Example 9. Remote control via RS-485

Purpose

This configuration controls the variable-frequency drive (RD) exclusively via the RS-485 interface. The digital inputs are not used.

Control method

The RD can be controlled via RS-485 either through the “Remote control” section of the configuration software or by a command word sent by the master of the network to which the drive is connected.

Parameter list

Table 1. Parameter settings.

No.	Code	Description	Value	Notes
1	F01.01	Run command source	2	Via RS-485
2	F01.02	Frequency reference source	6	RS-485
3	F12.00	Master/slave selection	0	Slave
4	F12.01	Modbus communication address		Set as required
5	F12.02	Baud rate selection		Set as required
6	F12.03	Modbus data format		Set as required

Table 2. Main Modbus registers.

Address (hex)	Name	Access	Resolution / format (range)	Description
0x2000 /0x3000	Frequency setpoint	R/W*	0.01 Hz (0.00-320.00)	Frequency setpoint received via the communication interface
0x2001 /0x3001	Command word	W	0x0000 (0x0-0x0103)	0x0000: Invalid command 0x0001: Run forward 0x0002: Run reverse 0x0003: Fixed-speed forward run 0x0004: Fixed-speed reverse run 0x0005: Stop with deceleration 0x0006: Stop 0x0007: Reset 0x0008: Disable starting ** 0x0009: Enable starting

Modbus registers

Table 2. Main Modbus registers (continued).

Address (hex)	Name	Access	Resolution / format (range)	Description
0x2001 /0x3001	Command word (continued)	W	0x0000 (0x0-0x0103)	0x0101: Equivalent to F2.07 = 1 (rotating autotune), followed by a Run command. 0x0102: Equivalent to F2.07 = 2 (stationary autotune), followed by a Run command. 0x0103: Equivalent to F2.07 = 3 (automatic stator resistance measurement), followed by a Run command.
0x2002 /0x3002	Drive status	R	Binary code	Bit 0: 0 = stopped, 1 = running Bit 1: 0 = not accelerating, 1 = accelerating Bit 2: 0 = not decelerating, 1 = decelerating Bit 3: 0 = forward rotation, 1 = reverse rotation Bit 4: 0 = no drive fault, 1 = drive fault Bit 5: 0 = drive locked, 1 = drive unlocked Bit 6: 0 = no warnings, 1 = warning present Bit 7: 0 = starting not possible, 1 = starting possible

Notes

* Access types.
R = read only.
W = write only.
R/W = read and write.

** Writing 0008 stops the drive. To start it again, write 0009 or restart the drive.

The complete Modbus register map is provided in Section 12 of the operating manual.