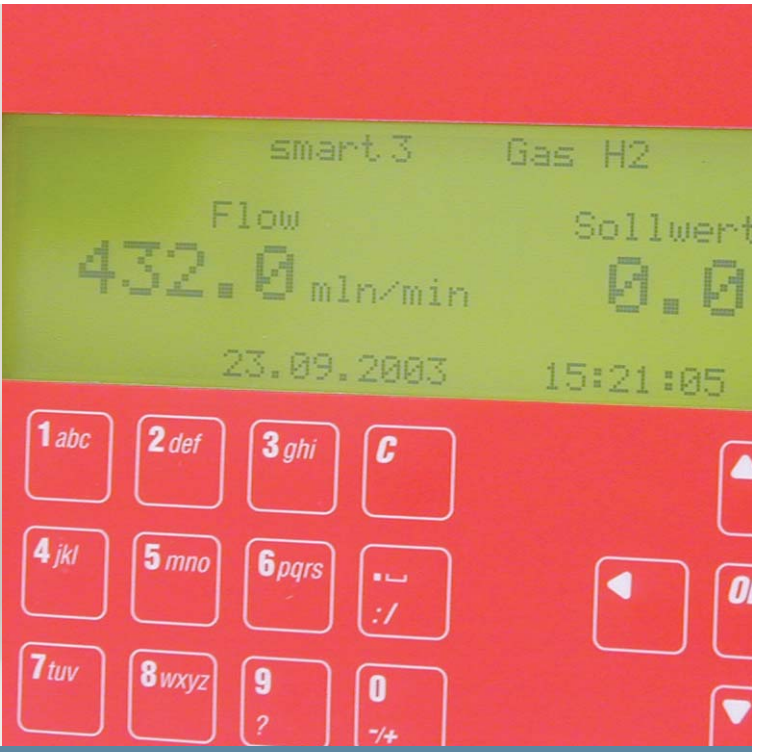
red-y for gasflow

Instruction manual red-y PCU800



red-y process control unit PCU800

swiss technology made by vögtlin

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Instruction manual red-y PCU800

process control unit PCU800

CE

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01 Welcome

The electronic process control unit *red-y PCU800* is a high-end readout and control system for flow measurement. A modular concept with various connection options offers you the highest possible degree of integration and safeguard for the future.

This manual will familiarize you with the installation and operation of your *red-y PCU800*. Please read this manual carefully and contact your sales partner for questions or clarifications.

We took great care in compiling this manual to offer you correct and accurate information and instructions. However, we cannot be held responsible for possible errors.

User Benefits

Ultimately, technology is always a means to an end. Therefore, our priority in development is always the same: the user operating the measuring equipment. All our efforts are guided by the needs and requests of the users and their measuring and control tasks:

- *Compact electronic readout and control system that is easy to install*
- *Intuitive operation with numeric keyboard*
- *Large, easily readable, back-lit display*
- *Integrated help function*
- *CE certified*
- *Optional field bus connection*
- *Optional freely configurable digital inputs and outputs*
- *Implements the full functionality of the connected measuring and control devices*
- *Easy to maintain and service*
- *Easy functionality expansion*
- *3 years guarantee*
- *Adapted options and accessories*

Service & Quality

We are continuously improving the quality and the service of our products and performances. Only when using a product, you will see if you chose the right product. For this reason, we strive to not only propagate good service and high quality, but to live it every day.

Warranty Services

The warranty for the *'red-y for gasflow'* product line covers material and manufacturing faults. The maximum amount covered by the warranty services is limited to free replacement of the device. Improper use, general external damages and damages due to heat or falls void all warranty claims.

We welcome reports of possible errors, suggestions for improvement and criticisms.

Suggestions & Warnings

This user manual should be read in full before start-up of the device. Improper use, misunderstandings and their consequences may destroy the device and even cause bodily harm.

Commissioning and maintenance must be performed by appropriately qualified staff. Proper use of the products is essential for their trouble-free operation.

Electrostatic discharges may destroy electronic components of the *red-y PCU800.*

Content of the Manual

This manual will instruct you in the safe use of the readout and control system *red-y PCU800*.

02 General Information

Design of the Readout & Control System

The *red-y PCU800* is specifically designed for use with thermal mass flow meters and controllers. The electronic system offers the user the full functionality of the connected measuring and control devices and supplements it with selected additional options.

The *PCU800* powers up to eight attached measuring and control devices and communicates through the included RS-485C interface.

Its basis is an optimized I/O control panel, which is already being used successfully in the field. A high-end, graphic back-lit LC-display and the keyboard create the interface with the user operating the devices in the field.

An integrated help function assists the user. Together with this manual, it is easy to make full use of the functions of the *red-y* mass flow meters and controllers and the *PCU800*.

The operation of the individual menus and settings is the same as the standard Windows user interface.

The electronic system includes a CAN interface. This enables your *red-y* mass flow meter and controller to communicate with the world of fieldbus communication. Optionally, the system may additionally be equipped with a complete range of I/O modules.

The highly compact casing can be easily integrated into a control panel. All connections are accessible from the back and are pluggable. There is therefore no need to wire the device before installation.

