

# Tests in Poland prove Inovance's EasyPLC can perform in the harshest conditions

Polish integration specialist Elpesoft, a customer of Inovance distributor Eldar, carried out a series of its own tests on Inovance's EasyPLC, finding it is able to endure extreme hot and cold conditions

## Company Background

Based in Gdynia, Poland, Elpesoft, a relatively young company in the integration sphere and a spin-off of Polish automation company ERAmatic, provides software development, project management and integration services focused mainly in the field of industrial automation.

Eldar is an industrial automation distributor and is responsible for sales of Inovance products in Poland. It has been operating in the industrial automation sector since the late nineties, and provides developers, OEMs and other customers with a range of proven products and solutions.

## The Challenge

Elpesoft purchased the Easy Series PLC and GL20 I/O expansion modules through Eldar and wanted to make sure that it was capable of operating under extreme conditions. In order to assess this, Elpesoft carried out a series of vigorous tests to demonstrate whether the EasyPLC can endure summer heat and cold winters.

PLC controllers are usually installed in an industrial setting, such as a control room, residential building or engine room with relatively stable air temperature. However, Elpesoft wanted to test whether the EasyPLC could withstand more extreme conditions like a military field installation, where equipment is exposed to extreme temperature fluctuations outdoors.

## The Solution

The product specifications for the Easy series PLCs states a wide operating temperature range (from -20°C to 55°C), leading Elpesoft to carry out testing of the Easy320-0808TN controller model with four GL20 series I/O modules attached.

The product was placed in a climate chamber and tested according to predetermined procedures, as specified in the test protocol. Each time there was a change in temperature, tests of the following functions were conducted:

- Reading by Modbus TCP communication – including the “HeartBit” signal
- Connection with an external HMI panel
- Real-time “debug” mode in connection with a computer via USB-C, using Inovance's PC software

- Power supply for digital inputs
- Control of digital outputs
- Verification of the operation of analog inputs by 0-10V signal generator
- Saving to the controller's non-volatile memory from the HMI panel (memory verification)
- Verification of working time (program loops) and changes in processor load

A total of nine tests were carried out at temperatures ranging from -40°C to +85°C, with each temperature threshold maintained for 30 minutes. This was a wider temperature range than that specified by Inovance (from -20°C to 55°C).



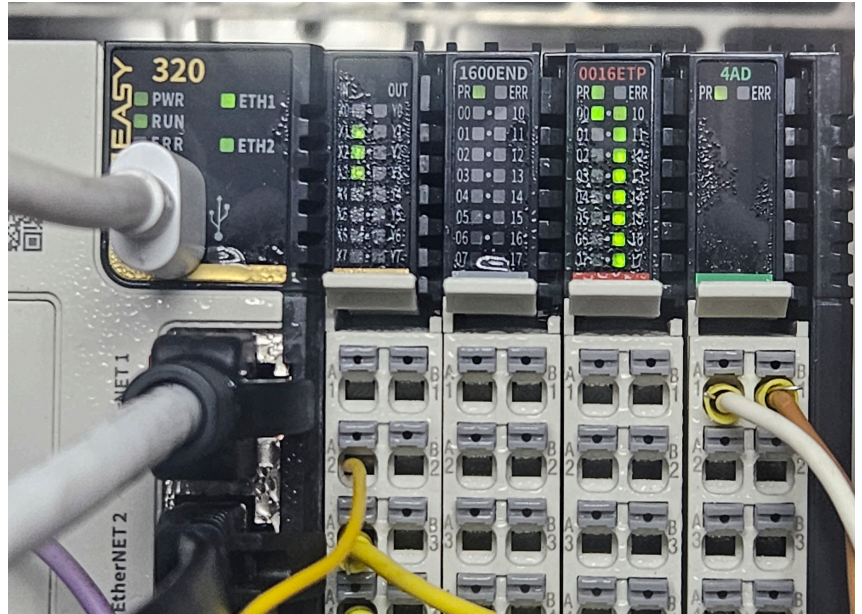
## The benefits

In its response to the tests, Elpesoft declared, “The device works in accordance with both the manufacturer’s declared specifications and with the prepared test program. All tests were positive.”

An important conclusion from the tests is that the basic version of the EasyPLC can be used successfully in harsh environments, where other manufacturers recommend using specialized or customized equipment that can often involve long delivery times and a price premium.

### Key benefits:

- Best value performance
- Availability
- Robustness
- Temperature endurance



*“Our tests show the EasyPLC from Inovance can endure summer heat and freezing winters. We wanted to see if the set would operate within the range promised by Inovance, and additionally a wider temperature range was checked, beyond the declared parameters, with impressive results.”*

**Lukasz Przystalski, owner of Elpesoft**

*“Inovance Technology Europe’s products are a very good fit for the Polish market and are becoming increasingly popular here. The wide product portfolio gives us a really strong industrial automation solution offering for Polish OEMs, including motion controllers, AC & servo drives, HMIs, and I/Os. Elpesoft’s tests confirm that Inovance produces high value, high performance products suited to a wide range of industrial applications.”*

**Jakub Kantor, Technical and Sales Engineer at Eldar**

*“We are delighted the results of Elpesoft’s tests have demonstrated the robustness and endurance of our controllers and modules at extreme temperatures. This testing confirms the resilience of our products when it comes to temperature changes and their suitability for harsh environments such as summer and winter extremes of heat and cold, and industrial processes where the resulting ambient temperature is very high.”*

**David Bedford Gaus, Strategic Marketing Manager at Inovance**