

VADEMECUM HE Valve – Main Board

The purpose of this document is to provide some basic guidelines for preparing an electrical panel suitable for HE systems, consisting of HE valve groups and SCH001 electronic board.

Reference is made to the sections of the VALVE UNIT and SCH001 BOARD operating instruction for complete explanations.

Generality

The HE system allows to obtain the highest stopping precision and the shortest possible travel time, within the limits of the set speed parameters, thanks to the Up and Down soft-stop operation and through the exchange signals with the control panel.

Operation

- 1.1 The HE system receives the movement signals from the control panel through OPTO-INSULATED DIGITAL INPUTS with Operating voltage 20 - 60 VDC - 100 mA. (CN6 and CN7, see Instruction Manual) and the input -V (CN8).

It is also possible to use the specific output voltage generated by the SCH001 board (CN8), making a jumper between 0V and -V, to return the signals through contacts in the control panel.

- 1.2 The SCH001 board transmits the status of the HE system to the control panel by EXCHANGE RELAY with 1A-48VDC / 0.25A-250VAC capacity.

2. **The HE system operates exclusively at 24 VDC** and also the automatic descent in emergency must be managed completely at 24 VDC, performing the same sequences of normal operation. (see Instruction Manual).

3. The control panel must not start the manoeuvre **if the ERR signal is active** or **if the RDY signal of the SCH001 board is not active**. This prevents uncontrolled movements when programming the SCH001 card or during a blocking error of the same. As soon as the **ERR** signal is not active and the **RDY** signal is active, the panel can start the manoeuvre. (see Instruction Manual).

The RDY signal is in fact deactivated when the programming selector is not in position 0 or when the system is not in a position to carry out manoeuvres (eg when it is in error).

4. The HE system provides a start-up delay and a delay in the motor switch-off.

The two delays in supplying of motor can be generated with timers, but management via the **AVV** signal of the SCH001 board is preferable, which switches to start the motor initially and then switches back to switch off the motor (see Instruction Manual).

Once the engine has been started (direct, star-delta or soft-starter) the SCH001 board expects a signal at the **SFY** input which allows to reduce the start-up times of the cab to a minimum (see Instruction Manual).

5. The HE system provides for the operation, **both up and down**, of a solenoid valve. (**ERS**) powered by the 24 VDC control panel, **with switch-off delay to the arrival contact**. The switch-off delay can be executed with a timer (2 s), but it is possible to use the RDY signal of the SCH001 board which is interrupted for about 0.5 s after the car has stopped (see Instruction Manual).

6. The HE system provides for the operation, **only in downward**, of a solenoid valve (**ENR**) powered by the 24 VDC from control panel, **with a switch-off delay to the arrival contact**. The switch-off delay can be managed in the same way as for the ERS solenoid valve (see Instruction Manual).

In the event of stopping without ERS and ERN solenoid valves without power supply, (like a maintenance stopping) the system records the anomalous situation indicating errors (eg n.12 and 5) that are self-reset after 1-2 s.

7. The HE system is certified as part of a UCM safety device against uncontrolled downward movement of the cabin (see Instruction Manual).

Note: In the control panel, two contactors with activation verification, must prevent upward movements, interrupting the power supply to the motor / pump unit (the HE group is normally closed and does not prevent upward movement).