



## COMPANY PRESENTATION

BATCH -, CONTROL - & REGISTRATION SYSTEMS

CUSTODY TRANSFER LOADING SYSTEMS

AUTOMATION OF BATCH REACTORS

PROCESS ENGINEERING



IBS BatchControl GmbH  
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# Intelligent Batch Solutions..... designed for you

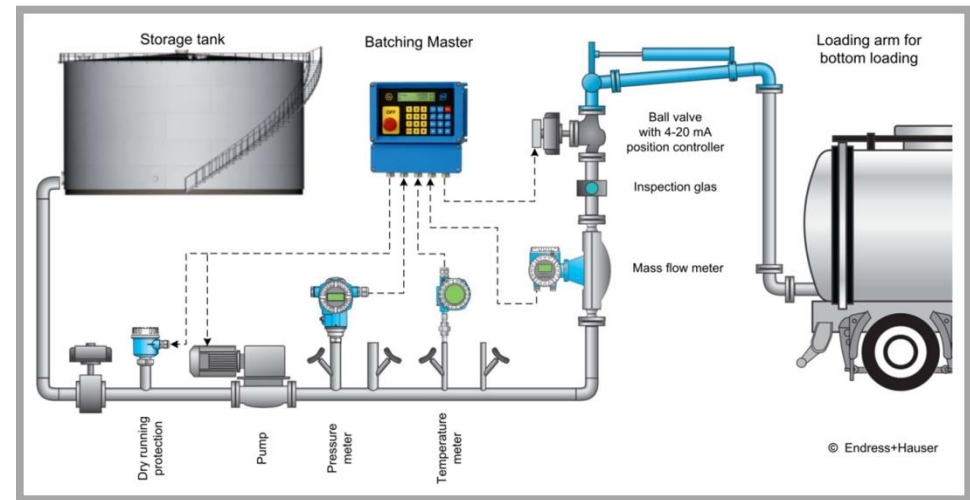
## Two main product lines:

### Batch and loading controllers

We deliver high accuracy batching systems for the loading of tankers, ships and containers as well as low cost systems for the food industries.

### Communication solutions

Our software solutions allows the printout of batch protocols, the storage of the batch results and also the communication to customers SQL data bases.



### Intrinsically safe control instruments

The intrinsically safe control instruments are used for local control solutions inside the hazardous area, for example for the automation of batch reactors.



Batch Controller



Flow computer



Chart Recorder



PID Controller



Indicators



# Intelligent Batch Solutions..... designed for you

The Batching Master 110i/210i for an exact control of batch processes directly at the filling station



**Batching Master 210i**  
(panel mount 144x144 mm)



**Batching Master 110i**  
(IP 65 field housing device)

- Indication:**
- pre-set value, batched quantity, batch status
  - flow rate, temperature, pressure and density
  - backlight optional available

The important information for a safe loading process are available locally at the filling station. In case of problems the operator is able to stop the batch process immediately.



# Intelligent Batch Solutions..... designed for you

## Batching Master 110i/210i

### Flow meters

Compatible to all types of flow meters e.g. mass, electromagnetic, ultrasonic or mechanical flow meters

### Precise batch

The Batching Master controls the batching valve by a 4-20 mA output signal. With the soft-start-up ramp and a 5-step shut down ramp at the end it's possible to reach the highest accuracies.

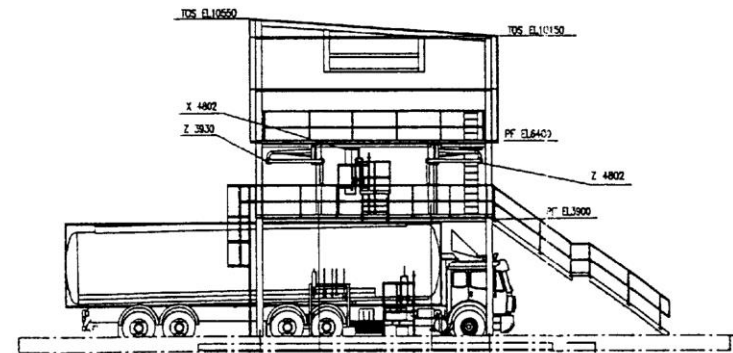
### No pressure hammers in the flow system

The ramping functions at the start and at the end of the batch prevent pressure hammers, very important for high flow rate systems.

