

Upgrades

Control Systems for NOV™ Equipment with obsolete Siemens™ Simatic S5 PLCs



NOV can provide upgrades to SIMATIC S5 Control Systems fitted to NOV equipment

All Siemens SIMATIC S5 parts and product support have now been discontinued so you should have plans in place to upgrade to ensure future supportability. NOV can offer an upgrade from Siemens S5 to either SIMATIC S7 PLC or Amphion SBC (Single Board Computer) controls, both of which are proven systems and are fully supported by NOV.

Reference NOV product bulletin 1000010901-POB for further details.

Benefits offered by an NOV Controls Upgrade Package

- New SIMATIC S7 PLC or SBC replaces now obsolete control system equipment
- Upgrades are based on existing proven control system hardware and functionality
- Off the shelf availability of replacement / additional parts
- Standardisation
- Exclusive high performance integrated system diagnostics
Module information can be used for fault finding via laptop to resolve errors faster
- Flexible expansion using plug-in I/O modules
- The ability to integrate with Profibus interface
- Continued long term product support



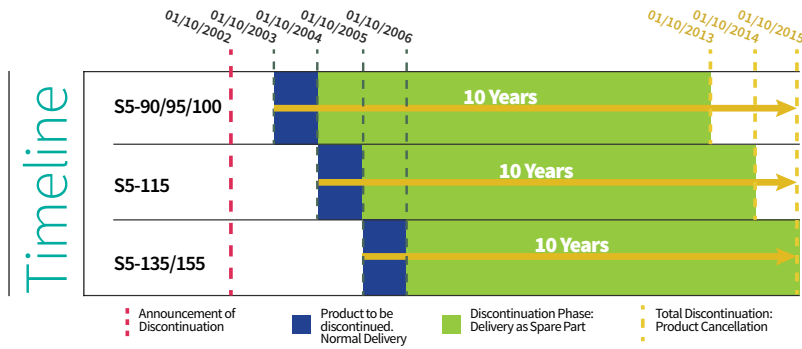
Equipment Compatibility

- Pipe Handling Machines
- Iron Roughnecks
- Pipe Racking Systems
- Top Drives

NOV Controls Upgrade Package

Phase out of SIMATIC S5

Siemens Timeline demonstrates we are now beyond the total discontinuation date for all SIMATIC S5 products



The Upgrade Package Consists of:

- The hardware to upgrade the existing PLC panel.
 - Reusing the existing PLC panel is often preferable to supplying a complete new assembly as it allows reuse of existing rig cabling. The hardware is therefore packaged specific for each rig to ensure it can be installed in the space available.
 - Where possible we will mount the upgrade hardware on a chassis plate with the interconnection wiring complete prior to delivery. This reduces rig installation time.
- Software to suit the new S7 PLC or Amphion SBC.
- A documentation package to update the existing owner's manual.
 - Including as-built interconnects of original equipment wiring and new control system. Assembly drawings are also provided to ensure all hardware can be easily identified.

The Upgrade Process Provided by NOV:

- Rig survey conducted to identify the rigs specific requirements
- Quotation issued, for a rig specific upgrade
- Rig specific solution designed, assembled and tested
- Hardware delivered along with a complete drawing package
- Hardware installed and commissioned by an NOV service engineer
- System Familiarisation and Tool Operator training - if required

Previous Upgrades:

NOV Global Field Engineering Teams have completed upgrades for various installations and are experienced with the migration procedures; this minimises costs and reduces the impact on operations. Previous upgrades have included the following:

Example: A rig's existing Siemens S5 based system controlling a PHM-3i was upgraded to a Siemens SIMATIC S7 PLC Control System.

In addition, a PHM tool was upgraded to use proportional control valve to improve operator control and extend tool life.

An NOV upgrade ensures you have a fully OEM supported product. Please contact NOV Field Engineering via e-mail at rs-am-upgrades@nov.com to discuss your requirements.



SIMATIC S5 PHM Control Panel



SIMATIC S7 PHM Control Panel