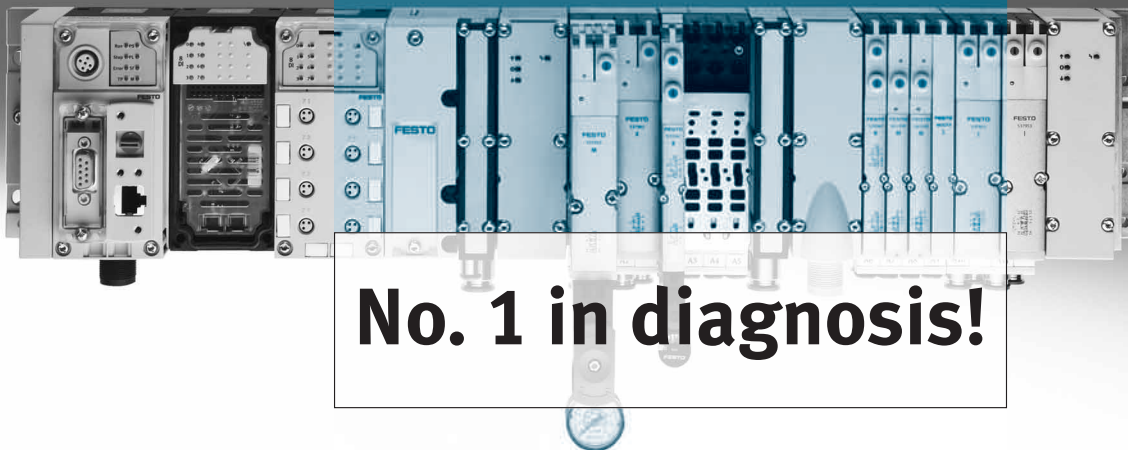


# Valve diagnosis at Festo Integrated overall concept

**FESTO**



**No. 1 in diagnosis!**

**No more costly downtime! Hence the one-time, complete solution: the built-in, comprehensive diagnostic concept of Festo's valve terminal world.** Created for more productivity, more system availability and more process reliability.

Only from Festo! Synergetic solutions of pneumatics, electrics and networking. In contrast to valve actuation via I/O modules, pneumatic and electrical diagnostic information come together in Festo's valve terminals. This information opens up valuable additional information, which creates new synergies.

#### **Condition monitoring systems (CMS)**

Only Festo has come up with a comprehensive CMS for valves. It reduces the downtimes of the cylinders downstream and their mechanics. Everything is integrated in intelligent pre-processing – no more work on a PLC!

#### **Valve diagnosis – pneumatics**

Channel oriented! Helps to shorten the search for possible sources of error up to factor 8.

#### **I/O diagnosis – electrics**

Comprehensive diagnosis for I/Os on the fieldbus and in IP65 for more than 15 years!

#### **Included: practical additional-features and synergetic IT features**

Be they error memory in IP65/67, handheld control device CPX-MMI or web monitor via ethernet.



Comprehensive diagnosis

For process reliability

and economic efficiency

**200.1.PSI** →

Product Short Information

# Valve diagnosis at Festo

## Integrated overall concept

### Integrated Festo diagnosis

Reliability can only be maximised together with comprehensive diagnosis. Valve terminals from Festo are the true trendsetters in the new chapter of integrated diagnosis. The following play an important role:

### I/O diagnosis – electric

Comprehensive diagnosis for I/Os on the fieldbus and in IP65 for more than 15 years! But the following are new features:

- Selectable module- or channel-oriented diagnosis.
- Monitoring of threshold values for analogue signals and pressures.
- Parameterisable error characteristics per output (fail safe).

### Valve diagnosis – pneumatics

This is channel-oriented with information such as:

- ISO individual valves with connections M12 for open-circuit monitoring according to DESINA.
- Short-circuit and overload for all individual valves M12/M8 with CPX interface.
- Valve terminal CPX/MPA with multi-colour LEDs.
  - Open-load and coil current monitoring of the pilot valve.
  - Pressure monitoring for valve terminal pressure zones and/or pressures from the process.
  - Individually monitored voltage-supplies for valves provide safety when switching.