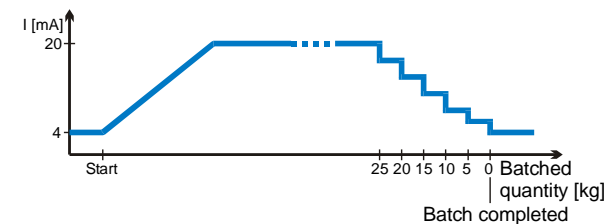
### Safety and monitoring functions

Error messages are shown in clear text e.g.:

- Emergency stop
- Low flow rate monitoring
- Release signals
- Sensor break



4-20 mA output ramp to the batching valve:



Pres 10000 kg  
ERR MIN FLOW

Pres 20000 kg  
ERR Emerg. Off kg





## Batching Master - Functions

- PID flow rate control during the batch
- Two custom specific error messages
- Product way selection via the function keys
- PID pressure control function for liquefied gas
- Flow conversion functions based on API 2540 or linear for the calculation of the volume flow at 15°C with temperature, pressure and density.
- European MID approval for custody transfer

## Modbus Communication

Actual values and batch quantities can be read out by the DCS . External values like the pre-set value or parameters can be sent to the Batching Master.

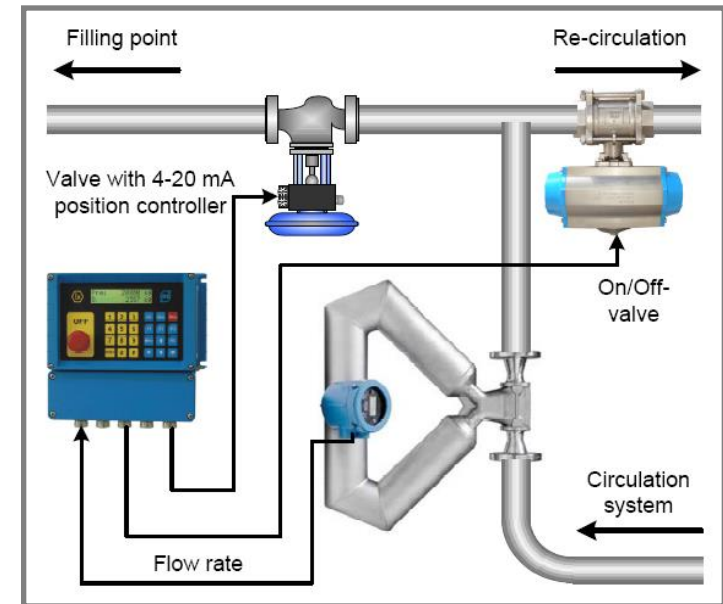
## Application: Batching of ultra pure water

In the pharmaceutical and cosmetic industries ultra pure water is used as basic product. The water has to flow continuously in a circulatory system in order to prevent the formation of germs. The Batching Master controls the valves with different time functions in order to count the right quantity.

SP 20000 kg/h  
PV 19990 kg/h

SELECT PRODUCT!  
F1 = METHANOL

CHARGEN NO.:  
2004004711





## Complete batch systems

IBS BatchControl offers complete batch systems as turn key projects consisting of:

Flow meters, batch controllers, valves, pumps, interfaces, control panels and report printers.

## Printing solution and batch data storage system PCC400

The PCC 400 is a mini PC which communicates with the batch controllers in the field and it stores the batching results in internal data bases. Batch reports can be printed and also stored as PDF files.

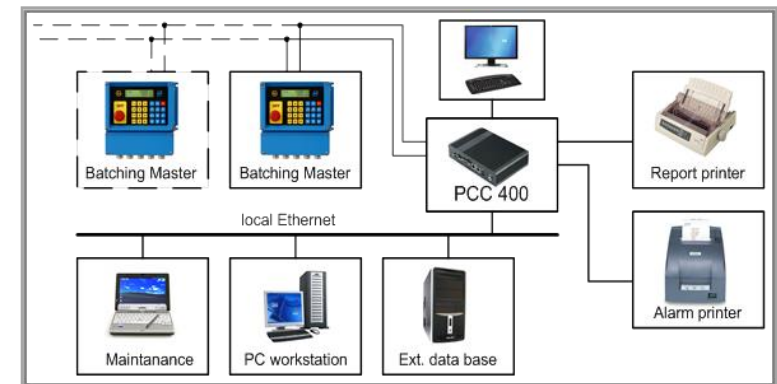
- Available for Batching Master 110i/210i and BC 20
- Input of additional information before the batch
- Control of different product ways

## Data exchange to customers SQL data bases

IBS is able to deliver solutions for the communication to SQL data bases. The using could be as follow:

The operator enters the order and truck number at the batch controller. The PCC 400 checks the information and gives the access for the loading.

