

Safety

for elevators, bucket chain conveyors and conveyor belts

The perfect safety control



ALS 906 Serie

- Speed/alignment/bursting discs
- speed + alarm display
- sensor monitoring
- wire monitoring
- single alarm
- group alarm
- 1-10 Sensoren
- max 2 speed sensors
- max 8 alignment sensors
- max 8 bursting discs /backup indicators
- optional RS485 interface
- internal logbook (128 entries)
- default memory
- safety category 2
- safety category 3-4 prepared (automatic feedback)



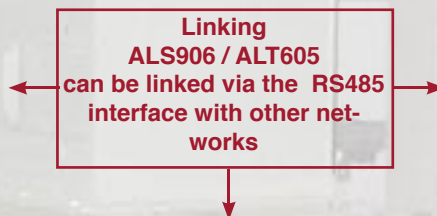
ALS 197 Serie

- Speed/alignment sensor monitoring
- capacity control
- optical single alarm
- groupalarm
- 1-5 sensors
- max 2 speeds
- max 4 alignment
- safety category 2



ALT 605 Serie

- Connection for 2 elevators
- 1-10 sensors
- max 8 x bearing temperature sensors
- max 2 motor temperature sensors
- single limit value
- group limit alarm
- single and group alarm
- temperature and alarmdisplay
- 1 - 4 alarm outputs
- optional RS485 interface
- internal logbook (128 entries)
- default memory
- safety category 2
- safety category 3-4 prepared



software example with RS485 included in scope of supply

Guidelines for explosionprotection according to ATEX 94/9/EG enclosure II, par..1.5.1

Safety devices have to function independantly from internal measuring- and/or control devices. [...] Switching operations with direct impact on the final controlling element must be possible without software control. Agromatic safety units and sensors have been designed and constructed in this regard. According to example database from BGR104 elevators, conveyor belts and general conveyors should be monitored on slippage, alignment and temperature increase in bearings.

These methods, described in EN 1127-1 (principles and methodology Ex-protection), EN 13463-5 (constructive safety), EN954-1 cat. 2 to 4 resp. SIL2-3 acc. to EN61508, EN 13463-6 (control of ignition sources) have been considered in the Agromatic unit serie ALS906 and ALT605.



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Worldwide the conveyor is one of the most dangerous machine used in mills etc. By a qualitatively high safety control with speed- and alignment sensors, combined with bearing temperature control the dangerous conditions can be avoided (protection for personel and machines) The units mentioned underneath enable the safe and complete protection of elevators, bucket chain conveyors and conveying belts. Agromatic offers the complete range starting with all ATEX tested sensors up to the control units with the single components. You can choose in the wide range of complete sets (sensors and control unit) or single components. The variety allows safety control in all possible applications (example double conveyor).

Components: the control units

ALS906

Art: 5060001

Combined speed- alignment control unit for connection of max. 10 sensors. Simply configuration at site due to clear parameter control. 1 - 2 alarms for optical single alarming can be set.

Alarm outputs pot-free relay contacts. Adjustable pull time delay (15sec). Display of nominal speed. Adjustable tolerance values. For connection of all Agromatic standard sensors, for operation in all zone categories. Constant wire and sensor control. Safety categorie 2. DIN 32 snap housing. Display of values. Optional RS 485 data interface with programm example for S7. Auxiliary supply 24 VDC. Integrated logbook for 128 entries. (measuring range speed 5 - 9999rev/min)



ALS197

Art: 0002011(230V) / 0002012(24V)

Combined speed- alignment control unit for connection of up to 5 sensors. The unit has standard configuration when supplied. Single optical alarms, central alarm via pot.-free relais contact. Automatic pull time delay. Easy adjustment of tolerances at site. For connection of Agromatic standardsensors, for the operation in all zone categories. Constant wire control. Safety category S 2. DIN 32. Auxiliary supply 230VAC or 24VDC



ALT605

Art: 5030001

10-channel temperature control unit for safety control of bearing control of bearings of 1 or 2 elevators (with motor) simultaneously. Control of each 4 shaft bushings and drive temperature. Automatic scanning of connected temperature sensors, scanning of adjusted limit value, display of temperatures with sensor number and alarm output (alarm memory). Alarms can be configurated for 1-4 pot-free relay alarm outputs or via an optional RS 485 data interface with programme example for S7. Safety category 2. DIN 32 snap housing, auxiliary supply 24 VDC. Integrated logbook for 128 entries. For the operation in all zone categories. Measuring range -30..210°C, Ex II (1) D



ALSP10

Art: 402 0001 Power supply unit 115/230AC/24VDC for ALS605 or ALT 605 units with sensors. Connection up to 10 units. DIN 32 snap housing (only necessary if no 24 VDC availabe in switchbox)

Components: the sensors

ASLS2000 PNP NC for zone separation 20/21 or 20/22

Art: 0002119 oder 0002120

Opto-magnetical safety sensor for alignment control of elevator belts, mainly for application with plastic buckets and double elevators (two sensors per alignment are needed). Adjustment not necessary. No mechanical wear parts. Fibreglas with rod breaking protection. Intrinsic safe construction for application in zone 20 with zone separation. Auxiliary voltage 10-35VDC Integrated thermo fuse.

