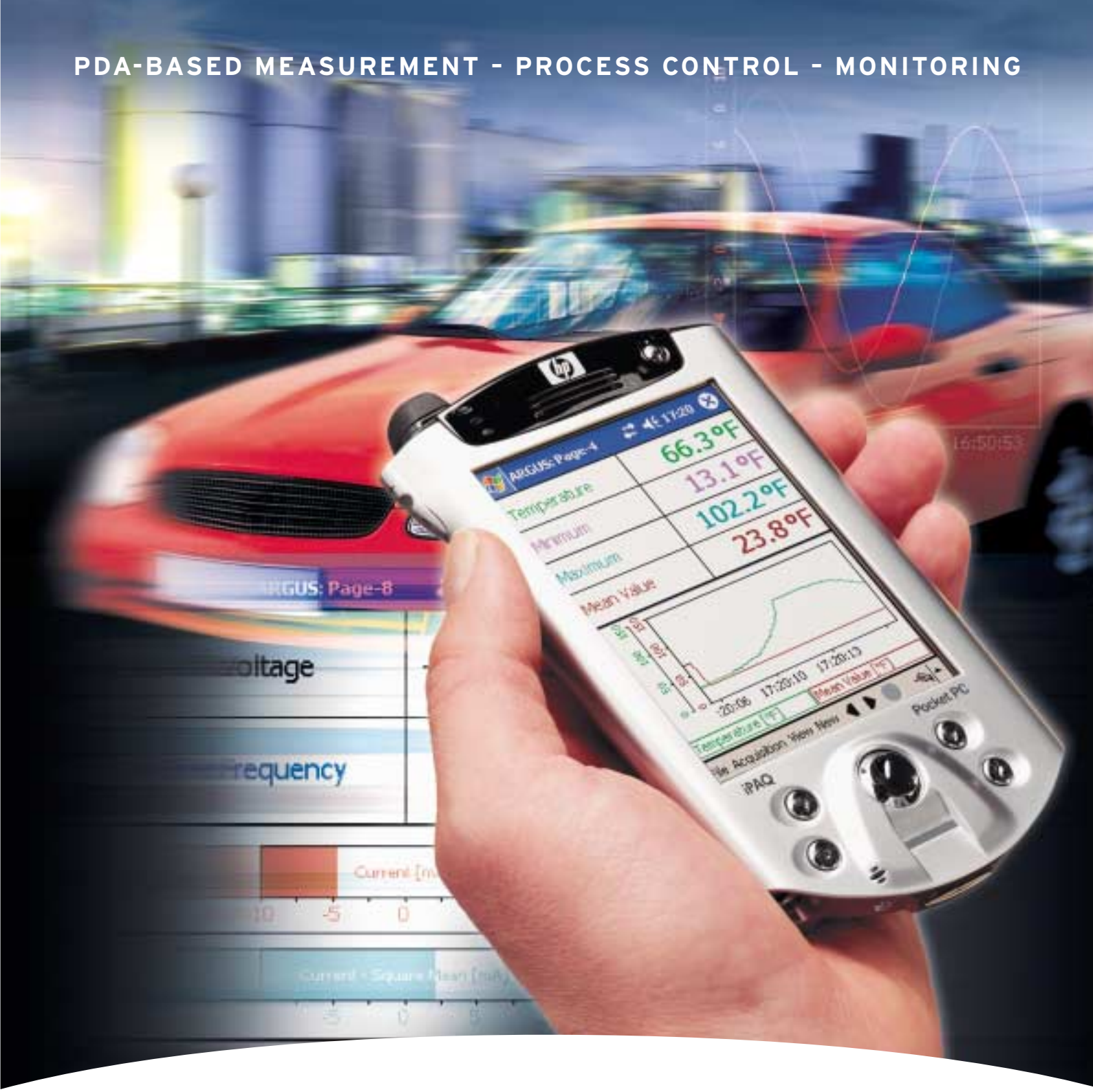
PDA-BASED MEASUREMENT - PROCESS CONTROL - MONITORING



THE NEW FLEXIBILITY

ARGUS*pda*: Mobile Measurement, Control and Monitoring

SORCUS

ARGUS*pda*: The New Standard Software for PDAs

ARGUS*pda* is a high-performance software package for PDAs (PDA = Personal Digital Assistant) for data acquisition, process control and monitoring applications. Compact and portable, these pocket computers frequently have small, but high-quality color displays. They provide high computing power and generally utilize wireless transmission technologies such as WLAN and Bluetooth. They thus form the ideal basis for a portable version of ARGUS*pc*, the standard PC software for data acquisition, process control and monitoring, and open up new potential applications for this thoroughly proven software package.

