# PR 5230
# Transmitter in field housing


- 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 for10.000e (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, transflective, 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. 30$V_{DC}$
Current: max. 30mA

**Control Inputs**
Quantity: 3
opto-isolated input, passiv,
Functions:
zero setting, taring...
Voltage: max. 30$V_{DC}$
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 adress:
- AutoIP
- DHCP Server classification
- manual entering of an IP adress
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

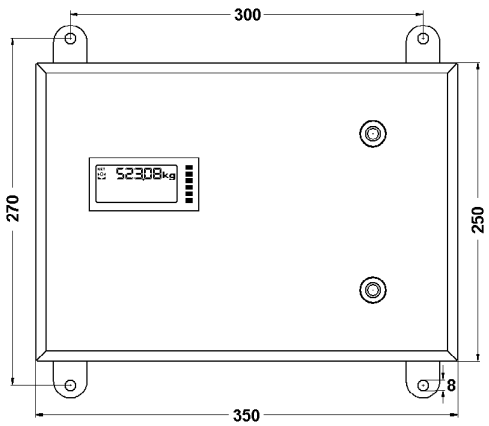
**Load Cell connection Board**
**PR 5230/22**
For the internal connection of up to
4 Load cells.

**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

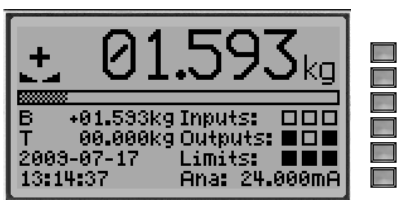
---

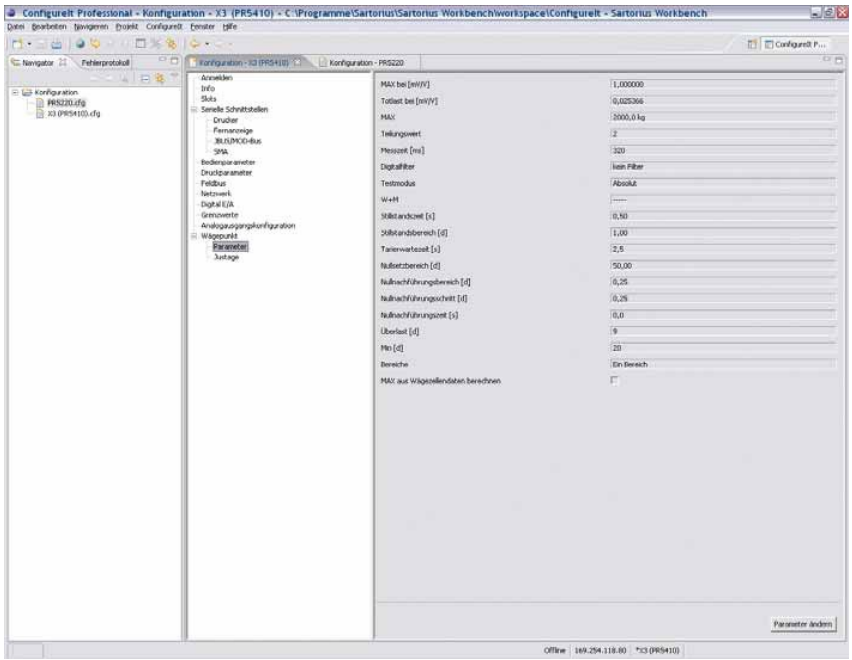
Housing




Height of Housing appr. 150mm
All Dimensions in mm

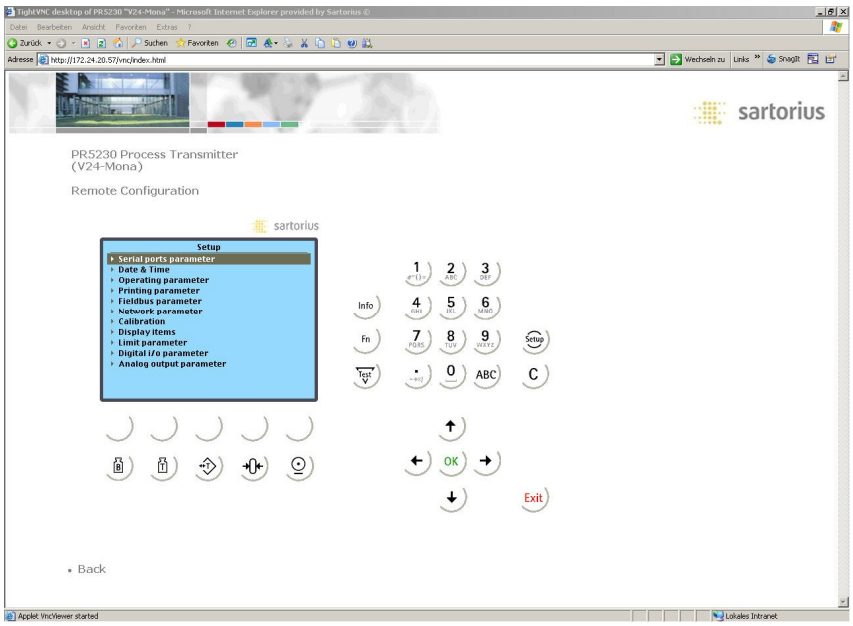
Display and Status LEDs- configurable






**The ConfigureIt Profesional 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 adress 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<br>incl. Ethernet TCP/IP and Modbus TCP, RS232, RS485/422,<br>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 Optocouppler passiv | DA2 |
| Slot 1<br>Option Card | Analog Output 0/4-20 mA | C11 |
| Slot 2<br>Option Card | Profibus-DP | C21 |
| | Interbus-S | C22 |
| | DeviceNet | C24 |
| | CC-Link | C25 |
| | Profinet | C26 |
| | Ethernet/IP | C27 |
| Slot 3<br>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 |

Specifications subject to change
without notice.
Printed in Germany.
n/sart • C
9498 752 3 0001
Stand 08.2009

Sartorius Mechatronics T&H GmbH
Meiendorfer Straße 205
22145 Hamburg, Germany
Tel. +49.40.67960.303
Fax +49.40.67960.383
info.mechatronics@sartorius.com
www.sartorius-mechatronics.com