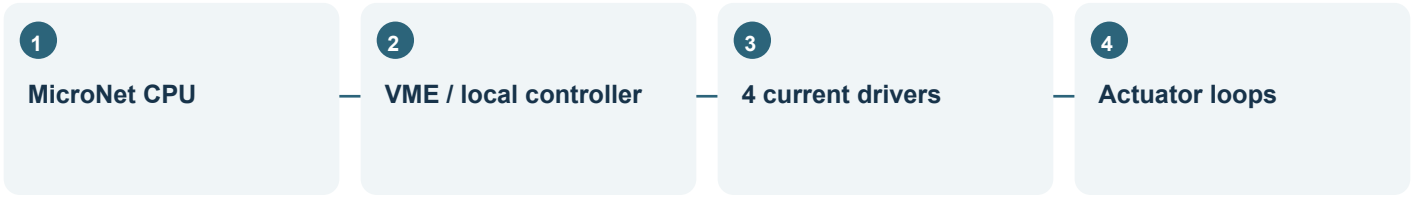
Woodward 5464-544

01 Four-Channel Actuator Driver Module

Woodward 5464-544 separates the CPU command path from the analog actuator drive stage. Channel output supervision allows the control application to respond to a failed load or driver while retaining the configured shutdown logic.



Physical and functional arrangement

The module scales digital output commands using stored calibration constants and schedules the analog outputs through its local controller. The 5464-544 execution uses the 0–200 mA range; related lower-current actuator variants must not be substituted on the basis of connector fit.

Signal path and configuration

Load capability depends on both actuator resistance and inductance. Check the complete field circuit, including its termination module and cable, against the output envelope before increasing a command. Dither is a tunable actuator-drive function and should be retained from the approved application rather than selected by trial.

Application boundary

A channel or controller fault can interrupt actuator current. Maintenance must account for the resulting actuator position and machine response before testing a channel. Red module indications help distinguish communication loss from an internal fault, but field-circuit checks remain necessary.

5464-544 is the 0–200 mA four-channel execution. Shared four-channel-module specifications are applied to that range; 0–25 mA variant values are not assigned to this product.

Woodward 5464-544

02 Technical data and engineering limits

Actuator channels	4
Output current range	0–200 mA DC
Resolution	12 bit
Accuracy at 25 °C	0.1% of full scale
Drift	150 ppm/°C
Maximum actuator resistance	45 ohm at 200 mA
Maximum actuator inductance	1 H
Dither waveform	25 Hz square wave; amplitude tunable
Analog driver bandwidth	50 Hz minimum

Additional interface data

Calibration storage	EEPROM constants; module requires no field calibration
Command transfer	CPU writes output values through VME to dual-port memory
Load supervision	Actuator impedance monitored
Driver fault response	Actuator current interrupted
CPU communication loss	Actuator current interrupted
Module indication	Solid red: no CPU communication; flashing red: internal module problem

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03 Application map and integration boundaries

01 Proportional actuator drive

Convert CPU demand into the selected current-driven actuator response.

02 Multi-channel machinery control

Maintain separate output and shutdown behavior for four assigned actuator loops.

03 Fault-supervised output circuits

Monitor load or driver abnormalities within the engineered protection logic.

04 Legacy MicroNet service

Restore an existing four-channel arrangement with its original field termination and application.

Current-range identity

Use the 0–200 mA execution for this part number. Do not transfer the resistance rating of the 0–25 mA variant.

Safe fault response

Loss of control communication can interrupt output current. Assess the resulting actuator and machine behavior before testing or removing the module.

Migration boundary

A replacement architecture may require new termination hardware and GAP changes; it is not established by the shared MicroNet family name.

Configuration scope: Plan migration at actuator-loop and GAP-application level. A newer two-channel or position-control solution is not a direct four-channel replacement.

Woodward 5464-544

04 Technical questions that affect operation

Why is replacing 5464-544 with a two-channel module an engineering change?

Channel count, field termination and the control application differ. A migration can require GAP application changes and a revised hardware arrangement.

How should a solid red indication on 5464-544 be investigated?

Check communication between the actuator controller and CPU and the configured module arrangement. Do not assume the indication proves a failed actuator winding.

What does a flashing red indication on 5464-544 require?

It indicates an internal module problem. Put the affected actuator functions in their approved safe state and follow the module replacement and validation procedure.

Why does actuator resistance matter at full command from 5464-544?

The driver must deliver the requested current into the connected load. Include cable and termination contributions when evaluating the specified resistance envelope.

Can dither on 5464-544 be changed merely to eliminate actuator noise?

Retain the approved control settings. Dither affects actuator behavior, so changes require application review and a controlled response test.

How should loss of CPU communication be tested with 5464-544?

Use an approved test plan that accounts for interruption of actuator current and the resulting machine state. Verify the intended shutdown response without exposing the process to uncontrolled motion.

Does replacing a like actuator require recalibrating 5464-544?

The module uses stored calibration and requires no field calibration. Still verify wiring, actuator compatibility and the closed-loop response after replacement.

What must be verified before re-enabling a disabled channel on 5464-544?

Confirm the fault cause is resolved, the load circuit is correct and the commanded response is acceptable. Restore the channel through the approved control application sequence.

Woodward 5464-544

05 Selection, service planning and related equipment

Match the installed arrangement

Match the complete Woodward 5464-544 marking and installed configuration. Confirm the 5464-544 marking, channel connector arrangement and 0–200 mA execution.

Support and migration

Discontinued four-channel actuator hardware; standard manufacture was inactivated in 2015. Plan migration at actuator-loop and GAP-application level. A newer two-channel or position-control solution is not a direct four-channel replacement.

Equipment boundary

Confirm the module and any field termination or cable explicitly itemized. Companion hardware and accessories are included only when itemized; the function of the complete installed arrangement depends on the correct combination.

Engineering review before intervention

Secure actuator motion	Identify the four driven functions and their response to current interruption. Establish the approved maintenance state before disturbing CPU communication or field wiring. Record shutdown and enable states for each loop.
Match the field circuit	Trace each actuator through the termination module and cable. Check winding and circuit characteristics against the 200 mA execution and inspect polarity and conductor assignment. Do not substitute a lower-current actuator arrangement.

Related equipment navigation

Woodward 5464-643

Woodward 5464-653

Woodward 5466-348

Related references support separate application assessment and do not imply replacement compatibility. Technical basis: Woodward MicroNet Simplex & MicroNet Plus, 26166V3 Rev. B; Product Change Notification 06924.