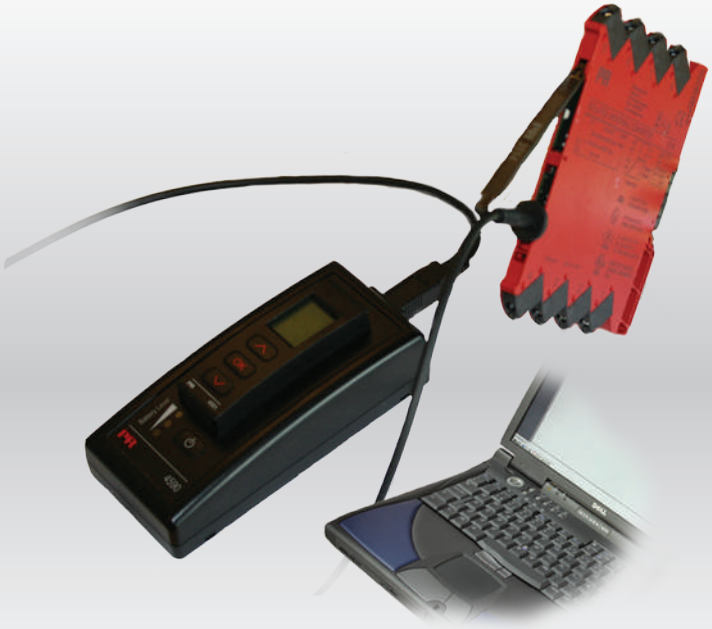
PERFORMANCE
MADE
SMARTER

Product Manual
4590
ConfigMate USB communications interface



CE

TEMPERATURE | I.S. INTERFACES | COMMUNICATION INTERFACES | MULTIFUNCTIONAL | ISOLATION | DISPLAY

No. 4590V101-UK
From ser. no. 110404001

PR electronics

6 Product Pillars
to meet your every need

Individually outstanding, unrivalled in combination

With our innovative, patented technologies, we make signal conditioning smarter and simpler. Our portfolio is composed of six product areas, where we offer a wide range of analog and digital devices covering over a thousand applications in industrial and factory automation. All our products comply with or surpass the highest industry standards, ensuring reliability in even the harshest of environments and have a 5-year warranty for greater peace of mind.



Temperature

Our range of temperature transmitters and sensors provides the highest level of signal integrity from the measurement point to your control system. You can convert industrial process temperature signals to analog, bus or digital communications using a highly reliable point-to-point solution with a fast response time, automatic self-calibration, sensor error detection, low drift, and top EMC performance in any environment.



I.S. Interface

We deliver the safest signals by validating our products against the toughest safety standards. Through our commitment to innovation, we have made pioneering achievements in developing I.S. interfaces with SIL 2 Full Assessment that are both efficient and cost-effective. Our comprehensive range of analog and digital intrinsically safe isolation barriers offers multifunctional inputs and outputs, making PR an easy-to-implement site standard. Our backplanes further simplify large installations and provide seamless integration to standard DCS systems.



Communication

We provide inexpensive, easy-to-use, future-ready communication interfaces that can access your PR installed base of products. The detachable 4501 Local Operator Interface (LOI) allows for local monitoring of process values, device configuration, error detection and signal simulation. The next generation, our 4511 Remote Operator Interface (ROI) does all that and more, adding remote digital communications via Modbus/RTU, while the analog output signals are still available for redundancy.
With the 4511 you can further expand connectivity with a PR gateway, which connects via industrial Ethernet, wirelessly through a Wi-Fi router or directly with the devices using our Portable Plant Supervisor (PPS) application. The PPS app is available for iOS, Android and Windows.



Multifunction

Our unique range of single devices covering multiple applications is easily deployable as your site standard. Having one variant that applies to a broad range of applications can reduce your installation time and training, and greatly simplify spare parts management at your facilities. Our devices are designed for long-term signal accuracy, low power consumption, immunity to electrical noise and simple programming.



