

# Program your E-pumps to match process requirements

Soft PLC solution adds a programmable layer to Grundfos E-pumps powered by MGE/MLE motors, suitable for virtually all applications



**GRUNDFOS** 

Possibility in every drop

# Programmable, precision control of all connected devices

The Grundfos Soft PLC communication interface (CIM 550 P Ethernet) card solution lets you add a software layer to your MGE/MLE-powered pump. The solution is based on proprietary and patented Grundfos technology.



## Control third-party products

This can be done via a master port on the CIM 550 P Ethernet card.

## Grundfos Soft PLC enables additional flexibility for users

- All Modbus registers are available
- Setting of Device Status and Device Configuration
- Pump Control
- Pump Status Access to Relays – DI/DO, Analog – AI/AO and Temperature – Pt – Grundfos sensor
- Control other Grundfos products and third-party products using ModBus RTU.
- Communicate with any SCADA system or HMI using ModBus TCP

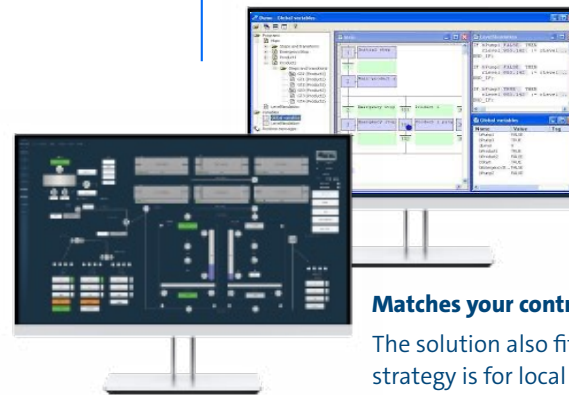


## Insert the CIM 550 P Ethernet card into your MGE/MLE motor

Create your own logic functions and utilise all available MGE/MLE inputs and outputs as required.

## Program your E-pumps for the specific process served by the pump installation

You can also control other connected Grundfos products and utilise their I/O.



## Matches your control strategy

The solution also fits well into larger SCADA systems, if your control strategy is for local PLC control. All basic features can still be configured via the Grundfos GO app on your smartphone or tablet but you can also choose to program it all via your PLC code in the Soft PLC. Even the input and outputs can be commissioned via the PLC program; essentially, there are no limits to what you can program: Control mode, Sensors in- and outputs, Status readings, Alarms and warnings and Limit exceed functions.

# Ideal for OEM system builders

If you are looking to integrate a Grundfos E-pump into your industrial solution, the Soft PLC is the perfect match for any OEM units; for example, intelligent Reverse Osmosis, filters, chillers, wash and clean systems and many other applications. This eliminates the need for an external PLC solution. And you can connect multiple E-pumps and other connected products from one E-pump with Soft PLC via the built-in ModBus RTU master port.

## Faster time to market

OEMs can develop their applications and select or design their hardware systems in parallel.

## Greater versatility

The same Soft PLC application can be ported to different hardware and operating system combinations.

## Easy upgradability

The abstraction of software and hardware makes it easier for the OEM to update the hardware and operating system.

## Simpler installation

No need for a control cabinet, power supply and wiring; just place the card in the MGE motor and you are ready to program.

## Use with virtually any application

Get even greater energy savings, lower carbon emissions and improved pump reliability.

## Not running Grundfos E-pumps with MGE/MLE motors?

If you are running, for example, a CR pump with an CUE external variable speed drive, PLC and controls requiring a cabinet, you can simplify your system by upgrading to a CRE pump with MGE/MLE motor with a Grundfos Soft PLC installed.

However, if you are using a CUE external variable speed drive due to motor size or other reasons, where we do not have the MGE as an option, the Soft PLC solution is still available.

