

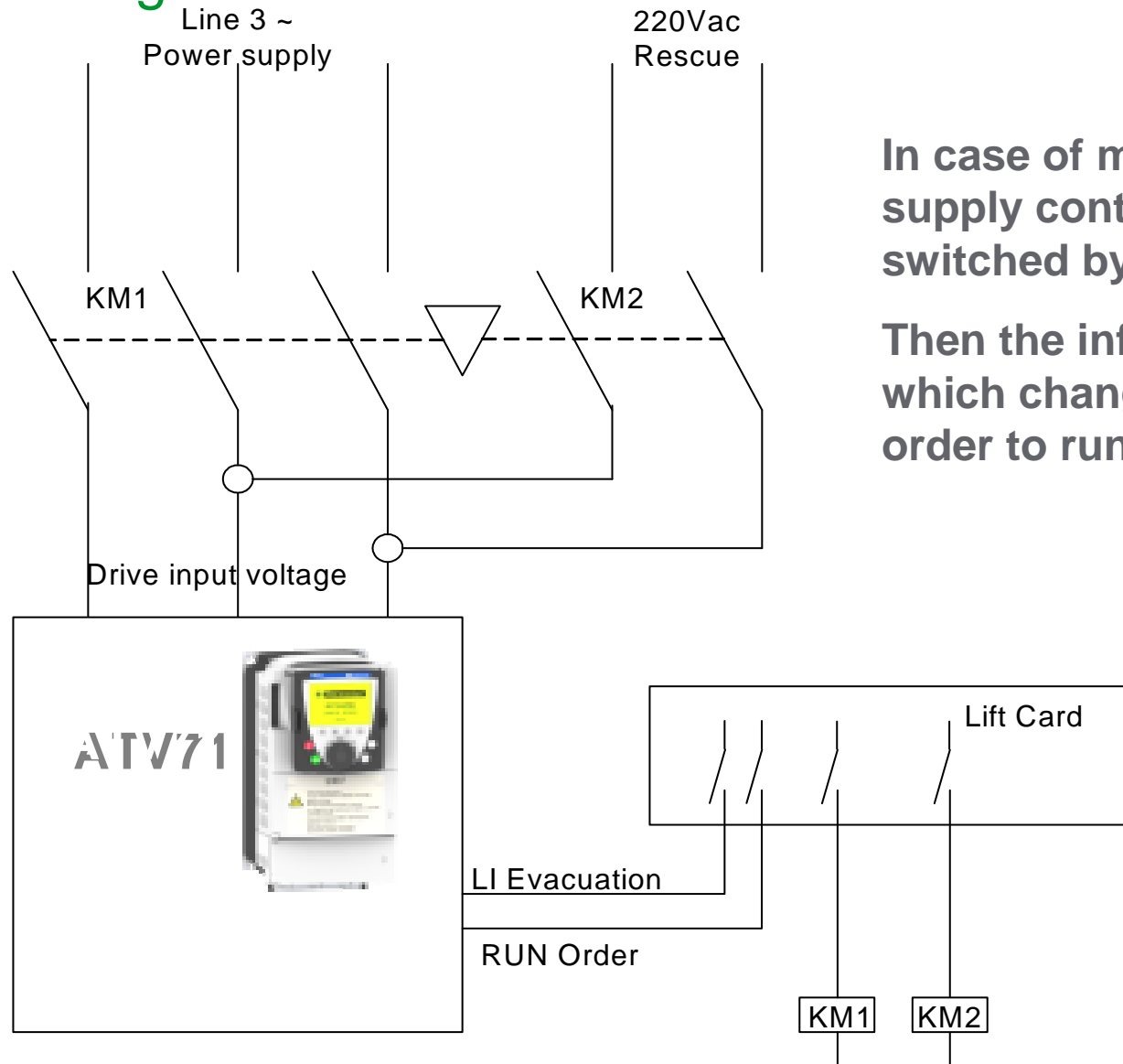
Evacuation

In case of main voltage loss

- Allows the powering of the drive by an auxiliary power supply in the case of the failure of the main power.
- In order to evacuate the car to another floor if it is stopped between 2 floors.
- When the function is active, the drive can operate with a reduced auxiliary power supply (single phase, batteries, low voltage generator ...)
- Minimum voltage is 220Vac or 310Vdc.
- The drive limits the speed in order to move the car safely under reduced power.