ARGUS*pda* runs on any PDA with Windows CE operating system, version CE.NET 4.2 and higher, and Pocket Windows 2003 and higher.

ARGUS*pda* APPLICATIONS

- Mobile wireless data acquisition
- Decentralized system control
- System monitoring
- Commissioning
- Embedded solutions

ARGUS*pda* Supported Hardware

ARGUS*pda* sets up a connection to machinery and systems using WLAN or Bluetooth and the respective measurement and control devices. The program supports SORCUS hardware and other manufacturers' measurement devices and systems. Almost any type of system can be easily "connected" by software via a so called user device interface.

HARDWARE SUPPORTED BY ARGUS*pda*

SORCUS Intelligent Subsystems
- CAN*box*
- MAX2*box*
- MAX3*box*

SORCUS Decentralized Intelligent Periphery (DiP)
- MAX5*dip*
- MAX8*dip*

Ipetronik
- M-WiFi

User Devices
- Most other systems

ARGUS*pda* can detect and display a variety of signals from the "connected" devices. Fieldbus access is also simple via the corresponding communication interfaces in these devices.

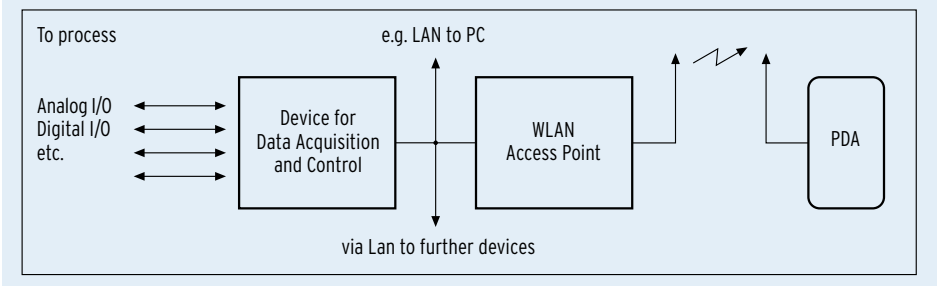
TYPE OF SIGNALS AND FIELDBUSES

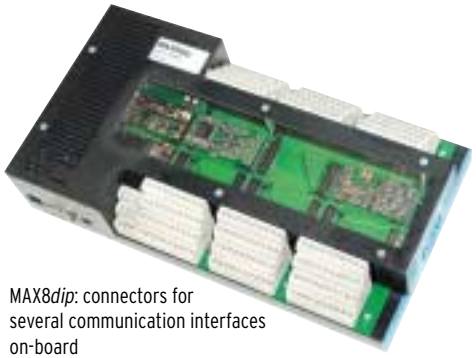
- Analog I/O
- Digital I/O
- Counters/Incremental encoders
- Sensors (SSI)
- PROFIBUS (master/slave)
- CAN (high-speed/fault-tolerant)
- LIN
- Ethernet (TCP/IP)
- Modem
- Seriell (RS-232 / -422 / -485)

Special Case: SORCUS "Embedded PDA"

