

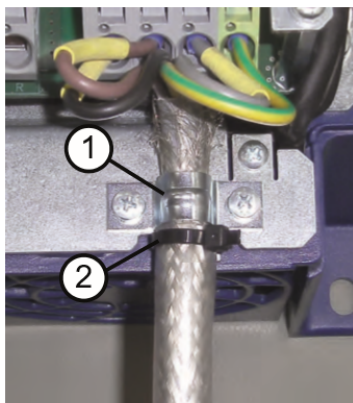
Start-up Guide for the Almega 2 / Ziehl Abegg 4C connected to a gearless machine.
Switching the panel onto INSPECTION for the first time.

For all the below procedures please use site specific drawings for correct connections prior to wiring!

Installation State:

1. The main 3 phase power, Motor, Braking resistors, Encoder, Motor Thermistor's, Brake/s and brake monitoring switches along with associated screening & earths are to be connected to the control panel. Motor wiring must be connected correctly ensuring that from the inverter the terminal U is connected to U on the motor, V to V & W to W otherwise this could cause irregularities in setup & control.
 - I. If no motor thermistors are present, then please connect the provided 1k resistor to terminal's THA/THB.
 - II. If the encoder being used does not have a suitable plug to connect direct to the inverter, then please use the encoder card provided by LCSL and refer to the below table.

Inverter Motor connection



ZAdyn4C 011-032
 1 Clip
 2 Cable tie for strain relief

Endat encoder connection

Pin assignment X-ENC15 for absolute value encoder with EnDat, SSI, ERN1387 and HIPER-FACE interface

1	DATA	Data line for communication with the absolute encoder
2	/DATA	Data line inverse
3	/D	Analog track D inverse
4	+5 V_E	+5/8V voltage supply (power supply is switched off if the rotary encoder is missing)
5	DGND	Ground power supply absolute encoder
6	/C	Analog track C inverse
7	B	Analog track B
8	C	Analog track C for transmitting position
9	/CLK	Clock signal invers
10	CLK	Clock signal for serial transfer
11	D	Analog track D for transmitting position
12	A	Analog trackA
13	/A	Analog trackA inverse
14	/B	Analog track B inverse
15	DGND	Ground power supply absolute encoder
Housing		Shielding

2. The safety and lock circuits must be in a state of continuity starting at OTL then following the site-specific drawings to the end which will be G4. If using Pre-locks, then the end will be G5.
3. The test limits must be wired in, these are normally closed contacts, so continuity is needed between TUL to TU & (if fitted) TDL to TD.

Note: If almega version is 4.15 or higher then INSTALLATION MODE can be set, this will deactivate the monitoring of THERMISTOR, PRE-FLIGHT CHECK, CAR GATE MONITORING, UMD FAILURE, ROPE MONITORING, BRAKE TEST MODE whilst working on INSPECTION CONTROL. This can be found in ENGINEERS SELECTION.

4. The door limits must be wired in. These are normally closed contacts so the processor should show limit OP closed and limit CL open.

If there are physical slowing limits in the shaft and NOT electronically via the positioning system:

5. These must be wired in. The connections for these are G2 to RSU & G2 to RSD, the processor should show RSU & RSD as Black when mid shaft and both top & bottom limits not activated.

If a panel test pendant is provided within the lift controller:

6. The panel test pendant **MUST** be switched to INSPECTION, then continuity must be made between terminals TTS to TS via the cartop controls test/normal switch. NOTE: CARE MUST BE TAKEN AS THIS IS THE CONNECTION FOR THE LIFT TO OPERATE IN NORMAL CONDITION.

Please ensure that all wiring is connected correctly and checked prior to switching on.

7. The panel can now be switched on.
8. Check the incoming 3 phase sequence is correct, if incorrect the phase failure will display a flashing LED.
9. Check that the TR contactor is NOT energised, this proves that the panel is not in the normal state.
10. *(if fitted)* The PIT ACCESS RESET PUSH needs to be pressed,

11. Pre-checks on the main lift viewer display:

- I. EMR,CARL,LANL, (PRE-Locks if fitted) are displayed as active.
- II. OP limit is shown as closed; CL limit is shown as open.
- III. If physical slowing limits both RSU & RSD are shown as not active (Black).
- IV. Within ENGINEERS SELECTION check the following are set to NO
 UMD MON FAILURE
 OVERTRAVEL FAULT
 CAR GATE MONITORING

(Almega Ver 4.15 or higher will have INSTALLATION MODE which can be used as per above Note)

12. The relays BM1 & BM2 should be energised to prove that the brake monitoring switches are connected (If fitted).

13. Drive settings:

Within MOTOR NAME PLATE

MOT_TYP = Set to SMxxx if using a motor other than a Ziehl Abegg

n = Rated speed - RPM

f = Frequency - HZ

p = Pole pairs of the motor

TYP = Enter the motors type of connection

Within ENCODER & BC

ENC_TYP = Set to encoder type being used

ENC_INC = Enter the encoder pulses - PPR

BC_TYP = Enter the used braking resistor

Within INSTALLATION

V* = Enter the installation rated speed in m/s

_D = Enter the diameter of the traction sheave

_iS = Enter the installation roping arrangement

*If once moving the rotation is the wrong way this can be adjusted within **CONTROL SYSTEM** by changing MO_DR*

14. At this point you should now be able to attempt an Encoder angle offset alignment, Go to **ENCODER ADJUST**

1. Select ENC_ADJ and change to ON HALT.
2. Is the elec. Connection to the brake disconnected? Make sure that the brake connection is disconnected at this point then select YES.
3. The display will show "To start encoder adjust press inspection", press and hold either a test up or test down command.

4. Motor voltage & current is then applied to the motor and an encoder alignment is underway, If all is ok the STOP INSPECTION will be displayed, at this point release the Test up or Test down command.
 5. The results of the encoder alignment will then be displayed.
 6. It is then required to end and save this encoder result.
 7. The Brake connection can now be reconnected.
15. The lift should now be able to move on INSPECTION CONTROL, please observe the direction of travel and check this is correct, if the direction is incorrect then adjust MO_DR in CONTROL SYSTEM within the drive unit.

NOTE: If for any reason a rotating alignment is required

1. Select ENC_ADJ and change to NO LOAD.
2. It will display Brakes will be opened with no torque! is the motor load-free? Please ensure there is no load on the ropes, or the ropes have been removed and confirm on the drive keypad.
3. The display will show "To start encoder adjustment press inspection", press and hold either a test up or test down command.
4. Motor voltage & current is then applied to the motor and an encoder alignment is underway, the sheave will rotate, If all is ok the STOP INSPECTION will be displayed, at this point release the Test up or Test down command.
5. The result of the encoder alignment will then be displayed.
6. It is then required to end and save this encoder result.

If needed please contact technical@lestercontrols.co.uk where someone will be able to assist.