Isolation

Our compact, fast, high-quality 6 mm isolators are based on microprocessor technology to provide exceptional performance and EMC-immunity for dedicated applications at a very low total cost of ownership. They can be stacked both vertically and horizontally with no air gap separation between units required.



Display

Our display range is characterized by its flexibility and stability. The devices meet nearly every demand for display readout of process signals, and have universal input and power supply capabilities. They provide a real-time measurement of your process value no matter the industry, and are engineered to provide a user-friendly and reliable relay of information, even in demanding environments.

USB communications interface ConfigMate 4590

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Warning



GENERAL

This device is designed for connection to hazardous electric voltages. Ignoring this warning can result in severe personal injury or mechanical damage.
To avoid the risk of electric shock and fire, the safety instructions and warnings of this guide must be observed and the guidelines followed. The specifications must not be exceeded, and the device must only be applied as described in the following.
Prior to the commissioning of the device, this guide must be examined carefully.
Only qualified personnel (technicians) should operate this device. If the equipment is used in a manner not specified by the manufacturer, the protection provided by the equipment may be impaired.

Repair of the device must be done by PR electronics A/S only.

Warning - risk of explosion hazard



EXPLOSION

To avoid risk of explosion and injury:

- Do not use this equipment when a flammable or combustible atmosphere is present
- Do not replace batteries unless area is known to be safe.
- Use 3 x 1.5 V TYPE AAA batteries only and insert correctly as stipulated in battery compartment.

Warning - risk of electrical shock



ELECTRICAL SHOCK

To avoid risk of electrical shock and injury:

- Do not disconnect the cable from ConfigMate 4590 while cable is connected to a SYSTEM 3000 device.
- Do not remove 4501 while the cable is connected to a SYSTEM 3000 device.
- Do not replace batteries while the cable is connected to a SYSTEM 3000 device.

Symbol identification



Triangle with an exclamation mark: Warning / demand. Potentially lethal situations.



The CE mark proves the compliance of the device with the essential requirements of the directives.



The double insulation symbol shows that the device is protected by double or reinforced insulation.

Safety instructions

Definitions

Hazardous voltages have been defined as the ranges: 75...1500 Volt DC, and 50...1000 Volt AC.
Technicians are qualified persons educated or trained to mount, operate, and also trouble-shoot technically correct and in accordance with safety regulations.
Operators, being familiar with the contents of this manual, adjust and operate the knobs or potentiometers during normal operation.

Receipt and unpacking

Unpack the device without damaging it and check whether the device type corresponds to the one ordered.

Environment

Avoid direct sun light, dust, high temperatures, mechanical vibrations and shock, and rain and heavy moisture.

Normal operation

Only technicians who are familiar with the technical terms, warnings, and instructions in the manual and who are able to follow these should connect the device.

Should there be any doubt as to the correct handling of the device, please contact your local distributor or, alternatively,

PR electronics A/S
www.prelectronics.com

Battery replacement

Replace batteries with 3 x 1.5V TYPE AAA (not included).

Cleaning

When disconnected, the device may be cleaned with a cloth moistened with distilled water.

Liability

To the extent the instructions in this manual are not strictly observed, the customer cannot advance a demand against PR electronics A/S that would otherwise exist according to the concluded sales agreement.