A tabletop case with a power pack is available as an option. This reduces the effort for the start-up to a minimum.

The digital communication between the mass flow or controller and the *PCU800* also significantly reduces the programming efforts. The only settings that the user may need to define are the limit settings or the function of the I/O channels. All other required parameters are automatically queried from the mass flow meter or controller by the *PCU800.*

03 Technical Specifications

General Device Specifications

Display	Graphic LC-display (monochrome) with integrated back-lighting
Keyboard	Numeric keys with double assignment for text input or control Additional keys for controlling the cursor
Case	Suitable for control panel installation with locking bolt Control panel cut-out: min. 187 x 79 mm
Dimensions	195 x 120 x 45 mm (W x H x D), see appendix
Voltage supply	24 Vdc with reverse polarity protection
Power consumption	4 – 7 W
Temperatures	
Storage	-10 °C to 60 °C
Operation	0 °C to 50 °C
Protection class	According to EN61131-2/VDE0631, part 1, protective low voltage
EMC regulations	EN50081-2 and EN50082-2

Inputs and Outputs

RS-485C Modbus	
Flow meter or controller	Sub-D 9-pin, female
CAN interface	
Field bus connection (ISO 11898)	Sub-D 9-pin, male
Voltage supply	3-pole plug connector with inverse-polarity protection

Power Supply

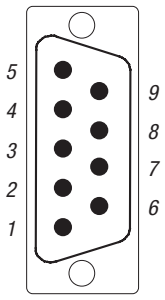
If the *PCU800* is powered with +24 Vdc, the mass flow meter or controller is automatically supplied with power without additional wiring (galvanically separated).

Saving the Settings

The memory components are supplied by an auxiliary battery in case of a power loss. The lifetime is typically 5 years. The battery can be purchased in specialized stores and can be replaced by the user.

Connector Pin Assignment Modbus/RS-485C Interface

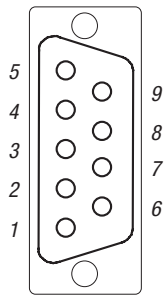
This connector powers the mass flow meter or controller and provides data communication with the *PCU800.*



Pin	*Assignment*
1	not used
2	GND
3	Supply +24 Vdc
4	not used
5	not used
6	Rx+ RS485 (A)
7	Rx- RS485 (B)
8	Tx- RS485 (Z)
9	Tx+ RS485 (Y)

Connector Pin Assignment CAN-ISO 11898 Interface

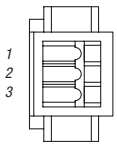
This connector can be used to connect the *PCU800* to a superordinated CAN fieldbus. The connection is designed with galvanic separation and an integrated terminating resistor pursuant to ISO 11898. If the device is to be used as the last segment in a CAN network, contact your sales partner (activation of terminating resistor).



Pin	*Assignment*
1	not used
2	CAN data low dominant
3	GND (Signal Ground)
4	not used
5	Shielded wire
6	GND (Signal Ground)
7	CAN data high dominant
8	not used
9	not used

Connector Pin Assignment Supply Voltage

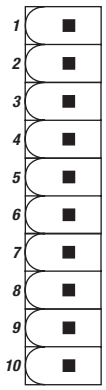
The connector is secured with the clips on the side. To remove the connector, both clips must be pressed at the same time and the connector must be removed towards the top. The strands are clamped in by a spring mechanism. This mechanism can be operated with a screw driver in the respective opening beside it.



Pin	*Assignment*
1	+ 24 Vdc
2	not used
3	GND

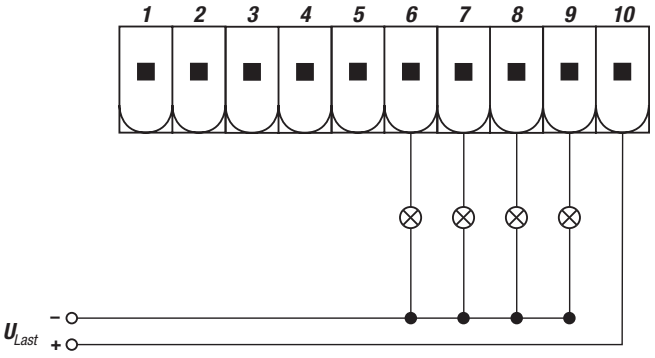
Connector Pin Assignment for Digital inputs and Outputs (optional)

Each port is assigned an LED. For the inputs, the LEDs illuminate if the signal level is high. For the outputs, they illuminate if the output is active.

