +/- 3°C for ambient temperature ranging from 18°C to 28°C. •
- Resolution: 0.5°C •
- Repeatability: +/- 1°C
- Field of view: 5° @ 50% (\emptyset target \simeq 4 cm @ 50 cm)
- Time response: 1 s
- Fixed emissivity: 95%

BUILT-IN STROBOSCOPE

Rotation speed measurement:

- Range: 30 to 15000 RPM •
- Automatic setting to machine speed predefined in setup
 - Adjustment:
 - ½, x2 0
 - Fast 0
 - 0 Fine
- Flash duration : adjustable from 0.5 to 15° Can be used independently or to adjust rotation speed in a route or from a spectrum display

Built-in camera

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Resolution: 640 x 480 Autofocus Distance: 20 cm to ∞ Flash mode

Mechanical/environment

Protection: IP65. Case with shock protection rubber Shock protection: 1.2 m drop (1m for EX version) Standard compliance:

Safety: IEC61010-1 ٠

- EMC: directive 2004-108-CE
- Dimensions: 200 x 265 x 65 mm

Weight: 1.8 kg including battery and rubber protection Operating temperature: -10°C to 55°C Humidity: 95% no condensation

FALCON-EX, intrinsically safe version:

ATEX certification: EX II 3 G, Ex ic IIC T4 Gc, supplied with certified accessories.

IECEX certification: Ex ic IIC T4 Gc

Note: shock protection: 1m drop. The protection screen accessory cannot be used in dangerous area and is not supplied.

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FALCON SIGNAL PROCESSING

Vibration Overall Level

High-pass filters: 2, 10, 3,000 Hz, Low-pass filters: 300, 1,000, 2,000, 3,000, 20,000, 40,000 Hz Vibration velocity in accordance with ISO 2954, ISO10816, VDI 2056 standards for rotating machinery, VDI 2063 standard (2-300 Hz) for reciprocating machines

Detection: RMS, true or equivalent peak, true or equivalent peak-to-peak

Overall level in any frequency band processed on a spectrum Rolling element detection: defect factor scale from 0 to 12 for standard rotation speed'

Measurement of Kurtosis (Shock detection for low speed rolling element bearing)*

High-pass filter: 50 Hz to 20 kHz, 1 Hz step Low-pass filter: 500 Hz to 20 kHz, 1 Hz step (LPF > 2 x HPF)

Programmable measurement time: 1 to 99 s

Alarms: 4 alarm types, up to 4 alarm levels, comparison to previous measurement

Display: instantaneous measurement, measured value, alarm limits, previous measurement

Display of measurement and alarm levels as bar-graphs

Integration: none, single or double integration for measurement of acceleration, velocity or displacement

Overall level value in engineering unit and dB

Rotation Speed

External trigger input with direct access to trigger level setup. Automatic setup mode. Range: 12 to 288,000 RPM (0.2 to 4.800 Hz) With built-in stroboscope

DC input Keyboard input

Coast-down profile

This measurement is used to measure the duration of a machine coast-down phase

Other parameters

Integrated pyrometer with laser-sighting for contactless temperature measurement

Any other parameters (user-defined parameter and unit) with DC input and keyboard input Machine operating condition

Time Wave

Number of samples: 256, 512, 1,024, 2,048, 4,096, 8,192. Option: 16,384, 32,768, 65,536. Extended number of samples with long time wave option: up to 80 s split over the number of channels or 4.096K samples.

Demodulation of time waveform (band-pass filtered)



Sampling frequency (Hz): 204.8K, 102.4K, 51.2K, 25.6K, 12.8K, 5.12K, 2.56 K, 1.28K, 512, 256, 128 Integration: none, single or double integration for measurement

of acceleration, velocity or displacement Synchronous analysis:

- Triggering on signal or trigger input. Trigger delay
- programmable from -8192 samples to +20 seconds Programmable trigger level on positive or negative
- slope Averaging: from 1 to 4,096

Time analysis on all types of signal: vibration, force, pressure, current... (user-defined parameter and unit) Orbit display with 2 channel measurement

Spectral Analysis

Number of lines: 100, 200, 400, 800, 1 600, 3 200, 6 400, 12.8k, 25.6k. Option: 51.2k, 102.4k (102.4k only with 2 channels max) Envelope: spectrum of demodulated time waveform filtered by a programmable band-pass filter (any central frequency, band width = 1/2 to 1/128 of analysis range). Max number of lines: 6,400 Option: zoom factor: 2, 4, 8, 16, 32, 64, 128.

