SEA SYSTEMS

Insulation tests

Before executing the insulation tests required by standards (EN81-20 item 5.10.1.3, EN81-20 item 6.3.2 c), EN81-1 and EN81-2 item 13.1.3), you have to:

1. place the car out of floors
2. open mains switches
3. check that the automatic switch FA is closed
4. disconnect green-yellow wire from the RCF01 device
5. disconnect from the earth collector on the control panel any other conductor that has **not** protective function or equipotentiality function (i.e. which is not green-yellow). Conductors with protective function are, for example, any connection to metal plates, frames or enclosure of any electrical equipment, while conductors with equipotentiality function are connections to foreign metallic parts, such as a metal pipe coming from the outside
6. if a VVVF drive or a soft starter device is used, please follow the instruction for insulation tests supplied by the manufacturer. Generally, a short-circuit between the power terminals (all together) is required. With ZIEHL-ABEGG Zadyn4CS VVVF drive, please disconnect the wiring on the inverter X-ENCO connector (otherwise the "electronic" circuit is not isolated from the ground)
7. disconnect the phone line from the automatic phone dialer
8. disconnect the control panel from any other control panel belonging to an array of lifts
9. for any device not supplied by SEA SYSTEMS, always follow the manufacturer instructions. For example, if you use ***VEGA B-LIFT series 8120 evo*** light curtain along with the ***CPB12/24*** control unit supplied by 0/24V coming from the STK1R control panel, you have to disconnect the supply conductors of ***CBP12/24*** (DC IN terminals) before performing any test, because its electrical circuits are not insulated from the ground (G terminal) and from the metallic frame of the light curtains.

The circuits that must be isolated from each other and the tests to be performed are summarized in the following tables.

Circuit	Signals / terminals
Motive power, motors	R, S, T, U, V, W, U1, V1, W1, U2, V2, W2
Car light	L1, L, N
AC door motor	MPA, MPB, MPC, MPD, MPE, MPF
DC door motor	+, -, 30, 32, MPA, MPB
Safety chain, brake, cam	1 … 10, F1+, F1-, F2+, F2-, PR+, PR-, VALVES
Electronic	**0**, +24, OCC, FS, FD, PS1 … PS6, AL+, AL-, AL, IS, ID, SR, DR, SIZ, CAN+, CAN-, SGG, SGE, FFS, encoder, inverter commands, sensors, …. To simplify the measure, it is possible to perform the insulation test of this circuit only on the signal “0”, which is available, for example, on terminals A0.1, A0.2 of the STK1R board. All other signals are kept almost at the same voltage (within a few volt) by protective electronic devices provided on all inputs and outputs.

TO / FROM	Motive power, Motors	Car light	AC door motor	DC door motor	Safety chain, brake, cam	Electronic
Earth	X	X	X	X	X	X
Motive power, Motors	NO	O	O	O	O	O
Car light	-	NO	O	O	O	O
AC door motor	-	-	NO	O	O	O
DC door motor	-	-	-	NO	O	O
Safety chain, brake, cam	-	-	-	-	NO	O
Electronic	-	-	-	-	-	NO

Legend

X : test to be performed (500Vcc, R_{iso} >= 1Mohm) **O** : optional test (not required by standards) **NO** : test not to be executed
- : test already executed