Application

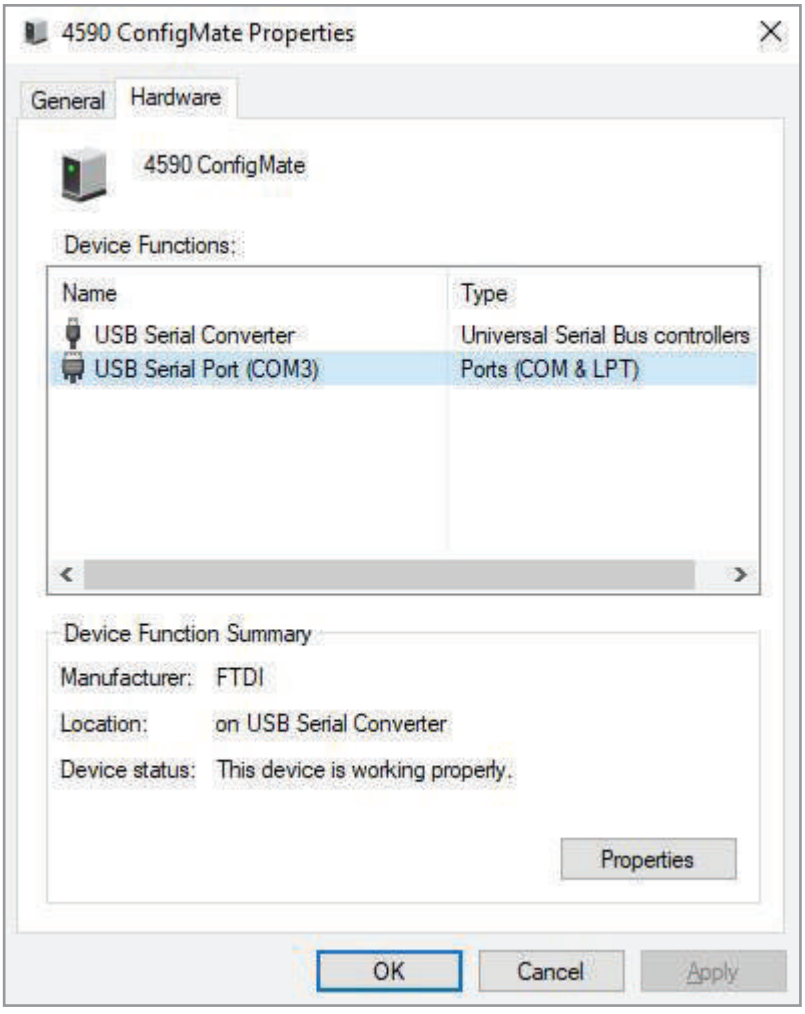
The ConfigMate 4590 is a USB communications interface which is used along with the detachable 4501 Programming Display or the 4511 Digital Communication Enabler to configure or document and backup/ restore configurations of selected PR electronics' programmable devices, either standalone in Adaptor Mode or with a PC in Docking Mode.

Docking Mode

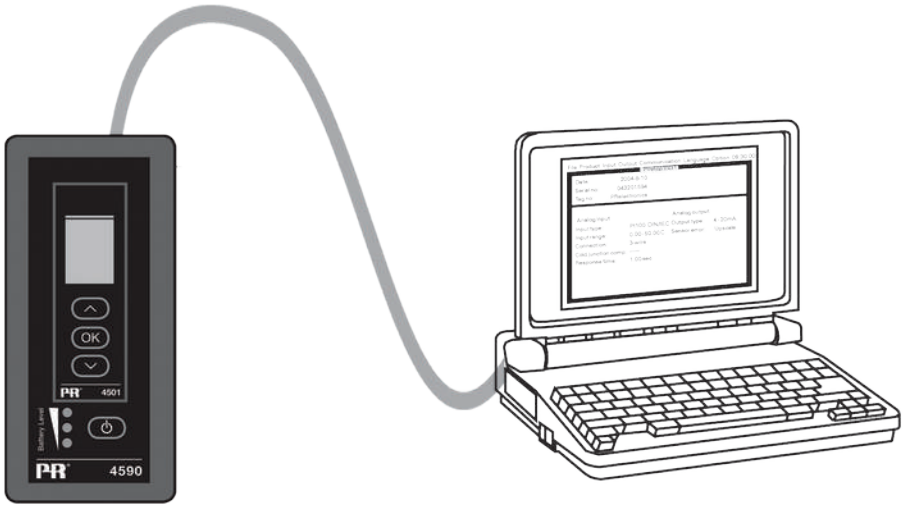
- The 4590 can operate as a docking station for the 4501/4511 allowing the 4501/4511 to be connected to a PC through a USB interface. The PReset software can be used to upload and download the configuration parameters from a 4501/4511 for backup/restore and documentation purposes, on selected 3000, 4000 and 9000 series devices.

