unidor
TR systems GmbH

UNIDOR – The program

Everything for perfect punching & forming

_ Process monitoring systems

_ Controls

_ Retrofit

_ Measurement technology with AI

_ Sensors

_ smart Protection

_ ioCONTROLLER

_ Service

_ Services / project management

_ Distribution

www.unidor.info

TRsystems GmbH, Unidor System Division in Pforzheim

Company history

1948 – Establishment of Kiefer KG, watch and metal goods factory, Pforzheim

Creation of the UNiDOR brand name. Through automation of punching processes. In-house development of the first tool protection systems (UN series) and optical sensors.

1971 – Sale to Thurn and Taxis

Further development of systems, driven by constantly new challenges. Introduction of the first force monitoring systems. Creation of the APS system, development of the first axis automations (stroke adjustments; ram adjustments).

1990 – Acquisition by the Prym Group

Further development of the APS system, first industrial PC systems are used. Customer-specific solutions are increasingly implemented.

1996 – Acquisition by TR-Electronic GmbH

Creation of the Aplus system. In 2000 creation of the compactPRESS system. 2012 integration intoTRsystem GmbH.

Systems

compactPRESS – the process monitoring system for punching and forming technology

A wide variety of controls ensure the broad range of functionality and universality of compactPRESS. Everything that is important for an optimal and continuous production process is displayed, reported and monitored by compactPRESS with the utmost precision. compactPRESS, comprehensive insurance for machines and tools.

compactPRESS

_ is your all-round assistant for practically everything, a professional for measuring, controlling and rationalizing punching & forming. Ultra-fast up to the highest number of strokes,

_ protects your machines and dies, ensures regular maintenance and service, manages, logs and archives all production and quality data,

_ offers simple touch-pad operation that everyone can easily understand. Icons instead of buttons guide and inform the operator in every situation. Knowing what's going on has never been easier,

_ is based on an extremely reliable IPC. The best solution for continuous machine-level operation in harsh conditions,

_ displays what is going on in the machine and die directly at the machine or via a central control panel. No matter where your machine is producing, you have everything in view at all times,

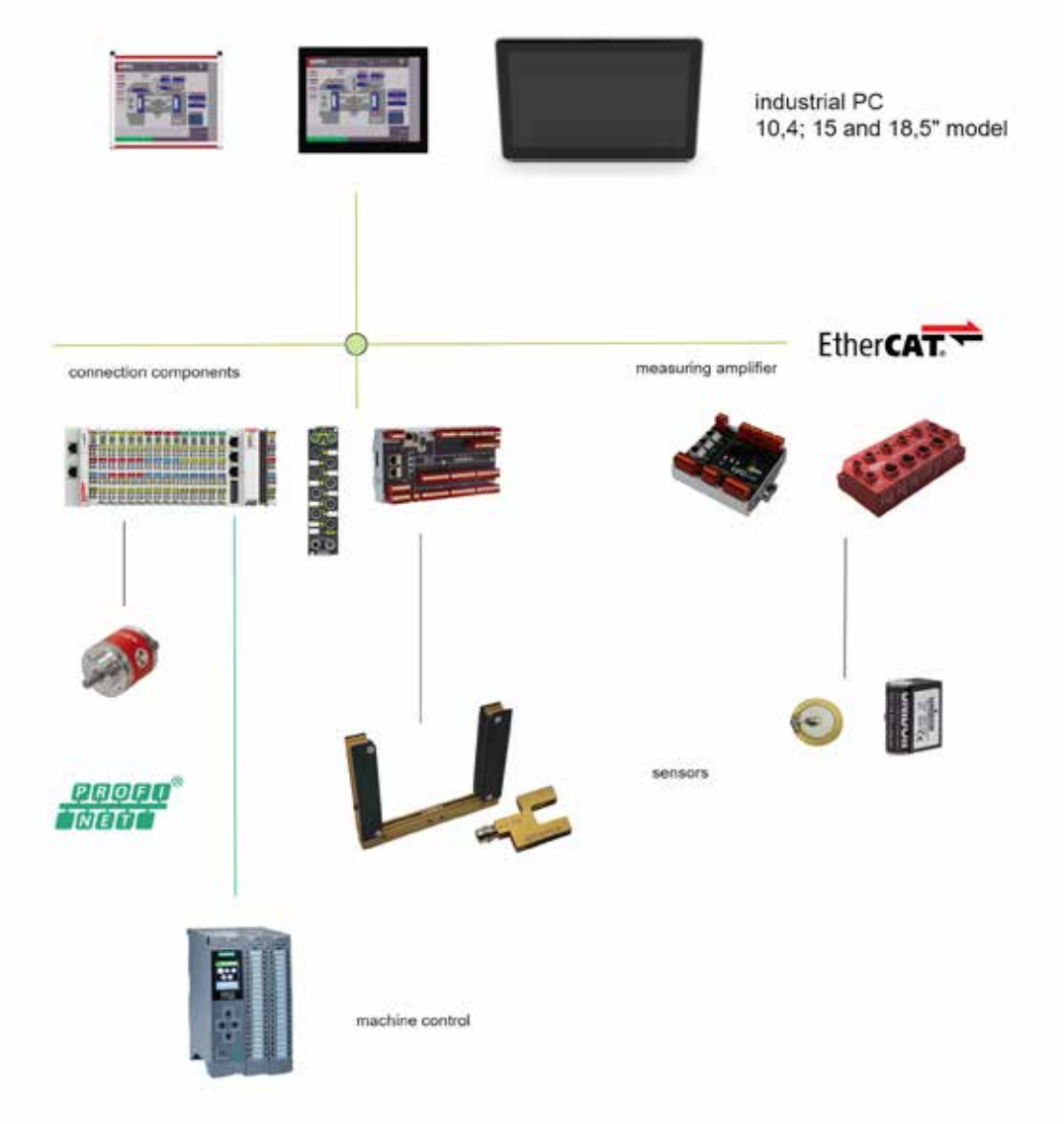
_ understands all analog or digital sensors and combines them as required, functionally, logically or mathematically,

