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ELEVATOR COMPONENTS

More than an elevator supplier ...



POLEN

weight watcher

ROPELOAD MEASUREMENT SYSTEM

PERMANENT OVERLOAD CONTROL SYSTEM



CHARACTERISTICS OF THE WEIGHTWATCHER OVERLOAD CONTROL SYSTEM:

The new AE12wifi allows the entire configuration via TCP/IP or via the setting keys on the device. The integrated web server allows access to an intuitive user interface. The 3 known variants (standard, analog and CANopen) have a fast Wifi or LAN connection with the AE12wifi.

- 12 independent measuring channels
- 3 alarm relays for freely programmable loads
- 1 alarm relay for slack rope detection and monitoring of load distribution
- Type Analog with 4 - 20 mA or 2 - 10 V
- Type CANopen: DSP 417 (CANopen Lift)
- Use of the Henning Sensor Suite

Automatic compensation of compensating chains / rope weights:
When the HOLD input is switched on, automatic compensation of compensation chains and rope weights takes place for multiple suspensions..





TECHNICAL DATA								
	AE12wifi		AE12wifi Analog		AE12wifi CANopen			
Max. number of sensors	12		12		12			
Supply voltage	12 - 28 VDC		12 - 28 VDC		12 - 28 VDC			
Power consumption	4 W		4 W		4 W			
Relays output	4		4		●			
Analog output	●		●		●			
Hold input	12 - 230 VAC/DC		12 - 230 VAC/DC		●			
CANopen DSP 417	●		●		●			
Display	LED, 4 numbers		LED, 4 numbers		LED, 4 numbers			
Operation	3 keys		3 keys		3 keys			
Determining weight	●		●		●			
Rope tension assistant	●(via Laptop)		●(via Laptop)		●(via Laptop)			
Configuration with a laptop	●(cable required USB)		●(cable required USB)		●(cable required USB)			
Dimensions (L x W x H)	105 x 90 x 62 mm		105 x 90 x 62 mm		105 x 90 x 62 mm			
Nr Art.	455000		455002		455005			
SENSORY DO LIN	LS 1	LS2	LS 2000	Donut 300 RC	Donut 500 RC	Donut 1000 RC	Donut 3500 RC	CC800
Nr Art..	455500	455400	455850	455250	455255	455260	455265	455450
Max. eye bolt Ø mm Max. eye bolt Ø inch				12,5 (M12) $^{15}/_{32}$ inch	16,5 (M16) $^{5}/_{8}$ inch	24,5 (M24) $^{15}/_{16}$ inch	31,0 (M30) 1 $^{7}/_{32}$ inch	
Rope diameter Ø mm Rope diameter Ø inch	6 - 16 mm $^{1}/_{4}$-$^{5}/_{8}$ inch	4 - 10 mm $^{5}/_{32}$-$^{3}/_{8}$ inch	6 - 16 mm $^{1}/_{4}$-$^{5}/_{8}$ inch	~ 4-8 mm ~ $^{5}/_{32}$-$^{5}/_{16}$ inch	~ 6-14 mm ~ $^{1}/_{4}$-$^{9}/_{16}$ inch	~ 12-17 mm ~ $^{15}/_{32}$-$^{11}/_{16}$ inch	~ 16-25 mm ~ $^{15}/_{32}$-$^{11}/_{16}$ inch	
Application range kg Application range lbs	0 - 500 kg 0 - 1100 lbs	0 - 300 kg 0 - 660 lbs	200 - 2000 kg 400 - 4500 lbs	0-300 kg 0 - 660 lbs	0 - 500 kg 0 - 1100 lbs	0 - 1000 kg 0 - 2200 lbs	0 - 3500 kg 0 - 7700 lbs	50 - 80 kg
Principle of measurement	strain gauge	strain gauge	strain gauge	strain gauge				
Calibrated sensors	●	●	●	●	●	●	●	●
Calibration with weights	●	●	●	●	●	●	●	●
Temperature range	0° - 70°C	0° - 70°C	0° - 70°C	0° - 70°C	0° - 70°C	0° - 70°C	0° - 70°C	-20° - 50°C
Cable length	2,5 m	2,5 m	2,5 m	2,5 m	2,5 m	2,5 m	2,5 m	5 m
Dimensions (L x W x H)	250 x 75 x 19 mm	178 x 58 x 16 mm	300 x 80 x 19 mm	Ø 40 mm	Ø 49 mm	Ø 65 mm	Ø 72,4 mm	

● = Standard
● = Not available







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ROPELOAD MEASUREMENT SYSTEM

OVERLOAD SENSORS FOR ROPES / DONUT SENSORS

SENSOR LS 1 (6 - 16 mm / 1/4 - 5/8 inch)

Design of the rope load sensor LS1 follows a patented measuring principle ceasing the expensive calibration of the elevator by test weights. The rope load sensor suits rope diameters from 6 mm (1/4 inch) to 16 mm (5/8 inch) and is ready for use.

TECHNICAL DATA:



Rope diameter	6 mm - 16 mm / 1/4 - 5/8 inch
Application range	0 - 500 kg / 0 - 1100 lbs (± 2,5% FSR)
Maximum load	1000 kg / 2200 lbs
Breaking load	2000 kg / 4400 lbs
L x W x H (mm)	250 x 75 x 19
Connection cable length	2,5 m
Temperature range	0 °C - 70 °C
Type of protection	IP 20

Typ	Nr Art.
Rope load sensor LS 1 (6 - 16 mm / 1/4 - 5/8 inch)	455500

SENSOR LS 2 (4 - 10 mm / 5/32 - 3/8 inch)

Design of the rope load sensor LS 2 follows a patented measuring principle ceasing the expensive calibration of the elevator by test weights. The rope load sensor suits rope diameters from 4 mm (1/8 inch) to 10 mm (3/8 inch) and is ready for use.