At the end of the batch the PCC 400 prints the delivery notes and it sends the loading information back to the customers data base for the invoicing procedure.





# Intelligent Batch Solutions..... designed for you

## Non-Ex batch controller BC 20 for simple applications

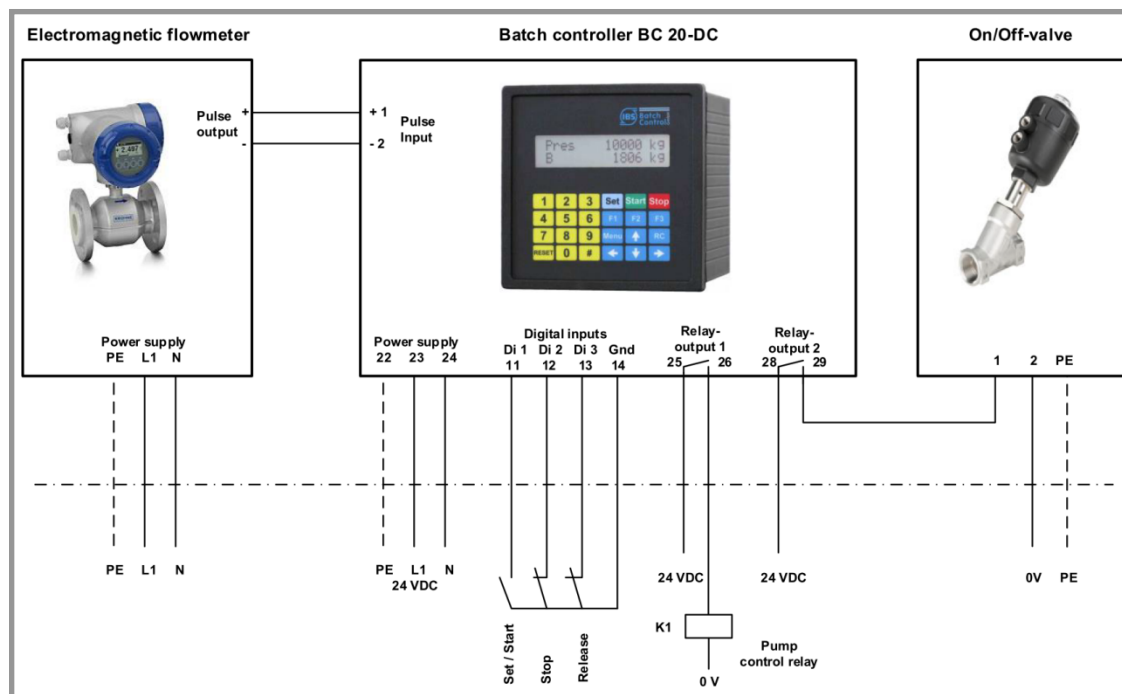


### BC 20-DC

Power supply = 24 V DC

### Options:

- 4-20 mA valve output with ramping functions
- 4-20 mA valve output with flow control function
- RS 485 Modbus-interface
- IP65 Field housing



### Features:

- User-friendly batch controller for simple applications
- Printing solutions for batch protocols are available
- Intelligent overrun and under batch correction
- Dimensions: 96 x 96 x 120 mm (w x h x d)
- Back light for the LCD



## Flow computer Pipeline Master 110i/210i for continuous flow metering systems

The Pipeline Master 110i/210i can be used at pipeline metering skids and also at continuous flow measuring points between two companies.

### Flow conversion functions to volume at 15°C

Linear formulas and conversions conform API 2540 are available. Input signals are temperature, pressure and density.

