

In today's industrial world tasks are getting more complex and challenging. This often leads to controllers and measurement systems that are complicated and unmanageable. With the **A2** we are going in the opposite direction by simplifying handling, maintenance and development.

### Reliable

The name '**A2** swiss industrial controller' stands for proven industrial technology as well as for cutting-edge research. For more than 15 years, the **A2** and its predecessor have performed high-precision duties worldwide. The experience shows that our systems work reliably. This 24/7-controller has proven robust in thousands of production assignments.

### Innovative

Our experience is closely tied to state-of-the-art research and development. Parts of the new controller were developed as a CTI funded collaboration (Commission for Technology and Innovation; A Swiss federal government sponsored program that promotes innovation). Thus, **A2** stands also for cutting-edge research.

### Maintenance-friendly

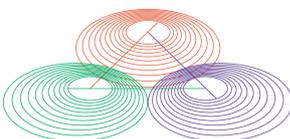
The **A2**'s operating system is based on the programming language Active Oberon developed by the Swiss Federal Institute of Technology, ETH Zurich. Oberon offers several special features that support our drive to simplification: The programming language is very structured, and hence, easy readable and clearly organized. Potential error sources are therefore minimized and the **A2** becomes easy to maintain. Future enhancements can thus be managed cost effectively in terms of both personal and financial resources.

### Contemporary

Processes are easily defined using active objects. In addition Oberon is by design developed for real-time systems and multi-tasking. It has multicore-ability and contains an automatic garbage collector.

### Secure

Oberon and hence the **A2** are highly secure due to the clear and straightforward structure. This is a major benefit for ensuring network security, which is instrumental in today's industrial environment.



## Compatible

The decision to use Oberon as programming language allowed an optimal co-design of hardware, operating system and software. No large libraries are necessary to combine the different components, as these are already integral to the structure of the system. This eliminates compatibility issues and results in efficient, stable and virtually fault-free system performance.

## Forward-looking

The **A2** is assembled with state-of-the-art SMD technology. Cables are intentionally omitted in order to reduce costs and increase reliability. The inputs and outputs feature galvanic isolation shielding the system from electrical interferences. The **A2** is developed and produced in Switzerland, in accordance with Swiss industrial standards.

## Generic

The self-developed processor A2CPU is implemented on a FPGA chip and supports multiprocessing. It is the centerpiece of the generic and strongly scalable **A2** core. A variety of connections supplement the core, including: USB, DVI/VGA, PS/2 mouse and keyboard, Ethernet and touch-screen, to name a few. Should a specific application not require some of these connections or elements, they can be removed with little effort and the **A2** is still the same. This property allows using the system in various performance categories:

### **A2** maxi

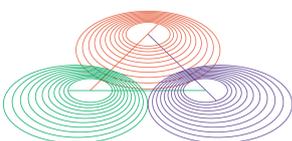
For challenging applications such as fast real-time controllers with display. Possible applications are: Loss-in-Weight feeder, weighing technology, batching, 3D-measuring device, motor-controller, color stock solution, spectrometer, medical analysis device, and similar applications.

### **A2** midi

The mid-size performance level targets security-critical tasks with or without display. Possible applications are similar as the **A2** maxi but in a simpler setting.

### **A2** mini

For 'smaller', cost-sensitive applications in mass production. The system will be optimized for minimal resources. For example: laundry machines, parking meters, and so on.



Regardless which size and complexity, the **A12** remains always the same.

### Extensible

The development of new and revised applications and system expansions is easily carried out with an attachable extension. This plug-in extension can be used as an experimental platform. Once the new development satisfies the users needs, it can be integrated directly onto the **A12**. The clarity of Oberon allows for continuous testing of the new application, eliminating the requirement of extensive test systems.

### Successful

The over 35-year long experience of our company Radiar reassures us that we are on the right path and that the **A12** is an ideal controller for the industry.