TECHNICAL DATA:



Rope diameter	4 mm - 10 mm / 1/8 - 3/8 inch
Application range	0 - 300 kg / 0 - 660 lbs (± 2,5% FSR)
Maximum load	600 kg / 1320 lbs
Breaking load	1200 kg / 2640 lbs
L x W x H (mm)	178 x 58 x 16
Connection cable length	2,5 m
Temperature range	0 °C - 70 °C
Type of protection	IP 20

Typ	Nr Art.
Rope load sensor LS 2 (4 - 10 mm / 5/32 inch - 3/8 inch)	455400

ROPE LOAD SENSOR LS 2000 (6 - 16 mm / 1/4 - 5/8 inch)

Rope load sensor for special use with extended measuring range. Inclusive Pre-calibrated for rope diameters - and Measuring ranges.

TECHNICAL DATA:



Rope diameter	6 mm - 16 mm / 1/4 - 5/8 inch
Application range	200 - 2000 kg / 400 - 4500 lbs (± 2,5% FSR)
Maximum load	4000 kg / 9000 lbs
Breaking load	6000 kg / 18000 lbs
L x B x H (mm)	300 x 80 x 19
Connection	cable length 2,5 m
Temperature range	0 °C - 70 °C
Type of protection	IP 20

Typ	Nr Art.
Rope load sensor LS 2000 (6 -16 mm) 1/4 inch - 5/8 inch	455850

Cabin sensor CC800

The CC cabin sensor is mounted under the cabin. Thanks to the special design and our many years of experience in load measurement technology, we have succeeded in developing sensors that measure absolutely. This eliminates the need for time-consuming calibration with weights. The sensors can therefore be used immediately and simply have to be connected to the AE12 evaluation unit without having to enter tedious calibration parameters per sensor or similar. You can choose to use 2 – 12 CC cabin sensors at the same time.

TECHNICAL DATA:



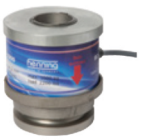
Application range	50 - 800 kg (± 2,5% FSR)
Limit load	1200 kg
L x W x H (mm)	170 x 40 x 68,5
Elastomer NBR	hardness 70 (Shore A)
Length of connection cable	5 m
Temperature range	-20°C – +50°C
Protection class	IP 20

Typ	Nr Art.
Cabin sensor CC800	455450

DONUT LOADSENSOR RC:





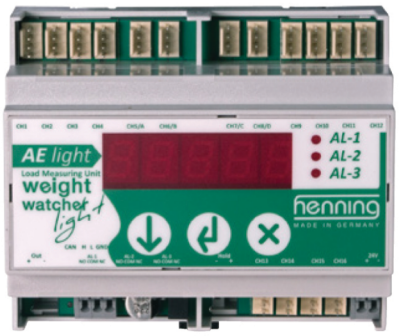




Technical data Donut RC	Donut 300 Nr Art. 455250	Donut 500 Nr Art. 455255	Donut 1000 Nr Art. 455260	Donut 3500 Nr Art. 455265
Max. eye-bolt Ø	12,5 mm (M12)	16,5 mm (M16)	24,5 mm (M24)	31 mm (M30)
Roughly equivalent to rope-Ø	4 - 8 mm	6 - 14 mm	12 - 17 mm	16 - 25 mm
ZApplication range	0 - 300 kg	0 - 500 kg	0 - 1000 kg	0 - 3500 kg
Maximum load	600 kg	1000 kg	2000 kg	4550 kg
Breaking load	1200 kg	2000 kg	4000 kg	5250 kg
Deflection compensation	10°	7°	5°	5°
Sensor Height	52,4 mm	53,8 mm	68 mm	92 mm
Sensor Ø	40 mm	49 mm	65 mm	72,4 mm
Connection cable length	2,5 m	2,5 m	2,5 m	2,5 m
Type protection	IP 20	IP 20	IP 20	IP 20

weight watcher light

OVERLOAD CONTROL SYSTEM



CHARACTERISTICS OF THE WEIGHTWATCHER LIGHT OVERLOAD CONTROL SYSTEM:

- Extremely attractive price
- Easy installation
- Very compact sensors
- Freely programmable output relays
- Possibility of measuring 8, 12 or 16 ropes / belts / braided ropes

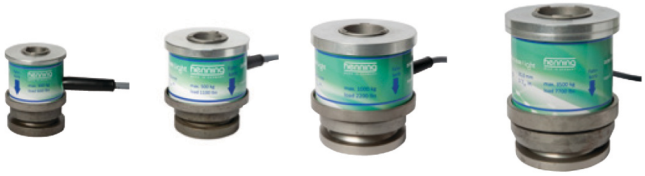


	AElight 8 Standard	AElight 8 CANopen	AElight 8 analog	AElight 12 Standard	AElight 12 CANopen	AElight 12 analog	AElight 16 Standard	AElight 16 CANopen	AElight 16 analog
Nr Art.	456100	456105	456102	456010	456015	456012	456000	456005	456002
Max. number of sensors	8	8	8	12	12	12	16	16	16
Supply Voltage	12 – 28 V DC	12 – 28 V DC	12 – 28 V DC	12 – 28 V DC	12 – 28 V DC	12 – 28 V DC	12 – 28 V DC	12 – 28 V DC	12 – 28 V DC
Power Consumptio	Max. 0,8 W	Max. 0,8 W	Max. 0,8 W	Max. 0,8 W	Max. 0,8 W	Max. 0,8 W	Max. 0,8 W	Max. 0,8 W	Max. 0,8 W
Relais	3 Change Over Contacts, freely programmable	●	3 Change Over Contacts, freely programmable	3 Change Over Contacts, freely programmable	●	3 Change Over Contacts, freely programmable	3 Change Over Contacts, freely programmable	●	3 Change Over Contacts, freely programmable
Analog Output	●	●	0 – 10 V DC	●	●	0 – 10 V DC	●	●	0 – 10 V DC
CANopen DSP 417	●	●	●	●	●	●	●	●	●
HOLD Input	●	●	●	12V -230V AC/DC	●	12V -230V AC/DC	12V -230V AC/DC	●	12V -230V AC/DC
LED-Display	5 Digits	5 Digits	5 Digits	5 Digits	5 Digits	5 Digits	5 Digits	5 Digits	5 Digits
Operation	3 Push-Button	3 Push-Button	3 Push-Button	3 Push-Button	3 Push-Button	3 Push-Button	3 Push-Button	3 Push-Button	3 Push-Button
Dimensions [mm] (LxBxH)	105 x 90 x 62	105 x 90 x 62	105 x 90 x 62	105 x 90 x 62	105 x 90 x 62	105 x 90 x 62	105 x 90 x 62	105 x 90 x 62	105 x 90 x 62