Frequency ranges (Hz): 80k, 40k, 20k, 10k, 5k, 2k, 1k, 500, 200, 100, 50

Averaging: from 1 to 4,096 with linear or peak hold mode Overlap rate: 0, 50, 75%

Real time: up to 40 kHz

Weighting window: Rectangular, Hanning, Flat-top

Synchronous analysis: triggering on signal or trigger input. Trigger delay programmable from -8,192 samples to +20 seconds Programmable trigger level on positive or negative slope

Display: Lin/Log, automatic scaling, engineering unit/dB, RMS/Peak/Peak-Peak amplitude for each type of parameter, Hz, RPM

Display of instantaneous spectrum and averaging during measurement

Spectral analysis on all types of signal: vibration, force, pressure, current... (user-defined parameter and unit)

Display of overall value with uniform or ISO 6954 weighting

Vector measurement (phased spectrum)

Number of lines: 100, 200, 400, 800, 1,600, 3,200, 6,400 Frequency ranges (Hz): 40k, 20k, 10k, 5k, 2k, 1k, 500, 200, 100, 50

Synchronous averaging: from 1 to 4.096

Display: Lin/Log, automatic scaling, engineering unit/dB, RMS/Peak/Peak-Peak amplitude for each type of parameter, Hz,

RPM Display of instantaneous spectrum and averaging during

measurement



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BALANCING SPECIFICATIONS

Balancing types

FALCON allows performing 1 to 4-plane balancing. Rotors from any size can thus be balanced, from the simplest (single-plane balancing) to the most complex (3 or 4-plane balancing, 4-channel option required).

Measurements

Balancing using acceleration, velocity or displacement. Measurement and compensation of Run Out if balancing using proximity probes.

Parallel measurements (2 or 4 channels), which results in a more accurate, more secure and faster procedure.

Rotation speed: from 12 to 288,000 RPM (from 0.2 to 4,800 Hz). Amplitude range:

- With 100 mV/g accelerometer: acceleration: 80 g. Measurement is also possible for vibration, velocity and displacement
- With 8 mV/□m (200 mV/mil) proximity probe: 1.5 mm (60 mils)

Amplitude: display in physical units or dB

Phase: 4-digit display from 0 to 360° (or any other user-defined unit). Precision: +0.5°

Results display

Indication of rotation speed in Hz or RPM

Display in measurement in table mode and in graphic polar mode Storage in 2-level tree structure: folder/balancing

Display of trial and balancing masses in table mode and in graphic polar mode. 3D mode for 2-plane balancing.

Metric or imperial units.

Assistance to configuration

Easy duplication of balancing with copy/paste function: for any stored balancing, it is very easy to do a new balancing operation, by following the previously used procedure.

Direct access to tachometric signal and configuration using an automatic setup function.

Trial values for masses and estimated positions.

Function to distribute masses over two defined angles. Function to merge additional masses with installed masses. User-defined angle unit to make mass installation easier.

Assistance to measurement

Measurement with programmable averaging to decrease external disturbance.

Display of instant value during averaging.

Balancing in a single operation using stored influence factors. Calculation of balancing masses for any operation (with or without trial masses).

Results reliability

Automatic control of rotation and vibration speeds dispersion to check measurement reliability.

Display of balancing quality rating (standards ISO 1940, VDI 2060, NFE 90.600).

Display of the limits of standard ISO 10816-3

Step-by-step guiding of the user during balancing: at any moment, the user can know where he/she is in the balancing process and follow the guide step by step.

Balancing report

The report is generated from an entirely user-configurable template in WORD format. It includes:

- Balancing configuration
- Summary of balancing with graphic histogram
- Picture of sensor mounting
- Comment
- Detailed results
- Spectra at the beginning and the end of balancing

Management of interruptions

Possibility to stop and resume balancing as you want Possibility to repeat any operation without repeating the entire procedure



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ANALYSER SPECIFICATIONS

Analyzer module

Creation of measurement in the field made easy with copy/paste of the machines from templates (see list of templates available in this document)

Quick & easy Creation of new machine, addition or modification of new measurements from templates,

Modification of pamareters and signal properties in the field to fit to the users' need,

Bump test possibilities

Built in Analysis tools

Consultation of data on FALCON for on-site analysis.