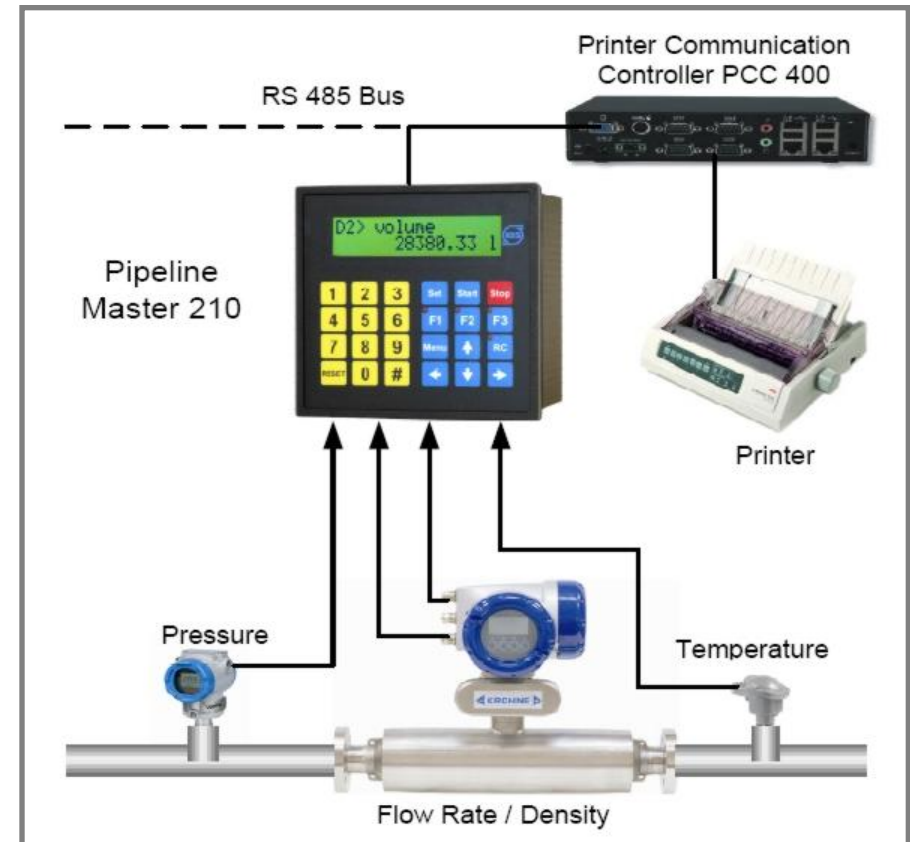
### 6 counter blocks are available,

5 counters can be reset in time periods or as batch counters by digital inputs or by Modbus registers.

Counter values for mass, volume and standard volume in positive and reverse direction are available. During failures in the metering system the flow will be stored in error counters.

### Printing solution PCC 400

The values of the counter blocks are also stored in the PCC 400 and they can be printed or stored in PDF files. Solutions for the data exchange to customers SQL data bases are optional available.