Sensors	LS light	Donut light 300 RC	Donut light 500 RC	Donut light 1000 RC	Donut light 3500 RC
Art.-No.	456500				
Max. Eye Bolt Diameter Ø mm Max. Eye Bolt Diameter Ø inch		12,5 (M12) $^{15}/_{32}$ inch	16,5 (M16) $^{5}/_{8}$ inch	24,5 (M24) $^{15}/_{16}$ inch	31,0 (M30) 1 $^{7}/_{32}$ inch
Rope Diameter Ø mm Rope Diameter Ø inch	4 - 13 mm $^{5}/_{32}$ - $^{1}/_{2}$ inch	~ 4-8 mm ~ $^{5}/_{32}$ - $^{5}/_{16}$ inch	~ 6-14 mm ~ $^{1}/_{4}$ - $^{9}/_{16}$ inch	~ 12-17 mm ~ $^{15}/_{32}$ - $^{11}/_{16}$ inch	~ 16-25 mm ~ $^{15}/_{32}$ - $^{11}/_{16}$ inch
Application Range kg Application Range lbs	0 - 500 kg 0 - 1100 lbs	0-300 kg 0 - 660 lbs	0 - 500 kg 0 - 1100 lbs	0 - 1000 kg 0 - 2200 lbs	0 - 3500 kg 0 - 7700 lbs
Measuring Principle	Strain Gauge	Strain Gauge			
Calibrated Sensors	●	●	●	●	●
Calibration with weights	●	●	●	●	●
Temperature Range	0° - 70°C	0° - 70°C	0° - 70°C	0° - 70°C	0° - 70°C
Connection cable length	2,5 m	2,5 m	2,5 m	2,5 m	2,5 m
Dimensions (L x W x H)	110 x 70 x 22 mm	Ø 40 mm	Ø 49 mm	Ø 65 mm	Ø 72,4 mm

● = Standard
● = Not available





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OVERLOAD SENSORS FOR ROPES / DONUT SENSORS

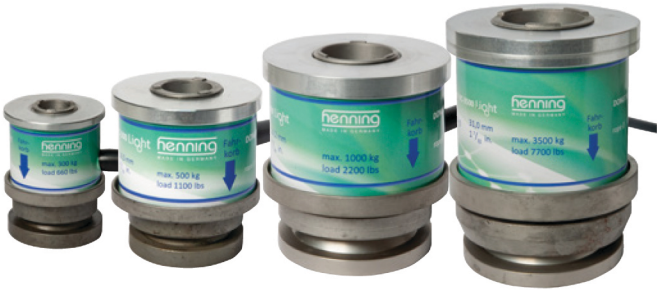


Rope load sensors LS Light are made for low lift shaft heads and narrow-layed ropes and suit rope diameters of 4 to 13 mm ($^1/_8$ - $^1/_2$ inch).
They suit almost every low and narrow siting.

TECHNICAL DATA:

Rope diameter	4 - 13 mm / $^1/_8$ - $^1/_2$ inch
Application range	0 - 500 kg / 0 - 1100 lbs
Maximum load	1000 kg / 2200 lbs
Breaking load	2000 kg / 4400 lbs
L x W x H (mm)	110 x 70 x 22
Cable length	2,5 m
Temperature range	0°C - 70°C

Typ	Nr Art.
Rope load sensor LS Light 4 - 13 mm / $^1/_8$ - $^1/_2$ inch	456500



RC 300 RC 500 RC 1000 RC 3500

Technical data Donut RC	Donut light 300 Nr Art. 456350	Donut light 500 Nr Art. 456355	Donut light 1000 Nr Art. 456360	Donut light 3500 Nr Art. 456365
Max. eye-bolt 0Ø	12,5 mm (M12)	16,5 mm (M16)	24,5 mm (M24)	31 mm (M30)
Roughly equivalent to rope-Ø	~ 4 - 8 mm	~ 6 - 14 mm	~ 12 - 17 mm	~ 16 - 25 mm
Application range	0 - 300 kg	0 - 500 kg	0 - 1000 kg	0 - 3500 kg
Maximum load	600 kg	1000 kg	2000 kg	4550 kg
Breaking load	1200 kg	2000 kg	4000 kg	5250 kg
Deflection compensation	10°	7°	5°	5°
Sensor Height	52,4 mm	53,8 mm	68 mm	92 mm
Sensor Ø	40 mm	49 mm	65 mm	72,4 mm
Connection cable length	2,5 m	2,5 m	2,5 m	2,5 m
Type protection	IP 20	IP 20	IP 20	IP 20

weight watcher light

MULTIROPE

OVERLOAD CONTROL SYSTEM

ADVANTAGES OF WEIGHTWATCHER LIGHT MULTIROPE:

- Extremely attractive value for money option
- Ease of installation
- 4 types of sensor for 100, 150, 200 and 300 mm clamping widths for 4 to 26 mm / $^{1}/_{8}$ - 1 inch rope diameters
- Measuring range up to 10.000 kg / 22.000 lbs
- 3 freely programmable output relays
- Integrated evaluation unit
- CANopen Lift available CANopen

