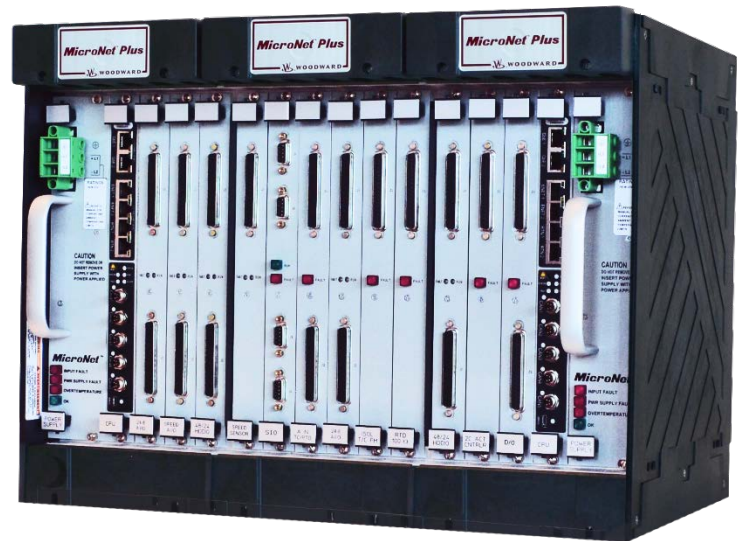


EXPANDING YOUR WINDOW OF CONTROL WITH NEW GAP On-Line Changes

Need to add functionality, change I/O or make and adjustment in your MicroNet Plus control without shutting down the turbine? Woodward's new On-Line Change (OLC) functionality expands your window of control with the ability to modify communications and logic and even to add I/O while the prime mover is in operations.

Woodward's open programming GAP (Graphical Application Programmer) language is intuitive and easy to use. GAP 4 now includes tools and advanced features for on-line program changes. These tools and features are designed to allow easy navigation through the OLC process and to help insure seamless and bumpless control transfer. GAP 4 includes an advanced OLC protection mode that enforces specific rules at the time of programming, protecting the use from making incompatible changes. Unlike competing systems, GAP's OLC mode clearly indicates why a change is incompatible and provides alternative methods where needed.



OEM Qualified

Modify Communications	✓
Modify Logic & I/O	✓
OLC Protection Mode	✓

With GAP 4 & MicroNet™ Plus

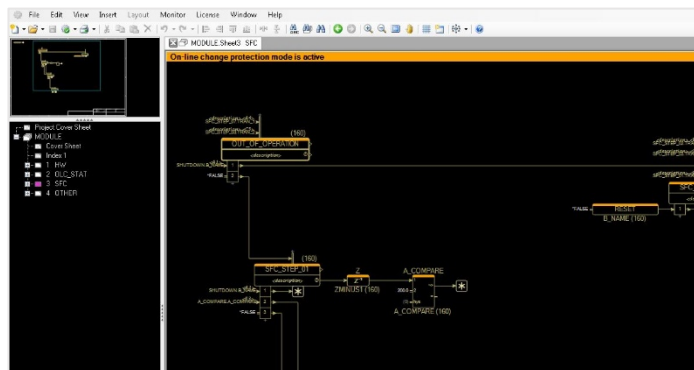


TURBOMACHINERY CONTROL EXPERTS
Turbine | Power | Compressor | Safety

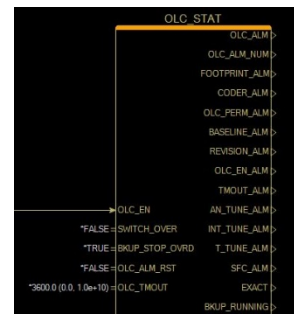
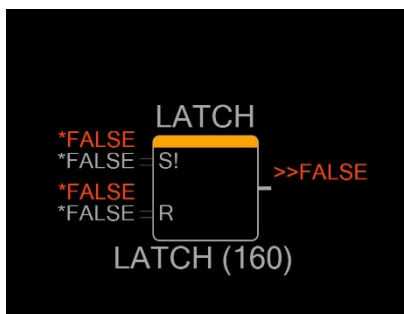
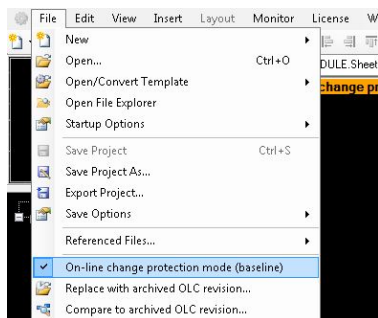
W WOODWARD

Intuitive Design

Woodward's GAP OLC tools are designed to avoid the pitfalls seen with competitive products. The tools are easy and intuitive to use and the ability to simulate in NetSim™ and pre-test on the Backup CPU helps insure that the changes are successful and that no disruption of turbine operations occur.



GAP 4 Offers Several Key Feature for On-Line Changes:



OLC Protection Mode

Clearly noted by the orange banner when OLC protection mode is enabled. OLC Protection Mode is clear and unambiguous if a change is restricted, and the GAP help provides useful recommendations on alternate programming methods.

Pre-Set Outputs

Woodward's OLC program allows users to set the initial output for blocks to insure the program states are as intended before a control switch-over is initiated. A new block (OLC_STAT) provides the user with the capability to manage this new functionality.

Pre-Testing Changes

The user is able to monitor the updated program on the non-controlling CPU before a switch-over command is given. To insure the quality of program changes, Woodward recommends simulating the changes using Woodward NetSim software.

OLC functionality is fully documented in GAP help. In addition, Woodward offers training for OEMs, Channel Partners and end users desiring to use this feature. Please contact your authorized Woodward representative to discuss upgrading to GAP 4 and training opportunities for On-Line Changes.

EXPANDING YOUR CONTROL WITH ON-LINE PROGRAM CHANGES

For nearly 150 years, Woodward has provided leading edge turbomachinery controls and fuel systems that are robust and reliable that our customers rely and trust on for their daily operations.

