

Watering with sprinkler carriage

Task

“easy” is required to control a sprinkler that provides watering in different areas such as a greenhouse or a riding hall.

The system can be switched on and off using key switch S1. Selector switch S2 can be used to toggle between Manual and Automatic mode. Automatic sprinkling is activated four times a day at specific times

(default setting: 00.00-00.05AM 06.00-06.05AM, 12.00-12.05PM and 18.00-18.05PM). The sprinkler carriage moves three times forwards and backwards (A>B / B>A) with every watering operation.

Switch S5 can be used to switch the watering pump on and off. If Automatic mode is switched on, the system checks the position of the carriage first of all.

The carriage is moved to the front limit switch (point A) if it has not been reached (home position), however, without the watering pump switched on. The carriage is then moved only at the specified times. In Manual mode (jog mode) the carriage can be moved forwards and backwards via the P buttons on the “easy” (e.g. for service work).

The integrated limit switch stops the motors of the sprinkler carriage during both forward and backward motion. An indicator light shows the operating state of the system: H1 Continuous light => Automatic, H1 Flashing => Manual.

Wiring

1. Inputs:

- P1 “easy” button ◀ [Jog motor M2 (backwards B>A)]
- P3 “easy” button ▶ [jog motor M1 (forwards A>B)]
- I1 Key switch S1 (system ON / OFF)
- I2 Selector switch S2 (Manual / Automatic)
- I3 Limit switch S3 (carriage front, point A)
- I4 Limit switch S4 (carriage rear, point B)
- I5 Switch S5 (watering pump E1 ON / OFF)

2. Outputs:

- Q1 Motor M1 (forwards A>B)
- Q2 Motor M2 (backwards B>A)
- Q3 Watering pump E1
- Q4 Indicator light H1

3. Parameters:

- T1 Flash pulse (manual mode)
- C1 Number of completed motions (3) per switch time
- H01 Sprinkling times