	Weight Watcher light MultiRope			
Evaluation Unit	MultiRope	MultiRope CANopen		
Max. Number Of Sensors	1	1		
Voltage	12 - 28 VDC	12 - 28 VDC		
Power Consumption	1 W at 12 V DC	1 W at 12 V DC		
Output Relays	3 CO, freely programmable	●		
Analogue Output	●	●		
Hold Input	12 - 230 VAC/DC	●		
CANopen DSP 417	●	●		
Display	LED, 4 digits	LED, 4 digits		
Operation	3 keys	3 keys		
Determination Of Car Weight	●	●		
Rope Tension Assistant	●	●		
Configuration by laptop	●	●		
	sensor is connected directly to the evaluation unit	sensor is connected directly to the evaluation unit		
Suitable Sensors	**MR 100**	**MR 150**	**MR 200**	**MR 300**
Nr Art.	456610 456615 CANopen	456710 456715 CANopen	456600 456605 CANopen	456700 456705 CANopen
Rope Diameter Ø mm Rope Diameter Ø inch	4 - 11 mm $^{5}/_{32}$-$^{7}/_{16}$ inch	12 - 16 mm $^{15}/_{32}$-$^{5}/_{9}$ inch	4 - 26 mm $^{5}/_{32}$-1 inch	4 - 26 mm $^{5}/_{32}$-1 inch
Application Range kg Application Range lbs	100 - 1600 kg 220 - 3527 lbs	150 - 4000 kg 330 - 8818 lbs	300 - 2500 kg 660 - 5500 lbs	700 - 6000 kg 1500 - 13200 lbs
Measuring Principle	Strain Gauge			
Calibrated Sensors	●	●	●	●
Calibration with weights	●	●	●	●
Temperature Range	0° - 70°C	0° - 70°C	0° - 70°C	0° - 70°C
Length Of Cable	2,5 m	2,5 m	2,5 m	2,5 m
Dimensions (L x W x H)	100 x 100 x 60 mm	150 x 100 x 70 mm	220 x 220 x 132 mm	220 x 320 x 142 mm



MR 100



MR 150



MR 200



MR 300

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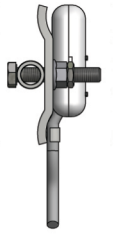
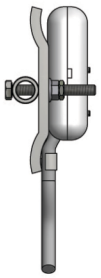




Typ	Nr Art.
MultiRope 100	456610
MultiRope 100 CANopen	456615





Typ	Nr Art.
MultiRope 150	456710
MultiRope 150 CANopen	456715



Typ	Nr Art.
MultiRope 200	456600
MultiRope 200 CANopen	456605
MultiRope 300	456700
MultiRope 300 CANopen	456705

WEIGHTWATCHER LIGHT MULTIROPE

TECHNICAL DATA: **STANDARD**

Relays	3 changeover relays
Max. contact voltage	250 V AC/220 V Dc
Max. making current:	30 V DC 1 A
	125 V AC 0,3 A
Max. permanent current	30 V DC 1 A
	125 V AC 0,3 A
Max. switching capacity (ohmic load)	62 VA
Max. switching capacity (ind. load)	62 VA
Min. contact rating	10 mV DC 0,01 mA
Length cable set	2.5 m
supply voltage	12 V - 28 V DC
Hold-input	12 V - 230 AC/DC

ELECTRICAL DATA: **CANopen**

Length cable set	2.5 m
Supply voltage	12 V - 28 V DC
CANopen Lift	DSP 417

MULTIROPE 100

ELECTRICAL DATA:

Clamp width	100 mm / 3 $^{15}/_{16}$ inch
Rope diameter	4 mm - 11 mm / $^{1}/_{8}$ - $^{7}/_{16}$ inch
Application range	100 kg - 1600 kg / 220 - 3527 lbs
Maximum load	1600 kg / 3527 lbs
Dimensions L x W x H	100 mm x 100 mm x 60 mm
Weight ca.	1 kg

MULTIROPE 150

ELECTRICAL DATA:

Clamp width	150 mm / 3 $^{29}/_{16}$ inch
Rope diameter	12 mm - 16 mm / $^{1}/_{2}$ - $^{5}/_{8}$ inch
Application range	150 kg - 4000 kg / 330 - 8818 lbs
Maximum load	4000 kg / 8818 lbs
Dimensions L x W x H	150 mm x 100 mm x 70 mm
Weight: ca.	1.5 kg

WEIGHTWATCHER LIGHT MULTIROPE

ELECTRICAL DATA: **STANDARD**

Relays	3 changeover relays
Max. contact voltage	250 V AC/220 V Dc
Max. making current:	30 V DC 1 A
	125 V AC 0,3 A
Max. permanent current	30 V DC 1 A
	125 V AC 0,3 A
Max. switching capacity (ohmic load)	62 VA
Max. switching capacity (ind. load)	62 VA
Min. contact rating	10 mV DC 0,01 mA
Length cable set	2.5 m
supply voltage	12 V - 28 V DC
Hold-input	12 V - 230 AC/DC

ELECTRICAL DATA: **CANopen**

Length cable set	2.5 m
Supply voltage	12 V - 28 V DC
CANopen Lift	DSP 417

MULTIROPE 200

ELECTRICAL DATA:

Clamp width	200 mm / 7 $^{7}/_{8}$ inch
Rope diameter	4 mm - 26 mm / $^{1}/_{8}$ - 1 inch
Application range	300 kg - 2500 kg / 600 - 5500 lbs
Max. load	5000 kg / 11000 lbs
Dimensions L x B x H	220 mm x 220 mm x 132 mm
Weight ca.	3,5 kg

MULTIROPE 300

ELECTRICAL DATA:

Clamp width	300 mm / 11 $^{13}/_{16}$ inch
Rope diameter	4 mm - 26 mm / $^{1}/_{8}$ - 1 inch
Application range	700 kg - 6000 kg /1500 - 13200 lbs (optional 10000 kg / 22000 lbs)
Max. load	12000 kg / 26450 lbs
Dimensions L x B x H	220 mm x 320 mm x 142 mm
Weight:	ca. 8,0 kg

weight watcher mobil

ROPELOAD MEASUREMENT SYSTEM

MOBILE ROPE LOAD MEASUREMENT



Bluetooth®

Inadequately set ropes and excessive overall weights cause an undesired and premature wear. The weight watcher rope load measuring system allows ropes / belts to be set and lift car and counterweight loads to be weighed in no time at all.

The LSM Belt sensor especially developed for belts allows measurements to be carried out on 30 to 60 mm wide belts (3 models available: for Otis, Schindler or CONTI Tech belts). The integrated rope setting assistant guides you through the rope setting procedure and records every measurement with a report that can later be printed out on the PC.