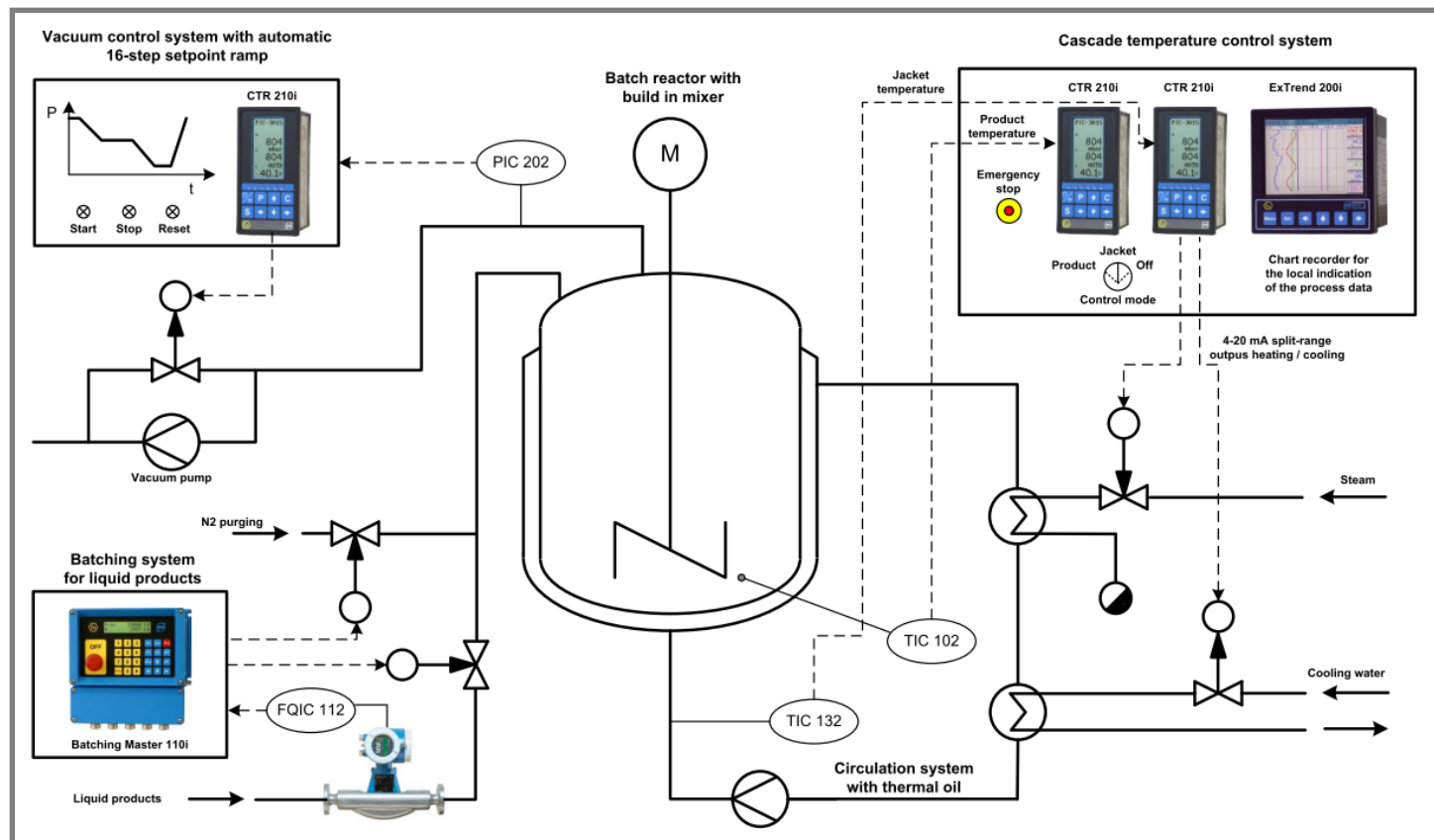




# Intelligent Batch Solutions..... designed for you

## Automation of batch reactors in the hazardous area

With IBS control instruments it's possible to realize a simple automation batch reactors in the hazardous area. The batch controllers can be used for the batching of liquids in the reactor, the PID controllers have a lot of special functionalities like cascade temperature control and the Exi recorder ExTend 200i indicates the process charts in the field.

