

Valve Checker G040 123

A cost effective method for evaluating valves in the field



The Moog G040-123 Valve Checker is an instrument which provides field checking of the complete range of Moog electrical feedback (EFB) flow control valves, both proportional and servo. Mechanical feedback (MFB) and pressure control (P and PQ) valves are not catered by the G040-123.

It is connected “in-line” between the plant electronics and the valve so checking of the valve is made without removing it from the plant, so that hydraulic and electronic problems can be isolated.

The checker operates in two modes: “Checker” and “Plant”.

In “Checker” mode, commands to the valve come from the checker and the valve spool signal is monitored on the checker. The “Plant” command is disconnected and the spool signal is connected back to the plant electronics.

In “Plant” mode, the checker is a monitor with the plant electronics commanding the valve and the spool signal passing back to the plant, the spool signal is also available for monitoring on the checker.

Internal power is derived from the plant supply line to the valve or from an external 24V supply that connects to a front panel connector on the checker.

SPECIFICATIONS

Q Command Outputs:

±10 V, ±10 mA, 4 to 20 mA and Plant Command

Q Command Test Point:

0 to ±10 V

Max. Command Output Swing:

±10 V, ±20 mA

Spool Inputs:

2 to 10 V, ±10 V differential, ±10 V single ended, ±10 mA, 4 to 20 mA

Spool Test Point:

0 to ±10 V

Test Point Size:

2.0 mm

±15 V Supply:

±9 to ±18 V, ±65 mA at ±15 V

24 V Supply:

18 to 36 V, 90 mA at 24 V

Weight:

1.2 kg

Dimensions:

205W x 138H x 70D mm

Cable Length:

2.0 m

Enable and Valve OK Threshold:

ON: >8.5 V, OFF: <6.5 V

Checker Current Load:

100 Ohm

EMC:

EN 61000-6-2

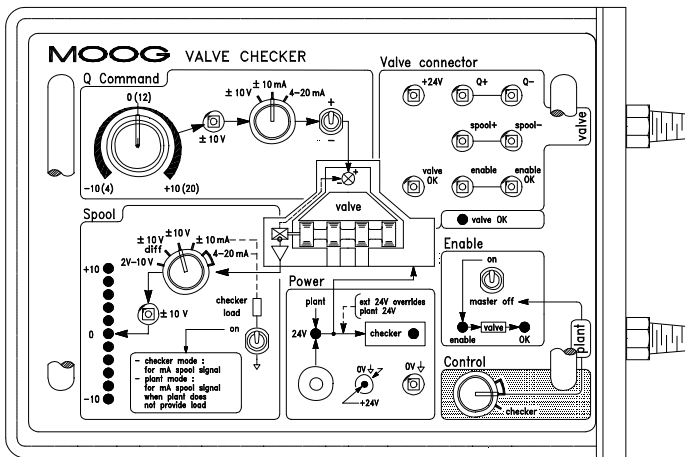
EN 61000-6-3

Protective Earth:

EN 60204-1 equal-potential

FEATURES

- Provides testing hydraulics independent of electronics
- Caters for most Moog EFB valves
- In-line operation
- Lightweight and portable
- Inbuilt LED spool read-out
- Fixed cables and connectors
- Models available for specific connector /supply combinations
- Test points to monitor command and spool signals
- Standardized ±10 V representation of command and spool, regardless of actual signal type
- CE mark



Valve Checker, 24 V power supply version

1. Control:

Selects “Plant” or “Checker” mode. In plant mode the valve command comes from the plant electronics and the valve checker command section is inoperative. The spool signal is connected back to the plant electronics and is available on the spool test point for monitoring.

In checker mode the valve command comes from the checker. The spool signal is still passed on to the plant and is available on the spool test point for monitoring.

2. Enable:

On EFB valves with an “enable” input the source of the enable command to the valve is selected by the control switch. However, the enable can be turned off by the enable on/off switch regardless of the selection of the control switch. This is to ensure the user can disable the valve at any time, during the checking process. The enable OK LED has on/off thresholds of 8.5/6.5 V.

3. Command:

This section is active when checker is selected by the control switch. The ±10 V test point beside the command pot provides a standardized 0 to ±10 V monitoring signal, regardless of the signal type selected to drive the valve. The +/- switch reverses the valve flow by electrically interchanging the valve input pins, but not applicable for command input 4 to 20 mA.

4. Spool:

The spool test point has the same signal range as the command test point. This signal is also displayed on the LED read-out.

When any “mA” signal is selected the “Checker load” switch is enabled. It is necessary to provide a load for current feedback signals when in checker mode. If the plant electronics does not provide a load for these current signals, then the checker load can be switched on to enable monitoring of the signal.

5. Valve Connector:

Test points in this section are wired directly to the valve connector pins. This enables a direct measurement of all signals that the valve receives and sends. This is a very useful fault finding tool.

6. Power:

The checker LED illuminates when the internal ±15 V is above ±12 V. The 24 V LED illuminates when 24 V is supplied from either the plant connector or the front panel 24 V connector.

ORDERING INFORMATION

Part Number	Description
G040-123C001	6+PE,24V,Single Ended Spool Feedback
G040-123C002	11+PE,24V,Single Ended Spool Feedback
G040-123C003	12 Pin, ±15V, Single Ended Spool Feedback
G040-123C004	6+PE, ±15V, Single Ended Spool Feedback
G040-123C008	6+PE, 24V, Single Ended Spool Feedback (for DDV but not applicable for valves with signal type code "E")
CD19586C050-001	Adapter cable for 6 Pin to 6+PE connector

Notes:

- Supply scope includes: Valve checker body with cables, AC adapter and carry case.
- Adapter cable (CD19586C050-001) is an option for valve with 6 Pin connector.

Consult a Moog sales office for details.

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