This makes the mobile weight watcher an optimal tool for your service work. Apart from weighing the lift car and counterweight loads, all single rope loads can be displayed and adjusted within a few minutes to their optimum settings using the integrated rope setting assistant.

MOST IMPORTANT CAPABILITIES OF THE WEIGHTWATCHER MOBILE DEVICE

- Time-saving adjustment of rope/belt tension
- Quickly measure the weight of the cabin and counterweight
- LSM sensors with a mechanism for quick attachment to a rope or belt
- Integrated software for perfect tension setting individual ropes/belts
- For various diameters and types of ropes 4 - 10 mm / 5/32 inch - 3/8 inch, dia. 6 -16/1/4 inch - 5/8 inch or dia. 9.5 - 24 / 1/4 inch - 5/8 inch mm and belts (30 mm and 60 mm / 1 3/16 - 2 23/64 inch)
- No need to calibrate with weights
- 12 measurement channels for 12 ropes
- Reports can be printed or stored on your computer
- Basic version 2 GB, optional 4 GB and 8 GB of internal memory
- easy touch screen operation
- Electric power supply with a modern lithium-ion battery
- Optional operation via BlueTooth via smartphones/tablets (Android)
- Optional with QI fast charging option

MOBILE EVALUATION UNIT MSM 12

For sensors LSM 1, LSM 2, LSM XL and LSM Belt
(rope diameter 6 -16 mm / $^{1}/_{4}$ - $^{5}/_{8}$ inch, 4 -10 mm / $^{5}/_{32}$ - $^{3}/_{8}$ inch, 9,5 - 24 mm / $^{3}/_{8}$ - $1^{5}/_{16}$ inch, belt 30 mm i 60 mm / $1\ ^{3}/_{16}$ - $2\ ^{23}/_{64}$ inch)

SET CONTAINS:

- 1 MSM 12
- USB connection cable
- charging unit 230 V / 110V

FEATURES:

- Measurement of single loads and total weight
- rope tension assistant / wizard for quick cable adjustment
- Convenient menu with settings of the suspension variant, unit weight, tolerance
- Storage of complete documentation
- Color touch screen for easy operation
- Available in many languages (list available on request and is constantly expanding)
- Advanced lithium-ion batteries
- Bluetooth variants Extended / Premium can be connected via android app with smartphones / tablets

TECHNICAL DATA:

Measuring channels:	12
bandwidth:	30 Hz
sampling frequency:	100 Hz
interfaces:	USB, BlueTooth optional
L x W x H (mm):	190 x 138 x 46

MSM 12	Basic	Extended	Premium
Nr Art.	**455105**	**455106**	**455107**
Memory	2 GB	4 GB	8 GB
Battery capacity	4,5 Ah	6,75 Ah	9 Ah
BlueTooth Class 2	●	●	●
Qi-charge	●	●	●

More rope load sensors LSM 1, LSM 2, LSM XL or LSM Belt can be ordered separately.

Optional Software-package		Nr Art.
Curve storage	Measures and stores the rope tensions / individual weights during the ride to allow rope sets to be optimized later	**455155**
Counterweight compensation measuremen	Assistant allowing counterweight compensations to be simplified without the use of weights or additional tools, storage and preparation of reports for future documentations	**455160**

Akcesoria		Nr Art.
USB-Stick		**455096**
Qi-charge station		**455097**
MSM12 protective bag		**455099**

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ROPELOAD MEASUREMENT SYSTEM

MOBILE ROPE LOAD SENSOR

MOBILE ROPE LOAD SENSOR LSM 1 (6 - 16 mm / 1/4 - 5/8 inch)

LSM1 is designed according to a patented measuring principle that does no longer require any expensive elevator calibration by testing weights. This rope load sensor suits rope diameters from 6 mm (1/4 inch) to 16 mm (5/8 inch) and can be applied straightaway. Its excentric lever allows the sensor to be fitted to the rope within a few seconds. LSM 1 is equipped with a mains cable of 1 m length.

TECHNICAL DATA:

Rope diameter	6 - 16 mm / 1/4 - 5/8 inch
Application range	0 - 500 kg / 0 -1100 lbs (± 2,5% FSR)
Maximum load	1000 kg / 2200 lbs
Breaking load	2000 kg / 4400 lbs
L x W x H (mm)	250 x 75 x 19
Cable length	1,0 m / 39.37 inch
Temperature range	0 °C - 70 °C



Typ	Nr Art.
Mobile Rope Load Sensor LSM 1 (6 - 16 mm / 1/4 - 5/8 inch)	455600
LSM connection cable extension up to 20 m	455620

MOBILE ROPE LOAD SENSOR LSM 2 (4 - 10 mm / 5/32 - 3/8 inch)

LSM2 is designed according to a patented measuring principle that does no longer require any expensive elevator calibration by testing weights. This rope load sensor suits rope diameters from 4 mm (1/8 inch) to 10 mm (3/8 inch) and can be applied straightaway. Its excentric lever allows the sensor to be fitted to the rope within a few seconds. LSM2 is equipped with a mains cable of 1,0 m length.

TECHNICAL DATA:

Rope diameter	4 - 10 mm / 1/8 - 3/8 inch
Application range	0 - 300 kg / 0 - 660 lbs (± 2,5% FSR)
Maximum load	600 kg / 1320 lbs
Breaking load	1200 kg / 2640 lbs
L x W x H (mm)	178 x 58 x 16
Cable length	1,0 m / 39.37 inch
Temperature range	0 °C - 70 °C



Typ	Nr Art.
Mobile Rope Load Sensor LSM 2 (4 - 10 mm / 3/16 - 3/8 inch)	455700
LSM connection cable extension up to 20 m	455620

MOBILE ROPE LOAD SENSOR LSM XL (9,5 - 24 mm / 3/8 inch - 15/16 inch)

LSM XL is designed according to a patented measuring principle that does no longer require the expensive elevator calibration by testing weights. This rope load sensor suits rope diameters from 9,5 mm (3/8 inch) to 24 mm (15/16 inch) and can be applied straightaway. Its excentric lever allows the sensor to be fitted to the rope within a few seconds. It is equipped with a mains cable of 1,5 m length.