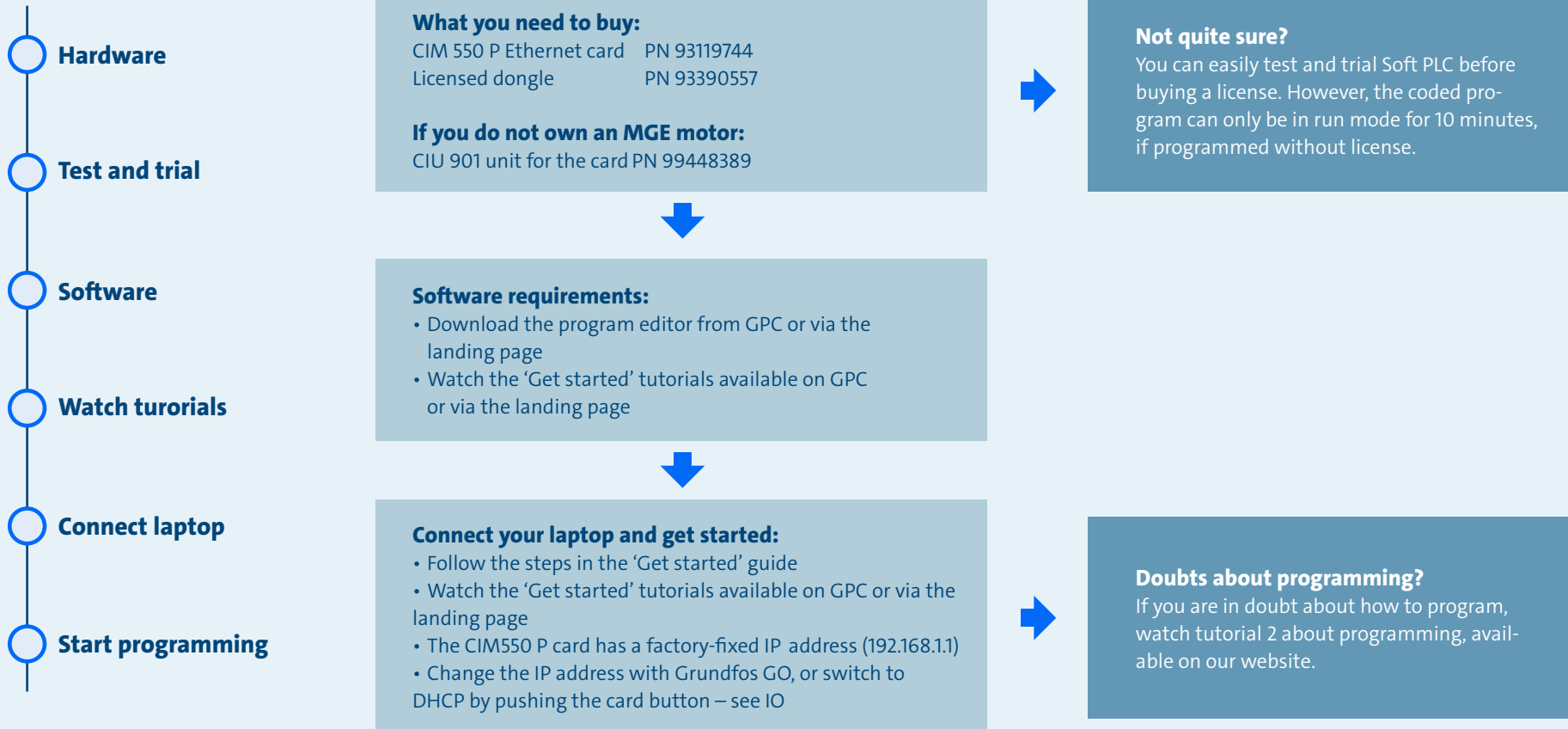
The CIM 550 P Ethernet card can be installed in a CIU 901 communication interface unit. This provides the same functionality as an E-pump with the MGE/MLE motor, but some intelligent functions are not available, because the drive is not fully integrated into the pump motor.



## Grundfos Soft PLC specifications:

- Fits in all MGE/MLE motors with a CIM slot launched since 2019
- Space for 96 kB of program
- One RJ45 ModBus TCP slave port
- One RS485 ModBus RTU master port
- 512 dedicated Modbus registers in the range 50000 to 50511
- Can be programmed with the IEC 61131-1 programming standard

# What is required of the OEM or end-user?



**Note:** Grundfos is not responsible for functional errors or malfunction of pumps caused by the programmed PLC program.

## Find out more

Go to [Grundfos Soft PLC](#) on our website, where you find links to GPC with tutorials and program examples.

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