FFT Analysis tools: Simple cursor, Double cursor, Harmonic cursors, Side band cursors

FFT Display: Triax display or full screen, Zoom / unzoom

Stored or Live display Time wave analysis tools: Simple cursor, Double cursor, orbit display for 2 Channel analysis

Simultaneous measurement on 1 or 2 channels (Option 4 channels)

Management of wireless triaxial accelerometer

Management of wired triaxial accelerometer (4 ch. option reqired) Management of 4 synchronous channels from 4 single-axis wired accelerometers. This operating mode requires using 2 cables with Yconnectors to connect to the FALCON ports and 4 ch. Option).

Real-time processing

Parallel processing Instant display of measurement results, as soon as the time signal measurement is completed.

Visual display of the data on the instrument

Display during measurement of (your selection):

- Progress bar
- Values of overall levels
- Scrolling of time signal

Analyzer Reporting

Screenshot function



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LIST OF ANALYZER BUILT-IN TEMPLATES

Monitor ACC SI		MON ACC SI	Monitoring using accelerometer with metric units	
Standa	rd SI	Std SI	Standard machine	8 s
	OV Vel mm/s	OV VV	10-1000 Hz, Al 4.5, Dg 7.1	
	OV Accel g	OV ACC	10Hz-20kHz, Al 2.5, Dg 5	
	Bearing defect	DEF	AI 6, Dg 9	
LF Spectr a LF SP		LF SPCT	2-200 Hz, 800 I, 4 avr	
	MF Spectr g	MF SPCT	2-2000 Hz, 3200 I, 10 avr	
	HF Spectr g	HF SPCT	2-20kHz, 1600 I, 20 avr	
	Time wave	TW	51.2 kHz, 8K smpl (160 ms)	
Standa	rd SI Env	Std SI Env	Standard machine with envelope spectrum	
OV Vel mm/s		OV VV	10-1000 Hz, Al 4.5, Dg 7.1	
	OV Accel g	OV ACC	10Hz-20kHz, Al 2.5, Dg 5	
	DEF	DEF	AI 6, Dg 9	
	LF Spectr mm/s	LF SPCT	10-1000 Hz, 3200 I, 5 avr	
	HF Spectr g	HF SPCT	2-20kHz, 1600 I, 20 avr	
	ENV Spectr g	ENV	20 kHz, 3200 l, 4 avr, x4, 5500 Hz central freq.	
	Time wave	TW	51.2 kHz, 8K smpl (160 ms)	
Fast SI		FST SI	Fast measurement	3 s
	OV Vel mm/s	OV VV	10-1000 Hz, Al 4.5, Dg 7.1	
	OV Accel g	OV ACC	10Hz-20kHz, Al 2.5, Dg 5	
	LF Spectr mm/s	LF SPCT	10-1000 Hz, 1600 I, 5 avr	
	HF Spectr g	HF SPCT	2-20kHz, 1600 I, 20 avr	
	Time wave	TW	51.2 kHz, 8K smpl (160 ms)	
Low speed SI		LS SI	Low speed machine	11 s
	OV Vel mm/s	OV VV	2-1000 Hz, Al 4.5, Dg 7.1	
	OV Accel g	OV ACC	2Hz-20kHz, Al 2.5, Dg 5	
	LF Spectr g	LF SPCT	2-200 Hz, 1600 I, 2 avr	
	MF Spectr g	MF SPCT	2-2000 Hz, 3200 I, 10 avr	
	HF Spectr g	HF SPCT	2-20kHz, 1600 I, 20 avr	
	Time wave	TW	25.6 kHz, 32K smpl (1280 ms)	Option
Low sp	eed SI + Env	LS SI Env	Low speed machine with envelope spectrum	10 s
	OV Vel mm/s	OV VV	2-1000 Hz, Al 4.5, Dg 7.1	
	OV Accel g	OV ACC	2Hz-20kHz, Al 2.5, Dg 5	
	LF Spectr mm/s	LF SPCT	2-1000 Hz, 6400 I, 3 avr	
	HF Spectr g	HF SPCT	2-20kHz, 3200 I, 20 avr	
	ENV Spectr g	ENV	20 kHz, 6400 l, 3 avr, x4, 3500 Hz central freq.	
	Time wave	TW	25.6 kHz, 32K smpl	Option
High resolution SI H		H RESOL	High resolution measurement	13 s
	OV Vel mm/s	OV VV	10-1000 Hz, Al 4.5, Dg 7.1	
	OV Accel g	OV ACC	10Hz-20kHz, Al 2.5, Dg 5	
	DEF	DEF	AI 6, Dg 9	
	LF Spectr g	LF SPCT	2-200 Hz, 1600 I, 3 avr	
	MF Spectr g	MF SPCT	2-2000 Hz, 6400 I, 10 avr	
	HF Spectr g	HF SPCT	2-20kHz, 6400 I, 20 avr	
	Time wave	TW	51.2 kHz, 32K smpl	Option