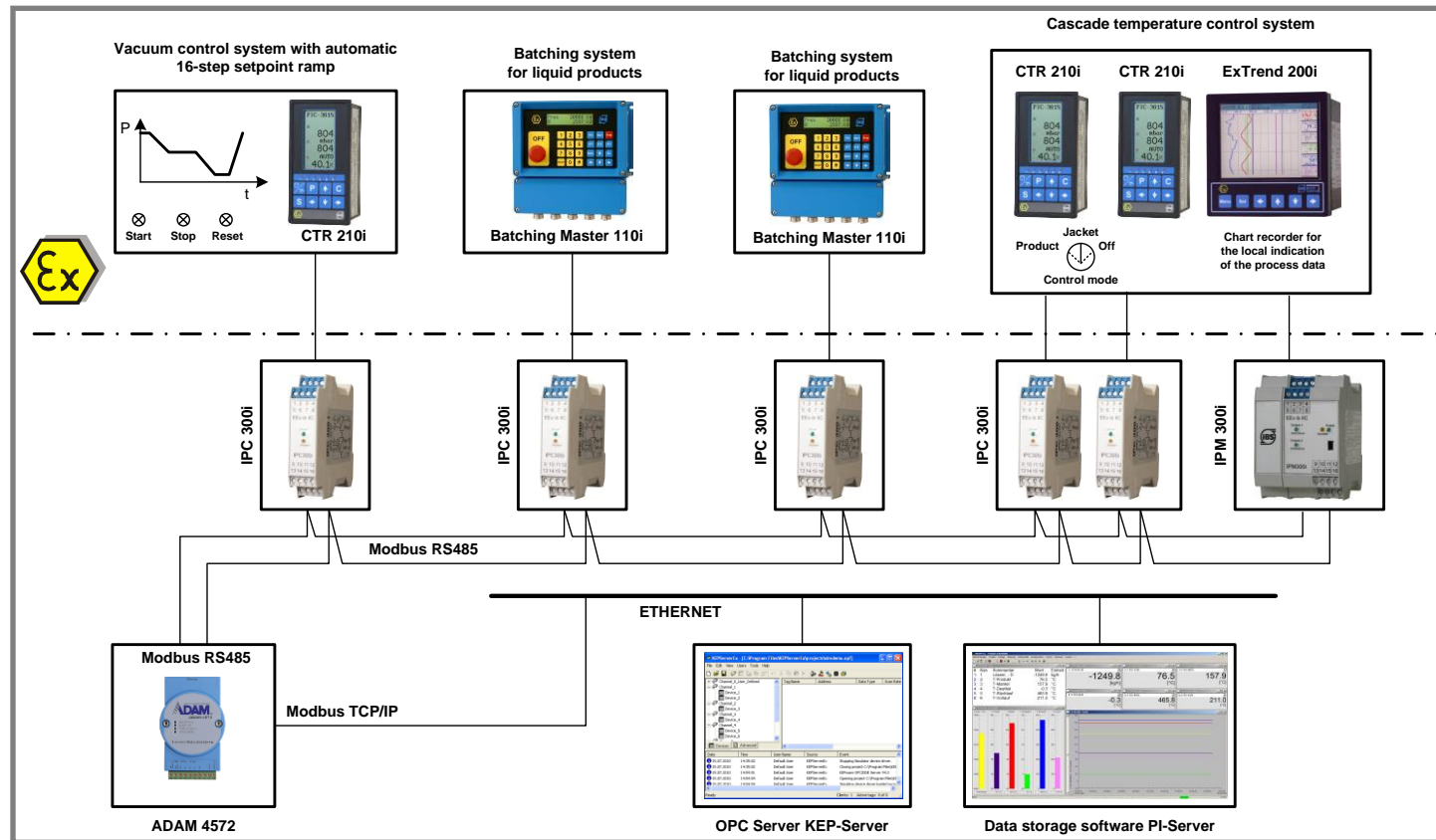




# Intelligent Batch Solutions..... designed for you

## Automation of batch reactors - Structure data communication

The IBS control instruments are located in the hazardous area direct at the batch reactors. These systems are manual operated, but on top all instruments have Modbus interfaces which allow the communication to data storage systems or to a DCS. On this way important production data like batched quantities, flow rates, set points and process values can be stored at the top system.





# Intelligent Batch Solutions..... designed for you

## PID controller CTR 210i

- Local and remote set point control
- Automatic 16-step setpoint ramp function
- 2-channel controller
- Cascade controller
- Ratio controller
- Split-range outputs
- 3 analogue inputs, 4-20 mA or optional Pt100 (3-wire)
- 6 digital inputs and digital outputs
- TTY interface with Modbus protocol



Panel mount device



IP65 Field housing device

## Manual / Automatic station

### Application:

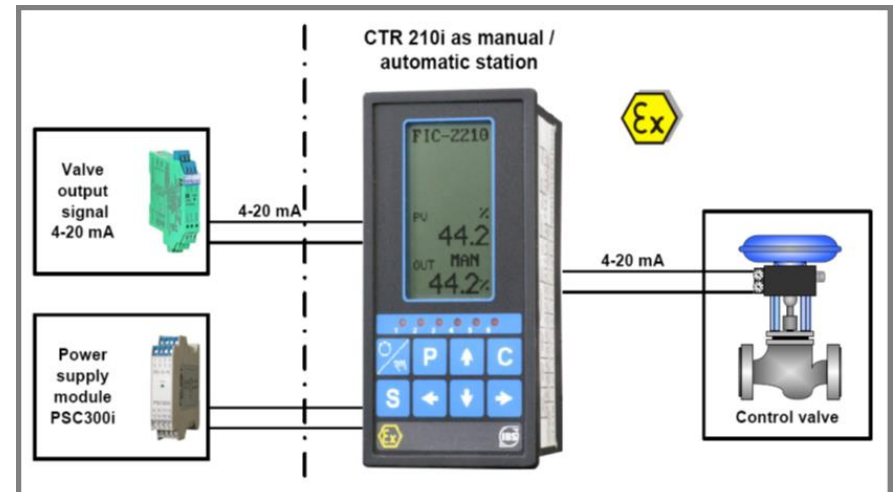
Realization of local access points for the manual control of valves in the field.

### Automatic mode:

The output signal from the DCS will be transmitted to the valve in the field.