_ as a standalone system primarily in retrofitting or as PLC subsystem of a control in the initial equipment,

_ increases the availability of tool and machine and ensures greater transparency, praricularly in critical production processes with difficult materials.

However, the immense range of functionality and performance of compactPRESS is determined by the extremely flexible controls. Controls are software-based action and functional units, special „tools" for all tasks and applications in punching & forming.
The controls determine the numerous features for visualizing, measuring, optimizing, monitoring and logging. With the compactPRESS controls you always know exactly what is going on; production processes, machine and die become so transparent that they take you to the limits of the possible.
Whatever the task in hand, with compactPRESS you will find the right control or controls. Each of the many controls is designed for a specific task. Tasks which you can easily solve in many areas by means of parameterization.

In conjunction with specific sensors you now have a set of tools that will provide you with comprehensive support in all customer requirements for greater complexity, precision, productivity and quality, defining entirely new production dimensions in punching and forming.
After an overview of all currently available controls for ecoline+starline, we will provide detailed examples of our own controls and show practical applications.
Two software packages, compactPRESS ecoline and compactPRESS starline, are available. Ecoline is the entry-level class, starline is the high-end performance class. Upward compatibility for data and variables from ecoline to starline
is guaranteed.
compactPRESS understands all sensors, regardless of whether digital or analog sensor signals are involved. The same applies for a wide range of absolute rotary encoders, whose inputs are easy to parameterize.
This also applies for digital and analog outputs.
Ample scope for convenient I/O handling.



compactPress

The future of punching and forming is changing rapidly: more complex, faster, more precise and everything documented seamlessly, right up to the highest stroke rate. Your customers' innovative product requirements and constant cost pressure are forcing you to push the limits of what is feasible with your product and tools. It is therefore becoming increasingly important to visualize the stamping and forming process comprehensively in order to precisely optimize and control each work step on this basis.

Only those who understand exactly what is going on can meet customer demands for perfect production and quality products and create a technological edge that secures orders today and even more so tomorrow.

The machine control system only meets these requirements to a limited extent. This requires intelligent monitoring devices such as compactPRESS.

Here, state-of-the-art IPC technology is combined with a large selection of intelligent software controls. Nothing remains hidden, compactPRESS reacts at lightning speed to all irregularities and thus ensures continuously monitored production and controlled quality. The constant careful use of machine and tool resources. compactPRESS is neither costly nor complicated, but extremely powerful and highly flexible in every situation. The all-rounder completes any task quickly and reliably, completely individually and simply with easy-to-understand instructions. compactPRESS integrates seamlessly into the machine and control system environment. Assembly and installation are completed quickly, so that nothing stands in the way of rapid availability of the system.

Controls

Basic Controls
The heart of every compactPRESS is the integrated smartPLC. It links the controls, coordinates the timing and organizes all processes of compactPRESS.
Visualization and parameterization of the controls occur in the control itself, depending on the function and task. The real-time core guarantees correct execution of all time-relevant tasks. All controls included in this group organize and manage compactPRESS.

Digital Controls
This group includes all controls for digital signal processing. All common digital sensors may be used as signal transmitters.

Analog Controls
This group includes all controls for analog signal processing. Special analog sensors are increasingly used in punching and forming technology, and compactPRESS provides the optimal evaluation.

Measuring Controls
This group includes all controls which continuously measure and monitor the supplied material and the production process. Important controls for quality optimization and comprehensive QA certification.

Process Controls
This group includes all controls relating to the production process. Intelligent controls which leave nothing to chance, from material supply through to product selection.

