

WELL COMPLETIONS | INTELLIGENT COMPLETIONS

SmartPlex® II downhole control system

Electro-hydraulic system enables up to 12 zones with only three control lines

FEATURES

- Three control lines (two hydraulic and one electric) for up to 12 downhole devices
- Minimal use of only passive and no active electrical components
- System remains pressured when operating any of the ICVs in the same direction, which significantly decreases ICV actuation time
- Can be deployed with non-integrated systems and fiber optics
- Supports “fail-as-is” device types
- Independent of tubing or annulus pressure
- Can be used to position ICVs in choking positions
- Available with optional position sensor

BENEFITS

- Helps reduce cost in multivalve completions
- Faster activation time for valves
- Electro-hydraulic system provides high level of motive power to operate ICVs
- Allows ICV to be fully opened in one step
- Allows ICV to be fully closed in one step
- Enables choking without multiple line pressure cycles
- Enables ICV to be closed from any position, without the need to fully open
- Enables each ICV to be closed independently, without affecting the position of any other ICV

Overview

The Halliburton SmartPlex® II downhole control system is an electro-hydraulic multi-drop system that provides simple and reliable zonal control of multiple valves in a single wellbore with a minimum number of control lines. The SmartPlex II downhole control system uses two hydraulic and one electric line from the surface to selectively actuate up to 12 downhole flow-control devices, such as interval control valves (ICVs), from a remote location. This eliminates the need for multiple tubing hanger penetrations and helps reduce operational complexity and risk.

The SmartPlex II downhole control system can be used to control any hydraulic, surface-controlled, flow-control device in the field-proven Halliburton portfolio.

Applications

The SmartPlex II downhole control system is applicable for any dry-tree multizone completion that requires more than two valves. Compared to the Direct Hydraulics system, the SmartPlex II system not only helps reduce overall intelligent completion costs, it also decreases complexity because less control lines are necessary.

The SmartPlex II system is ideally suited for long, horizontal, compartmentalized completions (cased or open hole) where selective control of each interval is desired. Typically, this can be advantageous for high-rate multizone water injection, selective stimulation control in tight gas applications, or in combination with a choking ICV for drawdown optimization in production applications.

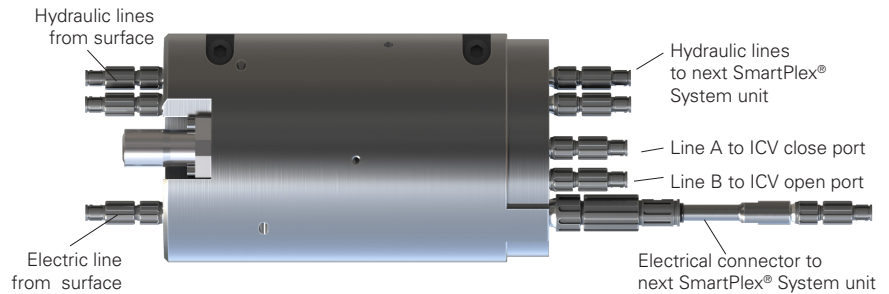


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SmartPlex® II downhole control system

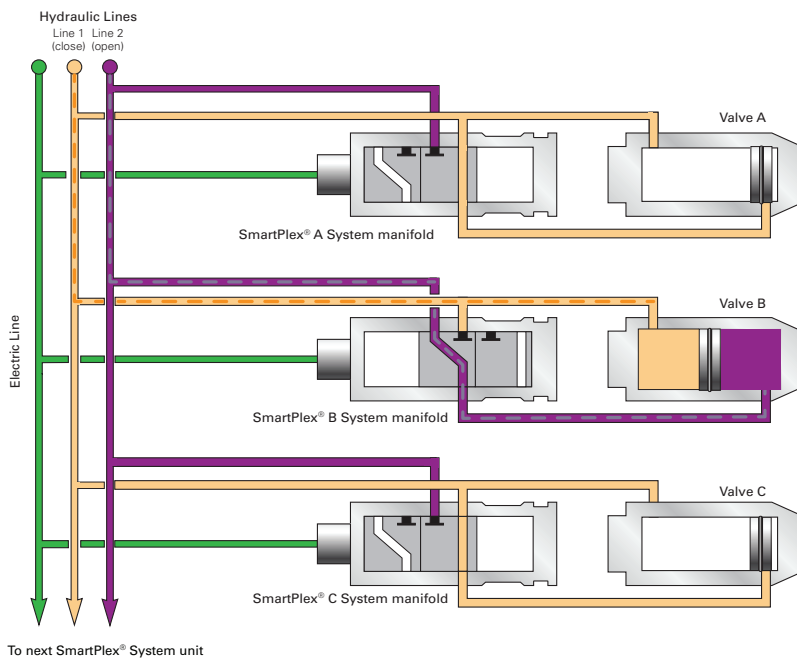
Specifications

- Maximum temperature rating: 275°F (135°C)
- Minimum temperature rating: 50°F (10°C)
- Maximum working pressure: 10,000 psi
- Maximum hydraulic chamber rating: 10,000 psi
- Oil-based fluids for valve hydraulic actuations
- Available sizes:
 - > 3 1/2 in.
 - > 4 1/2 in.
 - > 5 1/2 in.



SmartPlex® II manifold

HCT2721-001



Operation

The SmartPlex® II system design is based on a simple, passive electrical-switch method. Each valve is coupled with an actuator module, which allows selective remote control of each valve. Control lines, which consist of one electrical and two hydraulic lines run from the surface, are networked to each SmartPlex II system module.

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SmartPlex® system layout

For more information, contact your local Halliburton representative or visit us on the web at www.halliburton.com

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