### Manual mode:

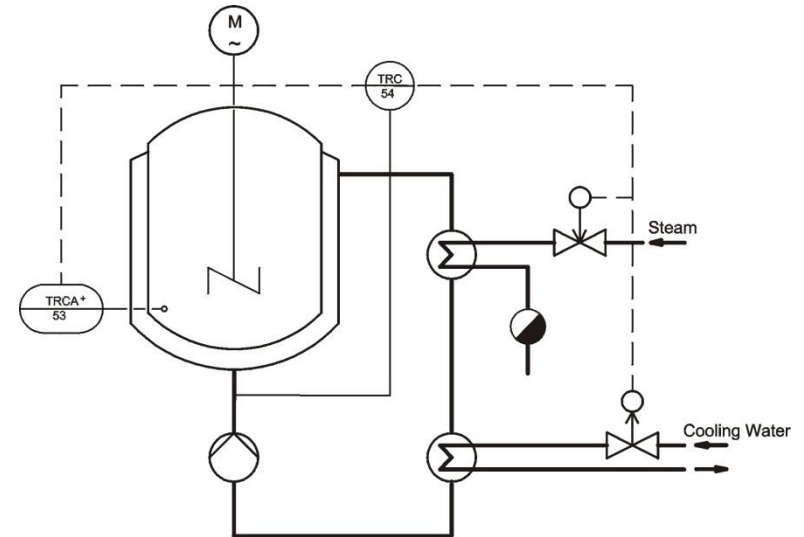
The output signal to the valve can be adjusted local at the keyboard of the CTR 210i.





## CTR 210i - special functions for batch reactors:

- Split range outputs for the parallel control of heating- and cooling valves
- Cascade control function for the product- and jacket temperature control
- Functions which prevent overshoots of the product temperature and oscillation around the setpoint .
- Dynamic limitation of the difference between product- and jacket temperature.
- Two parallel controller for product- and jacket temperature control with a minimum selection of the two output signals.
- Automatic 16-step set point ramp function for the realization of heating or vacuum curves.
- Dynamic activation of the integral algorithm
- By six digital inputs it is possible to switch between different parameter sets, safety outputs or safety setpoints can be activated and it is possible to switch between product- and jacket temperature control.







## Chart recorder ExTrend 200i

### Technical data:

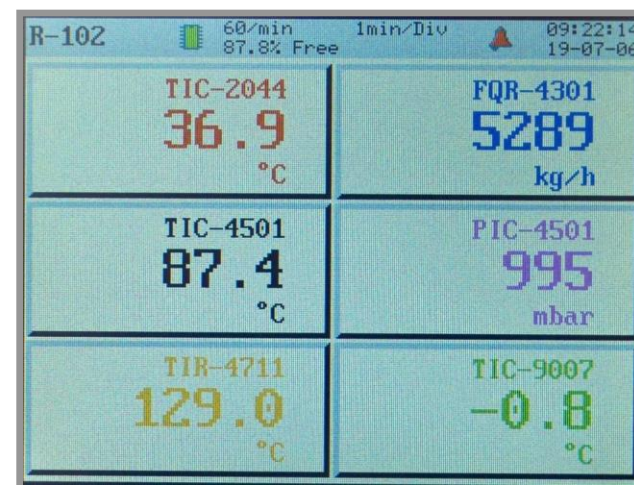
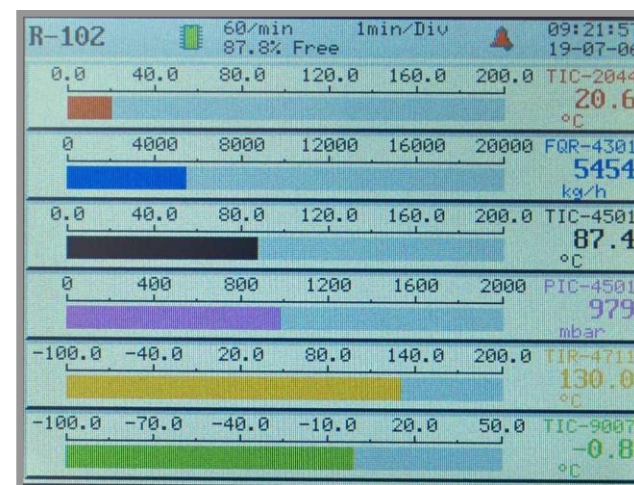
- ATEX code: BVS 07 ATEX E 045, II 2G Ex ia/ib IIC T4
- TFT LCD module with an active area of 115,2 x 86,4 mm and a ¼ VGA resolution with 320 x 240 pixel
- 6 universal analogue inputs allow the connection of the following signals:
  - 4-20 mA, passive
  - Pt100 in 3- wire connection
  - process values from the DCS via Modbus
- The status of the six digital inputs can be indicated and they are stored in the memory
- Six digital outputs for alarms
- Modbus interface for the communication to the DCS
- The power supply and the connection of the Modbus interface to the safe area is realised via the IPM 300i module, which has to be installed in the safe area.
- The 1 GByte memory allows a data storage of 10 weeks at a storage rate of 1 value per second.