### Condition monitoring systems (CMS)

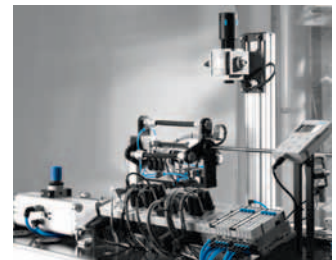
Only Festo has come up with a comprehensive CMS for valves: parameterisable switching-cycle and hours-run meters on each solenoid coil reduce downtimes of the downstream cylinders and their mechanics. Everything is integrated in intelligent pre-processing in the valve ASIC – no more work on a PLC.

### Practical additional features

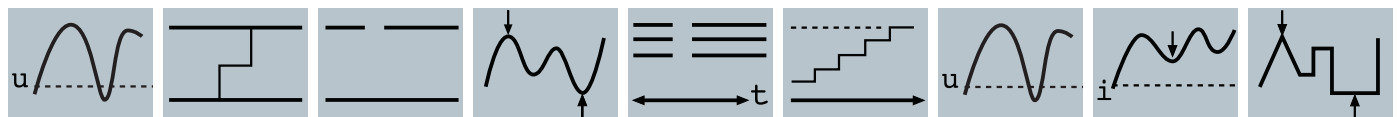
Also new: error memory (trace) of the last 40 messages on site – always in IP65/67. Plain-text display of all error messages via the handheld control device CPX-MMI.

### Synergetic IT services

Web monitor for field devices such as CPX/MPA with an ethernet connection, and a wide variety of IT features included. Triggering of SMS/e-mail alarms, data transmission for statistical analyses or space required from the control system. Visualisation from the field device via web monitor/web browser: all features are included and do not require programming.



Live demo starting May 2006 at [www.festo.com/de/cpx-web-monitor](http://www.festo.com/de/cpx-web-monitor).



<b>Undervoltage per module</b> <ul style="list-style-type: none"> <li>– Electronics -25%.</li> <li>– Load -10%.</li> <li>– Emergency-stop <math>\leq 10V</math>.</li> </ul>	<b>Short circuit selectable</b> <ul style="list-style-type: none"> <li>– For each channel.</li> <li>– For each module.</li> <li>– For each valve.</li> </ul>	<b>Wire break selectable</b> <ul style="list-style-type: none"> <li>– For each channel.</li> <li>– For each module.</li> <li>– For each valve.</li> </ul>	<b>Upper/lower limit value</b> <ul style="list-style-type: none"> <li>– For each analogue channel.</li> <li>– Voltage.</li> <li>– Current.</li> <li>– Temperature.</li> </ul>	<b>Error memory</b> <ul style="list-style-type: none"> <li>– Last 40 messages.</li> <li>– With a time stamp.</li> <li>– Recognising of sporadic errors.</li> </ul>	<b>Condition monitoring</b> <ul style="list-style-type: none"> <li>– Setpoint specification for each valve.</li> <li>– Monitoring of downstream mechanics/processes.</li> <li>– Preventive diagnosis/maintenance.</li> </ul>	<b>Undervoltage per valve manifold</b> <ul style="list-style-type: none"> <li>– Additional supply for valves monitored separately.</li> </ul>	<b>Monitoring of space required control</b> <ul style="list-style-type: none"> <li>– Pull current.</li> <li>– Coil clamped.</li> <li>– Manualoverride not reset.</li> </ul>	<b>Pressure-monitoring</b> <ul style="list-style-type: none"> <li>– Threshold value.</li> <li>– Comparator.</li> <li>– 16-bit numeric.</li> </ul>
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### Past problem number 1:

On-site machine analysis complicated? Compact vision systems in IP 65 bring the details onto the web screen. Worldwide. Experts can provide assistance immediately.



### Past problem number 2:

Did you have to adjust the gripper manually? Today: the Festo proportional gripper on the Profibus reports the gripper position and the force directly to the PLC or the master computer.

### Past problem number 3:

An unplanned downtime of 52 hours/year and costs of 250 euros/min. lead to production stoppages of 780,000 euros/year. Diagnosis and CMS concepts from Festo help to reduce these problems or to avoid them all together.

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