Evacuation

Short diagram



In case of main loss the auxiliary supply contactor (KM2) is switched by the lift control card.

Then the info is send to the drive which change is configuration in order to run in downgraded mode.

Evacuation parameters

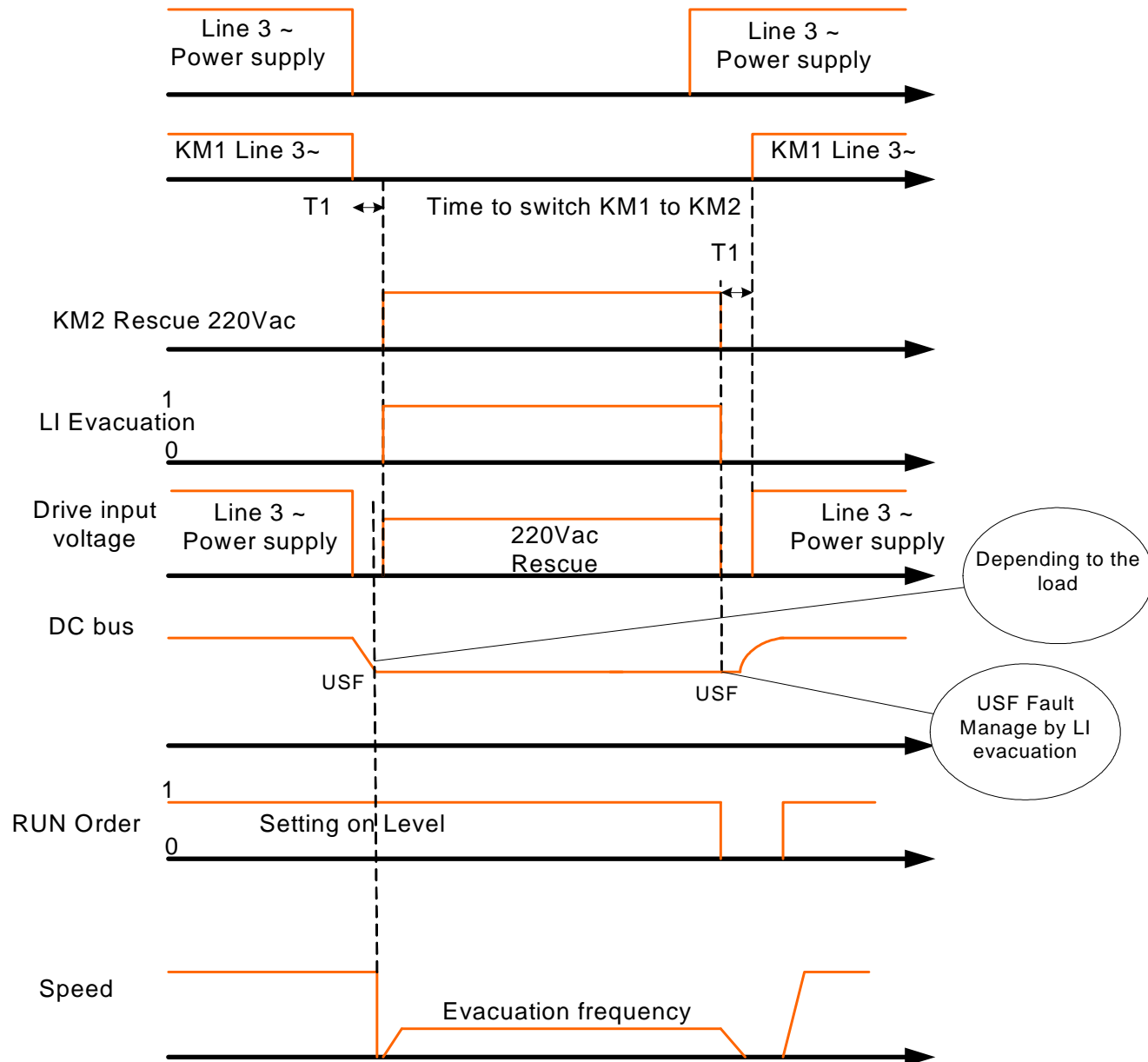
Parameters

Drive menu

Application funct.