Management Controls
This group includes all controls which manage data, information and actions: Tool log, maintenance organization, import and export, automatic action timing ...

Interface Controls
This group includes all controls which guarantee simple and safe communication between compactPRESS and peripheral systems.

OEM Controls
This group includes all controls which ensure problem-free connection of external equipment (OEM systems).

Tool Controls
This group includes all controls which produce variable products completely automatically with intelligent tools. Ideally suited for automating die controls.

Position Controls
This group includes all controls which can be used as position encoders in compactPRESS.

The right control for every task, a wide selection

Basic Controls	
User administration	System log-on, user identification
Die management	Creation of up to 1000 tools, configuration, saving and backup of tool data
Message management	Internal information, warnings, error display, acknowledgement and deletion
Color management	Free color design of cP screens
Language management	Language file and language selection
System setting	System management, language selection, machine type, machine ID, date/time
Help system	Context-sensitive help for all processes
Digital Controls	
Cam switchgear	Up to 128 cams assignable
Tool protection	Up to 64 digital tool protection devices
Counter	Up to 32 universal counters, counting pulse source is freely selectable
Positioning	Up to 8 positioning axes (multi-turn encoder): ram, strip inlet, feed etc.
AnalogControls	
Force angle	Up to 32 channels for machine and tool force
PSA (Piezo Signal Analysis)	Up to 20-channel individual measurement in the tool for force and deformation
Double blank (slug) monitoring	Up to 32 channels for double blank or slug detection. UT measurement and more
Addl channels	Up to 32 analog channels
Measuring Controls	
Analog feed measurement	Measurement of feed travel, strip position in tool
Strip width measurement	Check strip material for parallelism, curvature, etc.
Strip thickness measurement	Absolute measurement of strip thickness
Part measurement	Measure 100% parts in the process: height, thickness, diameter, angle etc.
Dimensional check	Check parts in the feed phase
Process Controls	
TDC stop	Controlled stop at TDC (top dead center)
Stroke adjustment	Automatic adjustment of stroke height
Stroke table	Stroke-dependent angle correction
Ram adjustment and display	Automatic adjustment of the ram axis
External die change	Automatic transfer of the tool number from higher-level systems
Sorting	Intelligent separation of bad parts (shift register principle)
External error message	Records all external errors or faults, as binary or 1 from n coded messages

µBDE	Operating and production data for central EDP
Management Controls	
Notebook	Prolog, space for any information on machine and tool
Data import and data export	Import drawings and export cP docs to any host systems
Archiving of process data	Export of information and data in Excel csv or QS-Stat format
Maintenance & service	Interactive management and schedule for functions and actions
Interface Controls	
Lubricating system control	Programming, visualization and measurement of lubricant quantity
Open OPC interface	OPC client for communication with peripheral systems
Feed interfaces	Transfer of feed parameters, display of values and control buttons
Zehnder & Sommer	
Indramat	
Bosch Rexroth	
P.A. Automation	
Esitron	
Interfaces for PLC control	For communication with S7-PLC (hard or soft PLC)
Profibus	
Profinet	
IBH Netlink	
Tool Controls	
Tool-dependent PLC	Customized signal combination
Die control	Order-dependent calculation of die control and feeds
Cylinder monitoring	Cylinder control with limit position monitoring
Servo positioning	Up to 4 axes in the tool
Position Controls	
Rotary	Recording of X axis in 0.1°
Linear	Recording of X axis in 0.01 mm
Temporal	Recording of X axis in 200 µsec
Virtual encoder	Simulation of a rotary encoder via an input signal

Retrofit

Renovate instead of new - always a good alternative

Talk to us

Together with competent mechanical specialists, we ensure a compact mechanical, hydraulic and electrical complete overhaul of your machine. of your machine.

_ short interruption to operation
_ no structural changes (foundations)
_ expenditure immediately depreciable

Those who calculate need us

_ current machine status
_ Expertise for general electrical overhaul
_ Control cabinet + control panel
_ PLC S7 control system
_ compactPRESS
_ Complete electrics + installation
_ Handover + acceptance with safety check
_ Training + service + spare parts

Fig. 3

Presses and punching machines are durable capital goods whose life cyclecontrol, peripherals, actuators and sensors. Why always think about a new machine when the old one can be used for a whole when there is still a lot of money to be made with the old one at modest cost!

This solution also has tax advantages.

Towards customers and end users, a reconditioned automatic punching press acts as an as an image-enhancing reference object just as well as a new one! An optimally overhauled automatic punching press is in no way inferior performance and appearance of a new one!

Whether electronics or mechanics, with UNiDOR and its partners you are in good hands when it comes to modernization!

A general overhaul is always worthwhile.

1. Status & Expertise

First, the machine status is determined, then the concept for modernization is...