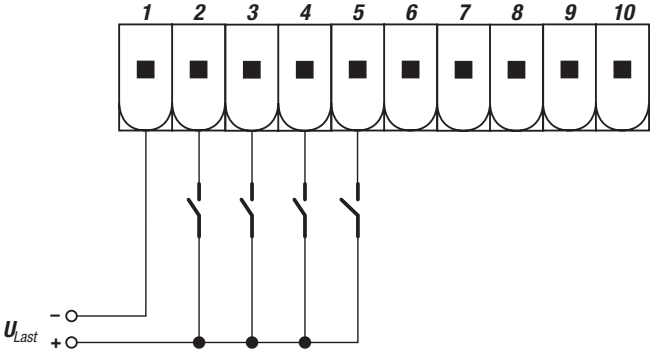


Pin	*Assignment*
1	Load GND 0 V
2	Input 4
3	Input 3
4	Input 2
5	Input 1
6	Output 4
7	Output 3
8	Output 2
9	Output 1
10	Load voltage supply, typically 24 Vdc (18...30 Vdc) residual ripple max. 5%

Connection Diagram for Digital Outputs



Connection Diagram for Digital Inputs



04 Mounting & Installation

General Remarks

Check the package for external damages and contact us in case of visible damages. Compare the contents of the package with the delivery note and check for completeness and technical agreement.
This product is a high-end electronic display unit. We recommend that you choose the installation location carefully and observe the following suggestions and remarks.

Environment

The *PCU800* has been designed for manifold uses. Under the following environmental conditions, the device may not be operated:

Environments with a high degree of conductive dust, mist, rain, direct sun, excessive heat, strong blast waves, and vibrations. Make sure that no water or foreign objects can enter the casing.

Install the *PCU800* as far away as possible from high-voltage wires and inductive loads.

Installation Tips

Connection and installation of the *PCU800* must be performed by an electrical specialist. National rules and applicable safety regulations must be observed.

All connection wires must be insulated to prevent contact with live parts.

The input and output wires must not be located close to high-voltage lines.

Observe voltage drops and interferences if the input and output lines are laid across large distances. Ensure that correctly gauged wires are used for the connections.

If the *PCU800* is used in an environment according to EMC directive EN55011-Class B, ferrite cores must be installed in the power supply line as well as in the CAN network connection. Please contact your sales partner.

Specification of the Connection Wires

For the input and output connections, use wires with a size of 0.5 mm^2 - 2.5 mm^2. Strip 7 mm off the wire endings. Open the pinch clamp before inserting the conductors. Insert the conductors into the pinch clamp so that a secure connection is ensured.

Re-tighten the pinch clamp so that the conductor cannot be pulled out. Do not exceed a torque of 5 Nm to avoid damaging the conductors. Use wire end sleeve for flexible leads.

Power Supply

The devices must be operated with suitable 24 Vdc power supply units (see technical specifications). They must not be connected directly to the mains line!

Control Panel Installation

To attach the *PCU800*, it is pressed together with the control panel, using 4 locking bolts. It is therefore not necessary to drill mounting holes.

05 Functions

Introduction

All functions are embedded in a menu structure. Based on the Microsoft Windows standard, the submenus are selected and inputs are made. After PowerUp (turning on the supply voltage) and the execution of various test functions, the main display (main menu) appears. Depending on the display settings and the bus size, this window shows the most important operational values. This window is the basis window. From here you can access all available submenus.

The *PCU800* can control up to 8 mass flow meters or controllers simultaneously. These devices are identified by the numbers 1-8. These numbers also correspond to the bus address.

Keyboard Functions

The keys ***C***, ***OK*** and the four arrow keys are used for navigating within the menu structure. The numeric key block can be used to enter numerical values easily. Depending on the entry field, the numeric key block can also be used to enter letters. This is done similarly to entering letters on a phone keypad.

In addition, the ***9*** (symbol = *?*) can be held down to access a context help menu.

Within a menu there are different data fields:

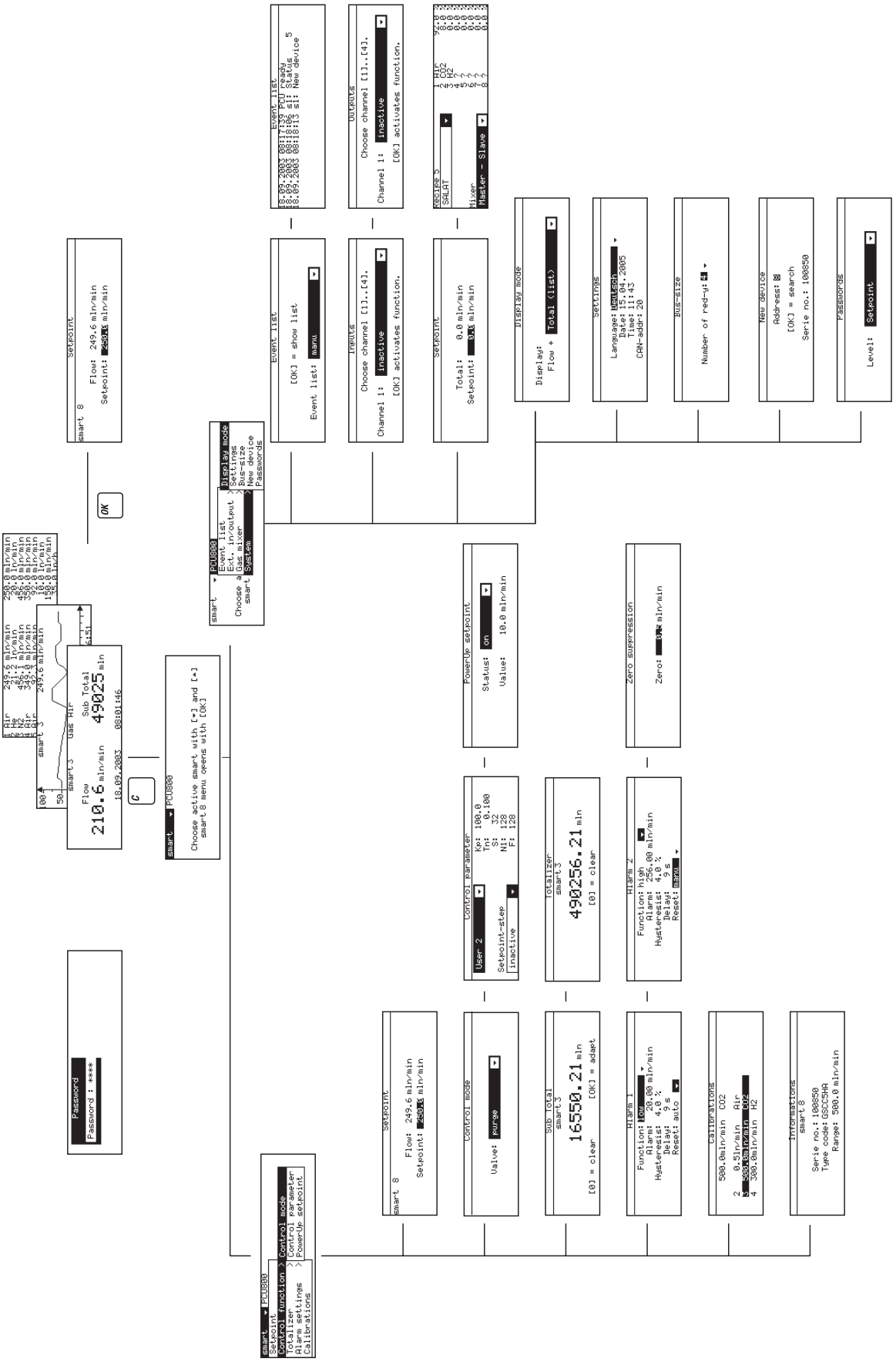
Information is shown in information fields and cannot not be changed (e.g. serial numbers, etc.)

*Entry fields that provide a pre-defined selection. These values are listed in a pull-down menu and can be selected with the arrow keys ▲ and ▼. To confirm the selection, press the **OK** key.*

*Entry fields that require a value. This value is entered with the numeric keypad and likewise confirmed with the **OK** key.*

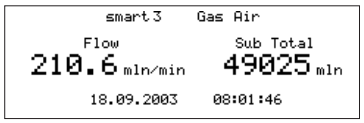
The active data field is always shown inverted (black background).

Menu Structure Overview

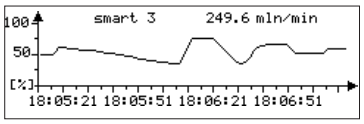


List of Functions

Main menu



The main menu is the basis for the menu structure. All operating steps and settings are accessible from here. When the device is turned on, this menu is shown automatically.

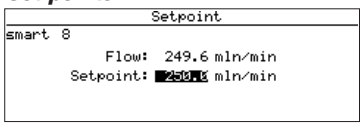


In the Display Mode menu, the contents of the Main Menu can be defined. Depending on the system size (number of devices) and application, entirely different contents may be displayed here. The left column shows two samples.

Enabled Settings

C	This key opens a menu, which allows making settings for the corresponding device.
OK	Open Setpoint Menu
▲ ▼	If only one device is shown in the main menu (e.g. graph display), these keys can be used to display another device.
1-8	When selecting the device directly, identified by its bus address, the Settings Menu for the selected device is shown directly.

Set points

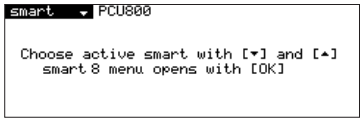


Settings menu for the flow set point. After opening this menu, the setpoint can be modified.

Enabled Settings

Set point: 365.0 mln/min	Entering the set point in the corresponding resolution

Settings

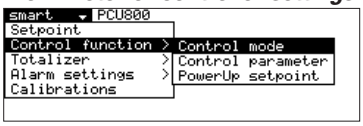


The ***C*** key is used to go to the Selection Menu, where the device is selected, for which the settings are to be changed. After selection and confirmation with ***OK*** , the cursor jumps to the menu option [smart].
Under the menu point [PCU800], you can adjust the settings for the display unit.

Enabled Settings

▲ ▼	Select the active device
OK	Activate the menu or an entry

Flow meter or controller settings



You can move around in the selection with the cursor (arrow keys). The selection is confirmed with the ***OK*** key.

Enabled Settings

Set points	Settings menu for the set point
Control functions	Submenu for making adjustments to control parameter, setpoint source and PowerUp setpoint
Totalizer	Read and reset the totalizer and the sub-total
Limits	Settings for the two alarm values and zero suppression
Information	Display of the most important parameters of the meter or controller

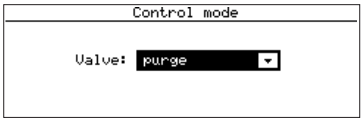
Display unit settings

You can move around in the selection with the cursor (arrow keys). The selection is confirmed with the ***OK*** key.

