Valve Checker G040-119A

Rapid on-site inspection of MFB servo valves

The Moog Valve Checker G040-119A has been developed based on practical field experience to provide a useful aid in commissioning, servicing and troubleshooting control systems that use servo valves with mechanical feedback (MFB).

When servicing and troubleshooting, it is usually advantageous to separate the hydraulics (servo valve) from the electronics. To do this, simply remove the valve connection and connect the cable from the Valve Checker. The servo valve can then be operated and checked completely independently of the system electronics. This enables you to determine whether issues like null shift, unsuitable oscillations, or failure to reach maximum speed are caused by hydraulic problems or electronic malfunctions.

SPECIFICATIONS

Outputs

- 100 mA into 50 Ω
- 10 mA into 500 Ω

Power Supply

- Power source: Battery
- Type: 21700 Rechargeable lithium battery
- Capacity: 5000 mAh
- Voltage: 3.7V (full power voltage 4.2V)
- Charging interface: USB Type-C
- 100 mA continuous output for not less than 12 hours
- Automatically power off after 30 minutes of inactivity

Dimensions

- 178 (L) × 91 (W) × 55 (H) mm

Weight

- 350 g (including battery)

Display

- 2-line, 3-digit LCD
- Output current and load resistance display
- Automatic LCD backlight control
- Battery status indicator

Connecting Cable

- Series coil connection (standard)
- Parallel coil connection (optional)

EMC

- EN 61000-6-2 standard
- EN 61000-6-4 standard

FEATURES

- Performs hydraulic tests independently of electronics, allowing for quick troubleshooting
- Powered by a long-lasting rechargeable lithium battery
- Features an LCD for clear digital measurements
- Compact and lightweight design for easy portability and convenience
- Includes carry case for organized storage and transport
- CE marked

OPERATING DETAILS AND ORDERING INFORMATION

OPERATING DETAILS

1. Device Activation

When installing the battery for the first time, connect the charger to activate the battery power supply and then the valve checker can be operated. This activation is only required once, as long as the battery remains installed.

2. Cable Connections

A dual-coil series cable the standard configuration and offers a dual coil parallel an optional selection for users based on specific needs.

3. Range Switch

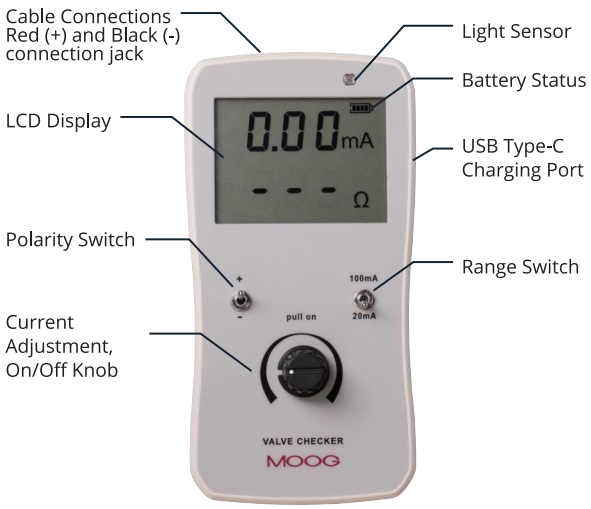
Use 20 mA for 500 and 1,000 Ω coils or valves requiring a small signal (1,000 Ω coils must be connected in parallel to the detector; standard series cables will not work).
Use 100 mA for all other valve coils.

4. Polarity Switch

Switch the 2-position toggle switch from plus (+) to minus (-) or vice versa to change the current polarity.

5. Current Control, On/Off Knob

Pull the knob up to turn on the checker, and press it down to turn the checker off.
Rotate the knob clockwise or counter-clockwise to continuously adjust the output current (-100% to +100%). 100% corresponds to the selected range of 20 mA or 100 mA. Zero current output is at the midpoint position (knob pointer vertically upward).



6. LCD Display

The first line shows the value and polarity of the current flowing to the servo valve. If the current circuit is interrupted (e.g., no current flows across a servo valve), the LCD displays zero. To check if the servo valve or the checker is faulty, perform a "short circuit test" (see below).
The second line shows the detected resistance value of the servo valve coil. If the output current is less than 3 mA, the checker cannot measure the resistance accurately, and "---" is displayed.

7. Short Circuit Test

Turn the current control knob clockwise to the 100% position. Set the polarity switch to plus (+) and the output range to 100 mA. Short the cables from the red and the black connection jack. If the checker is functioning properly, it will display a reading of 98 to 102 mA.

8. Battery Charging

Use the 5 V USB Type-C port for charging. When the battery is low, the battery icon on the LCD screen will be flashing. If the device is left idle for a long time, check it once every 6 months and ensure that the battery is maintained no less than level one.

9. Battery Replacement

If the battery is damaged or cannot be recharged, replace it with one of the same specification (Recommended model: Tenpower, INR21700-50ME or Samsung, INR21700-50G). Open the back cover, remove the old battery and install the new one. After replacement, put the back cover back on and perform the activation operation.

ORDERING CODE

Part Number	Description
G040-119A	Valve checker (includes series coil connection cable, 1.5 m)
CD42009-001	Cable 1.5 m, series coil connection
CD42019-001	Cable 1.5 m, parallel coil connection
CD42708-001	Cable assembly 1.5 m, crocodile clip lead

Note: Battery，5 V battery charger and USB Type-C charging cable are not included in supply scope. Users are required to furnish their own supplies.

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This technical data is based on current available information and is subject to change at any time. Specifications for specific systems or applications may vary.

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