We determine the current status of your machine. In a subsequent expert discussion, we then show you the various options for a global refurbishment and subsequent modernization.

In an expert report, we describe all expenses, work processes and provide a detailed schedule for the project.

2. Realization

... followed by the conversion and commissioning on a fixed schedule...

The top priority of the general overhaul is a short interruption to the machine's operation.

From project planning, the timely scheduling of all new units and components, the complete pre-assembly of the control cabinet and operating unit, the rapid conversion on site to the commissioning and trial operation of the machine, we have experienced project management and a well-coordinated, qualified team of specialists.

3. Handover and operation

... and finally the handover of the machine and control system to you

We take particular care when handing over the machine to your maintenance or production department: Together with your authorized employees, we carry out the acceptance test, the proof of function, performance and conformity, including a comprehensive safety check (the current safety standards BG, EN.... always apply to our work). All relevant processes and data are recorded in an acceptance report.

Training, long-term service agreements and a spare parts package round off the modernization.

More information:

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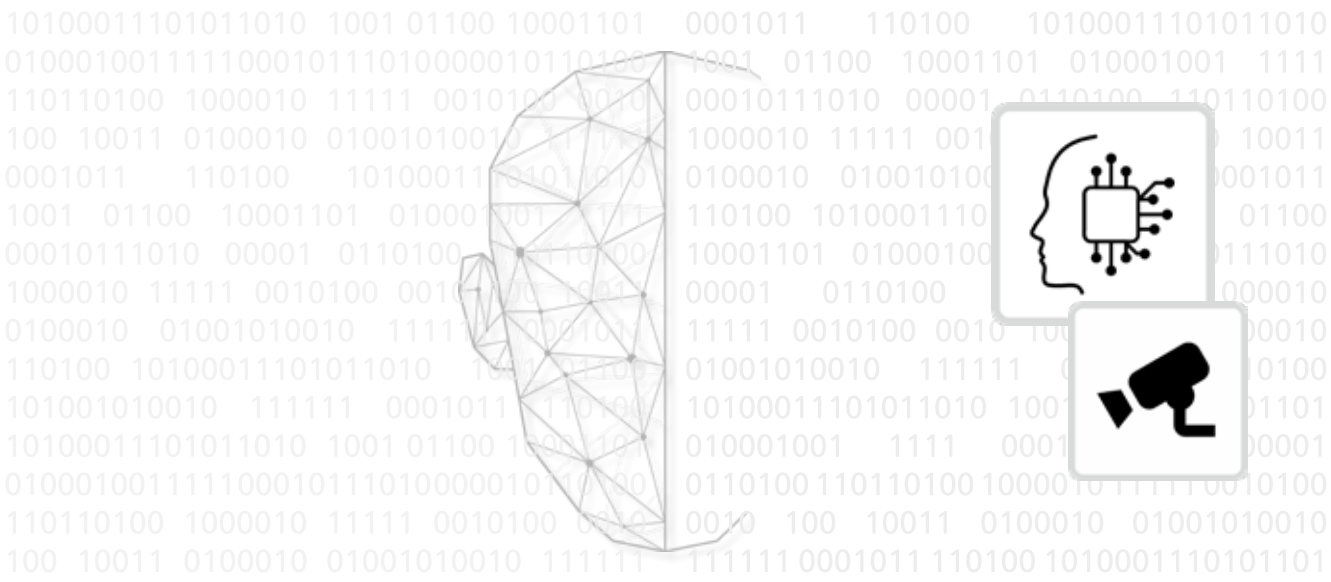
References

Our users include leading, well-known manufacturers from the automotive, electrical and medical industries as well as a large number of their suppliers.

Measurement technology with AI



Artificial intelligence in the industry

Artificial intelligence (AI) is a rapidly growing field that involves the development of intelligent machines that can perform tasks that normally require human intelligence, such as learning, problem solving and decision making. In industry, AI is used to automate processes, increase efficiency and make better decisions.

One of the key benefits of AI in industry is automation. AI-driven robots and software can take over tasks that are repetitive, time-consuming or dangerous for humans, such as assembling products, inspecting equipment or monitoring hazardous environments. By automating these tasks, companies can save time and money while improving safety and accuracy.

AI can also be used to improve efficiency in a number of ways. For example, AI-powered algorithms can analyze large amounts of data to identify patterns and insights that would be difficult or impossible for humans to detect. This can help companies to optimize their processes, reduce waste and improve the quality of their products or services.

Another area in which AI plays a role in industry is decision-making. AI-supported systems can analyze data and make recommendations to humans on the best course of action.