Code	Name/Description	Adjustment range	Factory setting
rFt-	<p>[EVACUATION]</p> <p>This function is only accessible for ATV71●●●N4 (380/480 V) drives.</p>		
rFt- n0 L11 - L114	<p><input type="checkbox"/> [Evacuation assign.]</p> <p> <input type="checkbox"/> [No] (n0): Function not assigned. <input type="checkbox"/> [L11] (L11) to [L16] (L16). <input type="checkbox"/> [L17] (L17) to [L110] (L110): If VW3A3201 logic I/O card has been inserted <input type="checkbox"/> [L111] (L111) to [L114] (L114): If VW3A3202 extended I/O card has been inserted. Evacuation is activated when the assigned input is at 1, if the drive is stationary. Evacuation is activated when the assigned input is at 0, as soon as the drive stops. </p>		[No] (n0)
r5U	<p><input type="checkbox"/> [Evacuation Input V.]</p> <p>Minimum permissible AC voltage value of the emergency power supply. The parameter can be accessed if [Evacuation assign.] (rFt) is not [No] (n0).</p>	220 to 320 V	220 V
r5P ()	<p><input type="checkbox"/> [Evacuation freq.]</p> <p>Value of the "evacuation" mode frequency reference. The parameter can be accessed if [Evacuation assign.] (rFt) is not [No] (n0). The adjustment range is determined by the [Low speed] (LSP) (page 52), [Rated motor freq.] (FrS) and [Rated motor volt.] (UnS) (page 65) parameters and by [Evacuation Input V.] (r5U) above.</p> <ul style="list-style-type: none"> • If LSP < (Frs x r5U/UnS): rSP min. = LSP, rSP max. = (Frs x r5U/UnS) • If LSP ≥ (Frs x r5U/UnS): rSP = (Frs x r5U/UnS). 		5 Hz

Evacuation Sequence



Evacuation

Drive behavior

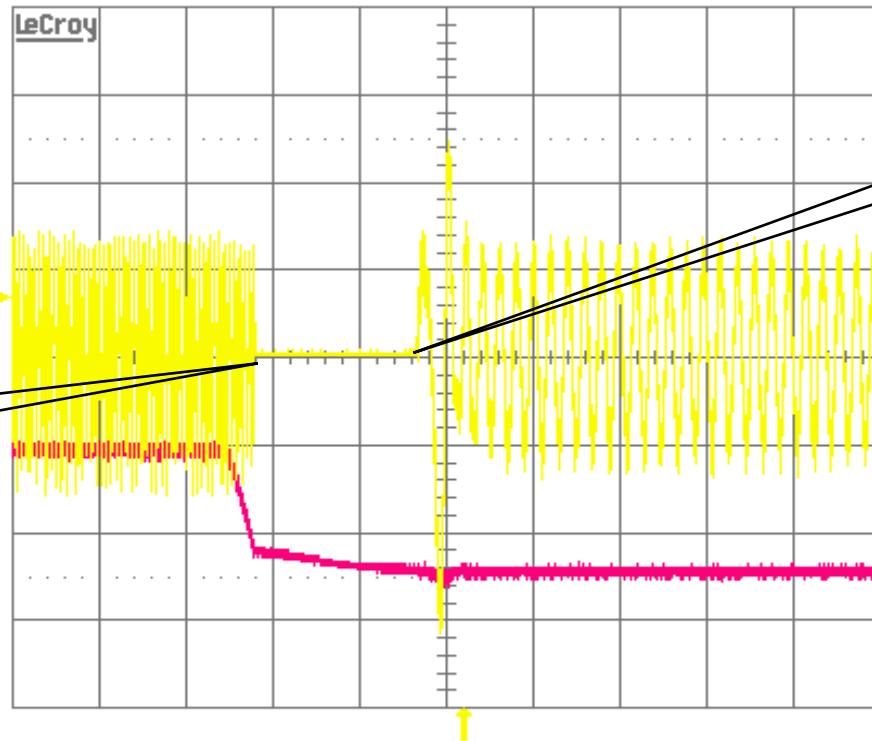
LI Evacuation comes at the same time or after the 220Vac Rescue

