



Before installing RST VVVF-controllers combined with synchronous gearless drives the following points have to be strictly observed :

- The GS signal (controller release) of clamp 53 has to be cut off under all working conditions and emergency stop situations before opening of travel contactors. This includes inspection and emergency operation, re-levelling, voltage failure, brushing landing door locks or any other occurrences which cause an uncontrolled interruption of safety circuit.

Therefore it is mandatory that the GS signal is lead by a main contact of an auxiliary relay. The auxiliary relay has in this case to be connected parallel to the travel contactors when activating the travel contactors by the elevator control. If the activating of the travel contactors occurs by means of the controller (ZS at clamps 7 and 8), the auxiliary relay has to be activated at the lower end of the security circuit (please also see manual chapter 4.2).

Attention: Not all relays are suitable. For a 230V security circuit voltage we recommend the electronic relay „EM-04“ of company Kollmorgen (other voltages on demand).

- Inside of the motor terminal board a so-called „Drive-Protector“ for limitation of induction voltages should be installed. You will receive further information on this matter from your supplier of drives.
- The control period for the contactor separation in the control has to be longer than the sum of the periods $ZS + ZB + EH + I_{Null_Aus}$ in the VVVF-controller. We therefore recommend a period of time not less than 2 seconds!
- An operation of controller combined with synchronous gearless drives actually is only possible with an absolute value encoder type ECN 1313 with EnDAT- or SSI-protocol of company Heidenhain.
- Only use original encoder lines of the drive manufacturer of the necessary length. Please observe that the pin-occupation of the 15-pole SUB-D-plug corresponds to the pin occupation of the RST controller. For wrong connection there will be danger of damage of encoders and controller.
- The connection cable of encoder may never be pulled out under voltage!
- The protection of the encoder line has to be earthed compellingly at the housing of the controller with an adequate clamp. Only screwing together the SUB-D-plugs is not sufficient!
- The „calibrating“ of the drive has to be done in free spinning position; „slack rope“ is not sufficient since the slightest moment of friction can cause a distortion of the results. A wrong „Rho-Offset“-value causes losses of torque and possibly a total malfunction of the drive.
- Please check after the calibrating if the turn direction of the drive for the required up and down movement of the cabin matches with the installed direction signals. If not, two phases have to be changed in which the „calibrating“ has to be repeated in free spinning position. A belated correction with placed ropes is not possible anymore!
- The „interconnecting“ of the motor windings during standstill is not recommended by RST Elektronik for permanently excited synchronous drives, unless it is necessary to fulfil technical safety precautions. In any case the relevant VDE-regulations for all-pole separation of the motor from the converter have to be observed!
- In case of “interconnecting” of the motor windings during standstill RST Elektronik does not take on any guarantee for damages of the motor (burning of windings respectively demagnetisation of permanent magnets).
- For machine roomless concepts and decentralised order of the controllers with motor cable lengths of more than 15 metres we recommend the utilisation of an additional output inductance coil! Over more it is recommended to use an encoder cable with a higher wire size.
- It is strictly forbidden to run permanently excited synchronous drives in open-loop-mode!

In case of disregard of the above mentioned facts any warranty and guarantee expires!