Please note:

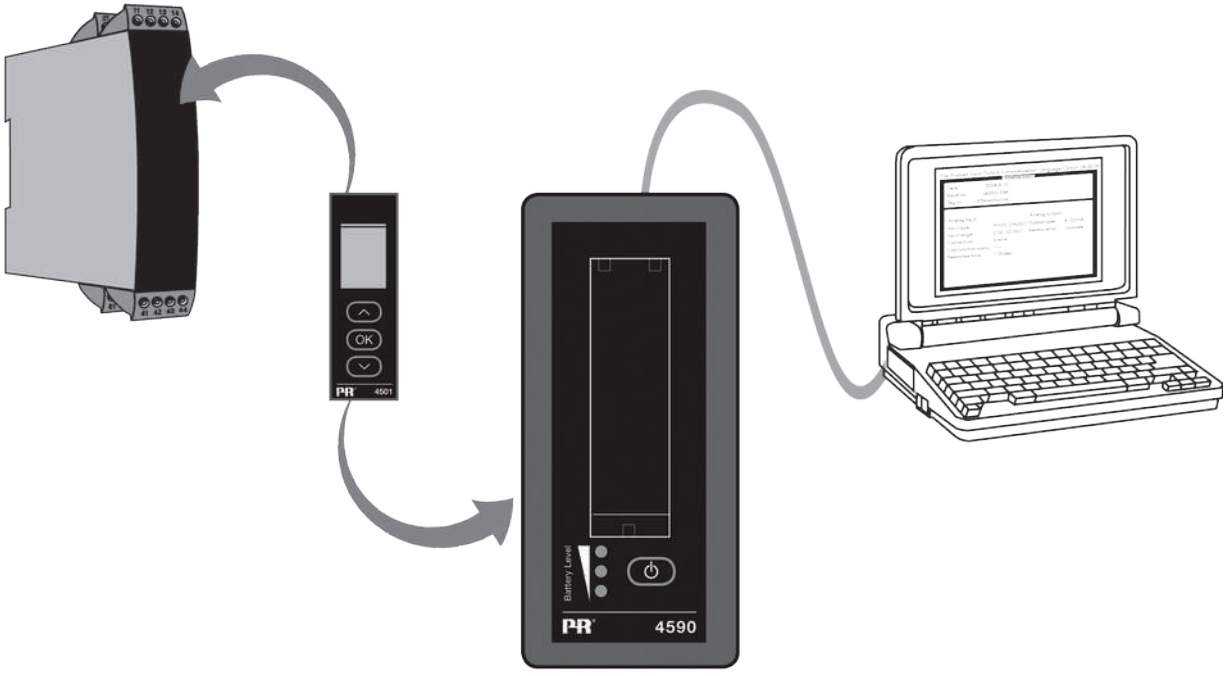
- For connection to a PC the USB-B to USB-A cable must be used.
- In docking station mode the 4590 will be powered from the PC's USB power source; no batteries are required.
- The 4501/4511 display will indicate USB line/communication with a very short blink when uploading or downloading configurations from/to the 4501.
- The selected 3000, 4000 and 9000 device configurations can only be viewed in the Preset software. For installation of PReset, see the step-by-step guide on page 9.
- After connecting the 4590 to a PC, check installation and allocation of the COM port by opening up "Device Manager" and locating "4590 ConfigMate". Right-click on the device and select "Proporties", then click on the "Hardware" tab. In the below example, the 4590 ConfigMate was assigned COM3, however this may change from installation to installation. Take a note of which COM port is assigned as this is used later in the PReset software.



Connection of ConfigMate 4590 to a PC in Docking Mode



Connection of ConfigMate 4590 to a PR 4000/9000 Device



Note:

By default, the Programming Display 4501 / Communication Enabler 4511 will display the desired process value when connected to a device, either directly or via ConfigMate 4590.

