



Kontrols & Industrial Weighing

PR 5230

Transmitter in field housing



sartorius
mechatronics



- Ethernet TCP/IP for PC connection
 - Configuration via VNC or Browser
 - OPC Server
- Modbus TCP for PLC connections
- Serial Interface RS485/422 and RS232

- Supply voltage 230V AC or 24V DC
- Protection class IP 66, stainless steel, polished
- Display for Weight and Status Information

- W&M approval for 10.000e (In preparation)
- An internal resolution of 4,8 Mio. counts
- Calibration without weights (Smart Calibration)

Option cards:

- analogue output 0/4 -20mA,
- Profibus-DP, Interbus-S, DeviceNet, CC-Link, Profinet and Ethernet/IP,
- Load Cells connection board for up to 4 Load Cells

Product profile

The Transmitter PR5230 provides an easy and reliable solution for weighing of process hopper scales with strain gauge load cells in process automation applications.

The standard RJ45 connector provides ModBus TCP and also Ethernet TCP/IP for an easy integration into existing PLC and PC networks. Information can be transferred into supervisory systems with the integrated OPC-Server technology. The IP address can be assigned via the 3 following possibilities:

1. Manual input of the IP address by the user
2. Automatic assignment from network server (DHCP)
3. Auto IP, self-assign by the instrument.

If the IP Address is not known by the user, a small tool is scanning the complete network and displays IP address and name of all Sartorius instruments that are connected to the network. With this function all instruments / scales can be clearly identified.

The tool will be delivered with the Transmitter and can be used without installation. For the configuration of the VNC Technology is used. This function enable the user to start the homepage of the instrument in the Microsoft Internet Explorer and do the configuration online. Additionally to this the tool ConfigureIt Professional is available. With this tool all configurations can be done online or offline and saved on the PC. This makes the administration of different systems very easy and well arranged.

The Transmitter provide a built-in RS232 and RS422/485 serial interface using the very simple and versatile SMA-Standard protocol and the protocol for a remote display. A printer can be connected to printout the configuration but also print a ticket with an incoming event (input) or e.g. every 30 minutes.

As an option a high-performance 16 bit analogue output is available.

Three freely configurable digital In- and Relays Outputs can control simple process functions, like limits. Additionally to the already included Ethernet TCP/IP and Modbus TCP interface different options cards allows a wide range of field busses: Profibus-DP, Interbus-S, DeviceNet, CC-Link, Profinet and Ethernet/IP.

The housing is a polished stainless steel housing in IP 66. All connections are made by compression couplings.

Do you think about Wireless LAN? Use the possibilities of the Ethernet TCP/IP. Remote Service via the Internet, allows support from every point of the world.

The high-quality Sense-amplifier supports 4 and also 6 wire Load Cells. This allows connections over long distances without losing accuracy. Additional security guarantees the fully galvanically isolated sensor input circuit and supply from supply voltage and all in-/output circuits.

Technical Data

Technical Data

Housing

Housing IP66
material: stainless steel
electro polished
RoHS conform

Dimensions

350 x 250 x 150 mm

Display and Status

LCD, transfective, back lighted
Weight: 6-digits
Size: 128 x 64 pixel, graphic
Information can be configured
Status LEDs to signal operation
and error conditions.

Keys

In the housing 3 keys can be
configured for display operation,
input function or zero setting

Supply Voltage

230V AC, +10/-15%
24 V_{dc}, +/-20 %

Power Consumption

11 W

Control outputs

Quantity: 3
Relay output, passive,
Voltage: max. 30V_{dc}
Current: max. 30mA

Control Inputs

Quantity: 3
opto-isolated input, passiv,
Functions:
zero setting, taring...
Voltage: max. 30V_{dc}
Current: max. 10mA

In-/ Output

All I/O circuits fully galvanically
isolated
from sensor input and supply.

Load cell connection

All strain gauge load cells;
6- or 4-wire connection

Load cell supply

12V, short-circuit proof.
External load cell supply possible.