28-Oct-05
14:45:07

1
1 s
10.0 A

2
1 s
200 V

Brake relay
is closed



The Drive Restart

Current Motor

Bus DC

1 s
1 .1 V DC $\times 100$
2 2 V DC $\times 100$
3 5 mV DC $\times 10$
4 10 mV DC

1 DC 6.4 A

100 kS/s

STOPPED

Evacuation

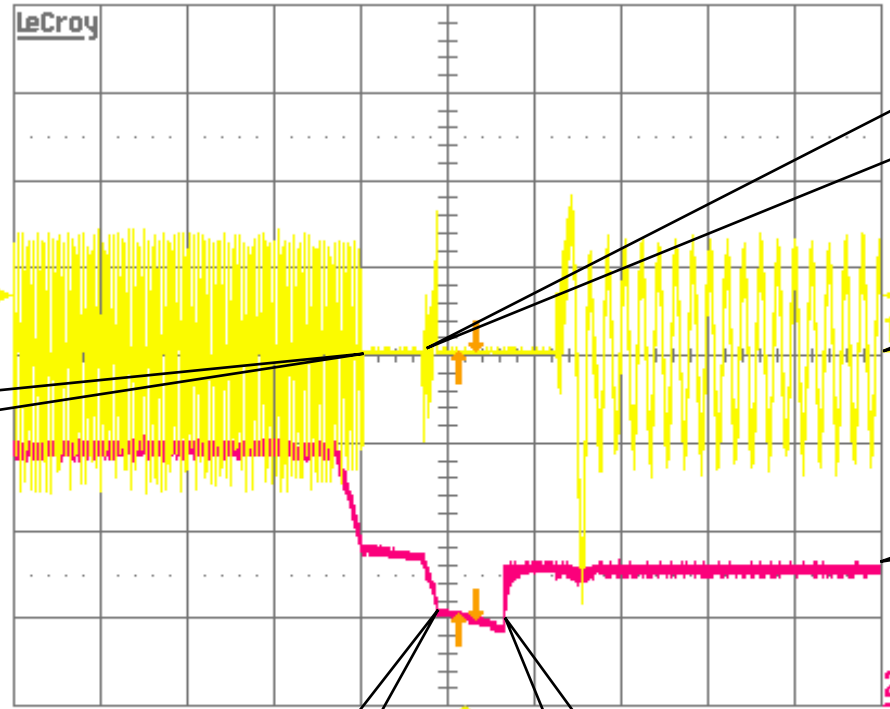
Drive behavior

LI Evacuation comes before the 220Vac Rescue

28-Oct-05
14:40:50

1
1 s
10.0 A
0.00 A

2
1 s
200 V
13 V



LI Evacuation closed before the 220Vac the Drive try to restart

Current Motor

Brake relay is closed

Bus DC

1 s
1 .1 V DC $\times 100$
2 2 V DC $\times 100$
3 5 mV DC $\times 10$
4 10 mV DC

Δt -201.94 ms $1/\Delta t$ -4.9520 Hz

USF Rescue Fault

220Vac rescue PowerOn

100 kS/s

STOPPED

Evacuation

Auxiliary supply sizing

- **Voltage 220Vac minimum single phase**
- **Power (depends on the max evacuation speed needed)**
 - **To move at 5Hz with Drive Nominal Torque**
 - **Drive Power / 5 < Ups Power**
 - **To move at 10Hz with Drive Nominal Torque**
 - **Drive Power / 2.5 < Ups Power**
- **The crest factor (peak current/effective current ratio) of the UPS is at least 3:1 (caution: the peak current is not the effective start-up or acceleration current).**
- **Other consumers such as controller, cabin lighting, well lighting, etc. must always be taken into account .**