Technical Info

Adaptive Energy Optimization (AEO)
with High Speed Electronit Unit

Introduction
Herewith a description of a function in the high speed electronic unit. The unit contains a feature called **A**daptive **E**nergy **O**ptimization (AEO). It is very suitable for systems with huge load variations and applications where energy is an important issue.

Function
Inital start up conditions
Every start up of the compressor takes place at low speed (soft start). The start up speed is equal to: the speed at thermostat cut out minus 300 rpm. After start up the speed of the compressor will be ramped up and adapted to the load. The ramp up speed is 9.4 rpm/min.

Adaptation of the capacity.
The software algorithm adapts the capacity of the compressor to the actual load of the system.

The unit regulates the capacity so that the compressor runtime is approximately 24 minutes. If the compressor does not reach cut out temperature within 48 minutes the speed is set to 4400 rpm.

Example how to determine the speed

Start up speed:	3250 rpm
Runtime:	15 minutes
Speed at cut out:	3250+(9.4x15) ~3390 rpm

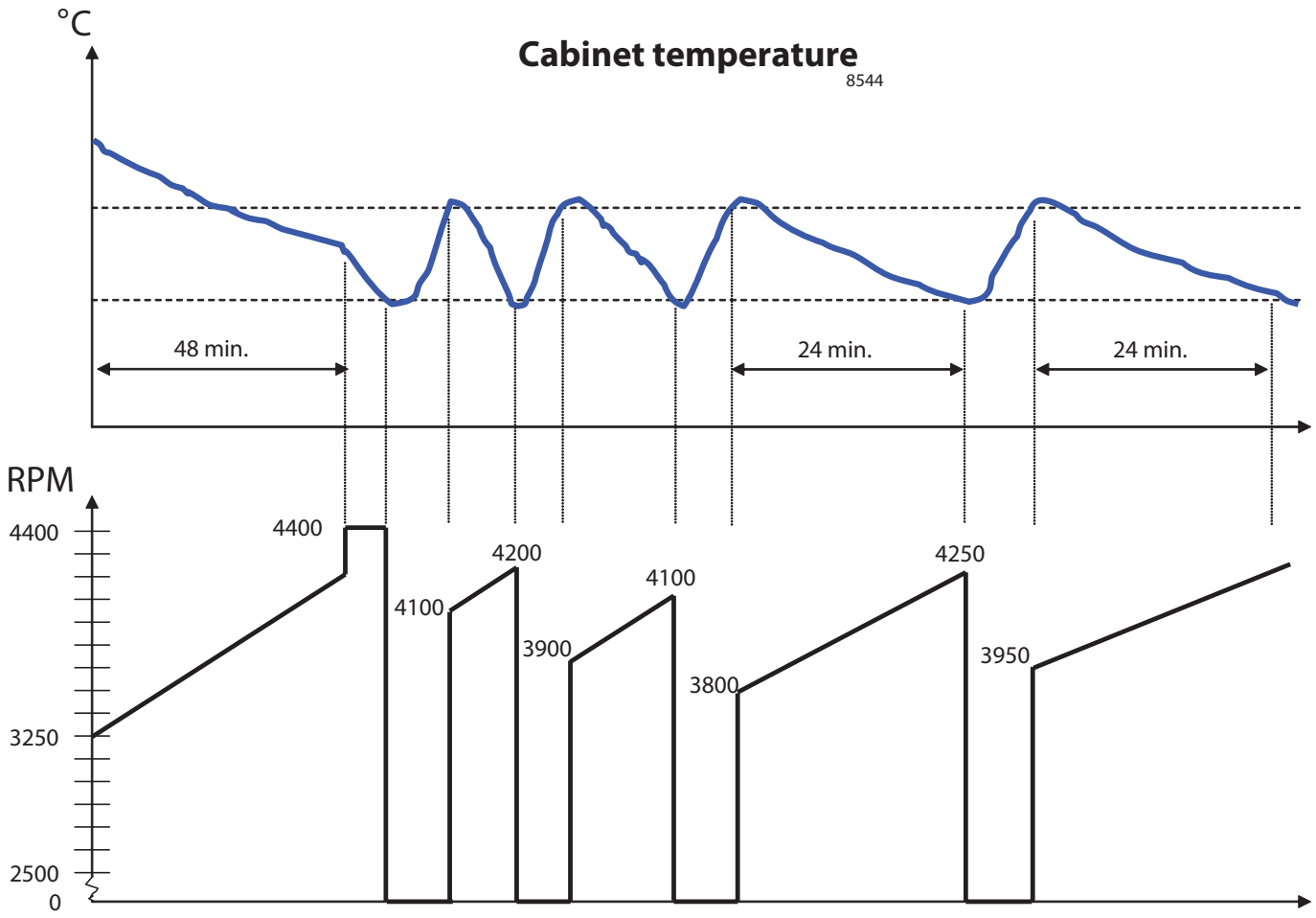
Start up speed:	3390-300 = 3090 rpm
Runtime:	20 minutes
Speed at cut out:	3090+(9.4x20) ~3280 rpm

Start up speed:	3280-300= 2980 rpm
Runtime:	30 minutes
Speed at cut out:	2980+(9.4x30) ~3260 rpm

Curves
The graphs on page 2 show the relation between cabinet temperature and speed. After a power cut out the start speed will always be set to 3250 rpm.
After a thermostat cut out the start up speed is calculated as speed at stop minus 300.
The speed will be adapted automatically so that the thermostat runtime will be approximately 24 minutes.

Benefits
- Independent of load variations
- Energy savings
- Reduced number of compressor starts
- Prevents short cycling of the compressor
- Battery protection
- Soft start in tropical conditions

Code nos.
Single pack	101N0280
Industrial pack	101N0281 (28 pcs)



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