Ex II 1/2 D IP65 T 90°C without LED Ex II 1/3 D IP 65 T 90°C with LED.

EG registration certificate : BVS 03 ATEX E116



ASIQ80 CE50 PNP NC für Zone 22

Art: 0004085

Interference resistant, inductive sensor with mountingbow in stainless steel art. 0002902 for alignment control of elevator belts especially with application of metal buckets. (Two sensors per alignment control are needed, at right and left side).

Fixing behind sight glas art. 0003714 with included mountingset. Connectioncable 2m, shielded. Integrated thermofuse. Power supply 10-35 VDC signaloutput PNP NC max. 200mA

Switching distance adjustable in the range of 10-50mm. LED display. Installation size 80x80x50mm

Application in zone 22 Ex II 3 D IP67 T 80°C X



ASI12 CE4 PNP NC Art: 0004006, PNP NO Art:0004005

ASI18 CE8 PNP NO Art: 0004026

with shielded connectioncable 1.5m

Inductive sensor for speed registration and bursting disc with 4 or 8mm switching distance.

Scanning of speed at base/drive shaft (shaft extension, keyway or at shaft or other projecting parts like e.g. screws). The same sensor is used for the control of spill flaps and bursting discs

Delivery complete with 2 fixing nuts. Connection voltage 10-35 VDC

Signal output PNP max. 200 mA

Switching distance max. 4 / 8mm LED functioning display

Diameter 12mm (M12x1mm), 18mm(M18x1mm)

Integrated thermofuse

Application in zone 22 Ex II 3 D IP67 T 80°C X

Application in zone 2 Ex II 3 G EExnA II T5 X

ABR 100 Art: 5070001

Deflection pulley switch for zone 1/2 and 21/22

Safety deflection pulley switch for monitoring of conveyor belts running with control unit

ALS906

Wheel height 95mm, adjusting range 100mm

Scanning contact 1 switch (3-wire safety switching), max admissible contactload 250VAC 6A/

24/230VDC 0,25A

Ex II 2G EEx de IIC T6 / Ex II2D IP65 - T80°C

Threaded temperature sensor Art: 0001207

M8x10 for integration in bearing shells, with 2m shielded connectioncable application zone 22

ExII 3D IP67 T 200°C X

Flat temperature sensor AFTF50 Art: 0001218

sensor for fixing to existing motor screws, under grease nipple or fixing by means of strap. With

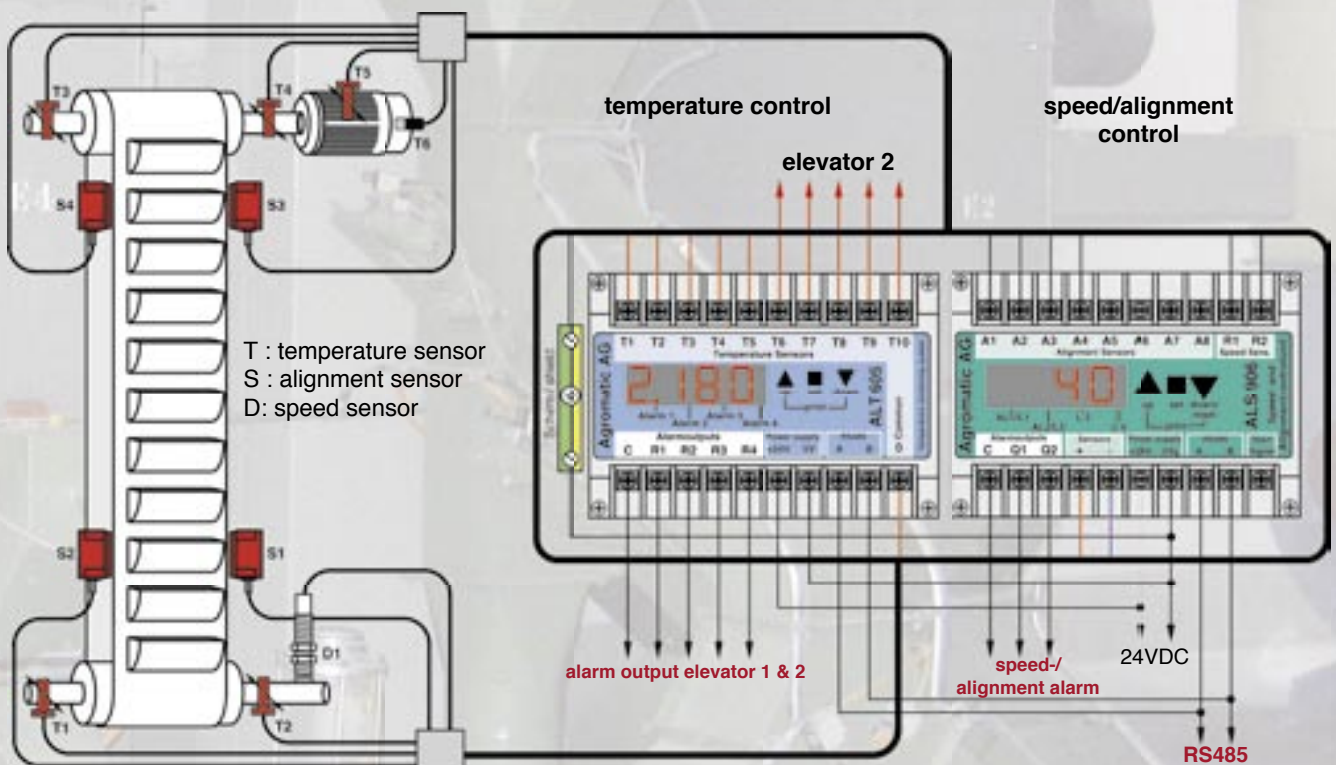
2m shielded connectioncable. Application zone 22