Minimum load impedance

min. 75 Ohm
e.g. 6 load cells with 600 Ohm
or 4 load cells with 350 Ohm

Measuring principle

Measuring amplifier:
Delta-Sigma converter
Measuring time:
min 5 ms - max. 1600 ms

Accuracy (in preparation)

10,000e class III acc. to EN 45501;
according to. OIML R 76,
min. verification interval: 0.5µV/e

Input range

7.5 nV (appr. 4.8 Mio. div.)
Usable resolution: 0.2µV/d

Input signal

Measuring signal: 0 bis 36mV
(for 100% nominal load)

Linearity

< 0,003%

Temperature effects

Zero: TK0 m < 0.05 µV/K RTI
Span: TKspan < +/- 2,5 ppm/K

Digital filter for load cell

4th order (low pass), Bessel,
aperiodic or Butterworth

Ethernet interface

Ethernet TCP/IP and Modbus TCP
definition of an IP address:
- AutoIP
- DHCP Server classification
- manual entering of an IP address
Automatic detection of signal
transmission and corresponding
change over (cross-over or patch
cable)

Serial Interfaces

RS 422/485 and RS232
Protocol: Remote Display, SMA and
printer

Options:

Analogue output PR 5230/06

0/4... 20 mA,
internal resolution 16 bit,
usable stepwidth: 0.5 µA
max. load 500 Ohm
user configurable

Fieldbus PR 1721/4x

Profibus-DP, Interbus-S, DeviceNet,
CC-Link, Profinet and Ethernet/IP

Load Cell connection Board

PR 5230/22

For the internal connection of up to
4 Load cells.