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Monitor ACC US		MON ACC US	Monitoring using accelerometer with imperial units	
Standard US		Std US	Standard machine	8 s
	OV Vel in/s	OV VV	10-1000 Hz, Al .18, Dg .28	
	OV Accel g	OV ACC	10Hz-20kHz, Al 2.5, Dg 5	
	Bearing defect	DEF	A 6, Dg 9	
	LF Spectr in/s	LF SPCT	2-200 Hz, 800 I, 4 avr	
	MF Spectr g	MF SPCT	2-2000 Hz, 3200 I, 10 avr	
	HF Spectr g	HF SPCT	2-20kHz, 1600 I, 20 avr	
	Time wave	TW	51.2 kHz, 8K smpl	
Standard	US + Env	Std US Env	Standard machine with envelope spectrum	7 s
	OV Vel in/s	OV VV	10-1000 Hz, Al .18, Dg .28	
	OV Accel g	OV ACC	10Hz-20kHz, Al 2.5, Dg 5	
	DEF	DEF	Al 6, Dg 9	
	LF Spectr in/s	LF SPCT	10-1000 Hz, 3200 I, 5 avr	
	HF Spectr g	HF SPCT	2-20kHz, 1600 l, 20 avr	
	ENV Spectr g	ENV	20 kHz, 3200 l, 4 avr, x4, 5500 Hz central freq.	
	Time wave	TW	51.2 kHz, 8K smpl	
Fast US		FST US	Fast measurement	3 s
	OV Vel in/s	OV VV	10-1000 Hz, Al .18, Dg .28	
	OV Accel g	OV ACC	10Hz-20kHz, Al 2.5, Dg 5	
	LF Spectr in/s	LF SPCT	10-1000 Hz, 1600 I, 5 avr	
	HF Spectr g	HF SPCT	2-20kHz, 1600 I, 20 avr	
	Time wave	TW	51.2 kHz, 8K smpl	
Low speed US		LS US	Low speed machine	11 s
	OV Vel in/s	OV VV	2-1000 Hz, Al .18, Dg .28	
	OV Accel g	OV ACC	2Hz-20kHz, Al 2.5, Dg 5	
	LF Spectr g	LF SPCT	2-200 Hz, 1600 I, 2 avr	
	MF Spectr g	MF SPCT	2-2000 Hz, 3200 I, 10 avr	
	HF Spectr g	HF SPCT	2-20kHz, 1600 I, 20 avr	
	Time wave	TW	25.6 kHz, 32K smpl	Option
Low spee	ed US + Env	LS US Env	Low speed machine with envelope spectrum	10 s
	OV Vel in/s	OV VV	2-1000 Hz, Al .18, Dg .28	
	OV Accel g	OV ACC	2Hz-20kHz, Al 2.5, Dg 5	
	LF Spectr in/s	LF SPCT	2-1000 Hz, 6400 I, 3 avr	
	HF Spectr g	HF SPCT	2-20kHz, 3200 I, 20 avr	
	ENV Spectr g	ENV	20 kHz, 6400 l, 3 avr, x4, 3500 Hz central freq.	
	Time wave	TW	25.6 kHz, 32K smpl	Option
High reso	olution US	H RESOL	High resolution measurement	13 s
	OV Vel in/s	OV VV	10-1000 Hz, Al .18, Dg .28	
	OV Accel g	OV ACC	10Hz-20kHz, Al 2.5, Dg 5	
	DEF	DEF	AI 6, Dg 9	
	LF Spectr g	LF SPCT	2-200 Hz, 1600 I, 3 avr	
	MF Spectr g	MF SPCT	2-2000 Hz, 6400 I, 10 avr	
	HF Spectr g	HF SPCT	2-20kHz, 6400 I, 20 avr	
	Time wave	TW	51.2 kHz, 32K smpl	Option