The AI module in combination with the latest camera technology

Conventional approaches with rule-based image processing quickly reach their limits if the image data to be analyzed varies too frequently and the differences are difficult or impossible to map using algorithms. Robust automation cannot be realized in such cases due to an inflexible set of rules. Even if it is a task that is supposedly easy for humans to solve. Artificial intelligence (AI) opens up new fields of application for camera technology and image processing. It makes it possible to solve tasks where classic, rule-based image processing reaches its limits. Hardware, software, infrastructure, knowledge and support are optimally coordinated. Unidor provides you with all the components you need to start implementing your own AI applications straight away. This makes it particularly easy to get started with deep learning-based image processing.

Machine learning for quality assurance

Digital transformation and user interaction with various applications generate valuable usage data. Together with operating data from sensors and machines (IIoT), this data forms the basis for identifying optimization potential and making predictions. However, the increasing complexity and volume of data is overwhelming traditional, rule-based systems. Self-learning models based on machine learning (ML), deep learning (DL) and artificial intelligence (AI), on the other hand, are able to fully exploit the data potential even with increasing complexity. Machine learning models learn the correlations between different sensor values and process data and recognize anomalies, for example, that a programmer would not have been able to teach the machine due to their large number and diversity. Thanks to the possibility of real-time monitoring, unknown problems can also be identified in good time and expensive failures avoided. The rapid further development of specialized hardware for solving AI tasks is now opening up economic applications in many areas of production.

In the automotive industry and many other sectors, quality requirements are increasing rapidly. The supplied components must be absolutely free of defects because they must meet the highest reliability standards. The verifiably documented 100% quality of the components and complete traceability is therefore an indispensable mandatory requirement. Small defects in components could cause a stop in subsequent production and assembly or, in an even worse scenario, trigger a recall in the automotive industry, for example. This can quickly lead to heated disputes about responsibilities, costs and other consequences.

Special evaluation methods:

_ **Imprints**
_ **Rust**
_ **Schlieren**
_ **Scratches**

Measurement:

_ **Retrofit in practice**
_ **Control cabinet with camera system**
_ **Exchange old for new**

Standalone system:

_ **Measuring with maximum flexibility**
_ **Up to 4 cameras per system**
_ **Monitoring of conveyor belts**

Measuring in the punching tool:

_ **Pattern and trend recognition**
_ **Integration of different signal sources**
_ **Process optimization**

Optical tool lock:

_ **Detects foreign objects, workpiece misalignment, waste jams, damage...**
_ **Up to 8 cameras per system**
_ **Image sequences are available for examination available.**

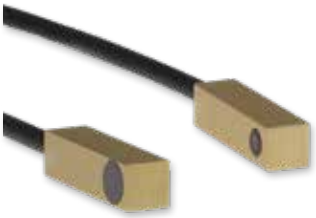
Overview - Sensors

Sensors

Very close to the action Sensors mechanical variables such as ...
_ Strength
_ Pressure
_ Sound
_ Vibrations
_ Paths
_ Positions
_ Motion
... into digital or analog signals.
They are the basis for precise visualization, optimization, measurement, control and logging of all stamping and of all punching and forming processes. Our sensors have been specially developed for punching and forming.
Unidor supplies a wide range of sensors in various designs, complete with the appropriate mounting equipment.

Digital single-beam sensors

Fork light barriers



Split light barriers

Bar light barriers

Digital multi-beam sensors

Variable fork light barriers

Fork light barriers

Frame light barriers

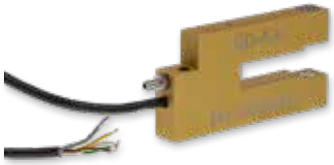
Reflex scanner

Reflected light barriers/fiber optics

Reflected light barriers

Analog Sensors

Eddy current sensors

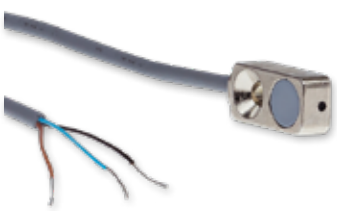


Analog fork light barriers

Analog frame light barriers

Digital, inductive sensors

Bar shape



Cuboid shape

Piezoelectric sensors

JZT 127

PSA

QMD

Other sensors

Feeler pin GM

Contrast detection

smartProtection

The low-cost monitoring devices:

Plug it in, switch it on and start checking and monitoring tools and machines: it's all very easy.

In many thousands of applications for complaint-free service to protect tools and machines.