Environmental conditions

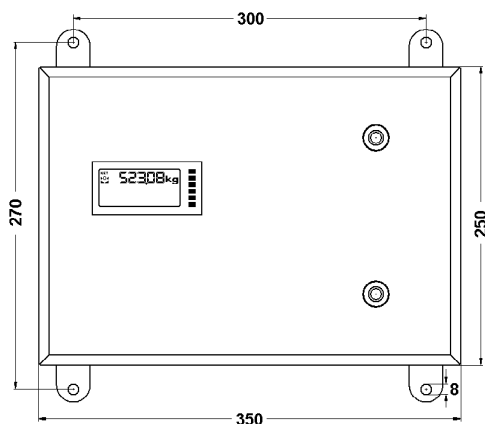
Temperature

W&M: - 10°C to +40°C
Operation: - 10°C to +50°C
Storage: -20°C to +70°C

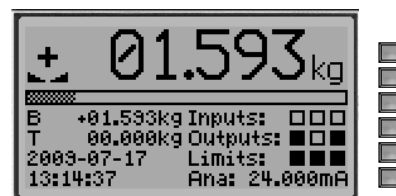
Weight

Net: 1,45 kg

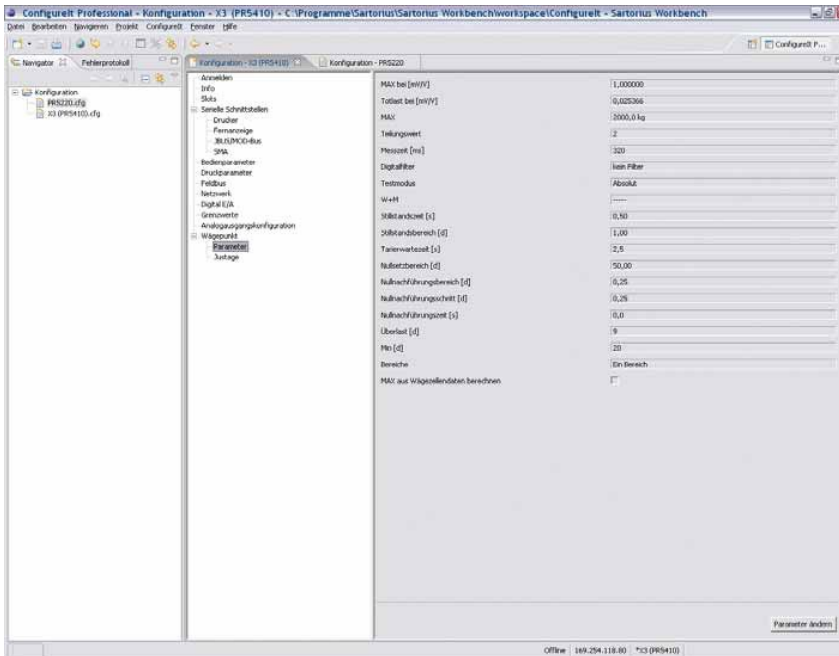
Housing



Display and Status LEDs- configurable

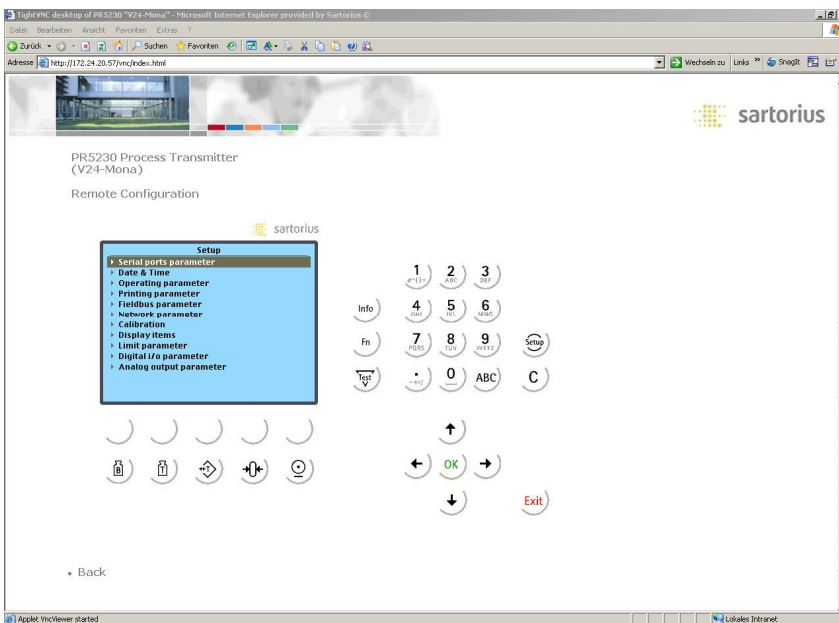


Height of Housing appr. 150mm
All Dimensions in mm



The ConfigureIt Professional program has the following features:

- Searching for an instrument in a network
- Creating and modifying an instrument configuration
- Entering the parameters of an instrument
- Calibration of an instrument using the following methods:
 - with test weights
 - by mV/V
 - using the load cell data ('smart calibration')
- Loading an instrument configuration from an instrument
- Storing an instrument configuration in an instrument or in a file
- Copying instrument configurations (cloning)
- Creating a document (PDF, XLS, etc.) with the instrument configuration



The Functionality VNC allows the following functions:

- Opens the internal Web-Page with the direct entry of the IP address into the standard Web Browser
- Showing and modifying an instrument configuration
- Calibration of an instrument using the following methods:
 - with test weights
 - by mV/V
 - using the load cell data ('smart calibration')
- Displaying and printing the complete configuration
- Weight Indication on the PC Display
- Readout of the fault memory

Order Information

Type	Description	Order number
PR 5230	Transmitter in field housing, IP 66, stainless steel incl. Ethernet TCP/IP and Modbus TCP, RS232, RS485/422, 3 Relays Outputs, 3 Digital Opto. Inputs	9405 152 30000
Options	For delivery the option will be installed	
Power Supply	230 V AC	L0
	24 V DC	L8
A/D Converter	To connect DMS Load Cells in Safe Area	W1
	To connect DMS Load Cells in Explosion Area ATEX 1 (intrinsically safe)	WE1
Ex Approval	ATEX Zone 2/22	Y2
Digital IN/ OUT	Digital Input Passiv (external 24V Power Supply needed)	DE1
	Digital Input Activ (internal 12V supply)	DE2
	Digital Output Relais passiv	DA1
	Digital Output Optocoupler passiv	DA2
Slot 1 Option Card	Analog Output 0/4-20 mA	C11
Slot 2 Option Card	Profibus-DP	C21
	Interbus-S	C22
	DeviceNet	C24
	CC-Link	C25
	Profinet	C26
	Ethernet/IP	C27
Slot 3 Option Card	Load Cell connection board for up to 4 Load Cells	C31
Ethernet RJ45	Ethernet female connector RJ45, IP66	M39
	Ethernet cable with cable glance, 7M, RJ45 plug	M40
Accessories	Delivery of option card will be separately	
PR 5230/06	Analog Output 0/4-20 mA	9405 352 30061
PR 5230/22	Load Cell connection board for up to 4 Load Cells	9405 352 30221
PR 5230/30	Ethernet female connector RJ45, IP66	9405 352 30301
PR 5230/31	Ethernet cable with cable glance, 7M, RJ45 plug	9405 352 30311
PR 1721/41	Profibus-DP	9405 317 21411
PR 1721/42	Interbus-S	9405 317 21421
PR 1721/44	DeviceNet	9405 317 21441
PR 1721/45	CC-Link	9405 317 21451
PR 1721/46	Profinet	9405 317 21461
PR 1721/47	Ethernet/IP	9405 317 21471

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