Enabled Settings

Event list	Display of alarms and status messages
System	Customize the display form in the main menu, change the bus structure and activate the password protection
Inputs and outputs (optional)	Settings for the optional I/O module
Gas Mixer (Optional)	Mixer functions

Control mode

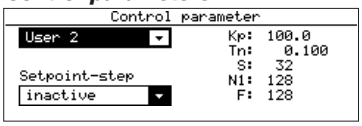


Define the set point presetting. Use the ▲ and ▼ key to switch between the individual set values. The ***OK*** key confirms the selection.

Enabled Settings

auto	The control device disregards any analog set point presettings that are fed externally directly into the *red-y PCU800*
digital (default)	The set point is defined by the *red-y PCU800*
analog	In this mode, the device only uses set point presettings that are directly fed to the device as analog values
closed	The valve is held closed
Flush	The control is disabled and the valve is opened to the maximum. This can create a large flow that exceeds the measuring capacity. It is used for flushing or flooding processes for example

Control parameters

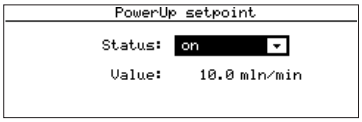


Six entry fields in total are available for selection. Five control parameters are stored per control parameter set. For the sets User 1 and User 2, they can be individually adapted to the application. After opening the menu, use the ▲ or ▼ key to select the corresponding set and confirm it with the ***OK*** key.
Use the ◀ or ▶ key to go to the next entry fields. For numerical values, use these keys to select the position first and change the value with the ▲ or ▼ key. Confirm the entry with the ***OK*** key.
With setpoint step, you can adjust the setpoint in 10% steps.

Enabled Settings

Set: Fast	Fast response time with corresponding overshooting (fast response)
Set: Medium	Medium response time with slight tendency to overshoot
Set: Slow	Slow response time without overshooting
Set: User 1	Can be adjusted individually by customer
Set: User 2	Can be adjusted individually by customer
Kp:	Amplification factor of the controller
Tn:	Time constant of the controller
S:	Search speed PWM
N1:	Offset compensation
F:	Feed forward rate of the controller
%step	Setting the set point in 10% steps. Upon confirmation with the ***OK*** key, the selected % value is converted to the technical unit and saved as the set point. The entry field % step shows 'off' again.

Power up Setpoint



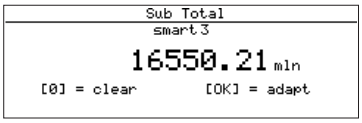
Defines the set point when the controller is powered up.

Important:
The set point is only used in the digital control mode

Enabled Settings

activate: on	Turns the function on or off
Set: 100.00 mln/min	Determines the set point automatically used after a power loss.

Sub Total

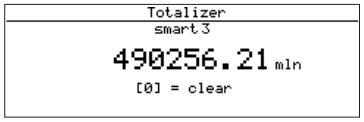


The sub total is a subset of the total. With every reset, the current totalizer value is stored and subsequently deducted from the current totalizer value. This could be compared to the trip odometer in a vehicle. The *PCU800* will recognize a newly connected *red-y* device and clears the stored totalizer value to calculate the sub total.
As the sub total is displayed in the main menu, the sub total can be synchronized with the totalizer.

Enabled Settings

***0** = clear*	The sub total is synchronized with the total
***OK** = adapt*	Reset the sub total

Totalizer

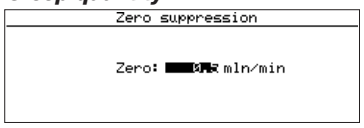


Total quantity of gas since the last reset

Enabled Settings

***0** = clear*	Pressing the ***[0]*** clears the total and the counter is reset to zero

Creep quantity

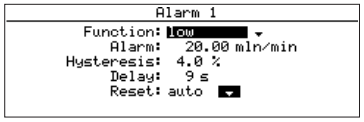


Set a threshold value. Below this value, zero is displayed for the flow.

Enabled Settings

***OK** = confirm value*	Set the treshold value and confirm it with ***OK***

Alarm 1/2



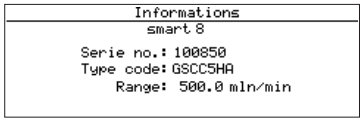
Select the mode of operation of the alarm and set the alarm value, the hysteresis, the delay time and the reset type.

The following settings options are the same for both alarms.