TECHNICAL DATA:

Rope diameter	9,5 - 24 mm / 3/8 - 15/16 inch
Application range	200 - 2000 kg / 400 - 4500 lbs (± 2,5% FSR)
Maximum load	4000 kg / 9000 lbs
Breaking load	6000 kg / 18000 lbs
L x W x H (mm)	570 x 210 x 50
Cable length	1,5 m
Temperature range	0 °C - 70 °C



Typ	Nr Art.
Mobile Rope Load Sensor (9,5 mm - 24 mm / 3/8 - 15/16 inch)	455351
LSM connection cable replacement 1,5 m	455353

MOBILE ROPE LOAD SENSOR LSM BELT

SPECIAL LOAD SENSOR FOR BELTS.
LSM-Belt is designed according to a patented measuring principle that does no longer require any expensive elevator calibration by testing weights. This belt sensor suits belts from 30 mm to 60 mm of width and can be applied straightaway. Its excentric lever allows the belt sensor to be fitted to the belt within a few seconds. It is equipped with a mains cable of 0,8 m length

TECHNICAL DATA:

Width of belt	30 mm + 60 mm
Application range	0 - 500 kg / 0 - 1100 lbs (± 2,5% FSR)
Maximum load	1000 kg / 2200 lbs
Breaking load	2000 kg / 4400 lbs
L x W x H (mm)	230 x 120 x 82
Cable length	0,8 m
Temperature range	0 °C - 70 °C

LSM BELT
OTIS

LSM BELT
SCHINDLER

LSM BELT
CONTITech POLYROPE



Typ	Nr Art.
Mobile Belt Load Sensor LSM Belt for OTIS (30 mm + 60 mm) (recognizable by the blue lever)	455805
Mobile Belt Load Sensor LSM Belt for Schindler (30 mm + 60 mm) (recognizable by the red lever)	455806
Mobile Belt Load Sensor LSM Belt for CONTI Tech Polyrope (25 mm - 6 x 2.0 DP) (recognizable by the orange lever)	455807
Mobile Belt Load Sensor LSM Belt for CONTI Tech Polyrope (25 mm - 6 x 2.0) (recognizable by the orange lever) (33 mm - 6 x 2.0) (recognizable by the orange lever)	455808
LSM connection cable extension up to 1,5 m / 59 1/16 inch (further extentions on request)	455353

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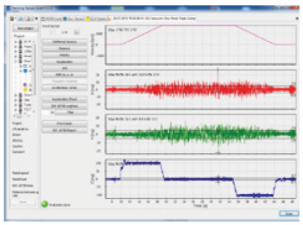
RideAnalyzer

MOBILNY ANALIZATOR JAZDY







RIDEANALYZER
THE MULTIMETER FOR RIDE PROFILES

Setting assistant for the lift system with automatic evaluation of measurements

The RideAnalyzer is a measuring unit with an intuitive operating concept allowing lift rides to be measured an analysed in a comfortable and fast manner.
The easy-to-use unit combines measuring sensors and evaluation unit in one robust plastic casing. There is no need for a connection to a laptop or an external evaluation unit.
Thanks to the automatic evaluation of the measurements it is possible to use the unit without any lenghty training / instruction and the information needed to adjust or troubleshoot the lift system is supplied very fast and at low cost.
This makes the RideAnalyzer extremely useful for fitters, planners and experts. It is the ideal tool for a time-saving adjustment of new systems to check the ride characteristics and the installation and to pinpoint any malfunctions.

Operation

In order to be able to establish the ride characteristics of a lift system using the RideAnalyzer, the sensor is placed in the middle of the lift car before the ride is started.
As soon as the ride is terminated, a ride profile and other data such as speed and acceleration profiles are available.
These results are immediately evaluated on the basis of specified parameters so that any required system setting corrections can be initiated at short notice.

Application

- Documentation of the ride profile
- Setting the correct ride parameters
- Measuring the acceleration, deceleration, jerk and speed
- Troubleshooting in case of malfunctions

Measurement features

- Acceleration and deceleration behaviour in x, y, z axis
- Jerks and vibrations of the lift car
- Measurement of the ride profile

Evaluation features

- Documents speed, acceleration, deceleration and jerk on the spot
- Automatic evaluation of measurements
- Graphical illustration of the driving profile in x,y,z
- Provides data on ride profile
- Provides information on the location inside the shaft where a malfunction occurs
- Adjustment of individual limit values
- Makes out a report
- Stores measurements in files for import into the Henning Sensor Suite
- Easy and intuitive operation

Technical Data

Measuring axes	x, y, z
Measuring range	+- 2.0 g
Samplerate	200 Hz
Resolution	1 mg
Temperature range	0 to 60°C
Resistance to shocks	10 g
Data interface/ load function	USB
Measurement without additional equipment	yes
Measurement memory	yes
User interface	touch display
Power supply	lithium-ion battery

Scope of supply:

- RideAnalyzer
- USB cable
- Bag

Typ	Nr Art.
RideAnalyzer	450450
Ersatztasche für RideAnalyzer	450452

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weight watcher mobil

ROPELOAD MEASUREMENT SYSTE

MOBILNY MIERNIK



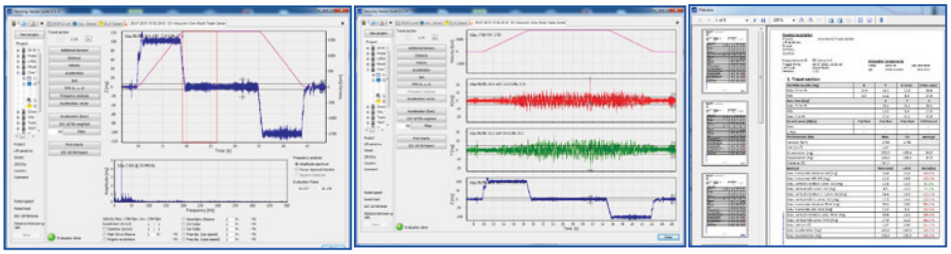
MOBILE RIDE ANALYZER

for the Elevator according To ISO 18738 and GB /T10058-1997

LiftPC Mobile Diagnosis is a powerful measuring system of modular design, serving for mobile and flexible measurements of acceleration and ride quality of elevators. It is applicable with any laptop in connection with 3D Acceleration Sensor QS 3.0 or as a stand-alone solution. Data of acceleration and ride quality of the elevator can precisely be assessed in terms of the standards ISO 18738 and GB/T 10058-1997. LiftPC Mobile Diagnosis can be applied with rope-traction elevators as well as with hydraulically operated elevators.