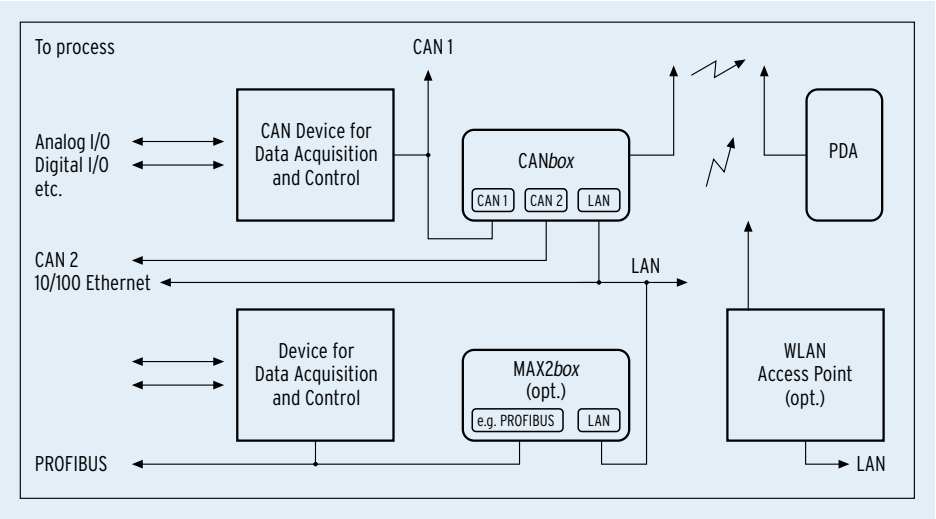
ARGUS*pda* runs not only on conventional handhelds, but also on the SORCUS "Embedded PDA", e. g. MAX8*dip* and MAX3*box*. Both offer not only USB, LAN and WLAN interfaces but optionally also a PDA-compatible TFT display and 6 resp. 2 free slots for MAX modules with any I/O interfaces. Visualization and storage functionality are thus directly integrated. Running ARGUS*pda* on the SORCUS "Embedded PDA" with these systems replaces a standard PDA.

Example 1: Connection of hardware to PDA via WLAN Access Point with ARGUS*pda*





MAX8*dip*: connectors for several communication interfaces on-board



Example 2: Connection of 2 CAN buses via CAN*box* and WLAN to ARGUS*pda*. The Access Point and MAX2*box* are optional, e.g. for PROFIBUS.

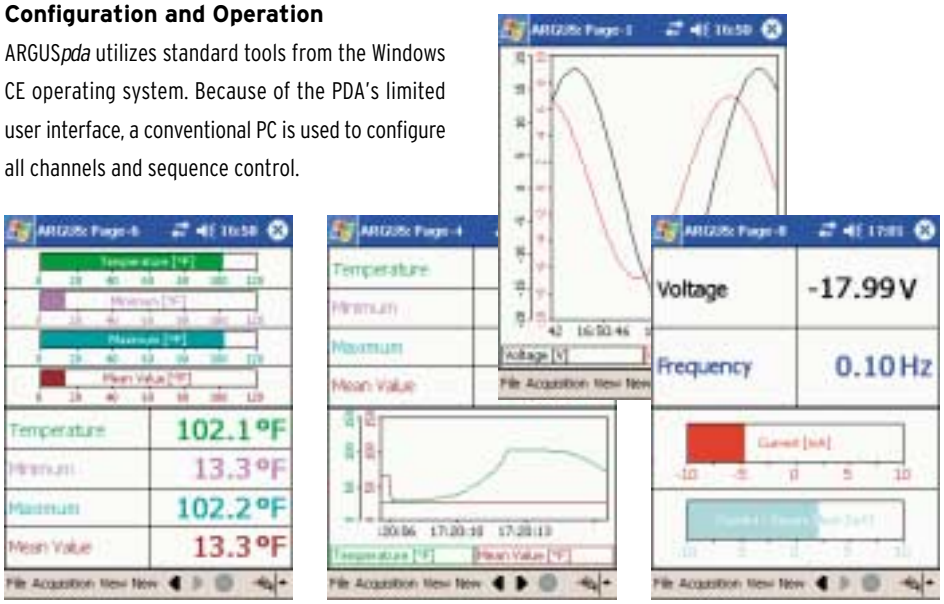
Intelligent Software Structure

Although ARGUS*pda* is based on the well-known ARGUS*pc* standard PC software, as a separate product it is independent of its big brother. However, it has retained an array of proven superior structures from ARGUS*pc*, including its simple, intuitive operation, to optimize working on the PDA's limited user interface. Special features of the CE operating system and .NET development environment were also taken into consideration. Users benefit from implementation of the ARGUS*pda* kernel as OCX, giving independence from both SDKs and from the user interface. Method-based communication permits greater design freedom for the user interface. It also maximizes security, because measurement and control are unaffected by errors of the operator.

Configuration and Operation

ARGUS*pda* utilizes standard tools from the Windows CE operating system. Because of the PDA's limited user interface, a conventional PC is used to configure all channels and sequence control.