ExII3D IP67 T 200°C X

The principle

The complete monitoringset of **Agromatic** allows modular construction based on the special requirements of the explosion document.

The modular conception allows extension at all times. The electrical wiring can be combined for speed-/alignment and temperature control. This enables to only use one wire from control to head or base of elevator. Attention: electrical junctionboxes are not included in the scope of supply. Basically: only shielded cable with a shield of at least 50 dB should be used



Complete sets always consist of control unit and sensors, but without auxiliary material such as screws, cable and junctionboxes. For application of inductive sensors zone separation sight glasses have to be ordered separately. However the ATEX protection/- fixingbows are included in the standard scope of supply for ATEX sensors. Please pay attention to the zones specified in your explosion specification document for your plant. Take into account the specific country regulations. Please contact us for further information. Alignment control for elevators: for heights of more than 25m (or safety category 2-4) we recommend to scan alignment at top and base shaft.

Please make the selection: complete sets or single units

Set :	Voltage:	Art. No:	Description:
ALS197/D	230VAC	000 2021	electronic unit ALS197 with 1 speedsensor
ALS197/D	24VDC	000 2022	electronic unit ALS197 with 1 speedsensor
ALS197/D/D	230VAC	000 2023	electronic unit ALS197 with 2 speedensors
ALS197/D/D	24VDC	000 2024	electronic unit ALS197 with 2 speedensors
ALS197/S	230VAC	000 2025	electronic unit ALS197 with 2 ASIQ80 alignment sensors (inductive)
ALS197/S	24VDC	000 2026	electronic unit ALS197 with 2 ASIQ80 alignment sensors (inductive)
ALS197/S/S	230VAC	000 2040	electronic unit ALS197 with 4 ASIQ80 alignment sensors (inductive)
ALS197/S/S	24VDC	000 2039	electronic unit ALS197 with 4 ASIQ80 alignment sensors (inductive)
ALS197/D/S	230VAC	000 2027	electronic unit ALS197 with 2 ASIQ80 alignment sensors and 1 ASI12 speed sensor (inductive)
ALS197/D/S	24VDC	000 2028	electronic unit ALS197 with 2 ASIQ80 alignment sensors and 1 ASI12 speed sensor (inductive)
ALS197/D/S/S	230VAC	000 2029	electronic unit ALS197 with 4 ASIQ80 alignment sensors and 1 ASI12 speed sensor (inductive)
ALS197/D/S/S	24VDC	000 2030	electronic unit ALS197 with 4 ASIQ80 alignment sensors and 1 ASI12 speed sensor (inductive)
ALS197/SO	230VAC	000 2031	electronic unit ALS197 with 2 ASLS2000 alignment sensors
ALS197/SO	24VDC	000 2032	electronic unit with 2 ASLS2000 alignment sensors
ALS197/SO/SO	230VAC	000 2037	electronic unit with 4 ASLS2000 alignment sensors
ALS197/SO/SO	24VDC	000 2038	electronic unit with 4 ASLS2000 alignment sensors
ALS197/D/SO	230VAC	000 2033	electronic unit with 2 ASLS2000 alignment sensors and 1 ASI12 speed sensor
ALS197/D/SO	24VDC	000 2034	electronic unit with 2 ASLS2000 alignment sensors and 1 ASI12 speed sensor
ALS197/D/SO/SO	230VAC	000 2035	electronic unit with 4 ASLS2000 alignment sensors and 1 ASI12 speed sensor
ALS197/D/SO/SO	24VDC	000 2036	electronic unit with 4 ASLS2000 alignment sensors and 1 ASI12 speed sensor
ALS906/D	24VDC	506 0002	electronic unit with 1 ASI12 speed sensors
ALS906/D/D	24VDC	506 0003	electronic unit with 2 ASI12 speed sensors