Press force measuring device PKM 02

Areas of application: Press force monitoring

_low-cost press force measuring device
_Mounting variant
_Quick and easy installation
_Easy to operate
_Continuous monitoring
_2 measuring channels
_Peak value memory

smartPKM

_ 2-channel press force measuring system with min/max monitoring
_ Min/max monitoring also active without trigger signal
_ Graphic event display
_ Touch operation
_ Integrated user administration
_ Tool memory for 1,000 tools (alphanumeric)
_ Operating system WIN 10IoT® Ent. 2019
_ Data backup on USB stick
_ 1 cam input (trigger signal)
_ 1 clutch input
_ 1 Stop output
_ PRK Channel and totalizer display
_ Angle display (virtual encoder)
_ Display of the current stroke rate
_ 2x JZT 127/S pressing force sensors (optional)

smartDIE-PRO 6

6-channel digital tool protection with teach-in function and graphic event display

Secure hardware, secure software. This dual security concept concept ensures maximum system availability and problem-free function. Redundant, fault-tolerant data storage management and intelligent power control ensure an extremely secure system.

All at a price that will convince you of our entry-level system for tool monitoring.

_ Inexpensive monitoring system
_ Quick and easy installation
_ Fully equipped with sensor connection and cam socket
_ Monitoring of multiple signal changes per hub
_ Multi-stroke monitoring
_ Inversion of the input signals
_ Automatic sensor type detection
_ Monitoring the intrinsic safety of sensors and cams
_ 8-digit preset counter
_ Stop the machine at a specified quantity
_ Teach-in mode for different types of monitoring
_ Error image retention
_ Bridging tool protection
_ Operator guidance via touch screen
_ Language switching German/English/French

Force amplifier

The UNDOR charge amplifiers are high-precision measuring amplifiers on which all types of piezoelectronic sensors can be operated. This allows 4-channel measurements of force, tonnage, pressure, acceleration, vibration and torsion to be realized. The high sampling rate and high resolution enable the evaluation of very fast processes. The robust aluminum housing enables use in harsh industrial environments and guarantees reliable and durable functionality.

LVCnet digital charge amplifier

The LVCnet charge amplifier cassette is a digital 2/4-channel charge amplifier with integrated multiprotocol fieldbus interface for measuring force, tonnage, pressure, acceleration, vibration and torsion using piezoelectric sensors.

The high sampling rate and high resolution enable the evaluation of very fast processes for all types of piezoelectric sensors.

The robust aluminum housing for DIN rail mounting allows the LVCnet to be used in harsh industrial environments and guarantees reliable and long-lasting functionality.

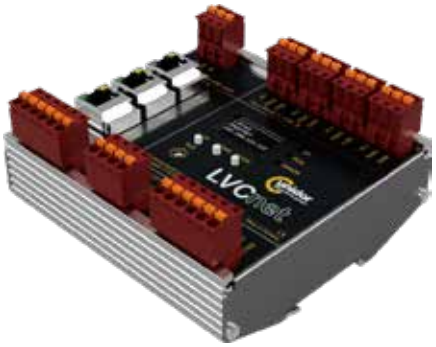
The low drift of the input stages and the digital processing of the charge signal are very precise and therefore also allow quasi-static measurements.

The product has analog outputs that allow it to be used without a fieldbus. In this operating mode, the digitized charge signal is made available again as an analogue signal (+/-10V) via a 16-bit DAC for processing by higher-level control systems. In this operating mode, triggering takes place via one of the 4 available digital inputs.

The integrated digital outputs make it possible to implement trigger monitoring, wire break monitoring and min/max monitoring of the sensor signals independently of a higher-level controller.

The status of the device and all I/O interfaces can be visualized via the integrated OLED display and the associated buttons.

This offers the advantage that, for example, the commissioning engineer can check the device status, IP address, piezo inputs, digital inputs and outputs, as well as the analog outputs.



Components / Standalone devices

LVCpro 02-S Charge amplifier

LVCpro 02-S suitable for dynamic and quasi-static measurement processes.

With the newly designed, compact LVCpro 02-S charge amplifier cassette, multi-channel measurement of the press force can be carried out cost-effectively using piezo sensors. Evaluation can be carried out via any higher-level control system with analog input, e.g. Unidor systems (powerPRESS & compactPRESS) or external PC and PLC systems.

Applications

For machines and devices to measure dynamic and quasi-static forces, preferably in press construction. The required piezo sensors are supplied ready assembled in various designs by TRsystems GmbH, Unidor system division.

Advantages

_ Easy installation and wiring
_ 24 VDC supply voltage
_ 2 measuring channels
_ Peak value and instantaneous value outputs (2+2)
_ Switchable filter for suppressing interference
_ Adjustable amplification via code switch
_ Low-impedance analog signal outputs
_ Simple connection of signals and encoders on the front panel

Digital charge amplifier PSA4eC

The Piezo Signal Amplifier PSA4 is a digital 4-channel charge amplifier with integrated EtherCAT fieldbus interface for measuring force, tonnage, pressure, acceleration, vibration and torsion using piezoelectric sensors.

The high sampling rate and high resolution enable the evaluation of very fast processes for all types of piezoelectric sensors.

The robust aluminum housing and IP67 protection class allow the PSA4 to be used in harsh industrial environments and guarantee reliable and long-lasting functionality.