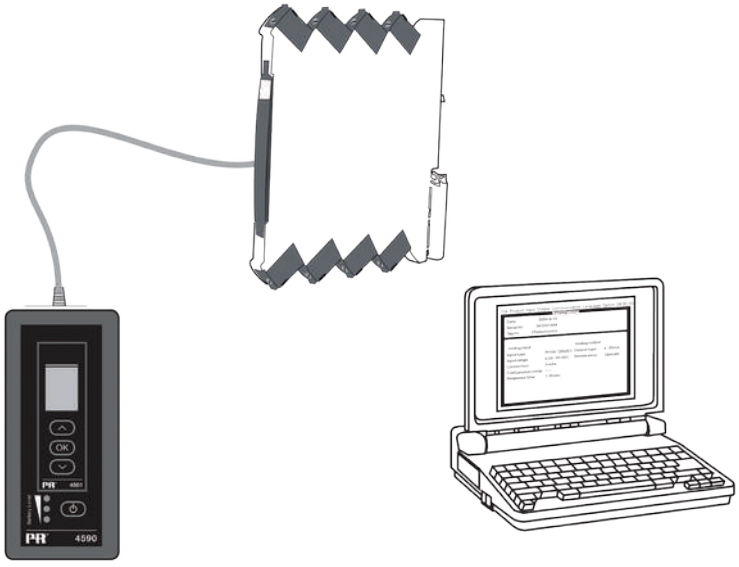
- To upload a configuration from a 3000/4000/9000 device to the 4501/4511, you must manually go into the Memory Menu of the 4501/4511 and SAVE from the target device into the 4501/4511.
- To download a configuration to a 3000/4000/9000 device from the 4501/4511, you must manually go into the Memory Menu of the 4501/4511 and LOAD to the target device from the 4501/4511.

For further details, please refer to the relevant manual for the target device.

Adaptor Mode

- The 4590 is a handheld device that can operate as an adapter between the detachable 4501 Programming Display or the 4511 Digital Communication Enabler and selected devices in the 3000 series. This allows for configuration and monitoring of process parameters of the connected devices.
- Note for connection to a 3000 series product, the PR USB-B to a 2.5 mm jack cable must be used.
- By pressing the power button, the 4590 will power on, and show the status of the attached 3000 device on the 4501/4511.
- If the 3000 device is powered, the 4501/4511 display will indicate the process variable or can be manually set to go into program mode.
- If the 3000 device is not powered the 4501/4511 display will be in program mode only.
- Indication of battery level is displayed via the LEDs. This can be activated by using the Power/Wake-up button. If while pressing the Power/Wake-up button the LEDs are off, or only one LED is lit, the batteries should be exchanged. To extend battery life the 4590 will automatically detect if it is not in use, and will consequently shut itself down to conserve battery power.
- Battery life in Adaptor Mode is approximately 1 year of daily use, depending upon battery type.

Connection of ConfigMate 4590 to a PR 3000 Device



USB and PReset installation (Docking Mode Only)

The USB communication is supported by Windows Windows 7, 8 and 10. PR devices that can either be programmed or have their configurations saved, backedup/restored via ConfigMate 4590 are available in the configuration program PReset ver. 6.0 or higher.

Technical characteristics

The PC program PReset ver. 6.0 or higher supports ConfigMate 4590. To conserve power on a laptop, the USB connector of the 4590 can be connected to an externally supplied hub. The communications connector on the PR device is galvanically isolated from the USB connection on the PC.

System requirements

Access to internet is needed for installation of USB drivers
Installation rights
Windows 7, 8 or 10 with the following recommendations:

Processor	> 1 GHz
Memory	1 GB RAM (32-bit) or 2 GB RAM (64-bit)
Hard disk space	16 GB (32-bit) or 20 GB (64-bit)