External signals are mapped onto channels and given freely definable names, e.g. names, measurement rate and measurement range. The sampling rate can be set individually for each channel, i.e. slow channels are acquired at low sampling rates and fast channels at high rates. Channels can also be calibrated and linearized via reference points. In addition, continuously monitored limits can be set for each channel. A configuration file is created from these data and transferred to the PDA via USB, WLAN or memory card.



Channels and sequences are thus initially defined. To enable any later changes to be made on the PDA, multiple configuration files can be created and stored for immediate access on the PDA. Because only one configuration file can be active at once, the desired effect is achieved just by activating another configuration file.

Configuration with CANdb

Because CANdb is the prevalent format for storing configurations in the automotive and supplier industries, ARGUS*pda* can also read CANdb files directly. The hardware connection to one or more CAN buses is done via the CAN*box*.

Clear PDA Display

The PDA graphical layout is designed directly on the PDA with no need for a PC: Using standard PDA tools, display elements can be created in only a few steps. ARGUS*pda* offers up to 10 different pages to give a clear display of multiple signals despite the PDA's limited screen size. Users can toggle between these pages as required while measurement continues. Each page accommodates up to two display elements, e.g. y-t diagram and bar indicator. Each display element can be linked to up to four measurement channels.

A clear, easy-to-follow display can be created by assigning colors and channels. ARGUS*pda* provides the following displays elements:

SIGNAL VISUALIZATION

- y-t diagram
- x-y diagram
- Table
- Bar indicator
- Digital instrument
- Message window

Supplementary functions of ARGUSpda

Individual limit values can be monitored on all channels. In addition, all channels can be calculated online. A comprehensive library of mathematical functions is available for this. Results are delivered as channels in realtime.

MATHEMATICAL FUNCTIONS

- Formula interpreter for calculating all signals
- Filter functions
- Smoothing
- Square mean value
- Mean values
- Minimum
- Maximum

Measurement and Control

All measurement tasks can be activated and deactivated manually, by external trigger or by condition. The integrated formula interpreter permits even complex trigger conditions to be configured. Pre- and post-triggers can be set as well.

ARGUS*pda* FOR MEASUREMENT

- Individual acquisition rate for each signal
- Acquisition rates up to high kHz range
- Pre- and Posttrigger
- Integrated formula interpreter with signal output

Measured data is stored in the local RAM or other PDA memory, e.g. SD card or Compact Flash.

In addition to acquiring data, ARGUS*pda* features control functions that transform a PDA into a very powerful tool, e.g. ARGUS*pda* can generate almost any desired data with its function generators. At the same time control algorithms, e.g. PID, can be processed. The realtime capability is achieved by rolling out the control process to the intelligent subsystems, e.g. MAX8*dip* or MAX2*box*. ARGUS*pda* has acccess to the control process at any time, e. g. to change parameters online. Event and action management functions can also be implemented by ARGUS*pda*. Here, actions are triggered by configurable events to e.g. set outputs.

Analysis and Documentation

Simple analysis, e.g. replay function, can be performed directly on the PDA. A PC or notebook is generally preferred for larger analysis, graphic processing and data documentation tasks. Measured data is stored in ARGUS binary format as standard and transferred to the PC for convenient analysis and documentation in ARGUS*pc*.

Alternatively, measured data on the PC can be exported into other formats, e.g. ASCII, MS-Excel or DIAdem for processing with other software packages.

Customization

SORCUS designs customer-specific software on request, based on ARGUS*pc* and ARGUS*pda*, from tailored user interfaces to full-scale sequence programs. Open interfaces even enable users to create their own ARGUS*pda*.

ARGUS*pda* features an open, modular system architecture which can be expanded and adapted at any time. The user interface is implemented as an OCX container, enabling users to program their own customized interface or adapt the existing interface to their needs. Windows 2000/XP-compatible APIs on Windows CE.NET resp. Pocket-PC deliver the optimum basis.

Support and Service

To access SORCUS product support, simply e-mail or fax your question to our hotline. We also supply maintenance contracts including guaranteed response times and automatic ARGUS*pda* software updating.

ARGUS*pda* HIGHLIGHTS

- Measurement, control and monitoring under Windows CE.NET
- Ultra-simple operation
- Open interfaces
- Communication via WLAN and Bluetooth
- Wireless communication via access point or in adhoc mode
- Configurable encryption
- Connects with X-MAX-400 to form independent measurement and control system

Distributor

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The future is now!