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Monitor PROX SI		MON PRX SI	Monitoring using proximity probe with metric	units
Standard SI		Std SI	Standard machine	5 s
	OV Rel depl µm p-p	OV DEP	10-1000 Hz, Al 90, Dg 140	
	Position µm	POS		
	Spectrum µm	SPECTR	10-1000 Hz, 1600, 8 avr	
	Time wave µm	TW	12.8 kHz, 8K smpl	
Low spee	d SI	LS SI	Low speed machine	6 s
	OV Rel depl um p-p	OV DEP	2-1000 Hz. AI 140. Dg 200	
	Position um	POS		
	Spectrum um	SPECTR	2-1000 Hz. 1600. 8 avr	
	Time wave um	TW	12.8 kHz, 8K smpl	
Monitor PR	OXUS	MON PRX US	Monitoring using proximity probe with imperi	al units
Standard	US	Std US	Standard machine	5 s
	OV Rel depl mils p-p	OV DEP	10-1000 Hz, Al 3.6, Dg 5.6	
	Position mils	POS		
	Spectrum mils	SPECTR	10-1000 Hz, 1600, 8 avr	
	Time wave mils	TW	12.8 kHz, 8K smpl	
Low spee	d US	LS US	Low speed machine	
	OV Rel depl mils p-p	OV DEP	2-1000 Hz, AI 5.6, Dg 8	
	Position mils	POS		
	Spectrum mils	SPECTR	2-1000 Hz, 1600, 8 avr	
	Time wave mils	TW	12.8 kHz_8K smpl	
Analysis ACC		ANLS ACC	Measurement for analysis with accelerometer	,
Envelopp	e	ENV	Envelope spectrum	
	ENV Low Speed	ENV LS	20 kHz, 6400 l, 3 avr. x4, 3500 Hz central freq.	3.5
	ENV Med Speed	ENV MS	20 kHz, 3200 l, 4 avr. x4, 5500 Hz central freq.	2 s
	ENV High Speed	ENV HS	20 kHz, 3200 l, 4 avr. x4, 9500 Hz central freq.	2 \$
Zoom	5 - 1	ZOOM	Zoom spectrum	Option
	Zoom mm/s	ZM MM/S	200 Hz, 400 I, x4, 3avr. cf 100 Hz	12 s
	Zoom in/s	ZM IN/S	200 Hz, 400 I, x4, 3avr, cf 120 Hz	12 s
	Zoom a	ZMG	10kHz, 400 L x8, 8avr, cf 6000Hz	1.5
High reso	lution spct	HRESOL	High resolution spectrum	10
	High res spct mm/s	HR MM/S	2kHz, 6400 L 4 avr	6.5
	High res spct in/s	HR IN/S	2kHz 64001 4 avr	65
	High res spct a	HRSG	20kHz 256001 8 avr	<u>4</u> s
L ong time	wave	IGTW	Long time wave	Option
Long	Time wave g	LG TW2	51.2 kHz 1M smpl	21 s
Synch sp	ectr.mm/s	SS MM/S	Synchronous spectrum in mm/s	213
Oynon op	Synch spectr mm/s	SS MM/S	1kHz 8001 8 avr	1s/avr
Synch sp	ectr in/s	SS IN/S	Synchronous spectrum in in/s	13/441
- Cynon op	Synch spectr in/s	SS IN/S	1kHz 8001 8 avr	1 s / avr
Synch sn	ectr a	SS G	Synchronous spectrum in a	13/41
Oynen sp	Synch spectr a	SS G	1kHz 8001 8 avr	1 c / a vr
Phased s	nectr.mm/s	PS MM/S	Phased spectrum in mm/s	13/41
Phased spectr mm/s		PS MM/S	200 Hz 400 4 avr	25/01
Phasod s	nectr in/s	PS INI/S	Phased spectrum in in/s	25/avi
1 110350 5	Phased spectr in/s	PS IN/S	200 Hz 400 4 avr	28/04
Phasada	nectr a	PSG	Phased spectrum in a	23/dVI
i haseu s	Phased spectric	PSG	$\frac{1}{200} \text{ Hz} 400 \text{ J} 4 \text{ avr}$	28/01/
Synchr tir	ne wave	SYNCH TW	Synchronous timewaye	23/avi
Oynorn til	Synch TW g	STWG	5 12kHz 1K smol 8 avr	$0.2 \varepsilon/2 v$
		5111 0	0.1 - NI 2, 11 011pl, 0 avi	0.2 3/av

