

Urea@Max

Production managers of urea plants are under pressure to maximize profitability due to global competition, worldwide market saturation, tightening legislation on ecosphere load, and fluctuating oil/gas prices. IPCOS optimization solutions for urea plants, relieve these pressures and increase margins.

THE BENEFITS ARE OBVIOUS:

Improved plant stability

Increased urea production (3%)

Reduced Energy consumption

Reduced emissions

Increased uptime

Minimal alarms
(operators can focus on essential operations)

Minimal operator interventions
Standardization of controls

Improved equipment reliability due to consistent, best-practice operation

Very stable Urea melt quality and temperature, improving downstream prilling/granulation operation

OPTIMIZATION SOLUTIONS FOR UREA

Layered approach

IPCOS helps you achieve optimal operation of your urea plant, from solving basic instrumentation and control problems to high-end optimization.

Some examples:



Base Layer automation and control:

- Major review and optimization of existing controls
- Tuning of controls and optimization of control structures (CO₂/NH₃ ratio controller, N/C controller)
- DCS migration
- Standardization of controls
- Documentation
- Instrumentation/actuators review and upgrade (e.g. pneumatic to electric)
- Advanced maintenance services on base layer controls

- Performance monitoring services for basic controls
- Engineer and operator training
- Instrumentation maintenance (e.g. online analyzers)

Advanced Process Control (APC):

- Data reconciliation, yield accounting and other online KPI computations
- Feasibility studies for APC with performance guarantees
- APC installations
- APC system maintenance (on site, remote)

inca
FERTILIZER
SOLUTIONS



INCREASE OVERALL PLANT STABILITY:

Due to the typical complexity (high degree of interactions and recycles) of an urea plant, the INCA MPC controller is the perfect tool to reach the optimal, stable operating point in a straightforward way.

MAXIMIZE THROUGHPUT:

Once the desired stability is reached, the INCA MPC controller will be used to smoothly maximize the CO₂ flow without violating any of the operating constraints. A typical constraint can be the maximum pressure of the reactor or cooling water temperature at the inlet of the absorber.

INCREASE YIELD:

By increasing the yield in the high pressure reaction section, less recycle of unconverted carbamate will be required which will result in minimization of the energy consumption.

OPTIMALLY SWITCH OPERATING POINTS:

INCA MPC simplifies and speeds up the transition from one operating point to another. Past projects showed a speed increase of 50% with hardly any operator interventions.

IPCOS UREA@MAX: MARGINS TO THE TOP!

IPCOS' Urea@MAX solution is the advanced control solution for Urea plants. The solution is based on IPCOS' State-of-the-Art INCA APC control software, which connects to the DCS and controls and optimizes the plant minute by minute, every hour of the day, every day of the year. Urea@MAX was specifically developed for Urea plants. It captures best-in-class APC technology and extensive process and operations knowledge that IPCOS' project consultants have gained over many years working in the industry. And since we know what we're doing, we are not afraid of guaranteeing the benefits you will get from our solutions!

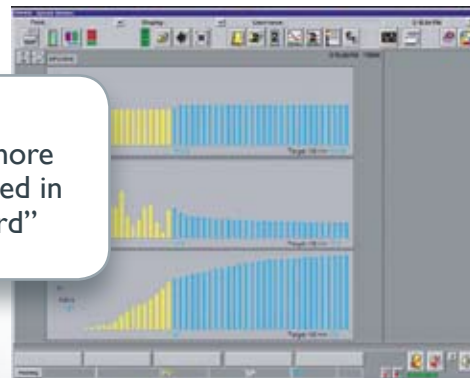


APC OFF

APC ON

Urea Plant Manager

“APC has brought much more stable operation and resulted in a yearly production record”



OPERATOR CAN OBSERVE FUTURE MOVES OF THE INCA CONTROLLER ON THE DCS

Urea@Max

ABOUT IPCOS

IPCOS provides high-end automation and optimization products and services for continuous and batch processes. We have particular expertise in providing solutions for the chemical, refining, fertilizer and power industries. Our products range from advanced PID tuning packages, performance monitoring systems, soft sensors, MPC controllers to dynamic optimizers. We have dedicated products for the glass industry and unique solutions for batch reactors and multi-phase

reactors such as fluidized bed reactors, gasifiers, granulators etc.

‘Creators in Control’ describes exactly what IPCOS is and what we do: we create state-of-the-art process control and optimization products that generate significant value for our customers.

Thanks to the tremendous efforts in research, we deliver sophisticated products that

generate value for our customers. This value can be:

- More throughput
- Less specific energy consumption
- More constant quality
- More environmentally friendly production
- More flexible production (driven by market demand/ spot pricing)
- Much more....



IPCOS

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