Enabled Settings

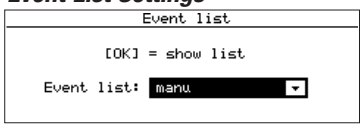
Function: low	Flow values below the threshold value are interpreted as an alarm
Function: high	Flow values above the threshold value are interpreted as an alarm
Alarm: 30.00 mln/min	Setting the threshold value. Depending on the function, current flow values above or below this value are interpreted as an alarm
Hysteresis: 00.0%	If the current flow and the set threshold value are close together, the hysteresis setting can prevent the alarm from turning on and off continuously. The value may be between 0 - 10% of the maximum end value
Delay: 0s	The time can be set between 0 and 180 seconds and represents the time the alarm state must persist for the alarm contact to be triggered. This prevents the alarm from being triggered if the measured value drops below, or exceeds the threshold values briefly
Reset auto	The alarm state is automatically reset after the current flow returns to the corresponding desired range
Reset manu	The alarm state remains active until it is either acknowledged in the event list or reset by a correspondingly defined external input

Information



Information about the selected *red-y*

Event List Settings



Settings for the display of the event list

Enabled Settings	
***OK** = show list*	Opens the window with the event list
Alarm List Auto	If an event occurs, the window with the event list is displayed automatically
Alarm List Manu	The events are stored in the background

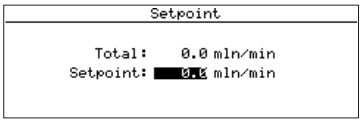
Event list/status messages

The messages listed give information on important events or error messages generated by the devices directly. The digit shown after the word Status corresponds to the sum of the possible errors listed in the following:

Enabled Settings	
1	PowerUp Alarm
2	Analog input alarm
4	Gas flow even with set point 0%
8	No gas flow even with set point 100%
16	No flow change even with set point change
32	Communication error with sensor
64	RAM access fault
128	EEPROM access fault
256	Totalizer error
512	No parameter values
1024	Current input error

A status of 1040 therefore corresponds to the errors 1024 and 16

Gas Mixer (optional)
Set point



Settings menu for the mixer setpoint and display of the total gas flow.

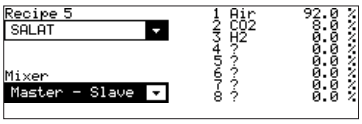
Mixer Type	*Function*
Gas mixture fixed:	Setpoint for the total gas mixture
Master-Slave:	Setpoint of the master controller (if available)

This window can also be accessed directly from the main menu with ***[0]***.

Enabled Settings

Set point: 20.0 mln/min	Enter setpoint

Mixer



Selection menu for the recipe to be used.
The right half of the display shows the current recipe.

Enabled Settings

Recipe n	Select from 9 saved recipes
Mixer: inactive	No automatic control for the attached controllers
Mixer: Gas mixture fixed	A pre-defined gas mixture is regulated
Mixer: Master-Slave	smart 1 is the master in this case. The other controllers are adjusted according to the master

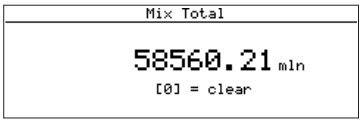
Recipes

Menu for defining and saving individual recipes.

Enabled Settings

Recipe n	Select from 9 saved recipes The name of the recipe can be selected freely (only uppercase letter)
Recipe values	In the right half of the display, the individual proportions of the gas mixture can be defined. If a fixed gas mixture is to be set, it must be made sure that the sum of the parts is 100%

Totalizer

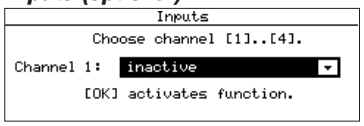


Total quantity of the gas mixture.
Resetting this totalizer does not change the individual Sub Totals and Totals of the attached *red-y* devices.

Enabled Settings

***0** = löschen*	Pressing the ***[0]*** key clears the mixer total and the counter is reset to zero

Inputs (optional)



Assignment of the individual functions for the 4 external inputs. Each input is permanently assigned to a channel or a *red-y smart* device. Use ***[1]*** – ***[4]*** to select the input to be modified.
All inputs have the same options. For this reason, the following explanations refer exclusively to input 1.

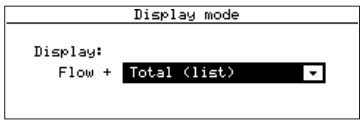
Enabled Settings	
Channel 1: off	External control input is deactivated
Channel 1: Valve open	The control valve is opened 100%
Channel 1: Valve closed	The control valve is closed completely
Channel 1: Alarm reset	Resets the limit alarms. This function corresponds to the acknowledgement in the event list

Outputs (optional)

Assignment of the individual functions for the 4 external outputs. Each output is permanently assigned to a channel or a red-y smart device. Use ***[1]*** – ***[4]*** to select the input to be modified.
All outputs have the same options. For this reason, the following explanations refer exclusively to output 1.

Enabled Settings	
Channel 1: off	External output is deactivated
Channel 1: Limit 1	If there is an alarm state for limit 1, output 1 is triggered
Channel 1: Limit 2	If there is an alarm state for limit 2, output 1 is triggered

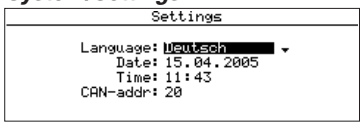
System/Display mode



Depending on the bus size or the application needs, the main menu will display different information. This applies to both, the contents and the number of devices shown at the same time.