Stand - Alone-Operation





Application

- internal memory
- built in Bluetooth connection
- android app
- QI-charging

Range of Application

- Documentation of the quality supplied by pre-post comparison
- Service and maintenance of the status quo
- Specific reaction to arising malfunctions
- Preparation of putting into operation and acceptance tests by the authorities

Measuring Characteristics

- Acceleration and deceleration behaviour in all 3 axis
- Stubbing and joggling of the car and at the guide rails
- Recognizing door movements

Evaluation Characteristics

- Documentation of all important data concerning travel acceleration and ride
- Hints to irregularities with doors, guide rails and driving speed control
- Provides exact information of where the malfunction is to be spotted

Design Characteristics

- 3D acceleration sensor for online measuring in all 3 axis
- Pre-calibrated in our factory
- On-the-spot evaluation of the data measured by guided software
- Usage of common evaluation procedures such as filtering attenuation, peaktopeak evaluation as well as frequency analysis up to 3000 cycles per second,sampling rate up to 6000 cycles per second
- Suitable for all kinds of elevators
- System-integrated monitoring of the measuring instruments

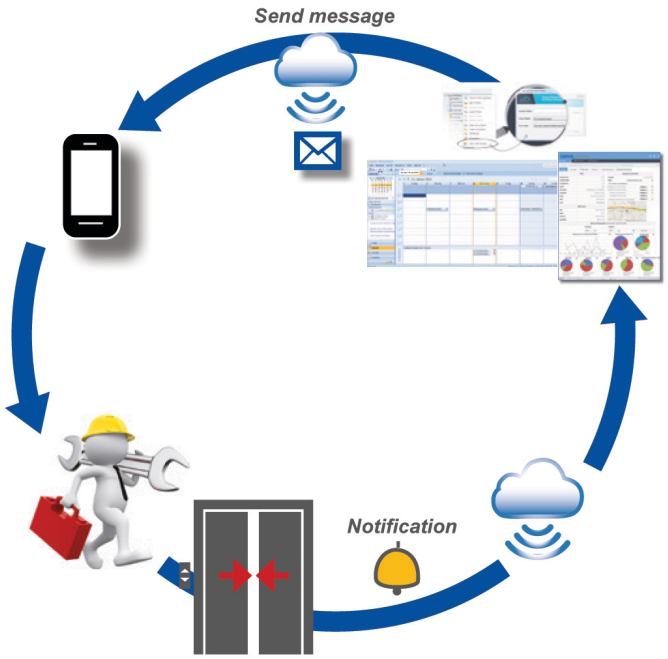
Characteristics of 3D-Acceleration Sensor QS 3

Impact resistant	up to 6.000 g
Range of ambient temperatures from	- 20 °C to + 60 °C
Interfaces to	USB 1.1 and Bluetooth Module / Handheld terminal HT 1.0
Accuracy	+/- 2 g application range per axis
Special feature	electronic self-check function

Typ	Nr Art.
mobile Diagnosis	450010
Mini measuring-block stainless steel	450016

WEARwatcher

CONDITION MONITORING SYSTEM FOR PREDICTIVE MAINTENANCE



The WEARwatcher is an acceleration sensor combined with an integrated analysis unit. This drives condition monitoring of the most important physical parameters of the elevator/lift. Problems and abnormalities are detected by WEARwatcher before they negatively influence the elevator/lift system.

Thanks to the condition-oriented assessment, the use of a technician often becomes necessary only if corresponding indications are present.

Smart Lift Monitoring

- Data for usage-based preventive maintenance
- Fault detection/system downtime (availability, etc.)
- Wear detection through trend monitoring
- Automated reporting at freely selectable intervals
- Data-based recommendations for action
- Data-based decision support for end customers
- “Special reports” (forensics)





WEARwatcher

At a glance

- Modularly expandable
- Numerous sensors available
- Breakdown Probability
- Increase availability
- Prevention of defects
- Minimizing downtime
- Precise predictable maintenance
- Increasing the service life of components
- Control-system independent
- Boost in service quality
- Usage-based preventive maintenance
- Automated reporting
- Fault detection/availability
- Cybersecurity

WEARwatcher core

At a glance

- Easy installation (< 30 min)
- Breakdown Probability
- Increase availability
- Prevention of defects
- Minimizing downtime
- Precise predictable maintenance
- Increasing the service life of components
- Control-system independent
- Boost in service quality
- Usage-based preventive maintenance
- Automated reporting
- Fault detection/availability
- Cybersecurity

Statistics & Analysis



Record actual condition

The WEARwatcher enables predictive maintenance of a lift and can be used, independent of the control system and manufacturer, on lifts of every age. Thanks to our long-standing experience in the lift measurement technology, we have been developing trendsetting algorithms, which automatically record and assess the state of lifts, make it possible to plan service calls in advance and to optimise them.

Analyse and assess

As a real computing device, the WEARwatcher analyses recorded data in an in-depth manner, on site, on the elevator and sends the results in form of notifications, alarms, trends and condition changes to the Henning WEARwatcher cloud. There, this data is further analysed by the use of artificial intelligence and self-learning algorithms.