Installation of PReset

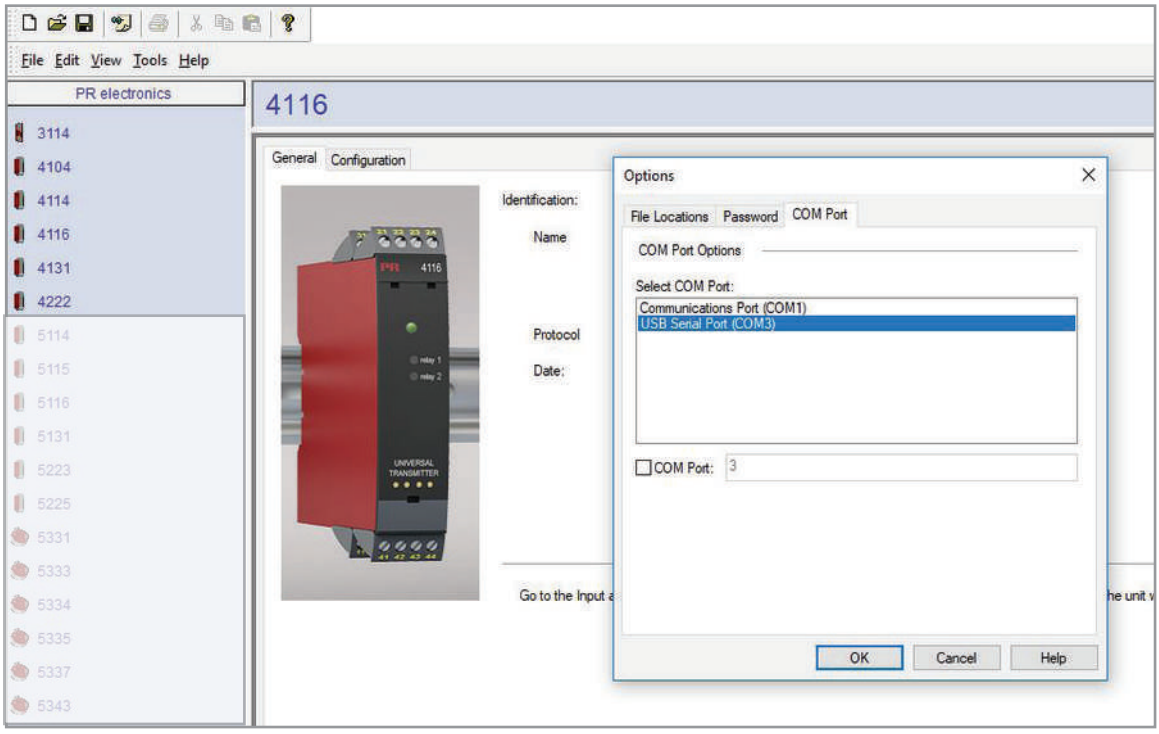
Before installing PReset, previous versions must first be uninstalled. During the uninstall process there will be an option to save existing configuration files. If this option is not accepted, then these files will be deleted during the uninstall process.

PReset will be installed on your hard disk and the registry will be updated with all necessary information on the program. A PReset icon will automatically be placed on the desk top.

1. Download the PReset software from www.prelectronics.com/downloads/software/preset-software. Note that this is in the form of a zip file.
2. Unzip the file to the desired location.
3. To start the installation, double click the setup.exe file. When the installation program has been started, on-screen guidelines will guide you through the rest of the installation. The complete installation guide for PReset can be downloaded from www.prelectronics.com/downloads/software/preset-software.

Configuration of USB communication in PReset

1. Start the PReset program and choose [Tools] [Select COM port], and the "Options" window is shown on screen.
2. Select the COM port assigned to 4590 ConfigMate (shown as "USB Serial Port"). Click OK.



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We are headquartered in Denmark, and have offices and authorized partners the world over. We are a local business with a global reach. This means that we are always nearby and know your local markets well. We are committed to your satisfaction and provide PERFORMANCE MADE SMARTER all around the world.

For more information on our warranty program, or to meet with a sales representative in your region, visit prelectronics.com.

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PR electronics is the leading technology company specialized in making industrial process control safer, more reliable and more efficient. Since 1974, we have been dedicated to perfecting our core competence of innovating high precision technology with low power consumption. This dedication continues to set new standards for products communicating, monitoring and connecting our customers' process measurement points to their process control systems.

Our innovative, patented technologies are derived from our extensive R&D facilities and from having a great understanding of our customers' needs and processes. We are guided by principles of simplicity, focus, courage and excellence, enabling some of the world's greatest companies to achieve PERFORMANCE MADE SMARTER.