## Chart recorder ExTrend 200i

- Indication:
  - Chart indication
  - Bargraph indication
  - Indication of digital values
  - Alarm and batch lists
  - Event lists and log files
- Batch traceability through the input of batch numbers
- The stored data in the memory can be read out by a free of charge software which stores the data in CSV files.
- User authorisation management:
  - Up to 30 users
  - Login via a code and user name
  - Different authorisation levels available
- The following actions are stored in the log file:
  - Parameter changes
  - Alarm status changes
  - Batch start/stop
  - Status changes of the digital inputs





## Bargraph indicator BGI 210i

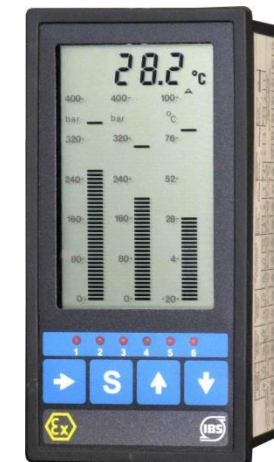
The BGI 210i is a 3-channel bargraph indicator for the installation in the hazardous area, zone 1.

### Technical data:

- DMT 02 ATEX E 148  
Ex ib IIC T4
- Three bargraph indications and one switchable digital indication
- Three analogue inputs 4-20 mA, passive or optional in Pt 100 (3-wire)
- Two analogue outputs 4-20 mA, active
- Six digital inputs and outputs
- Six LED's in the front for the alarms indication
- Free selectable calculation blocks for arithmetic calculation functions
- 25-step linearization function for each input
- Field housing, IP 65 (optional)
- Modbus interface (optional)



Field housing, IP 65



Panel mount device



## Some main customers:

**3M - France, Germany**

**Abbot - USA, Germany**

**Air Liquide - France, Germany**

**Akzo Nobel - China, The Netherlands, Germany**

**Altana AG - Germany**

**Arkema - France, Germany**

**Astra Zeneca - England**

**BASF - Belgium, Malaysia, China, Germany**

**Bayer - Malaysia, Spain, Vietnam, Germany**

**BP Refining & Petrochemicals - Germany**

**Celanese - Germany**

**Clariant - Greece, Switzerland, China Vietnam, Germany**

**Ciba - Italy, France, Switzerland, Germany**

**Cognis - Germany**

**Degussa - Belgium, Germany**

**DOW Chemicals - Germany**

**Dupont - France, Germany**

**DSM - China, Netherland, Austria, Germany**

**Endress+Hauser - Worldwide**

**Emerson - Worldwide**

**Evonik Industries - Netherland, Germany**

**ExxonMobil - France, The Netherlands**

**GlaxoSmithKline - Great Britain, Italy**

**Ineos - Netherland, Germany**

**Krohne Messtechnik - Worldwide**

**Lanxess - China, Germany**

**Linde - Germany**

**Lonza Chemie - Belgium, Switzerland**

**Lukoil - Ukraine**

**Merck - Germany**

**Momentive Performance Materials - Germany**

**Novartis - Switzerland, Germany**

**Oiltanking - Belgium**

**OMV - Germany**

**OMYA - Mexico, Germany**

**Oval Asia - Singapore**

**Petrobras - Brazil**

**Petronas - Malaysia**

**Roche - Switzerland, Germany**

**Sanofi-Aventis - France, Germany**

**Sasol - Germany**

**Shell - Nigeria, Germany**

**SIKA AG - Saudi Arabia, Germany**

**Sipchem - Saudi Arabia**

**SKW Piesteritz - Germany**

**Solvay - Germany**

**Südzucker + Nordzucker - Germany**

**Thor Chemicals - Germany**

**Total - France, Abu Dhabi, Germany**

**ThyssenKrupp Uhde - China, India, Egypt, Germany**

**Vopak Banyan Terminals - Singapore**

**Wacker Chemie AG - China, Germany**