

APPLICATION NOTE	AN-Lift-0022v101EN
Emergency operation with DCP3 (y10=5)	

Inverter type	FRENIC-Lift
Software version	Any software version with DCP3 (-EA)
Required options	Not needed
Related documentation	SI471153eFRENIC-Lift_DCP.pdf INR-SI47-1068b-E_Lift_Reference Manual.pdf
Use	Public, Web
Date	10/12/2013
Version	1.0.1
Languages	English

1. Description.

FRENIC-Lift has the possibility to perform an emergency operation with reduced input voltage by means of batteries and/or UPS system. The selected speed that should be used for emergency operation is C03 (by selecting the **BATRY** signal AND C05 speed).

In case of DCP protocol specifications, C05 is defined as VN: Re-leveling. In the other hand, it is not part of the standard DCP3 specification to have a selectable speed for emergency operation.

As in DCP3 mode (y10 = 5) the fixed speeds (C05~C11) via digital inputs (X1~X8) cannot be used no emergency speed (C03) can be selected. As an alternative it is possible to select the **JOG** speed (C20, high priority) by a digital input in parallel with **BATRY** signal.

2. Wiring and setting

On figure 1, basic wiring diagram is shown. In this case, a rescue system by means of batteries (power side) and UPS (control side) is used. As it can be observed, and compared to the basic diagram shown in Reference Manual, a new signal is added. This signal will activate **JOG** speed during rescue. This signal can be activated at same time than **BATRY** signal. Both signals are activated by means of same output coming from controller. This 24 VDC output is activated in case of rescue operation when a mains is gone. Rescue direction (**FWD** or **REV**) will be activated by means of DCP communications.

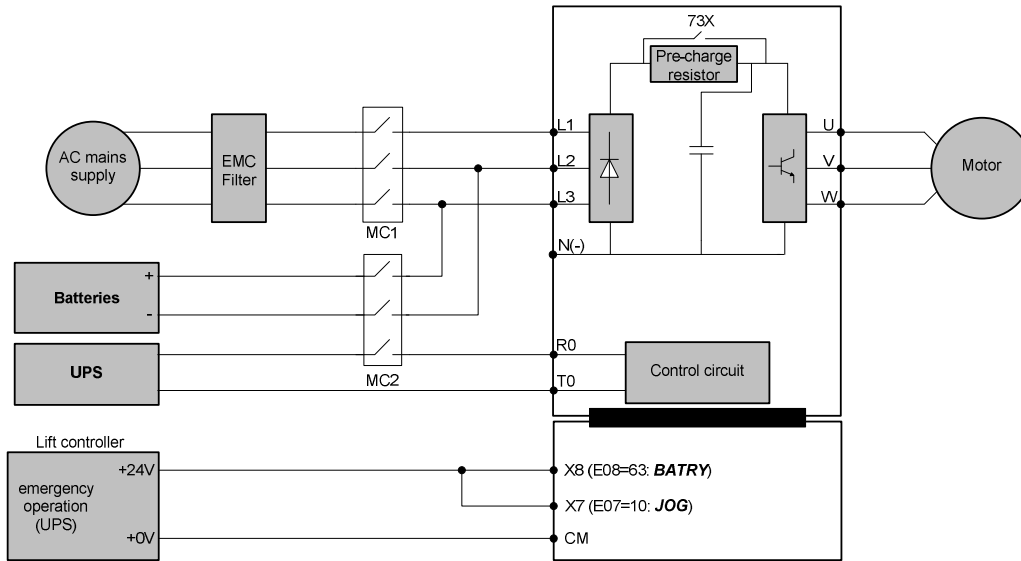


Figure 1: basic wiring diagram

In table 1, additional setting needed in case of rescue operation is shown.

Parameter	Name	Setting	Units
E07	Terminal [X7]	10:[JOG] Enable jogging operation	-
E08	Terminal [X8]	63:[BATRY] Enable battery operation	-
C20	Jogging Operation Speed	Normally 10% of the rated speed (C11)	Depends on C21
H57	Acceleration time (JOG)	1,80 (factory default)	s
H58	Deceleration time (JOG)	1,80 (factory default)	s

Table 1: Inverter parameter setting according to figure1

In figure 2, a timing diagram of rescue operation is shown. In the first part of the timing diagram a standard travel in FWD direction is shown. After that, a second travel in REV direction is shown, during this travel, power supply from mains is interrupted. When power supply comes again by means of auxiliary devices (batteries and/or UPS), thanks to digital inputs activated and direction given by controller, rescue operation can be performed. Please, note that rescue operation direction has to be given by controller through DCP, so in other words, controller decides rescue operation direction. In case that **RRD** (Recommended Running Direction) function wants to be used, additional modifications might be needed.

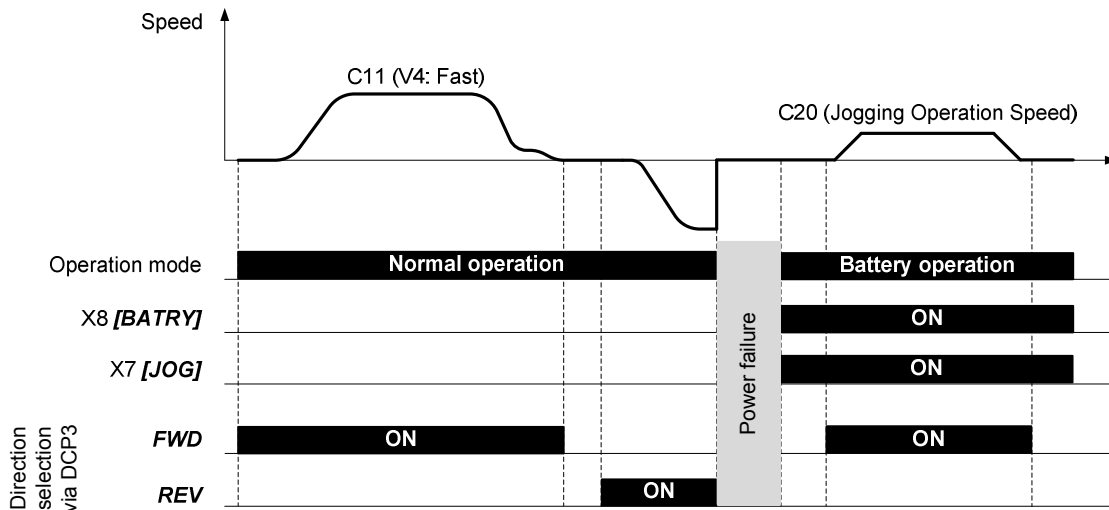


Figure 2: Signal timing diagram for travel using **JOG** speed

6. Conclusion

By following this application note, it is possible to perform an emergency travel (rescue operation) with a selected speed that is used only for emergency operation in DCP3 control. So DCP controller doesn't need to be adapted in case of using FRENIC-Lift.

7. Document history

Version	Changes applied	Date	Written	Checked	Approved
1.0.0	Draft	21/11/2013	M. Bennani	M. Fuchs	
1.0.1	First edition	10/12/2013	M. Bennani	M. Fuchs	J. Alonso