Report & recommendation

For monitoring medium- and large-sized inventories of lift systems, Henning WEARwatcher cloud generates monthly reports, which enable easy and efficient assessment and a ready display of recommended and needed actions.a

WEARwatcher

Features

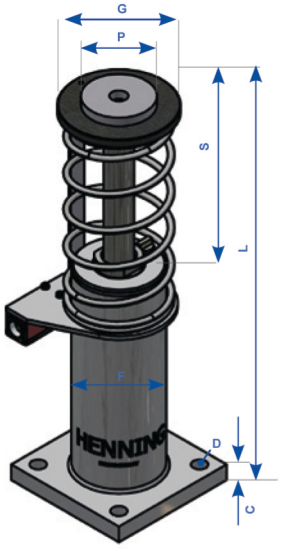
- Breakdown probability
- Duty cycles
- Ride distance
- Ø Drive time
- Door cycles
- Levelling precision
- Hoistway doors
- Wear of rope
- Ø Speed
- Ride quality
- Ø Number of rides
- Load conditions
- Door reversion detection
- Shaft efficiency
- Car doors
- Emergency stop analysis
- Guides
- Drive
- Vibrations
- Twisted ropes
- UCM warnings
- Sheaves wear
- Grooves
- Traction monitoring

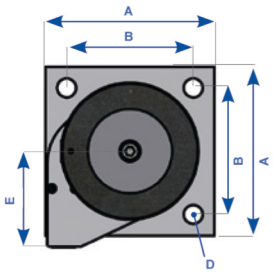
WEARwatcher core

Features

- Breakdown probability
- Duty cycles
- Ride distance
- Ø Drive time
- Hoistway doors
- Vibrations
- Guides
- Ø Speed
- Ride quality
- Ø Number of rides
- Emergency stop analysis
- Car doors
- Drive

PERFORMANCE LIFTBUFFER





Henning Performance Liftbuffer HPL / HPM

For elevators up to 2.5 m/s rated speed to EN 81

Dimensions type HPL / HPM*):										
	S	L	A	B	C	D	E	F	G	P
HPL 40 x 80	80	305	160	120	20	18	91	115		
HPL 40 x 120	120	385								
HPL 40 x 175	175	495								
HPM 40 x 275	275	715								
HPM 40 x 430	430	1122								

Application data type HPL / HPM

Type	Stroke s [mm]	rated speed v [m/s]	impact mass min. - max. m [kg]	max. impact speed [m/s]	weight with oil filling G [kg]	Article-No
HPL 40 x 80	80	1,0	450 - 3500	1,15	12	241080
HPL 40 x 120	120	1,3	450 - 3500	1,495	13	241120
HPL 40 x 175	175	1,6	450 - 3500	1,84	14	241175
HPM 40 x 275	275	2,0	450 - 3500	2,3	17	241275
HPM 40 x 430	430	2,5	450 - 3500	2875	22	241430

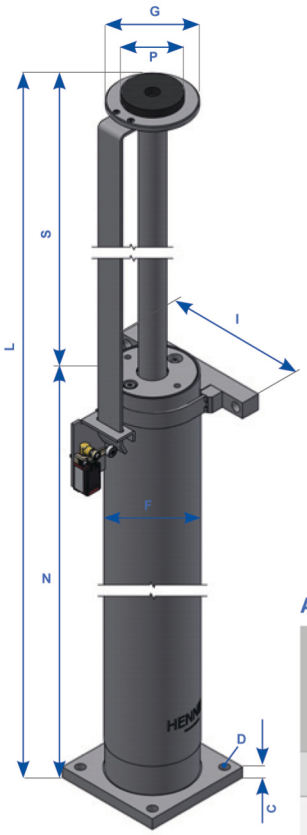
***) All dimensions in mm.** Modifications reserved! Ambient temperatures for the standard design: -10 °C up to + 50 °C. Other temperatures on request.

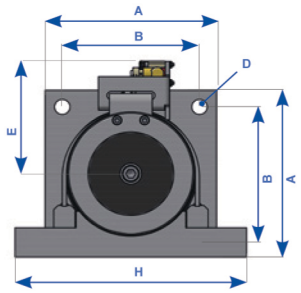
Features of the Henning lift buffers:

- Certified to DIN EN-81-20:2020, EN-81-50:2020 5.5; conformity with LD 2014/33/EU
- Certification according to UKCA, EAC, TSG and UA partly available
- Made in Germany
- Meets the demands of the modern elevator market
- Robust, durable and lightweight design
- Wide combination of mass ranges and rate speeds available
- Convenient installation
- Pre-filled with oil
- Type HPL/HPM return to ready position by spring
- Type LP return to ready position by integrated gas spring
- Mechanical safety switch triggered by the striker
- All documentation/certificates available on our website
- Protection class IP67

Hydraulic oils and allowed ambient temperatures during operation:

a) Standard model:
Hydraulic oil. For ambient temperatures from -10 °C up to +50 °C
b) Low temperature design (upon request):
For ambient temperatures from -30 °C up to +40 °C
c) Special designs with biodegradable or flame-retardant hydraulic fluids (on request):
Various special fluids are tested for the hydraulic liftbuffer and released for use. Please note the special marking of the buffer and the additional inserts for order documentation in the individual case!





LP 50

For elevators up to 5.1 m/s rated speed according to EN 81

Dimensions type LP 50*):

	S	L	N	A	B	C	D	E	F	G	P	H	I
LP 50 x 425[2)]	425	1065	640	200	160	20	18	135	155	150	100	●	●
LP 50 x 695[2)]	695	1665	970										
LP 50 x 950[2)]	950	2235	1285										
LP 50 x 1150[1)]	1150	2695	1511	200	160	20	18	135	152	148	100	270	240
LP 50 x 1760[1)]	1760	4215	2421										

[1)] Buffer may only be operated with fixed support fange.
[2)] Buffers are supplied without support flange

Application data type LP 50:

Typ/Type	stroke s [mm]	rated speed v [m/s]	impact mass min. - max. m [kg]	impact energy E [kNm]	max. Puffer-kraft/buf-fer force F [kN]	weight with oil filling G [kg]	Article-No
LP 50 x 425	425	2,5	500 - 4500	37,4	130	47	250425
LP 50 x 695	695	3,2	500 - 4500	61,1	130	68	250695
LP 50 x 950	950	3,7	500 - 4500	83,5	130	86	250950
LP 50 x 1150	950	4,1	750 - 4500	92,5	130	110	251150
LP 50 x 1760	950	5,1	750 - 4500	142,2	130	200	251760

***) All dimensions in mm.** Modifications reserved! Ambient temperatures for the standard design: -10 °C up to + 50 °C. Other temperatures on request.

Smart elevator technology.

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