Enabled Settings	
All with Total	All attached devices are shown in a table. The information displayed is the respective Sub Total, the Actual Value and the Medium
Individual with Total	The Actual Value and the Sub Total are shown in large digits. If several devices are attached, they can be displayed by using the ▲ or ▼ keys
All with Setpoint	All attached devices are shown in a table. The information displayed is the respective Setpoint, the Actual Value and the Medium
Individual with Setpoint	The Actual Value and the Setpoint are shown in large digits. If several devices are attached, they can be displayed by using the ▲ or ▼ keys
Graph 2 min	The display shows a diagram of the actual value. The time basis is 2 minutes and the display range is 0-100%. If several devices are attached, they can be displayed by using the ▲ or ▼ keys
Graph 8 h	Similar to graph 2 min. However, the time basis is 8 hours

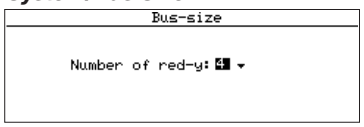
System/Settings



Setting in the *PCU800* area

Enabled Settings	
Language German	User interface and all help texts in German
Language English	User interface and all help texts in English
Language French	User interface and all help texts in French
Date 02/26/2003	Date entry
Time 19:26	Time entry

System/Bus Size

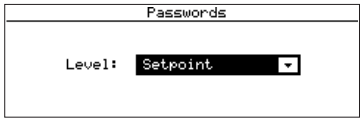


Defines the number of *red-y smart* devices that are attached, or are to be attached, to the bus system. This parameter must be determined before actually attaching and setting up the devices. The correct set-up of the system is described in more detail in the chapter Operation and Maintenance.

System/New Device

If an additional device is attached or a replacement device is integrated into the bus, this *red-y smart* must be added as a new device. First define the address and start the search for the device on the bus with the ***OK*** key. If the device is found on the bus, its serial number is shown. With the display of the serial number, the system has already made all necessary internal settings.

Passwords

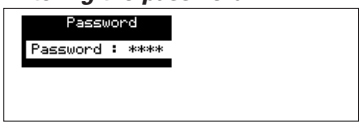


The different functions can be protected by passwords in 5 levels of protection.
After the password protection has been activated, the corresponding menu can only be accessed with the correct password. Each protection level contains also the lower levels.

Enabled Settings	
No protection	All settings and menus are freely accessible
Passwords	Only the activation or modification of the password protection is protected by a password Password: 4321
Totalizer	Resetting of the totalizer is protected Password: 1232
Settings	The entire settings menu is password-protected Password: 1221
Set points	This settings permits maximum protection. All settings and the set point menu are password-protected Password: 1111

If the password protection is activated, an entry field is displayed at the corresponding position (cf. next page).

Entering the password



Enter the four-digit number using the numeric keys. Use the ***OK*** key to confirm the entry. If the password is entered correctly, the desired menu opens. If not, the display goes back.
The password for the authorization remains stored for 15 minutes after the last time a key is pressed. After this, the password must be re-entered to access the protected menu point.

06 Operation & Service

Turning the System On

We recommend the following procedure for turning on the system:

- *Connect the red-y smart with the included cable or according to the connection diagram.*
- *Connect and turn on the supply voltage*

Procedure at First PowerUp (Defining the Bus Structure)

If you ordered a complete system, consisting of *PCU800*, wiring and various *red-y smart*, the system supplied by the factory will be ready for PowerUp. If you do your own installation or replace/extend the bus structure, the following procedure must absolutely be observed.

The bus structure should be set up according to the following principles:

- *Always begin with address 1 in the set-up of the bus structure. All other devices (up to a maximum of 8 devices) should be attached in order. Do not leave an empty address between two addresses*
- *The defined number of devices (bus size) should correspond to the actual number*
- *When installing/assigning address numbers, only one device may be connected at a time. Only after the last device address is assigned, the entire bus may be powered up*

Procedure:

- *Under Menu -> Display Unit -> System -> Bus Size, define the total number of red-y smart that you would like to integrate into the bus structure*
- *Connect the red-y smart to which you wish to assign an address to the PCU800. In the menu -> Display Unit -> System -> New device, enter the corresponding address. Use the OK key to store this address in the red-y smart. A few seconds after storing the address successfully, the serial number will be shown as acknowledgement*
- *You can then disconnect the programmed device from the bus and attach the next device. If the serial number does not appear, the first measure should be to disconnect the measuring controller briefly from the PCU800 and try again.*

Warm-up Time

The system is ready for flow measuring and controlling immediately after it is turned on. For most precise measurements, the *red-y* system is ready after approx. 30 minutes. Before turning on the system, make sure that the wiring is connected correctly and according to the connection diagram.

Operation

The *PCU800* is nearly maintenance-free. Only the battery, which makes sure that the programmed data is saved to memory if the power supply is cut, must be replaced.

If the front of the device is soiled, it is recommended to clean it with a damp cloth. Do not use any solvents or other cleaning agents, which may damage the front panel and may allow liquids to penetrate into the device.

Replacing the Battery

The battery used is a commercially available button cell of the type CR _ AA. Please observe the correct polarity when installing the battery. The typical battery life is approx. 5 years.
If the *PCU800* is never operated with regular supply voltage, the battery must be changed after 2 years.