The low drift of the input stages and the digital processing of the charge signal are very precise and therefore also allow quasi-static measurements.

Advantages

_ Very large measuring range
_ High accuracy
_ Very fast measurement
_ EtherCAT

Digital charge amplifier PSA4T

The Piezo Signal Amplifier PSA4T is a digital 4-channel charge/temperature measuring amplifier with integrated multi-protocol fieldbus interface for measuring force, tonnage, pressure, acceleration, vibration and torsion using piezoelectric sensors.

The high sampling rate and high resolution enable the evaluation of very fast processes for all types of piezo sensors. The combination of charge and thermocouple amplifiers makes the amplifier particularly suitable for use in the injection molding industry and mechanical engineering.

The integrated thermocouple measuring amplifiers are suitable for type J or K thermocouples.

They have wire break detection and are already calibrated at the factory. The measured value is output (configurable) in °K or °C. A "substitute value" or error value can be configured for wire break detection.

The robust aluminum housing and IP67 protection class allow the PSA4T to be used in harsh industrial environments and guarantee reliable and durable functionality.

The extremely low drift of the input stages and the digital processing of the charge signal are very precise and therefore also allow quasi-static measurements.

The multiprotocol fieldbus interface allows all Ethernet-based fieldbuses such as EtherCAT/Profinet/POWERLINK/Ethernet IP as well as Profibus to be used. The desired fieldbus can be easily (pre-)set by the customer using a code switch or configuration via the diagnostic interface.

Advantages

_ Very large measuring range
_ High accuracy
_ Very fast measurement
_ Oversampling
_ EtherCAT, Profinet, Powerlink, Ethernet IP, Profibus

ioController

The turbo for automation, ultraspeed automation as an active Bus Terminal or embeddedUNIT

Automation is increasingly demanding faster and more complex processes. As a result, the available control systems are increasingly reaching their technical and economic limits. As a rule, however, the ultra-speed requirements do not apply to the entire control system, but only to certain functional areas.

The ioCONTROLLER can be quickly mounted and easily installed using a mounting rail and is available in two versions:

ioCONTROLLER multi (c-BoxM)

ioCONTROLLER digital (c-BoxD)

Accelerates every PLC by a factor of 100

The ioCONTROLLER sets new standards in ultraspeed automation as an active Bus Terminal or embedded UNIT. While PLC systems today achieve 2,000 I/O handling operations per second, the ioCONTROLLER, for example, generates 200,000 analog measurement values in the same time, making it around 100 times faster than any PLC.

If these areas are isolated and replaced by the ioCONTROLLER as an independent subsystem, there are significant advantages:

_ Ultra-fast processes where this makes sense

_ Maximum relief of the control system

_ Shorter project planning due to more transparent software

Stand-alone control unit or perfect partner for the PLC, if it has to be ultra-fast, highly accurate and extremely flexible, then the ioCONTROLLER is just the thing.

ioCONTROLLER digital/multi (c-BoxD/c-BoxM)

The ioCONTROLLER was specially designed for fast, analog and digital signal processing and can be cascaded as required as a bus terminal. It is equally suitable for stationary and mobile use.

Up to 200x oversampling

It has 12 UltraSpeedProcessing analog inputs with 16-bit resolution including sign. The maximum sampling rate of the AD converters is 200 kSPS per channel or 5µs/sample: i.e. a real sampling rate of 200 kHz. This is unprecedented precision and dynamics in analog signal processing. These impressive response times are based on the direct logical linking of all inputs and outputs via FPGA in conjunction with a high-speed controller. 200 measurements per PLC cycle corresponds to an oversampling of 200. Due to the enormous amount of data, it is possible to reduce the oversampling to 100 kSPS or 50 kSPS. In addition to the current measured values, the ioCONTROLLER also generates intelligent process variables such as mean value, min/max value and difference value (range) per PLC cycle.

The process variables are stored in Process Data Objects PDOs. Fixed and freely configurable PDOs are available for this purpose. Fixed PDOs are, for example, the measured values of the oversampling of analog inputs 9...12. Free PDOs can be filled with intelligent variables as required by the user. In contrast to the fixed PDOs, the resulting total size of the free PDOs is variable.

As a standalone embedded UNIT, it also operates entirely without a PLC. As a standalone controller, the ioCONTROLLER is suitable for almost any compact real-time application, especially when high-speed signal processing of analog signals is essential.

In combination with an industrial PC, the ioCONTROLLER is the perfect hardware for small to medium-sized, extremely fast automation systems:

_ Taxes

_ Positioning

_ Measure & control

_ Controlling, monitoring, checking and testing

The following interfaces are available for communication with the peripherals:

_ EtherCAT

_ PROFINET

_ PROFIBUS

This means that the ioCONTROLLER can be easily integrated into almost any process or system.