ALS906/S	24VDC	506 0004	electronic unit with 2 ASIQ80 speed sensors (inductive)
ALS906/S/S	24VDC	506 0005	electronic unit with 2 ASIQ80 speed sensors (inductive)
ALS906/D/S	24VDC	506 0006	electronic unit with 1 ASI12 speed sensors- and 2 ASIQ80 alignment sensors (inductive)
ALS906/D/S/S	24VDC	506 0007	electronic unit with 1 ASI12 speed sensors- and 4 ASIQ80 alignment sensors (inductive)
ALS906/D/S/S/S/S	24VDC	506 0008	electronic unit with 1 ASI12 speed sensors- and 8 ASIQ80 alignment sensors (inductive, for double)
ALS906/SO	24VDC	506 0009	electronic unit with 2 ASLS2000 alignment sensors
ALS906/SO/SO	24VDC	506 0010	electronic unit with 4 ASLS2000 alignment sensors
ALS906/D/SO	24VDC	506 0011	electronic unit with 1 ASI12 speed- and 2 ASLS2000 alignment sensors
ALS906/D/SO/SO	24VDC	506 0012	electronic unit with 1 ASI12 speed- and 4 ASLS2000 alignment sensors
ALS906/D/D/S/S	24VDC	506 0014	electronic unit with 2 ASI12 speed- and 4 ASLS2000 alignment sensors
Single units			single units for speed - alignment - bursting disks - chain conveyors
ALS197	230VAC	000 2011	electronic unit ALS197 without sensors, please state requested configuration
ALS197	24VDC	000 2012	electronic unit ALS197 ohne Sensoren, please state requested configuration
ALS197	110VAC	000 2013	electronic unit ALS197 ohne Sensoren, please state requested configuration
ALS906	24VDC	506 0001	electronic unit ALS906 ohne Sensoren, please state requested configuration
ASI12 CE4 PNP NO	10..30VDC	000 4005	speed sensor switching distance max 4mm / shielded Ex II 3G EExnA II t5 / Ex 3D IP67 T80°C
ASI12 CE4 PNP NC	10..30VDC	000 4006	speed sensor switching distance max 4mm / shielded Ex II 3G EExnA II t5 / Ex 3D IP67 T80°C
ASI18 CE4 PNP NO	10..30VDC	000 4026	speed sensor switching distance max 8mm / shielded Ex II 3G EExnA II t5 / Ex 3D IP67 T80°C
ASIQ80 CE50 PNP NC	10..35VDC	000 4085	alignment sensor inductive switching distance 10-50mm with mountingbow Ex II 3D IP67 T80°C
ASIQ80 CE50 PNP NC	10..35VDC	000 4086	alignment s. induct.switch. distance10-50mm, mountingbow + sep. glas/seal Ex II 3D IP67 T80°C
ASLS2000 PNP NC	10..35VDC	000 2119	alignment opto/magnetical for plastic buckets (zone 20/21) Ex II 1/2 D IP65 T90°C
ASLS2000 PNP NC LED	10..35VDC	000 2120	alignment sensor opto/magnetical for plastic buckets (zone 20/22) Ex II 1/3 D IP65 T90°C
Mountingpart		000 2902	sensor mountingbow ATEX accessories for SIQ80 inductive sensors
Mountingpart zonesepar.		000 3714	zone separation glas Z20/21-22-zonefree with sealing
ABR100		507 0001	deflection pulley switch for conveying belts
			bearing temperature - motor temperature - limit temperature monitoring
ALT605/T	24VDC	503 0001	ALT605 limit temperature switch with 4 threaded temperature sensor
ALT605/T/M	24VDC	503 0002	ALT605 limit temperature switch with 4 threaded-/ and 1 flat temperature sensor
ALT605T/T/M	24VDC	503 0003	ALT605 limit temperature switch with 8 threaded-/ and 1 flat temperature sensor
Screw temperature sensor		000 1207	threaded temperature sensor for bearing temperature M8 thread Ex II 3D IP67 T200°C X
Flat temperature sensor		000 1218	flat temperature sensor for mounting at motors Ex II 3D IP 67 T200°C X
RS485 interface		000 5262	optional RS 485 interface for ALS906 and ALT605 units (to be ordered separately)
Power supply	230V	402 0001	power supply on DIN32 rail 230VAC/24VDC for 4 ALS906 or ALT605 units