ATTENTION

To avoid data loss during the battery change, the device must be supplied with 24 Vdc while changing the battery.

07 Troubleshooting

In the following table, we put together possible symptoms, their cause and possible measures. If the symptoms of your *red-y PCU800* are not listed, or if the suggested measure are unsuccessful, contact your sales partner or return the device to us.

Error	*Possible Causes*	*Measures*
Display is blank	*Electrical connection*	*Check supply voltage. Is the supply attached and working properly (+ 24 V dc +/- 10%)?*
Error message on the display	*Connection with measuring controller*	*Check for proper connection between the red-y smart and the PCU800*
	Communication	*Compare the defined bus size to the existing number of devices. Recreate the bus structure. Double-assignment of a bus address will lead to communication problems.*
Error message in the event list	*Various*	*Compare the status value with the possible errors listed. It may be an important source of information for troubleshooting by your sales partner or the factory.*
Devices do not respond to setpoint specification	*Electrical connection*	*Check for correct wiring and the presence of supply voltage. Please watch out for voltage tolerances and avoid problems caused by power packs with high ripple.*
	Gas present	*Are the devices under pressure and are all valves opened, as necessary for proper operation? To further narrow down the error, consult the help section in the manual for the red-y smart.*

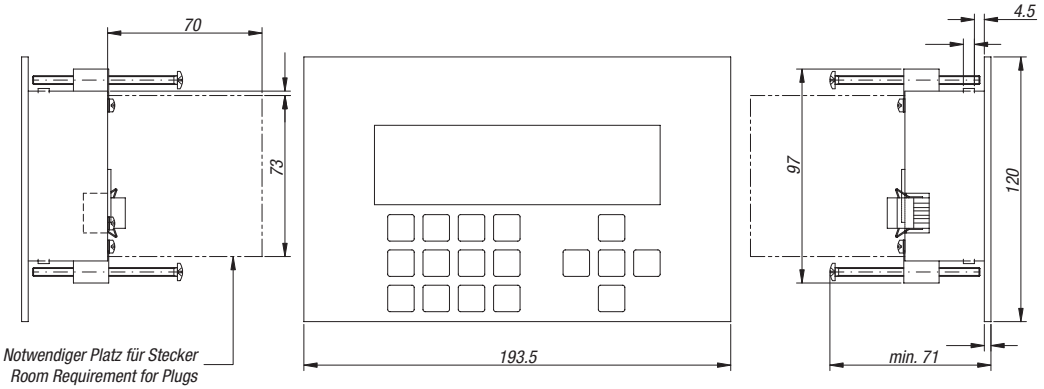
Returns

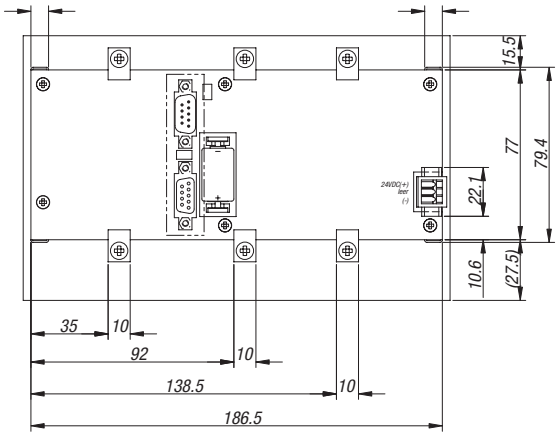
When returning a *PCU800*, use the original packaging, if possible, or other appropriate packaging. Please let us know the reason for the return. This avoids unnecessary phone calls and delays.

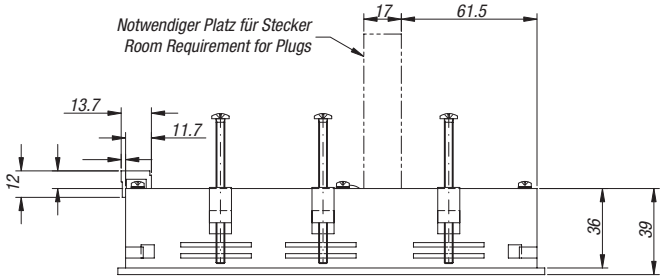
If you suspect that the problem may be caused by a *red-y smart*, please return both units, if possible, with the cable connection used. Please consult our separate recommendations regarding the return of *red-y* devices.

If you have further questions, your sales partner will be happy to assist you.

07 Dimensions







Fronttafeleinbau / Front Panel Installation

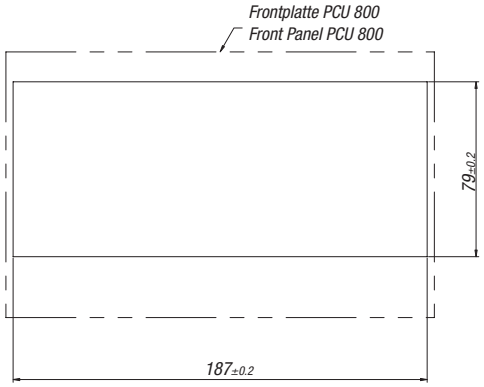


Table Casing