The connection to the PLC is made by cable in terms of hardware and by Device Description File in terms of software. The PLC application and ioCONTROLLER application communicate with each other without any problems.

Each communication profile has its own device description file, which is loaded as open source software together with the respective description on the web.

Service

Do you have questions or need help?

You can reach our service department at:

Service manager

Michael Huschka
Tel: +49 7231/3152-33 | Mobile : +49 172/9974140
E-Mail : michael.huschka@trsystems.de

Service is very important to us. With us, service begins where it ends with others, and you can continue to count on us even after successful commissioning and instruction of your personnel, thanks to our highly motivated, qualified team both in-house and on site.

unidor - we make things different -- but always better

Service around the product, from application consulting to commissioning and training to service. unidor is simply more than the sum of its products.

Remote maintenance

Remote maintenance enables us to access your compactPRESS systems. With the help of this diagnostic option, the causes of faults can be localized online and software changes or updates can be carried out. Remote maintenance enables us to take action on system errors and problems very quickly. Experience has shown that costly on-site service calls can often be avoided. Remote maintenance can also considerably reduce system downtimes. This saves you considerable time and money. Remote maintenance requires an ISDN modem integrated in the cP controller and a telephone connection. Alternatively, you can order a USB remote maintenance stick from us, which gives you and us temporary access to the control system via a "wireless connection".

Training program

We offer a comprehensive training program that we can flexibly adapt to your needs. The following units are available individually or in combination

_ Operator and set-up training
_ Maintenance training courses
_ Technology training courses

The training course can be held at Unidor in Pforzheim or directly at your premises. For inquiries and further information, please call +49 7231 3152-0 or send an e-mail to unidor@trsystems.de

Maintenance contract

As part of a maintenance contract, we carry out preventive maintenance and, if necessary, calibration on our control systems at regular intervals. The service modules Remote Maintenance & Free Updates are automatically included for you when you conclude a maintenance contract. The service spectrum of the maintenance contract includes the following points:

_ Inspection of the control systems,
  Carrying out the actual condition analysis
_ Systematic maintenance according to maintenance list
_ Determining the required spare and wear parts
_ Software update if necessary and appropriate
_ Performing and logging a data backup
_ Final meeting / final protocol /
  Determination of further measures

We will be happy to prepare a customized offer for you.

Notizen

Notizen

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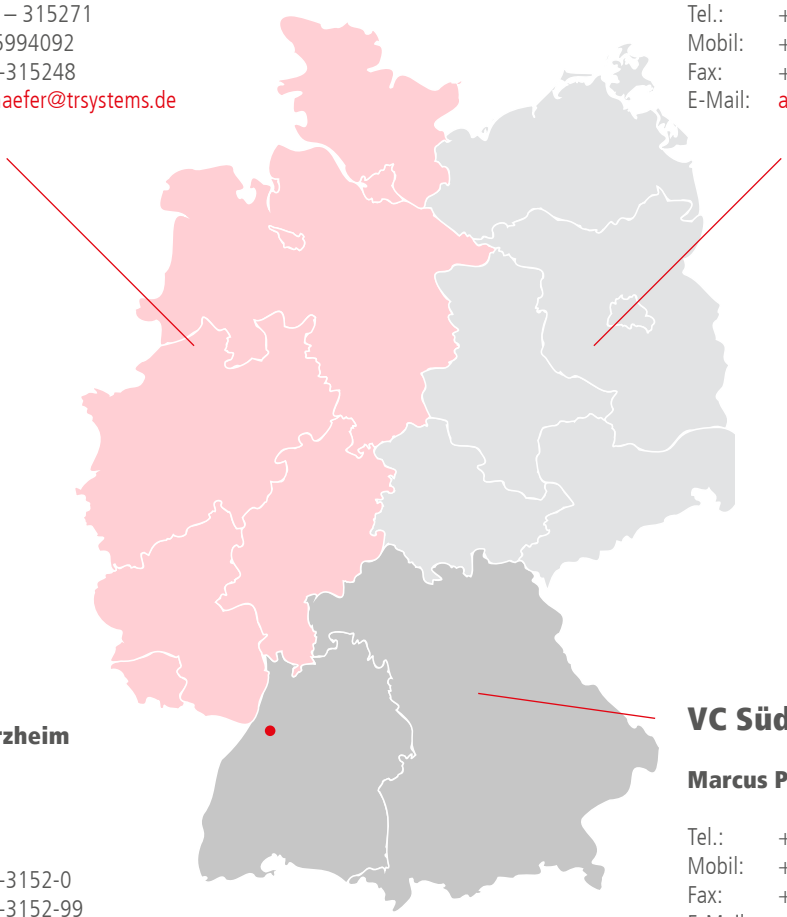

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