Siemens 6DR2104-4

01 Loop preparation

Capture the loop configuration

Record process scaling, setpoint selection, tuning, control direction and output limits. Preserve the current manipulated-variable state and identify the receiving actuator before removing the controller from an operating loop.

Secure the process output

Transfer the process to its approved maintenance or manual-control arrangement. Establish how the actuator responds to loss of current so controller removal cannot cause an unintended valve or drive movement.

Controller execution	K-controller, continuous output
Nominal power supply	24 V UC

02 Supply and inputs

Confirm the -4 supply

Check the supply circuit against the 24 V UC execution. Measure within the specified AC or DC window, identify its protective arrangement and keep mains wiring intended for another DR21 version away from these terminals.

Trace AI1 and AI2

Label both current loops and their common references. Check transmitter polarity, selected 0/4–20 mA ranges and the effect of the 248-ohm burden before reconnecting the process and setpoint signals.

AC supply range	20–28 V AC
DC supply range	20–35 V DC

03 Options and output

Inspect fitted option modules

Compare the actual optional modules with the saved configuration. A family-level capability is not proof that an option is installed; resolve missing or different modules before restoring dependent functions.

Restore the analog-output range

Match the output's 0–20 or 4–20 mA setting to the receiving device. Review loop loading and polarity, then verify a controlled low, intermediate and high command without exposing the process to unsafe movement.

Standard analog inputs	2 current inputs, AI1 and AI2
Input signal range	0/4–20 mA

04 Control direction

Validate engineering scaling

Apply suitable reference signals to the configured inputs and compare the displayed engineering values. Correct scaling or polarity errors before judging control tuning, because an apparently unstable loop may originate in a signal mismatch.

Check the control direction

With the process secured, confirm that an input deviation changes the manipulated variable in the intended direction. Recheck limits and manual-to-automatic transfer behavior before enabling closed-loop control.

Input resistance	248 Ω ±1%
Input filter time constant	10 ms

05 Process release

Exercise digital selections

Test any wired digital-input functions against their assigned actions. Confirm definite low and high states rather than relying on an intermediate voltage, and retain the correct common reference throughout the test.

Release the restored loop

Review the final configuration with the responsible process operator. Record reference-input and output-check results, then return to automatic operation under the site's controlled commissioning procedure.

Technical basis: Siemens SIPART DR21 Manual, C73000-B7476-C143-08.

Related product navigation

- Siemens 6ES7216-2BD23-0XB0
- Siemens 6ES7214-1BG40-0XB0

These are related references, not confirmed substitutes or an automatically approved assembly.