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Analysis PROX SI		ANL PROX SI	Analysis with proximty probe in metric unit	
High resolution spct		H RESOL	High resolution spectrum	
	High res spct µm	HR µM	1kHz, 6400 l, 4 avr	12 s
Long time wave		LG TW	Long time wave (Option)	
	Long time wave µm	LTW µM	12.8 kHz, 128K smpl	11 s
Phased spectru	um	PH SPCT	Phased spectrum	
	Phased spectr µm	PS µM	200 Hz, 400 I, 4 avr	2 s / avr
Analysis PRO	X US	ANL PROX US	Analysis with proximty probe in imperi	al unit
High resoluti	on spct	H RESOL	High resolution spectrum	
	High res spct mils	HR MILS	1kHz, 6400 l, 4 avr	12 s
Long time wave		LG TW	Long time wave (Option)	
	Long time wave mils	LTW MILS	12.8 kHz, 128K smpl	11 s
Phased spectrum		PH SPCT	Phased spectrum	
	Phased spectr mils	PS MILS	200 Hz, 400 I, 4 avr	2 s / avr
Bump test		BMP TST	Bump test measurement	
Bump test LF		LF BPT	Low frequency test	
LF Bump test		LF BPT	200 Hz, 400 I, rec WW,Trig 0.1g -100ms	
Bump test MF		MF BPT	Medium frequency test	
	MF Bump test	MF BPT	500Hz, 400 I, rect WW, Trig 0.1g -40ms	
Bump test H	F	HF BPT	High frequency test	
	HF Bump test	HF BPT	1kHz, 400 l, rect WW, Trig 0.1g -20 ms	
Process DC		PROC DC	Process measurement using DC input	
Temp °C	Temp °C	TEMP °C		
Temp °F	Temp °F	TEMP °F		
Power kW	Power kW	PWR kW		
Power HP	Power HP	PWR HP		
Process keyboard		PROC KB	Process measurement using keyboard	input
Temp °C	Temp °C	TEMP °C		
Temp °F	Temp °F	TEMP °F		
Power kW	Power kW	PWR kW		
Power HP	Power HP	PWR HP		
Current analysis		CURRENT	Measurement for current analysis	
Current analysis		CURRENT		25 s
	Ampitude A	AMP A		
	LF spectrum A	LF SPCT A	200 Hz, 3200 I, 3 avr	
	HF spectrum A	HF SPCT A	5 kHz, 12800 l, 10 avr	
	Time wave A	TW A	12.8 kHz, 32K smpl	Option

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FALCON BALANCER - PACKAGES AND KITS

FALCON HARDWARE KIT

- Carrying case
- A built-in rechargeable battery pack
- A mains power supply unit: 110/220 V 50/60 Hz •
- 1 voltage input cable •
- Safety harness •
- USB cables •
- Printed Quick start manual •
- User manual on USB Stick •
- Safety instructions

BALANCING ACCESSORIES

- 2-plane balancing sensor kit •
 - 2 x ASH201-A accelerometers 0
 - 2 x M6 magnets for ASH sensors 0
 - 2 x 5-m straight cables for ASH201 0
 - 1 x optical trigger device for phase measurement with laser 0 sighting, including:
 - 1 x optical trigger input • •
 - 1 x 1.5-m straight cable
 - . 1 x 5-m extension cable
 - 1 x self-adhesive reflecting tape (1 meter)
 - 1 x magnetic base for the optical triggering device •
- 4-plane balancing sensor kit
 - 4 x ASH201-A accelerometers
 - 4 x magnets for ASH201-A 0
 - 4 x 5-m straight cables for ASH201 0
 - 0 2 x 20-cm Y ECTA/ECTA adaptors for connecting 2 sensors on a FALCON channel
 - 1 x optical triggering device for phase measurement with laser sighting, including: 0
 - 1 x optical trigger input .
 - . 1 x 1.5-m straight cable
 - 1 x 5-m extension cable
 - 1 x self-adhesive reflecting tape (1 meter) .
 - 1 x magnetic base for the optical triggering device

Note: All packages are also available in EX version certified for use in ATEX Zone II 3 G Ex ic IIC T4 Gc, IECEx: Ex ic IIC T4 Gc.



About ACOEM

ACOEM Group Reduce your environmental impact

In today's fast-moving world, the environment is increasingly impacted. The ACOEM Group is committed to sustainable development and help companies and public authorities limit their environmental impact by offering products and services that:

- Prevent and control air, noise and vibration pollution
- · Increase the productivity and reliability of industrial machinery
- · Contribute to the development of effective, robust & noiseless products
- · Protect soldiers, sites and vehicles in military theaters of operation

Across the world, ACOEM's 670 employees innovate in the measurement, analysis and control of all environmental parameters through the 01dB, ECOTECH, ONEPROD, FIXTURLASER, MEAX and METRAVIB brands.

For more information, please visit our website at accemproup.com

